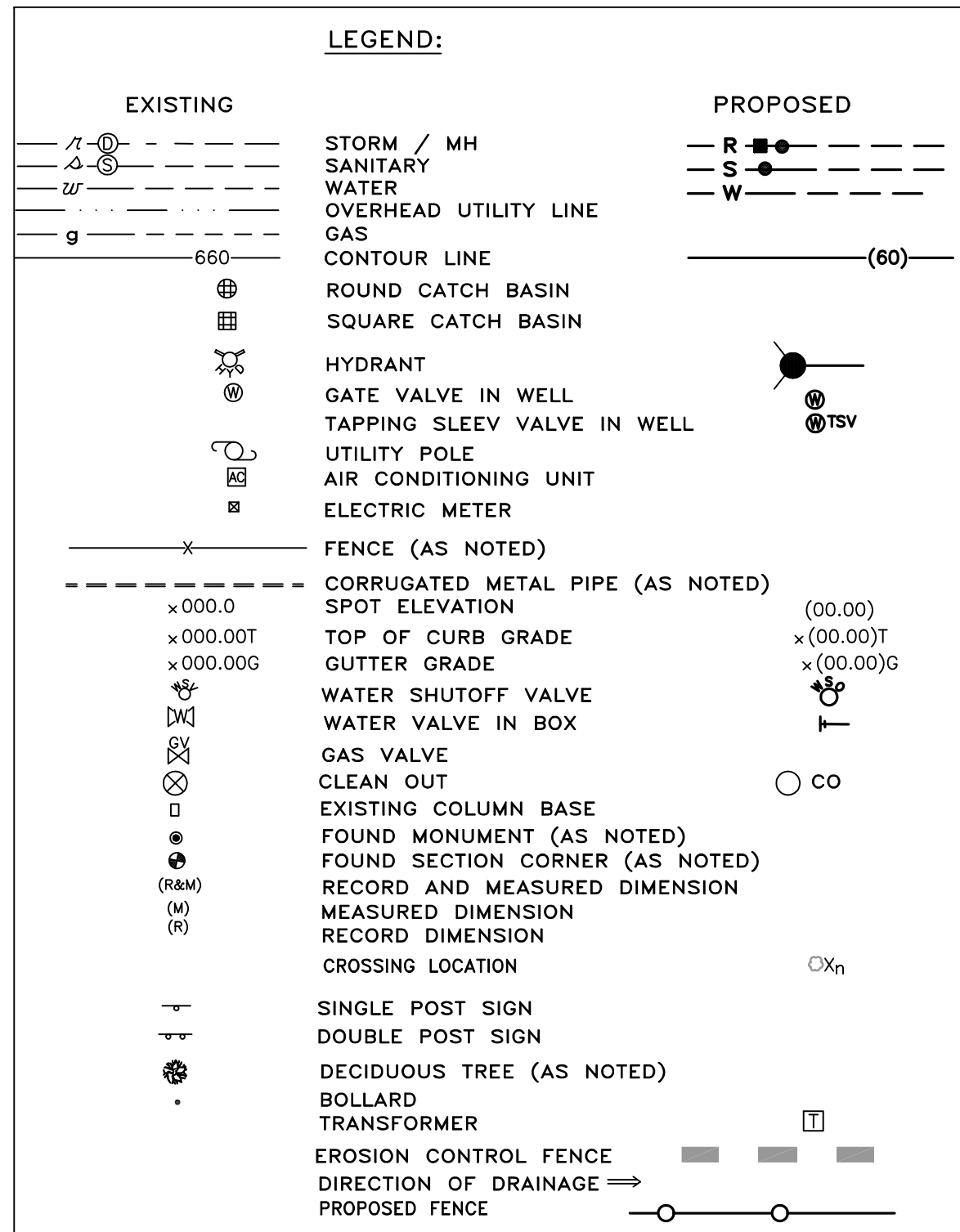
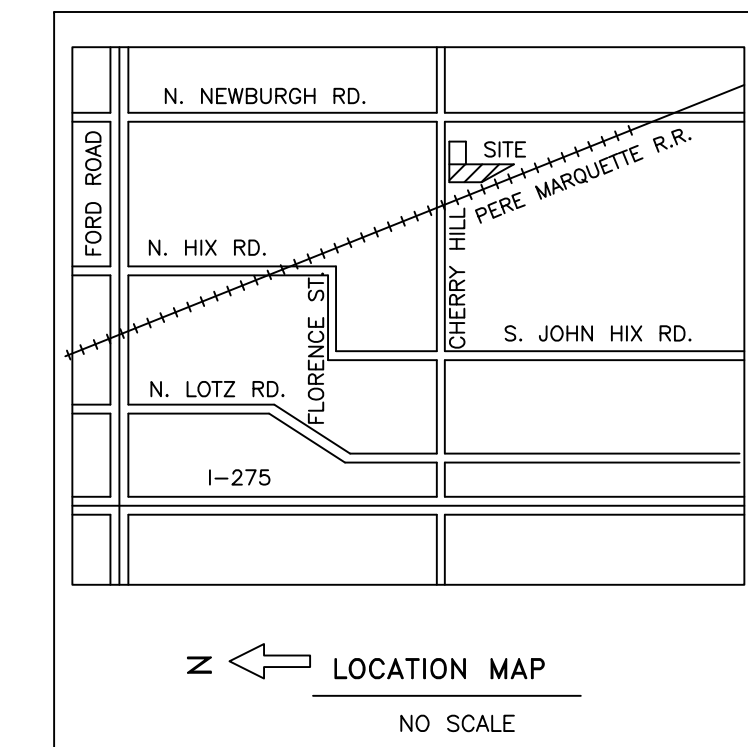


# KINSHIP PROVISIONING AND CULTIVATION WESTLAND, WAYNE COUNTY, MICHIGAN



AMENDED PARCEL 3:  
 THAT PART OF THE EAST 1/2 OF SECTION 19, TOWN 2, RANGE 9 EAST, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE NORTH LINE OF SAID SECTION DISTANT S89°15'00"W 690.73 FEET FROM THE NORTHEAST CORNER OF SECTION 19 AND PROCEEDING THENCE S89°15'00"W ALONG SAID NORTH LINE 267.00 FEET; THENCE S00°53'30"E 540.50 FEET TO NORTHEASTERLY LINE OF PERE MARQUETTE RAILROAD RIGHT-OF-WAY; THENCE S3°03'04"E ALONG SAID NORTHEASTERLY LINE 615.72 FEET; THENCE N00°53'30"W 800.44 FEET; THENCE S89°15'00"W 33.00 FEET; THENCE N00°53'30"W 277.00 FEET TO THE POINT OF BEGINNING. CONTAINING 5.361 ACRES GROSS (4.993 ACRES NET), MORE OR LESS. SUBJECT TO EASEMENTS AND RESTRICTIONS, RIGHT OF WAY, RECORDED OR OTHERWISE.

PARCEL ID: AFTER AMENDMENT  
 56 053 99 0028 701

CIVIL PLANS INDEX:

SHEET #	DESCRIPTION
C-0	COVER SHEET
C-1	GRADING & EROSION CONTROL PLAN
C-2	LAYOUT PLAN
C-3	UTILITIES PLAN
C-4	RIGHT TURN DECELERATION LAN, DRIVE & CENTERLINE EXTENTION
C-5	DRAINAGE AREA MAP
C-6	STORM SEWER PROFILE
C-7	STORM SEWER PROFILE
C-8	WATER AND SANITARY SEWER PROFILES
C-9	NOTES AND DETAILS
C-10	STORM MAINTENANCE EXHIBITS
C-11	WATER AND SANITARY EASEMENTS
TS-1	TOPOGRAPHIC SURVEY

CITY OF WESTLAND SANITARY SEWER DETAILS SHEET 1 & 2  
 CITY OF WESTLAND STANDARD STORM SEWER DETAILS SHEET 1 & 2  
 CITY OF WESTLAND STANDARD WATERMAIN DETAILS SHEET 1 & 2

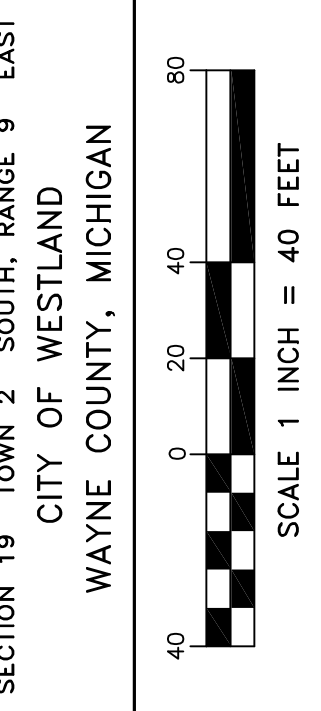
- WAYNE COUNTY DPS GENERAL NOTES:**
- All work within the Wayne County road right-of-way (ROW) and drain easement shall be in accordance with the current standards and general specifications, including soil erosion and sedimentation control of the Wayne County Department of Public Services, and MDOT 2012 specifications for construction.
  - These plans are not valid without attachment of the Wayne County permit specifications for construction within road right-of-way, parks, drain easement or sanitary sewer under jurisdiction of the Wayne County (07/01/93) revised 12/15/2004.
  - Contractor shall contact MISS DIG AT 811 to identify and flag the locations of all underground utilities at the proposed construction areas prior to start of construction, and shall be responsible for determining the exact locations and elevations of all underground utilities, and resolve any conflict between the proposed work and the existing underground or aboveground utilities.
  - Contractor shall maintain 18 minimum vertical clearance and 3 feet minimum horizontal clearance between the proposed and existing utilities. Any proposed utilities permitted to cross under the road for drain, must be placed a minimum of 7 feet below the lowest point of the road, or 6 feet below the drain bottom. Overhead wires/ cables must be installed 18 feet minimum above the road centerline. To relocate any utility within the road ROW, the contractor shall coordinate the relocation with the utility company and as directed by the Wayne County Engineer.
  - All survey monuments / corners and bench marks located within the construction area must be preserved in accordance with public act 74 as amended (including act 34, P.A 2000) and as per Wayne County permit rule 1.5. the permit holder and contractor shall coordinate the work with a professional surveyor licensed in the state of Michigan during construction activities for the purpose of witnessing, preserving or replacing survey monuments and monument boxes.
  - Exposure of any utilities under the pavement will not be permitted, unless approved by the Wayne County Engineer. Pavement removal and replacement shall be performed per applicable Wayne County Standard details and as directed by the Wayne County Engineer.
  - Contractor shall Restore all disturbed areas within the County road right-of-way with and drain easement with 3" topsoil, THM seed seed mix and mulch. Slopes steeper than 1 on 3 shall be restored by placing sod on 2" topsoil.
  - All Backfills under or within 3 feet of the proposed or existing pavement, curb or sidewalk shall conform to the Wayne County trench "B" backfill requirements. Trench "A" backfill may be used within the road R.O.W. areas under conditions other than those specified for trench "B".
  - Contractor is responsible for restoring or replacing all disturbed landscaped areas, sprinkler systems, fences, signs, mail boxes, etc. within the Wayne County road R.O.W and / or as directed by the County Engineer.
  - Contractor shall Maintain two-way traffic at all times. Otherwise, detouring traffic must be per approved plans. All signing and traffic control devices shall be in accordance with the latest edition of M.M.U.T.C.D.
  - Maintain a safe and adequate travel route for pedestrian at all times throughout the project duration.
  - Tunneling, Boring and Jacking operations shall be in accordance with the Wayne County specifications and details. Bore pits shall be placed at minimum 10 feet from the back of curb or edge of pavement.
  - Remove all abandoned conduits from the County roads ROW or as directed by Wayne County Engineer.
  - Contractor shall provide cold weather protection for all proposed concrete work (pavements, sidewalks, drive approaches, etc.) as directed by the Wayne County Engineer.
  - Overnight parking and storage of construction materials and equipments are not permitted within the Wayne County Roads right-of-way.
  - Contractor shall obtain soil erosion and sedimentation control permit from Wayne County DPS. Contact the Wayne County Soil Erosion Office At 734-326-5565, or the County having jurisdiction over the soil erosion permit.
  - Contractor shall notify Wayne County Traffic Signal shop at 734-955-2161 at least 72 hours prior to start of work at or near any signalized intersections.
  - Contractor shall notify Wayne County 3 business days prior to start of construction. Contact Wayne County Permit Office at (734) 858-2761

- DRIVE APPROACHES NOTES: (PER WAYNE COUNTY STANDARD)**
- SAW OUT EXISTING PAVEMENT AT GUTTER LINE OR 30" FROM BACK OF CURB AND REMOVE PAVEMENT AND CURB & GUTTER/ CURB DROP OR AS DIRECTED BY THE COUNTY ENGINEER.
  - RECONSTRUCT THE DRIVE APPROACH OPENING PER WAYNE COUNTY STANDARD DETAIL "D-6" AND/OR AS DIRECTED BY WAYNE COUNTY ENGINEER.
  - RECONSTRUCT THE EXISTING DRIVE APPROACHES WITH 8" NON-REINFORCED CONCRETE OVER MINIMUM 6" OF 21AA AGGREGATE BASE COURSE COMPACTED IN PLACE TO A MINIMUM 95% DENSITY OF MAXIMUM UNIT WEIGHT AND INTEGRAL STRAIGHT CURB TYPE 3 AS PER WAYNE COUNTY STANDARD DETAIL RS-3 AND /OR AS DIRECTED BY WAYNE COUNTY ENGINEER.
  - PLACE 1" EXPANSION JOINT BEHIND THE CURB THROUGHOUT THE DRIVE APPROACH OR AS DIRECTED BY THE COUNTY ENGINEER.
  - PLACE A CURB DROP PER WAYNE COUNTY STANDARD DETAIL "D-7" AND /OR AS DIRECTED BY WAYNE COUNTY ENGINEER.
  - PLACE CURB AS PER WAYNE COUNTY STANDARD DETAIL "RS-3" AND/ OR AS DIRECTED BY WAYNE COUNTY ENGINEER.
  - DROP CURB TO ZERO HEIGHT AT FACE OF SIDEWALK.
  - TIE NEW PAVEMENT TO EXISTING PAVEMENT WITH 18" LONG EPOXY COATED No. 5 REBAR OR AS DIRECTED BY THE COUNTY ENGINEER.
  - RECONSTRUCT THE EXISTING SIDEWALK PER WAYNE COUNTY STANDARD DETAIL "RS-5" AND/OR AS DIRECTED BY WAYNE COUNTY ENGINEER.

**SITE DATA:**

CURRENT ZONNG:	I-2 GENERAL INDUSTRIAL
SITE AREA (PARCEL 3):	217,529 S.F. (4.99 Ac.)
<b>SETBACKS:</b>	
FRONT-	75 FT.
SIDES-	25 FT.
REAR-	25 FT.
MAX. BLDG. HT.:	35 FT.
BUILDING AREA: (PROVISION)	6,080 S.F.
BUILDING AREA: (CULTIVATION)	21,313 S.F.
LOT COVERAGE:	12.59%
PARKING REQUIRED (PROVISION):	6,080 / 100 GSF = 61 SPACES
PARKING PROVIDED:	61 SPACES (INC. ACC. SPACES)
PARKING REQUIRED (CULTIVATION):	21,313 SF. / 500 GSF=43 SPACES
PARKING PROVIDED:	43 SPACES (INC. ACC. SPACES)
PROVISION STORE HOURS OF OPERATION:	10:00 AM. - 8:00 PM.
OUTDOOR LIGHTING AND SECURITY CAMERAS PROVIDED AT BOTH FACILITIES	
REQUIRED LANDSCAPING PARCEL 3 PER ORDINANCE	

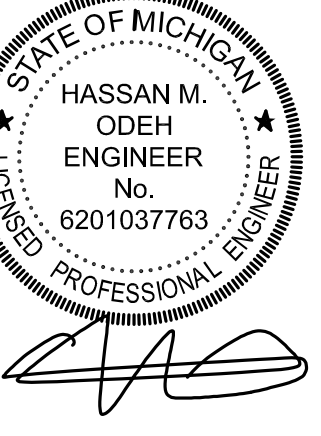
**LANDMARK ENGINEERING CO.**  
 Civil Engineering - Land Surveying  
 9401 General Dr., Suite 101  
 Plymouth, Michigan 48170  
 Tel: 248-557-3000  
 Fax: 248-557-3059  
 Email: landmark@landmarkengineeringco.com



CLIENT: WESTLAND PRINCIPLES, LLC  
 COVER SHEET  
 KINSHIP PROVISIONING AND CULTIVATION  
 PART OF THE EAST 1/2 OF

CAD NO. 2010CP01.DWG

This is an original design created by LANDMARK ENGINEERING CO. The concept, ideas, and specifications contained within these documents, also the original plans, and electronic files are the sole property of LANDMARK ENGINEERING CO. They have been created for the purpose of presentation and/or construction of this specific project. Any unauthorized use or reproduction of these documents by another person, firm or corporation without the expressed written consent of LANDMARK ENGINEERING CO. is prohibited.



8/16/2022	CONSTRUCTION PLANS
8/16/2022	CONSTRUCTION PLANS
2/23/2022	PER OHM REVIEW
2/2/2022	PER OHM REVIEW
1/4/2022	REVISIONS
DATE:	3/1/2021
DR. BY:	H.M.O
CH. BY:	H.M.O
JOB NO.	1210
SHEET NO.	C-0

WAYNE COUNTY DPS PLAN REVIEW R 21-149  
 NOTE: ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS ADOPTED BY THE CITY OF WESTLAND AND WAYNE COUNTY

**MISS DIG**  
 3 FULL WORKING DAYS  
**BEFORE YOU DIG,**  
 OR WORK NEAR OVERHEAD WIRES  
**CALL MISS DIG**  
 1-800-482-7171  
 FOR THE LOCATION OF  
 UNDERGROUND FACILITIES

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

**NOTE:**  
 THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS PLAN ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES AND PROPOSED UTILITIES CROSSINGS IN THE FIELD PRIOR TO CONSTRUCTION. THE VARIOUS UTILITY LINES SHOWN HEREON ARE BASED UPON FIELD DATA WHEREVER POSSIBLE. ADDITIONAL INFORMATION REGARDING UNDERGROUND UTILITIES HAS NOT BEEN AVAILABLE TO US.

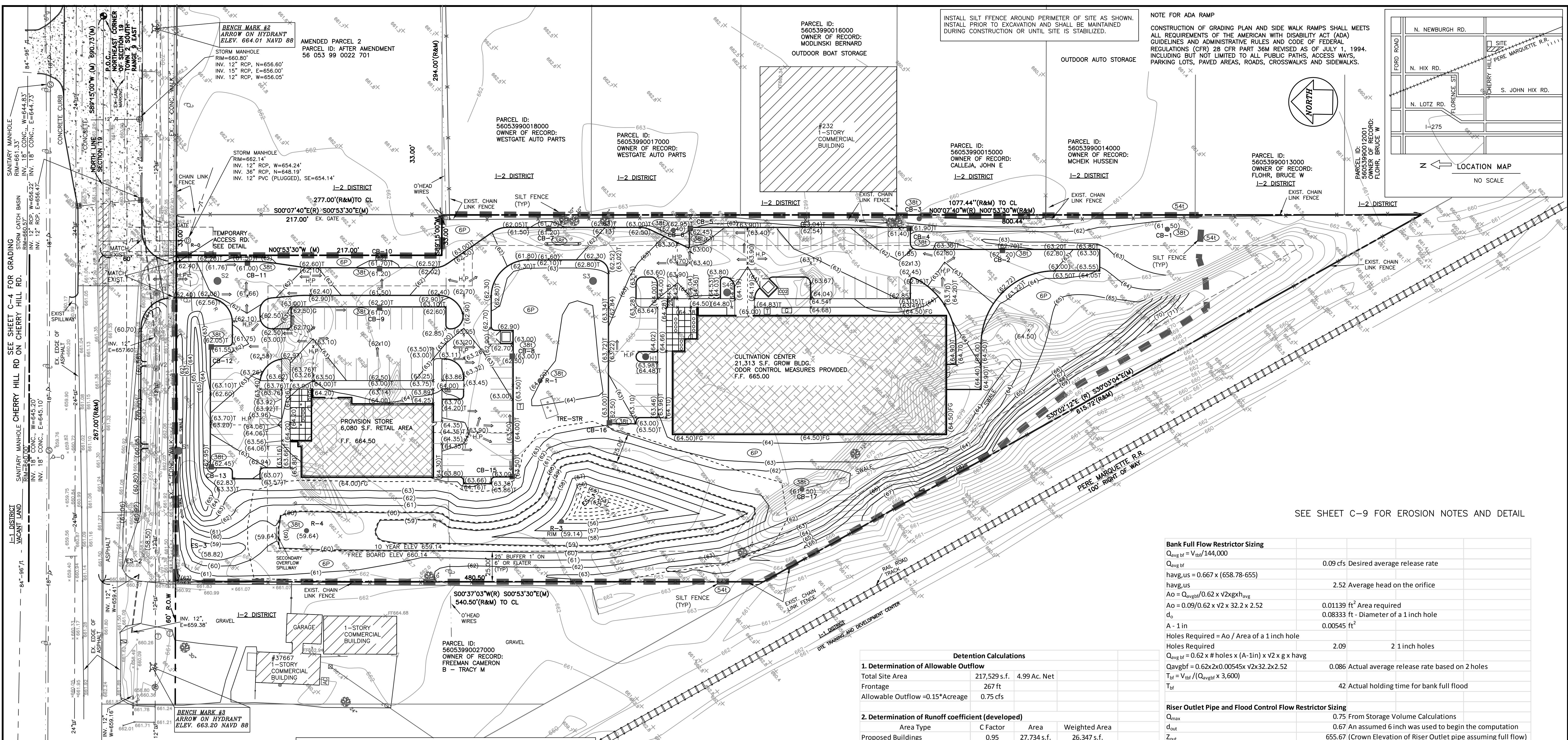
**ARCHITECT:**  
**GUIDO ARCHITECTS INC**  
 23419 FORD ROAD  
 DEARBORN, MI 48128  
 Phone: 313-274-7800  
 FAX: 313-274-7808

**LANDSCAPE ARCHITECT:**  
**NAGY DEVLIN L.L.C**  
 31736 WEST CHICAGO AVE.  
 LIVONIA, MI 48150  
 Phone: 734-634-9208

**CIVIL ENGINEER**  
**LANDMARK ENGINEERING CO.**  
 9401 GENERAL DR. SUITE 101  
 PLYMOUTH, MI. 48170  
 Phone: 248-557-3000

**PROPRIETOR**  
**WESTLAND PRINCIPLES, LLC**  
 ATTN. CURT MOLINO  
 26621 EAST RIVER ROAD  
 GROSSE ILE, MI 48138  
 Phone: 313-218-4069  
 EMAIL: CURT.MOLINO@YAHOO.COM



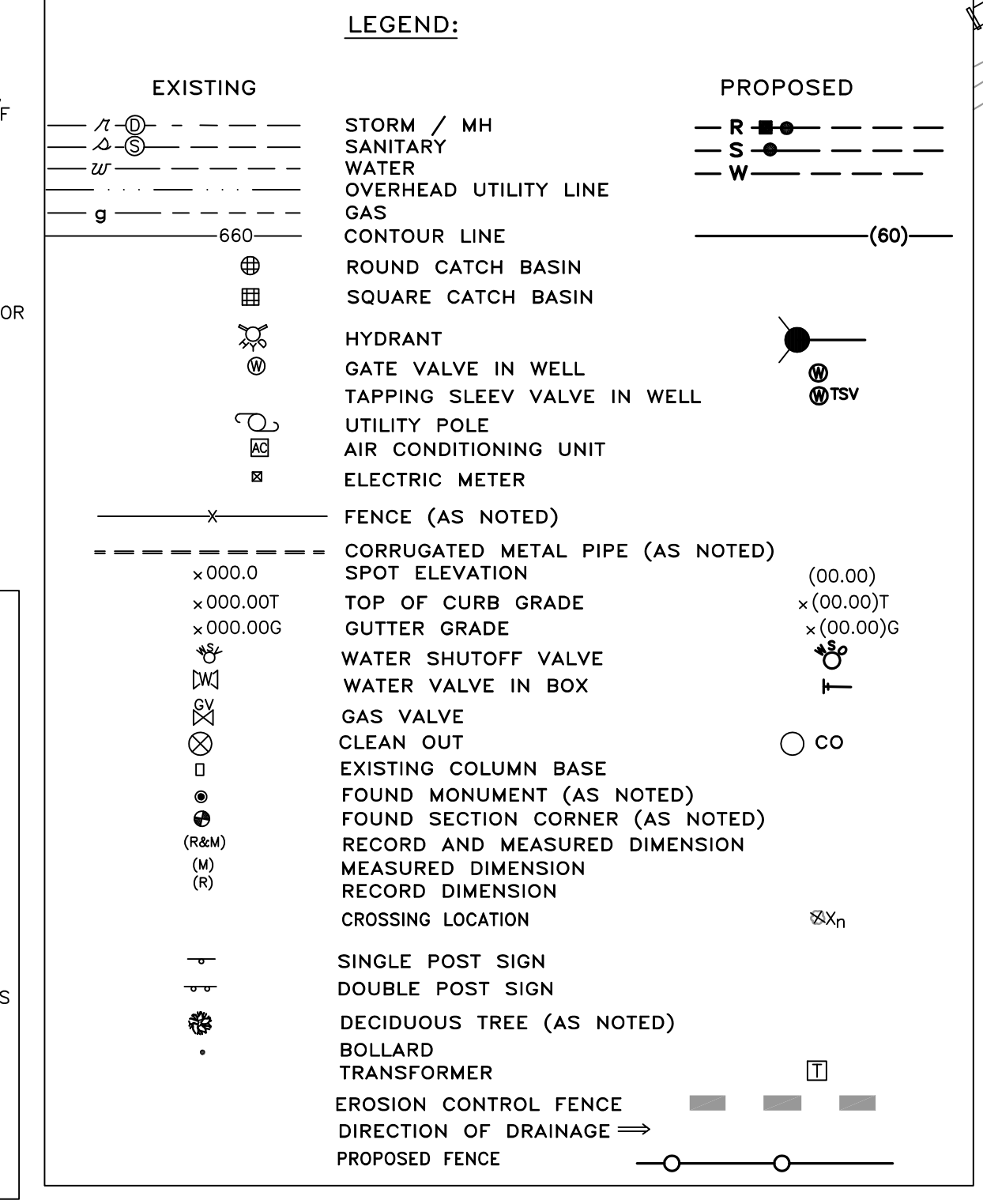


**AMENDED PARCEL 3: PARCEL ID: AFTER AMENDMENT 56 053 99 0028 701**

THAT PART OF THE EAST 1/2 OF SECTION 19, TOWN 2, RANGE 9 EAST, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE NORTH LINE OF SAID SECTION DISTANT S89°15'00"W 890.73 FEET FROM THE NORTHEAST CORNER OF SECTION 19 AND PROCEEDING THENCE S89°15'00"W ALONG SAID NORTH LINE 267.00 FEET; THENCE S00°53'30"E 540.50 FEET TO NORTHEASTLY LINE OF PERE MARQUETTE RAILROAD RIGHT-OF-WAY; THENCE S30°03'04"E ALONG SAID NORTHEASTLY LINE 615.72 FEET; THENCE N00°53'30"W 800.44 FEET; THENCE S89°15'00"W 33.00 FEET; THENCE N00°53'30"W 277.00 FEET TO THE POINT OF BEGINNING, CONTAINING 5.361 ACRES GROSS (4.993 ACRES NET), MORE OR LESS, SUBJECT TO EASEMENTS AND RESTRICTIONS, RIGHT OF WAY, RECORDED OR OTHERWISE.

**NOTE:** CONTRACTOR SHALL EXPOSE THE EXISTING GAS OR ANY OTHER EXISTING UTILITY LINE AT THE AREA OF CROSSING WITH PROPOSED SANITARY SEWERS AND/OR WATER MAIN PRIOR TO STARTING CONSTRUCTION OF THE SANITARY SEWERS OR WATER MAIN. CONTRACTOR SHALL VERIFY THAT THE EXISTING UTILITY LINE WILL NOT CONFLICT WITH THE PROPOSED SEWERS OR WATER, AND INFORM ENGINEER (TO REVISE DESIGN PLANS) IF CONFLICT EXISTS.

**NOTE:** THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS PLAN ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES AND PROPOSED UTILITIES CROSSINGS IN THE FIELD PRIOR TO CONSTRUCTION. THE VARIOUS UTILITY LINES SHOWN HEREON ARE BASED UPON FIELD DATA WHEREVER POSSIBLE. ADDITIONAL INFORMATION REGARDING UNDERGROUND UTILITIES HAS NOT BEEN AVAILABLE TO US.



**Detention Pond Design**

V <sub>10</sub>	16387 10-year flood
V <sub>10 adjusted</sub>	16387 No adjustment due to mechanical treatment
V <sub>2</sub>	13132 Bank Full
V <sub>2 adjusted</sub>	13132 No adjustment due to mechanical treatment

Elevation	Area	Incremental Volume	Cumulative Volume
655	1005	0	0
656	1553	1269	1269
657	3063	2266	3535
658	5174	4073	7608
659	9243	7111	14719
660	15601	12284	27003

Z<sub>bf</sub> = 658 + (659 - 658) x (13132 - 7608) / (14719 - 7608)

Z<sub>bf</sub> = 658.78

Z<sub>10</sub> = 659 + (660 - 659) x (16387 - 14719) / (27003 - 14719)

Z<sub>10</sub> = 659.14

Top of riser = 659.14

Z<sub>top</sub> Riser Upstream Outlet Invert = 655

Top of overflow structure = 659.1

Minimum Freeboard Elevation = 660.1

Crest of Emergency Spillway = 659.6

**Detention Calculations**

**1. Determination of Allowable Outflow**

Total Site Area	217,529 s.f.	4.99 ac. Net
Frontage	267 ft	
Allowable Outflow = 0.15 * Acreage	0.75 cfs	

**2. Determination of Runoff coefficient (developed)**

Area Type	C Factor	Area	Weighted Area
Proposed Buildings	0.95	27,734 s.f.	26,347 s.f.
Proposed Pavement	0.95	53,262 s.f.	50,599 s.f.
Proposed Concrete	0.95	6,755 s.f.	6,417 s.f.
Water	1	1,005 s.f.	1,005 s.f.
Unimproved	0.2	128,773 s.f.	25,755 s.f.
			110,123 s.f.

C<sub>weighted</sub> = Weighted Area = 110,123 / Area = 217,529 = 0.51

**3. Computation of Required Storage Volume**

a) Q<sub>0</sub> = allowable outflow / acreage x runoff coefficient

Q<sub>0</sub> = 0.75 cfs / 4.99 acres x 0.51 = 0.29 cfs/acre imperviousness

b) Time in minutes that the maximum storage will occur (orifice outlet)

T = -19.9 + √(4530/Q<sub>0</sub>)

T = -19.9 + √(4530/0.29) = 105.08 minutes

c) Calculation of maximum volume of storage per acre imperviousness

V<sub>s</sub> = ((9.108 x T) / (T + 19.9)) - 40Q<sub>0</sub>T

V<sub>s</sub> = 6,439 c.f./acre impervious

d) Total volume of storage required

V<sub>t</sub> = V<sub>s</sub> x area x runoff coefficient (developed)

V<sub>t</sub> = 6439 x 4.99 x 0.51 = 16,387 c.f.

V<sub>t</sub> bf = 5,160 x 4.99 x 0.51 = 13,132 c.f.

**Bank Full Flow Restrictor Sizing**

Q <sub>avg</sub> = V <sub>avg</sub> / 144,000	
Q <sub>avg</sub> = 0.09 cfs	Desired average release rate
havg,us = 0.667 x (658.78 - 655)	2.52 Average head on the orifice
Ao = Q <sub>avg</sub> / (0.62 x √(2gxhavg))	0.01139 ft <sup>2</sup> Area required
d <sub>o</sub> = 0.09 / (0.62 x √(2gxhavg))	0.08333 ft - Diameter of a 1 inch hole
A - 1 in	0.00545 ft <sup>2</sup>
Holes Required = Ao / Area of a 1 inch hole	2.09
Holes Required	2 1 inch holes
Q <sub>avg</sub> = 0.62 x # holes x (A - 1 in) x √(2gxhavg)	0.086 Actual average release rate based on 2 holes
T <sub>bf</sub> = V <sub>t</sub> / (Q <sub>avg</sub> x 3,600)	42 Actual holding time for bank full flood

**Riser Outlet Pipe and Flood Control Flow Restrictor Sizing**

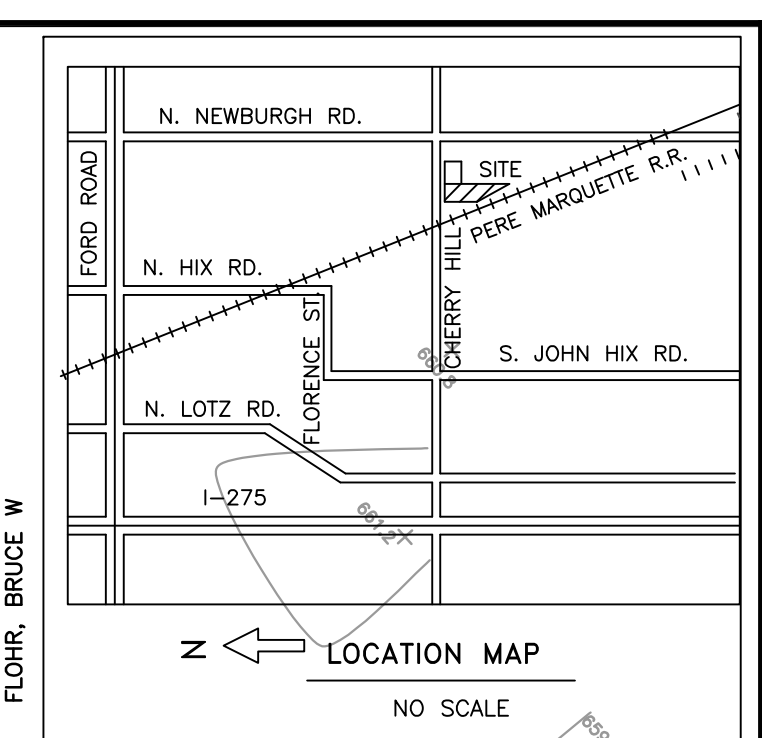
Q <sub>max</sub>	0.75 From Storage Volume Calculations
d <sub>out</sub>	0.67 An assumed 6 inch was used to begin the computation
Z <sub>out</sub>	655.67 (Crown Elevation of Riser Outlet pipe assuming full flow)
h <sub>max</sub> = (Z <sub>10</sub> - Z <sub>out</sub> )	
A <sub>out</sub> = Q <sub>max</sub> / (0.62 x √(2gxhmax))	3.47
A <sub>out</sub>	0.0809
d <sub>out,required</sub>	3.852075614
A 3.75 inch diameter hole will be drilled in the end cap of the of the vertical run of the outlet tee	8 Diameter of Outlet Pipe
A <sub>out,pipe</sub>	0.3491 Area of a 6 inch pipe
A <sub>out,restrictor</sub>	0.3125 3.75 The diameter of the restrictor
A <sub>out,restrictor</sub>	0.0767 Area of the restrictor
Q <sub>max</sub> the maximum release through the end cap is computed	
Q <sub>max</sub>	0.71 5% Within 3% of Q <sub>max</sub>
R	0.167
n	0.012
Slope	0.55%
Velocity check	2.57 ft/s ...O.K.
8 inch pipe with 3.75 end cap restrictor	

**Overflow Structure Outlet Pipe Size and Slope**

Q (Rational)	10.3
Pipe Diameter	1.75 ft 21
R	0.438
A	2.4053
Slope	0.42%
V	4.28

SEE SHEET C-9 FOR EROSION NOTES AND DETAIL

INSTALL SILT FENCE AROUND PERIMETER OF SITE AS SHOWN. INSTALL PRIOR TO EXCAVATION AND SHALL BE MAINTAINED DURING CONSTRUCTION OR UNTIL SITE IS STABILIZED.



**LANDMARK ENGINEERING CO.**  
Civil Engineering - Land Surveying  
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Fax: 248-557-3059  
Email: landmark@landmarkengineeringco.com



SECTION 19 TOWN 2 SOUTH, RANGE 9 EAST  
CITY OF WESTLAND  
WAYNE COUNTY, MICHIGAN

CLIENT: WESTLAND PRINCIPLES, LLC

GRADING & EROSION CONTROL PLAN  
KINSHIP PROVISIONING AND CULTIVATION  
PART OF THE EAST 1/2 OF

CAD NO. 2010CP01.DWG

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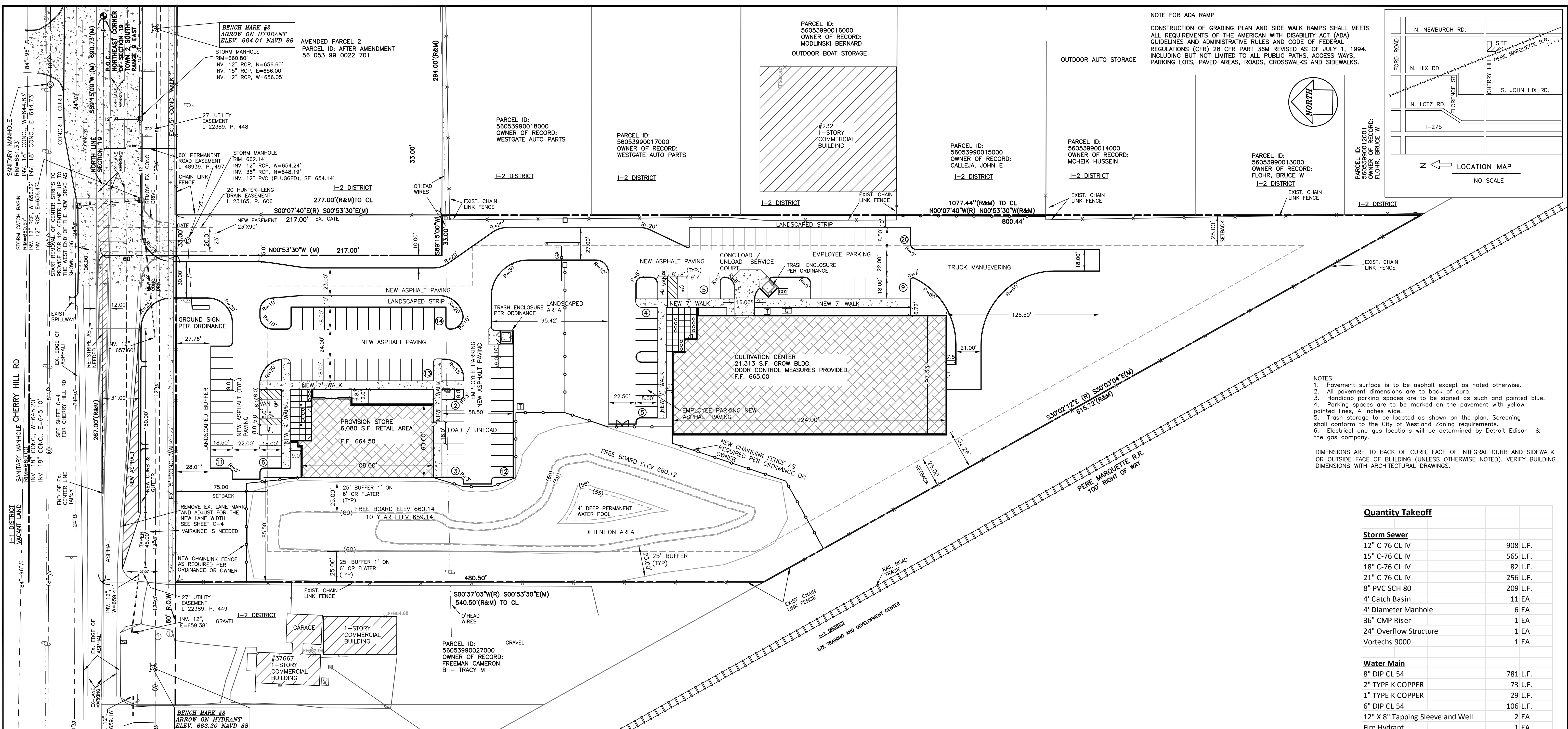
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REVISIONS	
DATE:	3/1/2021
DR. BY:	H.M.O
CH. BY:	H.M.O
JOB NO.	1210
SHEET NO.	C-1

PROPERTY OWNER:  
WESTLAND PRINCIPLES, LLC  
ATTN: CURT MOLINO  
26621 EAST RIVER ROAD  
GROSSE ILE, MI 48138  
Phone: 313-218-4069  
EMAIL: curt.molino@yahoo.com

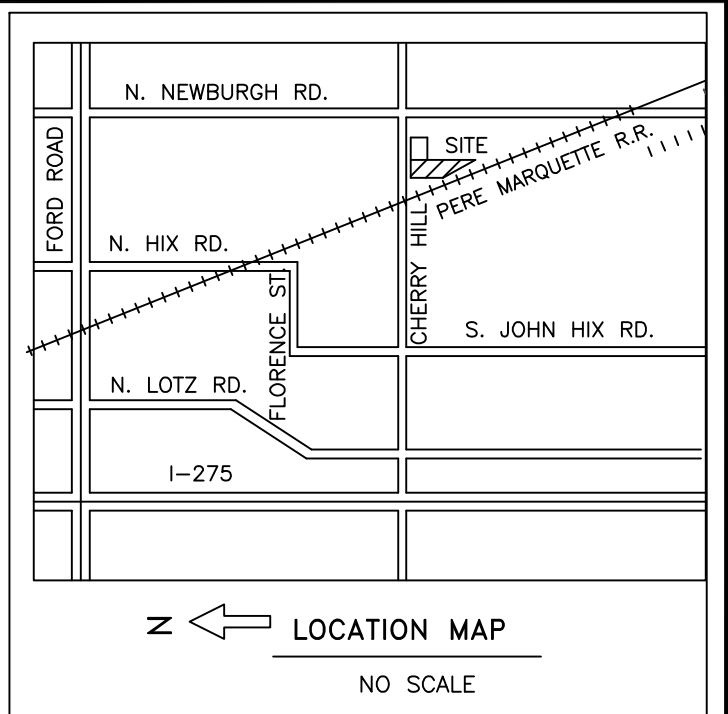
WAYNE COUNTY DPS PLAN REVIEW R 21-149

ALL MATERIAL AND INSTALLATION MUST CONFORM TO THE CURRENT ENGINEERING DESIGN STANDARDS OF THE CITY OF WESTLAND AND WAYNE COUNTY.





NOTE FOR ADA RAMP  
CONSTRUCTION OF GRADING PLAN AND SIDE WALK RAMP SHALL MEETS ALL REQUIREMENTS OF THE AMERICAN WITH DISABILITY ACT (ADA) GUIDELINES AND ADMINISTRATIVE RULES AND CODE OF FEDERAL REGULATIONS (CFR) 28 CFR PART 36M REVISED AS OF JULY 1, 1994. INCLUDING BUT NOT LIMITED TO ALL PUBLIC PATHS, ACCESS WAYS, PARKING LOTS, PAVED AREAS, ROADS, CROSSWALKS AND SIDEWALKS.



NOTES  
1. Pavement surface is to be asphalt except as noted otherwise.  
2. All pavement dimensions are to back of curb.  
3. Handicap parking spaces are to be signed as such and painted blue.  
4. Parking spaces are to be marked on the pavement with yellow painted lines, 4 inches wide.  
5. Trash storage to be located as shown on the plan. Screening shall conform to the City of Westland Zoning requirements.  
6. Electrical and gas locations will be determined by Detroit Edison & the gas company.  
DIMENSIONS ARE TO BACK OF CURB, FACE OF INTEGRAL CURB AND SIDEWALK OR OUTSIDE FACE OF BUILDING (UNLESS OTHERWISE NOTED). VERIFY BUILDING DIMENSIONS WITH ARCHITECTURAL DRAWINGS.

Quantity Takeoff	
<b>Storm Sewer</b>	
12" C-76 CL IV	908 L.F.
15" C-76 CL IV	565 L.F.
18" C-76 CL IV	82 L.F.
21" C-76 CL IV	256 L.F.
8" PVC SCH 80	209 L.F.
4" Catch Basin	11 EA
4" Diameter Manhole	6 EA
36" CMP Riser	1 EA
24" Overflow Structure	1 EA
Vortechs 9000	1 EA
<b>Water Main</b>	
8" DIP CL 54	781 L.F.
2" TYPE K COPPER	73 L.F.
1" TYPE K COPPER	29 L.F.
6" DIP CL 54	106 L.F.
12" X 8" Tapping Sleeve and Well	2 EA
Fire Hydrant	1 EA
Shutoff Valve	2 EA
FDC Connection	1 EA
<b>Sanitary Sewer</b>	
8" PVC SDR 23.5	123 L.F.
10" ABS TRUSS PIPE	686 L.F.
6" CLEANOUT	2 EA
SANITARY MANHOLE	5 EA
INTERIOR DROP CONNECTION	3 EA
<b>Paving</b>	
Asphalt Pavement	5448 SYD.
Aggregate Base	5448 SYD.
4" Concrete Walk	5709 S.F.
Concrete Curb and Gutter	2719 L.F.
8" Concrete	1100 S.F.
<b>Erosion Control</b>	
Silt Fence	2085 L.F.
Inlet Filters	22 EA
Temporary Mud Mat	1 EA

Quantity Takeoff	
<b>Storm Sewer</b>	
12" C-76 CL IV	908 L.F.
15" C-76 CL IV	565 L.F.
18" C-76 CL IV	82 L.F.
21" C-76 CL IV	256 L.F.
8" PVC SCH 80	209 L.F.
4" Catch Basin	11 EA
4" Diameter Manhole	6 EA
36" CMP Riser	1 EA
24" Overflow Structure	1 EA
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8" DIP CL 54	781 L.F.
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10" ABS TRUSS PIPE	686 L.F.
6" CLEANOUT	2 EA
SANITARY MANHOLE	5 EA
INTERIOR DROP CONNECTION	3 EA
<b>Paving</b>	
Asphalt Pavement	5448 SYD.
Aggregate Base	5448 SYD.
4" Concrete Walk	5709 S.F.
Concrete Curb and Gutter	2719 L.F.
8" Concrete	1100 S.F.
<b>Erosion Control</b>	
Silt Fence	2085 L.F.
Inlet Filters	22 EA
Temporary Mud Mat	1 EA

Quantity Takeoff	
<b>Storm Sewer</b>	
12" C-76 CL IV	908 L.F.
15" C-76 CL IV	565 L.F.
18" C-76 CL IV	82 L.F.
21" C-76 CL IV	256 L.F.
8" PVC SCH 80	209 L.F.
4" Catch Basin	11 EA
4" Diameter Manhole	6 EA
36" CMP Riser	1 EA
24" Overflow Structure	1 EA
Vortechs 9000	1 EA
<b>Water Main</b>	
8" DIP CL 54	781 L.F.
2" TYPE K COPPER	73 L.F.
1" TYPE K COPPER	29 L.F.
6" DIP CL 54	106 L.F.
12" X 8" Tapping Sleeve and Well	2 EA
Fire Hydrant	1 EA
Shutoff Valve	2 EA
FDC Connection	1 EA
<b>Sanitary Sewer</b>	
8" PVC SDR 23.5	123 L.F.
10" ABS TRUSS PIPE	686 L.F.
6" CLEANOUT	2 EA
SANITARY MANHOLE	5 EA
INTERIOR DROP CONNECTION	3 EA
<b>Paving</b>	
Asphalt Pavement	5448 SYD.
Aggregate Base	5448 SYD.
4" Concrete Walk	5709 S.F.
Concrete Curb and Gutter	2719 L.F.
8" Concrete	1100 S.F.
<b>Erosion Control</b>	
Silt Fence	2085 L.F.
Inlet Filters	22 EA
Temporary Mud Mat	1 EA

**Note:**  
Quantities shown are for permit purposes ONLY.  
Contractor to be responsible for making his own determination as to the extent of his operation and quantities required to complete the work

PROPERTY OWNER:  
WESTLAND PRINCIPLES, LLC  
ATTN: CURT MOLINO  
26621 EAST RIVER ROAD  
GROSSE ILE, MI 48138  
Phone: 313-218-4069  
EMAIL: curt.molino@yahoo.com

WAYNE COUNTY DPS PLAN REVIEW R 21-149  
ALL MATERIAL AND INSTALLATION MUST CONFORM TO THE CURRENT ENGINEERING DESIGN STANDARDS OF THE CITY OF WESTLAND AND WAYNE COUNTY.

LEGEND:	
	EXISTING STORM / MH SANITARY
	PROPOSED STORM / MH SANITARY
	EXISTING WATER OVERHEAD UTILITY LINE
	PROPOSED WATER OVERHEAD UTILITY LINE
	EXISTING GAS CONTOUR LINE
	PROPOSED GAS CONTOUR LINE
	EXISTING ROUND CATCH BASIN
	PROPOSED ROUND CATCH BASIN
	EXISTING SQUARE CATCH BASIN
	PROPOSED SQUARE CATCH BASIN
	EXISTING HYDRANT
	PROPOSED HYDRANT
	EXISTING GATE VALVE IN WELL
	PROPOSED GATE VALVE IN WELL
	EXISTING TAPPING SLEEVE VALVE IN WELL
	PROPOSED TAPPING SLEEVE VALVE IN WELL
	EXISTING UTILITY POLE
	PROPOSED UTILITY POLE
	EXISTING AIR CONDITIONING UNIT
	PROPOSED AIR CONDITIONING UNIT
	EXISTING ELECTRIC METER
	PROPOSED ELECTRIC METER
	EXISTING FENCE (AS NOTED)
	PROPOSED FENCE (AS NOTED)
	EXISTING CORRUGATED METAL PIPE (AS NOTED)
	PROPOSED CORRUGATED METAL PIPE (AS NOTED)
	EXISTING SPOT ELEVATION
	PROPOSED SPOT ELEVATION
	EXISTING TOP OF CURB GRADE
	PROPOSED TOP OF CURB GRADE
	EXISTING GUTTER GRADE
	PROPOSED GUTTER GRADE
	EXISTING WATER SHUTOFF VALVE
	PROPOSED WATER SHUTOFF VALVE
	EXISTING WATER VALVE IN BOX
	PROPOSED WATER VALVE IN BOX
	EXISTING GAS VALVE
	PROPOSED GAS VALVE
	EXISTING CLEAN OUT
	PROPOSED CLEAN OUT
	EXISTING COLUMN BASE
	PROPOSED COLUMN BASE
	EXISTING FOUND MONUMENT (AS NOTED)
	PROPOSED FOUND MONUMENT (AS NOTED)
	EXISTING RECORD AND MEASURED DIMENSION
	PROPOSED RECORD AND MEASURED DIMENSION
	EXISTING RECORD DIMENSION
	PROPOSED RECORD DIMENSION
	EXISTING CROSSING LOCATION
	PROPOSED CROSSING LOCATION
	EXISTING SINGLE POST SIGN
	PROPOSED SINGLE POST SIGN
	EXISTING DOUBLE POST SIGN
	PROPOSED DOUBLE POST SIGN
	EXISTING DECIDUOUS TREE (AS NOTED)
	PROPOSED DECIDUOUS TREE (AS NOTED)
	EXISTING BOLLARD
	PROPOSED BOLLARD
	EXISTING TRANSFORMER
	PROPOSED TRANSFORMER
	EXISTING EROSION CONTROL FENCE
	PROPOSED EROSION CONTROL FENCE
	EXISTING DIRECTION OF DRAINAGE
	PROPOSED DIRECTION OF DRAINAGE
	EXISTING PROPOSED FENCE
	PROPOSED PROPOSED FENCE

AMENDED PARCEL 3: PARCEL ID: AFTER AMENDMENT 56 053 99 0028 701  
THAT PART OF THE EAST 1/2 OF SECTION 19, TOWN 2, RANGE 9 EAST, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE NORTH LINE OF SAID SECTION DISTANT S89°15'00"W 690.73 FEET FROM THE NORTHEAST CORNER OF SECTION 19 AND PROCEEDING THENCE S89°15'00"W ALONG SAID NORTH LINE 267.00 FEET; THENCE S00°53'30"E 540.50 FEET TO NORTHEASTERLY LINE OF PERE MARQUETTE RAILROAD RIGHT-OF-WAY; THENCE S3°03'04"E ALONG SAID NORTHEASTERLY LINE 615.72 FEET; THENCE N00°53'30"W 800.44 FEET; THENCE S89°15'00"W 33.00 FEET; THENCE N00°53'30"W 277.00 FEET TO THE POINT OF BEGINNING, CONTAINING 5.361 ACRES GROSS (4.993 ACRES NET), MORE OR LESS, SUBJECT TO EASEMENTS AND RESTRICTIONS, RIGHT OF WAY, RECORDED OR OTHERWISE.

NOTE:  
CONTRACTOR SHALL EXPOSE THE EXISTING GAS OR ANY OTHER EXISTING UTILITY LINE AT THE AREA OF CROSSING WITH PROPOSED SANITARY SEWERS AND/OR WATER MAIN PRIOR TO STARTING CONSTRUCTION OF SEWERS OR WATER MAIN. CONTRACTOR SHALL VERIFY THAT THE EXISTING UTILITY LINE WILL NOT CONFLICT WITH THE PROPOSED SEWERS OR WATER MAIN AND INFORM ENGINEER (TO REVISE DESIGN PLANS) IF CONFLICT EXISTS.

**MISS DIG**  
3 FULL WORKING DAYS  
BEFORE YOU DIG,  
OR WORK NEAR OVERHEAD WIRES  
CALL MISS DIG  
1-800-482-7171  
FOR THE LOCATION OF  
UNDERGROUND FACILITIES

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

NOTE:  
THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS PLAN ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES AND PROPOSED UTILITIES CROSSINGS IN THE FIELD PRIOR TO CONSTRUCTION. THE VARIOUS UTILITY LINES SHOWN HEREON ARE BASED UPON FIELD DATA WHEREVER POSSIBLE. ADDITIONAL INFORMATION REGARDING UNDERGROUND UTILITIES HAS NOT BEEN AVAILABLE TO US.

LANDMARK ENGINEERING CO.  
Civil Engineering - Land Surveying  
9401 General Dr., Suite 101  
Plymouth, Michigan 48170  
Tel: 248-557-3000  
Fax: 248-557-3059  
Email: landmark@landmarkengineeringco.com

SECTION 19 TOWN 2 SOUTH, RANGE 9  
CITY OF WESTLAND  
WAYNE COUNTY, MICHIGAN  
SCALE 1 INCH = 40 FEET

CLIENT: WESTLAND PRINCIPLES, LLC  
LAYOUT AND DIMENSIONS PLAN  
KINSHIP PROVISIONING AND CULTIVATION  
PART OF THE EAST 1/2 OF

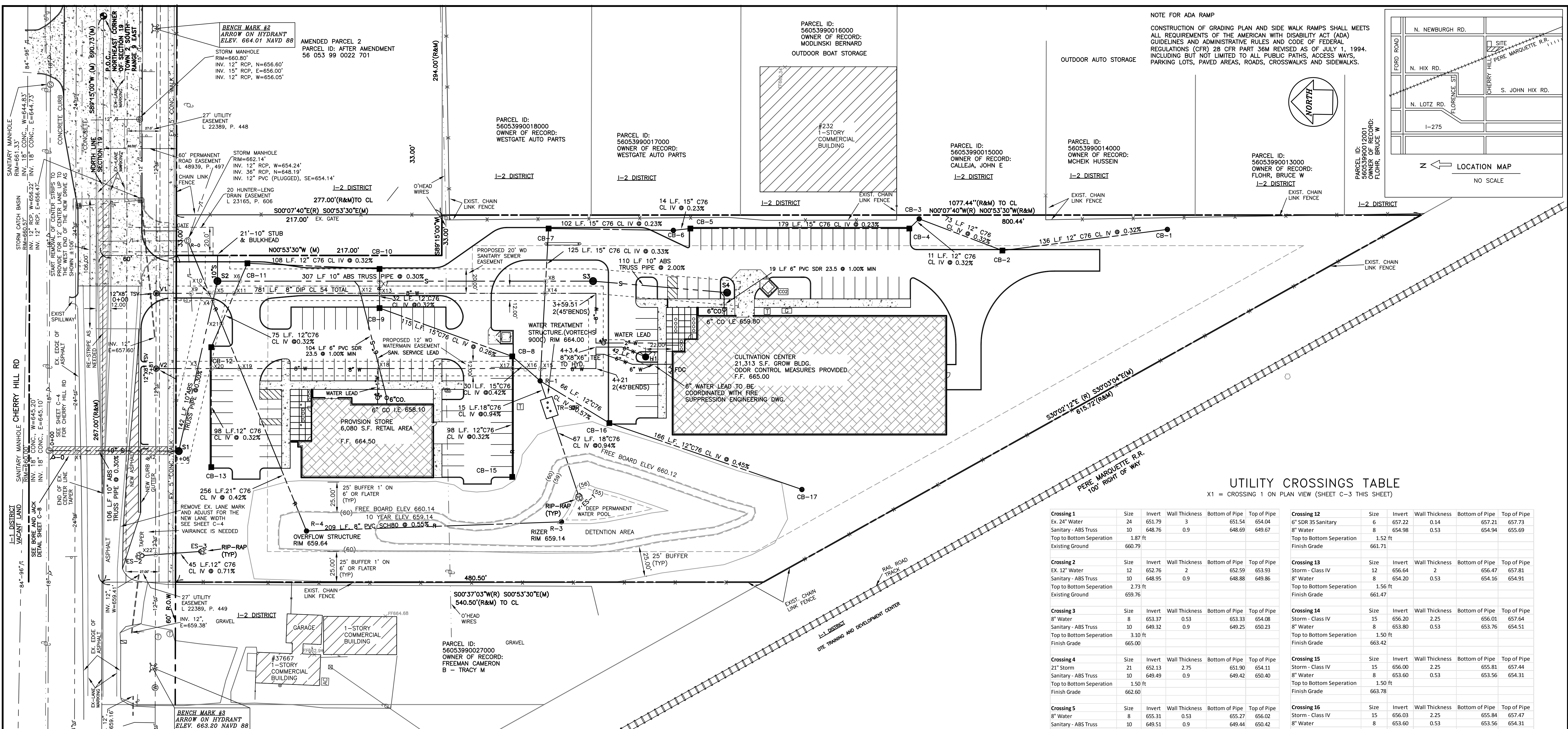
CAD NO. 2010CP01.DWG

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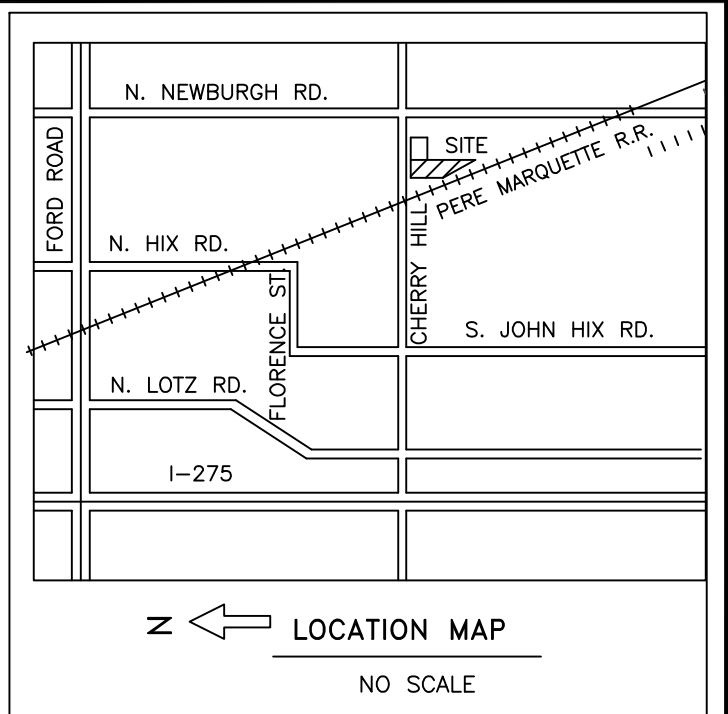
STATE OF MICHIGAN  
HASSAN M. ODEH  
No. 6201037763  
REGISTERED PROFESSIONAL ENGINEER

REVISIONS	
8/16/2022	CONSTRUCTION PLANS
2/23/2022	PER OHM REVIEW
2/2/2022	PER OHM REVIEW
1/4/2022	
DATE:	3/1/2021
DR. BY:	H.M.O
CH. BY:	H.M.O
JOB NO.	1210
SHEET NO.	C-2



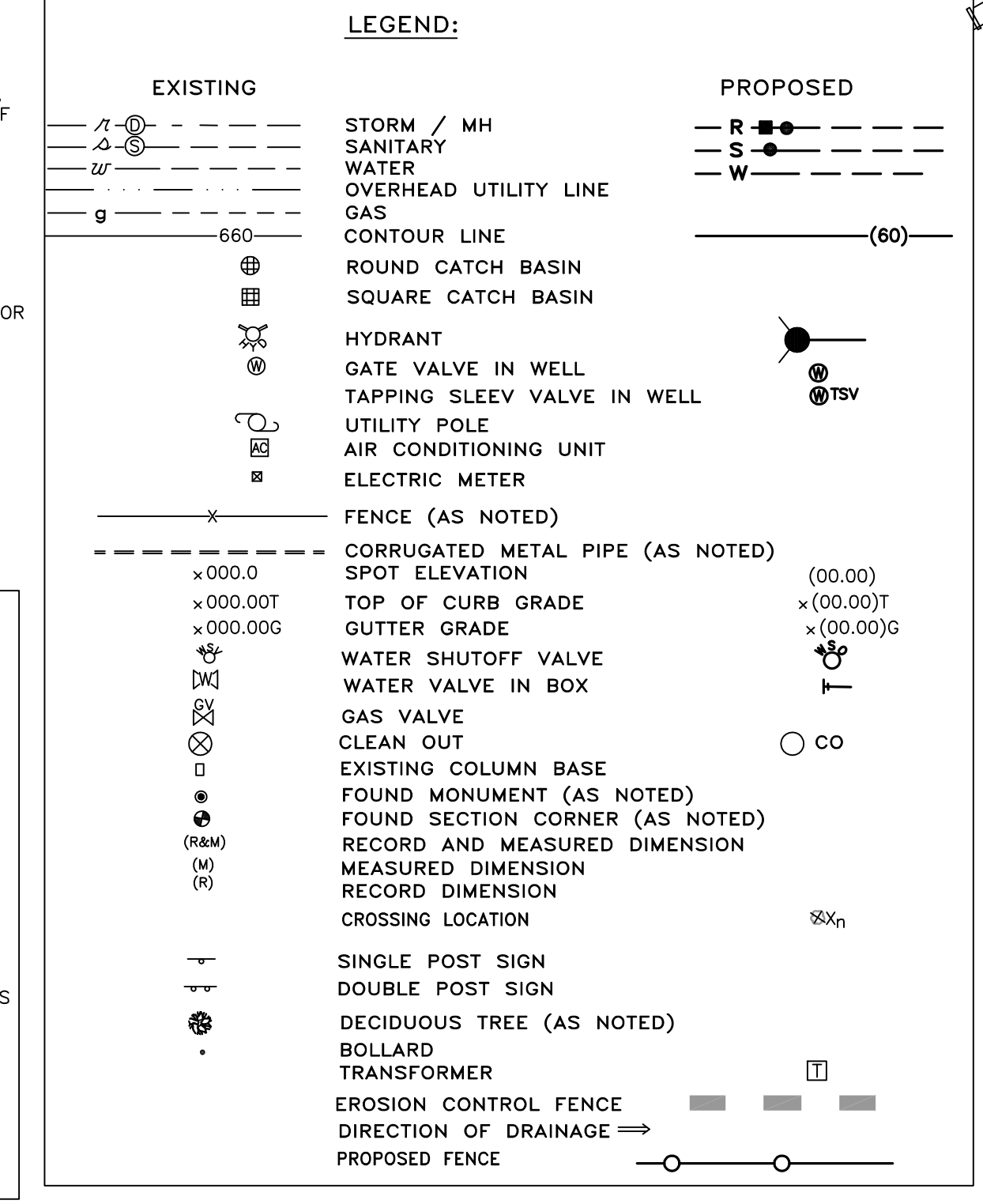


NOTE FOR ADA RAMP  
 CONSTRUCTION OF GRADING PLAN AND SIDE WALK RAMP SHALL MEETS ALL REQUIREMENTS OF THE AMERICAN WITH DISABILITY ACT (ADA) GUIDELINES AND ADMINISTRATIVE RULES AND CODE OF FEDERAL REGULATIONS (CFR) 28 CFR PART 36M REVISED AS OF JULY 1, 1994, INCLUDING BUT NOT LIMITED TO ALL PUBLIC PATHS, ACCESS WAYS, PARKING LOTS, PAVED AREAS, ROADS, CROSSWALKS AND SIDEWALKS.



UTILITY CROSSINGS TABLE  
 X1 = CROSSING 1 ON PLAN VIEW (SHEET C-3 THIS SHEET)

Crossing	Size	Invert	Wall Thickness	Bottom of Pipe	Top of Pipe
Crossing 1	Ex. 24" Water	24	651.79	3	651.54
	Sanitary - ABS Truss	10	648.76	0.9	648.69
	Top to Bottom Separation	1.87 ft			
	Existing Ground	660.79			
Crossing 2	Ex. 12" Water	12	652.76	2	652.59
	Sanitary - ABS Truss	10	648.95	0.9	648.88
	Top to Bottom Separation	2.73 ft			
	Existing Ground	659.76			
Crossing 3	8" Water	8	653.37	0.53	653.33
	Sanitary - ABS Truss	10	649.32	0.9	649.25
	Top to Bottom Separation	3.10 ft			
	Finish Grade	665.00			
Crossing 4	21" Storm	21	652.13	2.75	651.90
	Sanitary - ABS Truss	10	649.49	0.9	649.42
	Top to Bottom Separation	1.50 ft			
	Finish Grade	662.60			
Crossing 5	8" Water	8	655.31	0.53	655.27
	Sanitary - ABS Truss	10	649.51	0.9	649.44
	Top to Bottom Separation	4.85 ft			
	Finish Grade	661.98			
Crossing 6	Storm - Class IV	12	656.67	2	656.50
	Sanitary - ABS Truss	10	652.68	0.9	652.61
	Top to Bottom Separation	3.89 ft			
	Finish Grade	661.45			
Crossing 7	Storm - Class IV	12	656.67	2	656.50
	Sanitary - ABS Truss	10	652.68	0.9	652.61
	Top to Bottom Separation	2.04 ft			
	Finish Grade	663.27			
Crossing 8	Storm - Class IV	12	657.65	2	657.48
	Sanitary - ABS Truss	10	653.08	0.9	653.01
	Top to Bottom Separation	2.04 ft			
	Finish Grade	663.27			
Crossing 9	Storm - Class IV	12	654.46	2	654.29
	8" Water	8	655.70	0.53	655.66
	Top to Bottom Separation	0.03 ft			
	Finish Grade	662.24			
Crossing 10	Storm - Class IV	12	652.10	2.75	651.87
	8" Water	8	655.80	0.53	655.76
	Top to Bottom Separation	1.68 ft			
	Finish Grade	662.03			
Crossing 11	Storm - Class IV	12	657.34	2	657.17
	8" Water	8	654.96	0.53	654.92
	Top to Bottom Separation	1.50 ft			
	Finish Grade	661.78			
Crossing 12	6" SDR 35 Sanitary	6	657.22	0.14	657.21
	8" Water	8	654.98	0.53	654.94
	Top to Bottom Separation	1.52 ft			
	Finish Grade	661.71			
Crossing 13	Storm - Class IV	12	656.64	2	656.47
	8" Water	8	654.20	0.53	654.16
	Top to Bottom Separation	1.56 ft			
	Existing Ground	661.47			
Crossing 14	Storm - Class IV	15	656.20	2.25	656.01
	8" Water	8	653.80	0.53	653.76
	Top to Bottom Separation	1.50 ft			
	Finish Grade	663.42			
Crossing 15	Storm - Class IV	15	656.00	2.25	655.81
	8" Water	8	653.60	0.53	653.56
	Top to Bottom Separation	1.50 ft			
	Finish Grade	663.78			
Crossing 16	Storm - Class IV	15	656.03	2.25	655.84
	8" Water	8	653.60	0.53	653.56
	Top to Bottom Separation	1.53 ft			
	Finish Grade	663.48			
Crossing 17	Storm - Class IV	12	658.21	2	658.04
	8" Water	8	654.29	0.53	654.25
	Top to Bottom Separation	3.04 ft			
	Finish Grade	662.70			
Crossing 18	6" SDR 35 - Sanitary	6	657.85	0.14	657.84
	8" Water	8	655.63	0.53	655.59
	Top to Bottom Separation	1.50 ft			
	Finish Grade	662.41			
Crossing 19	Storm - Class IV	21	652.38	2.75	652.15
	8" Water	8	655.90	0.53	655.86
	Top to Bottom Separation	1.50 ft			
	Finish Grade	662.46			
Crossing 20	Storm - Class IV	12	657.65	2	657.48
	8" Water	8	654.70	0.53	654.66
	Top to Bottom Separation	2.07 ft			
	Finish Grade	662.01			
Crossing 21	Storm - Class IV	12	657.41	2	657.24
	Storm - Class IV	21	652.21	2.75	651.98
	Top to Bottom Separation	3.05 ft			
	Finish Grade	662.39			
Crossing 22	Storm - Class IV	12	658.57	2	658.40
	Ex. 12" Water	21	654.00	0.6	653.95
	Top to Bottom Separation	2.60 ft			
	Finish Grade	660.80			



SERVICE LEADS NOTE:  
 SANITARY SEWER LEADS SHALL BE 6" PVC SCH 23.5 AT 1% MIN. OR AS APPROVED BY THE ENGINEER.  
 ALL NEW SANITARY LEADS CONNECTION TO THE PROPOSED MAIN SHALL BE WYE CONNECTION.  
 1" WATER LEADS SHALL BE TYPE K COPPER OR AS APPROVED BY THE CITY ENGINEER.  
 STORM LEADS FOR ROOF DRAINAGE SHALL BE 6" PVC SCH 40 PVC.  
 SANITARY & WATERMAIN MATERIAL NOTES:  
 ALL SANITARY MAIN LINE SHALL 10"ABS TRUSS PIPE OR AS APPROVED BY THE ENGINEER.  
 WATER MAIN SHALL BE 8" DIP CL 54.

AMENDED PARCEL 3: PARCEL ID: AFTER AMENDMENT 56 053 99 0028 701  
 THAT PART OF THE EAST 1/2 OF SECTION 19, TOWN 2, RANGE 9 EAST, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE NORTH LINE OF SAID SECTION DISTANT S89°15'00"W 690.73 FEET FROM THE NORTHEAST CORNER OF SECTION 19 AND PROCEEDING THENCE S89°15'00"W ALONG SAID NORTH LINE 267.00 FEET; THENCE S00°53'30"E 540.50 FEET TO NORTHEASTERLY LINE OF PERE MARQUETTE RAILROAD RIGHT-OF-WAY; THENCE S3°03'04"E ALONG SAID NORTHEASTERLY LINE 615.72 FEET; THENCE N00°53'30"W 800.44 FEET; THENCE S89°15'00"W 33.00 FEET; THENCE N00°53'30"W 277.00 FEET TO THE POINT OF BEGINNING, CONTAINING 5.361 ACRES GROSS (4.993 ACRES NET), MORE OR LESS, SUBJECT TO EASEMENTS AND RESTRICTIONS, RIGHT OF WAY, RECORDED OR OTHERWISE.

NOTE: CONTRACTOR SHALL EXPOSE THE EXISTING GAS OR ANY OTHER EXISTING UTILITY LINE AT THE AREA OF CROSSING WITH PROPOSED SANITARY SEWERS AND/OR WATER MAIN PRIOR TO STARTING CONSTRUCTION OF SEWERS OR WATER. CONTRACTOR SHALL VERIFY THAT THE EXISTING UTILITY LINE WILL NOT CONFLICT WITH THE PROPOSED SEWERS OR WATER, AND INFORM ENGINEER (TO REVISE DESIGN PLANS) IF CONFLICT EXISTS.

3 FULL WORKING DAYS BEFORE YOU DIG, OR WORK NEAR OVERHEAD WIRES CALL MISS DIG 1-800-482-7171 FOR THE LOCATION OF UNDERGROUND FACILITIES  
 NOTE: CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.  
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LANDMARK ENGINEERING CO.  
 Civil Engineering - Land Surveying  
 9401 General Dr., Suite 101  
 Plymouth, Michigan 48170  
 Tel: 248-557-3000  
 Fax: 248-557-3059  
 Email: landmark@landmarkengineeringco.com

SECTION 19 TOWN 2 SOUTH, RANGE 9 EAST  
 CITY OF WESTLAND  
 WAYNE COUNTY, MICHIGAN

SCALE 1 INCH = 40 FEET

CLIENT: WESTLAND PRINCIPLES, LLC  
 UTILITIES PLAN  
 KINSHIP PROVISIONING AND CULTIVATION  
 PART OF THE EAST 1/2 OF

CAD NO. 2010CP01.DWG

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HASSAN M. ODEH  
 ENGINEER  
 No. 6201037763  
 PROFESSIONAL ENGINEER

8/16/2022 CONSTRUCTION PLANS  
 2/23/2022 PER OHM REVIEW  
 2/2/2022 PER OHM REVIEW  
 1/4/2022

REVISIONS

DATE: 3/1/2021  
 DR. BY: H.M.O  
 CH. BY: H.M.O

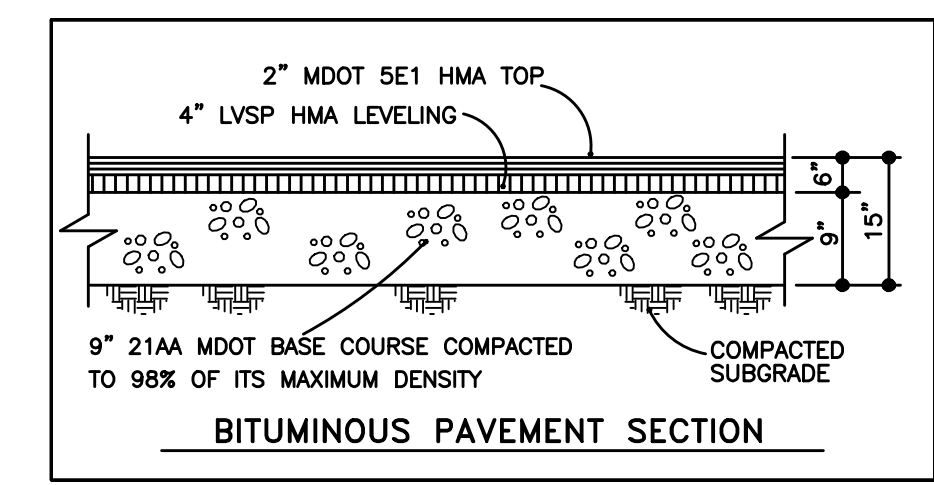
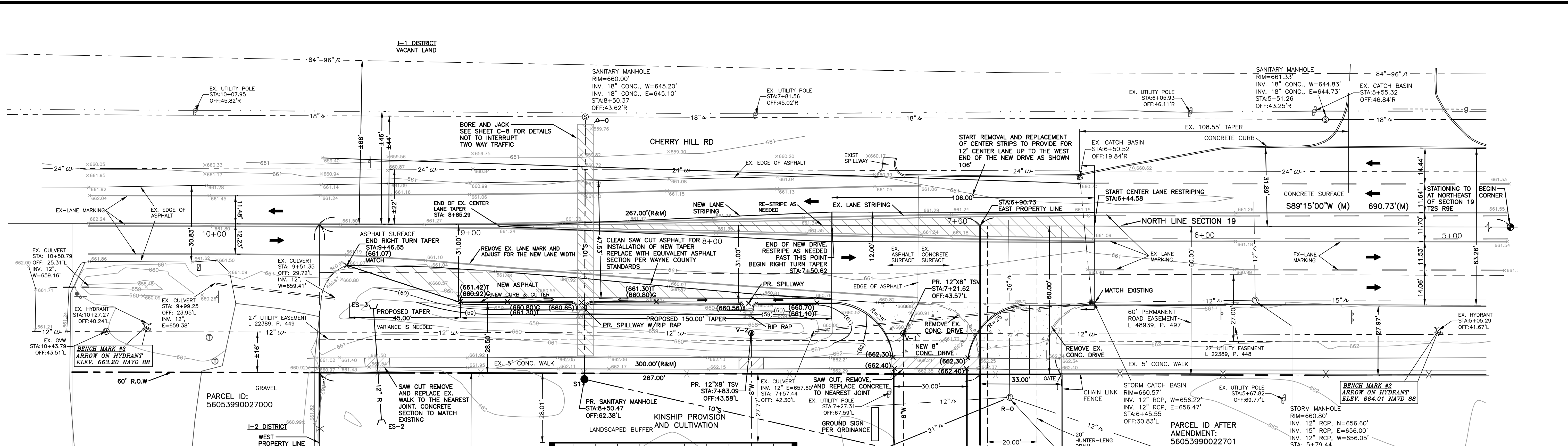
PROPERTY OWNER: WESTLAND PRINCIPLES, LLC  
 ATTN: CURT MOLINO  
 26621 EAST RIVER ROAD  
 GROSSE ILE, MI 48138  
 Phone: 313-218-4069  
 EMAIL: curt.molino@yahoo.com

WAYNE COUNTY DPS PLAN REVIEW R 21-149

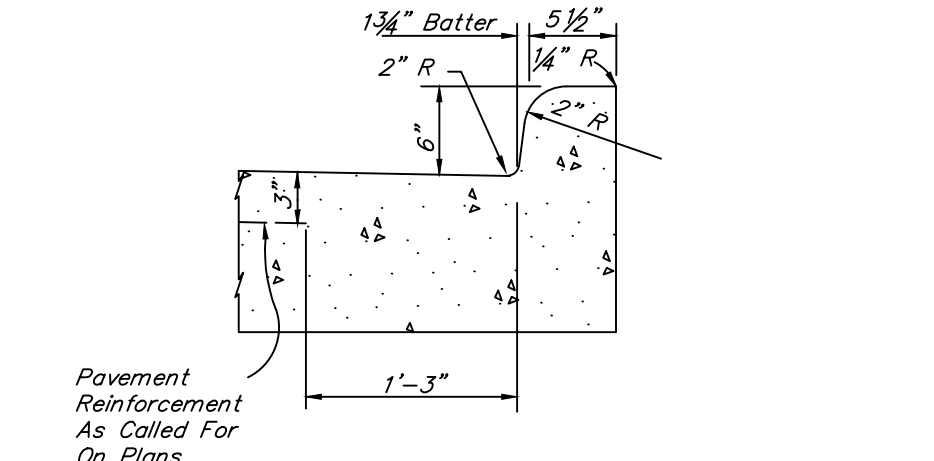
ALL MATERIAL AND INSTALLATION MUST CONFORM TO THE CURRENT ENGINEERING DESIGN STANDARDS OF THE CITY OF WESTLAND AND WAYNE COUNTY.

JOB NO. 1210  
 SHEET NO. C-3

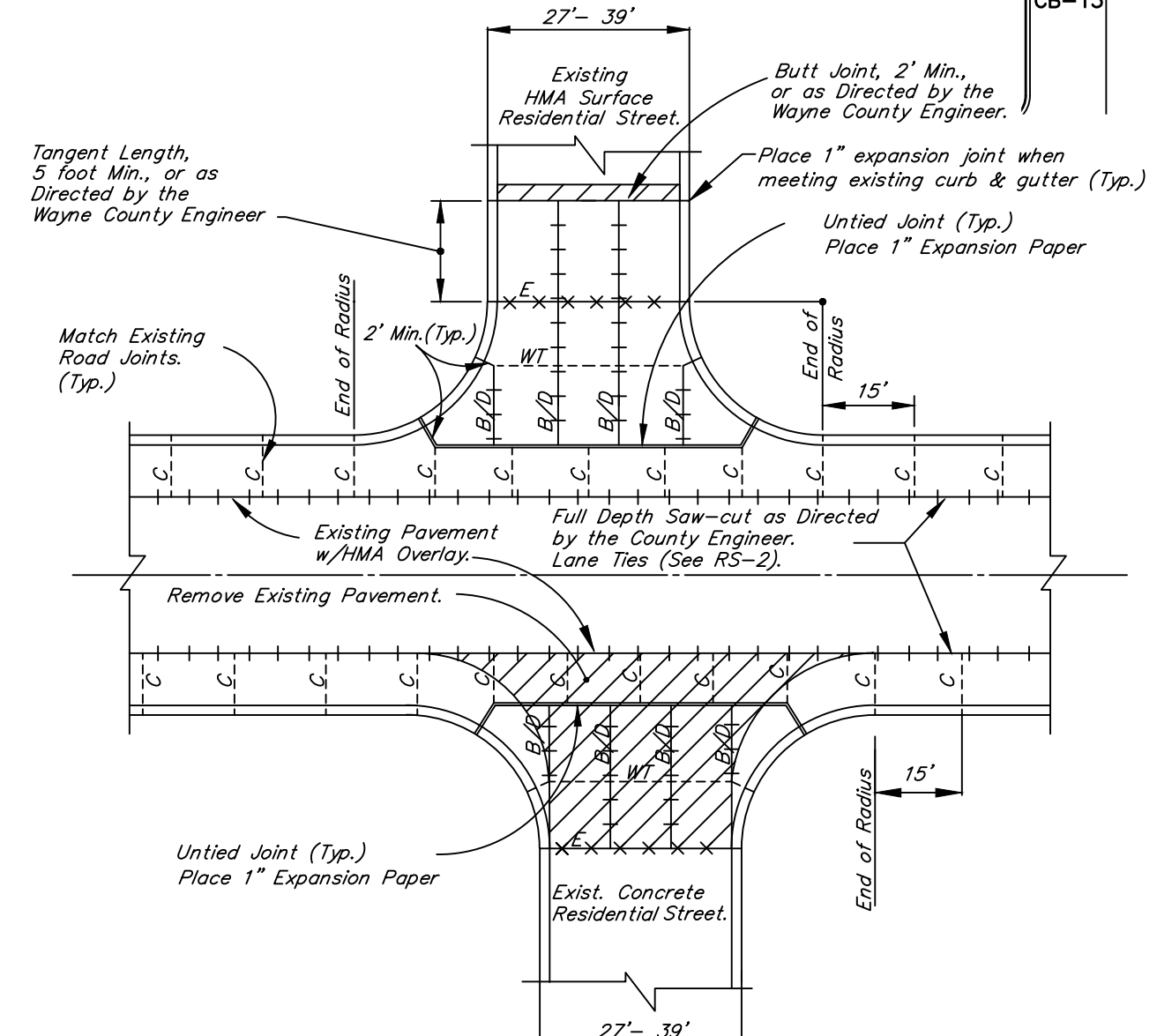




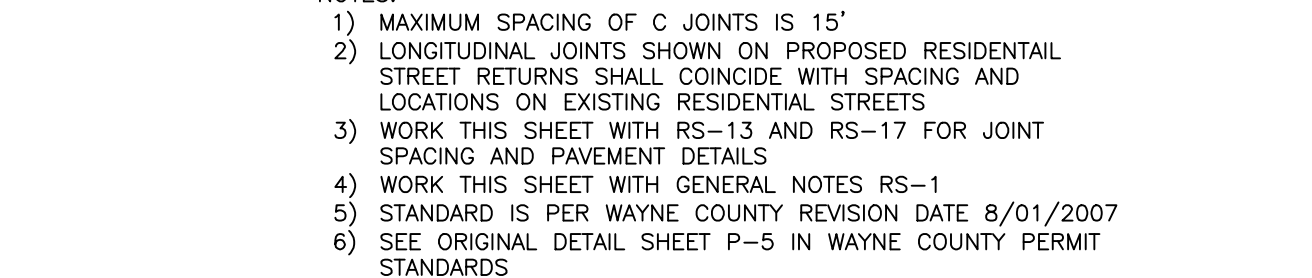
NOTE:  
 1. ASPHALT WIDENING WITHIN THE RIGHT OF WAY SECTION  
 2. WE HAVE NOT REVIEWED THIS PROJECT FOR SOIL CONTENT WE SUGGEST THE CLIENT CONTACT A SOIL ENGINEER WITH REGARD TO SOIL CONDITIONS AND MODIFY PAVEMENT SECTION AS REQUIRED.



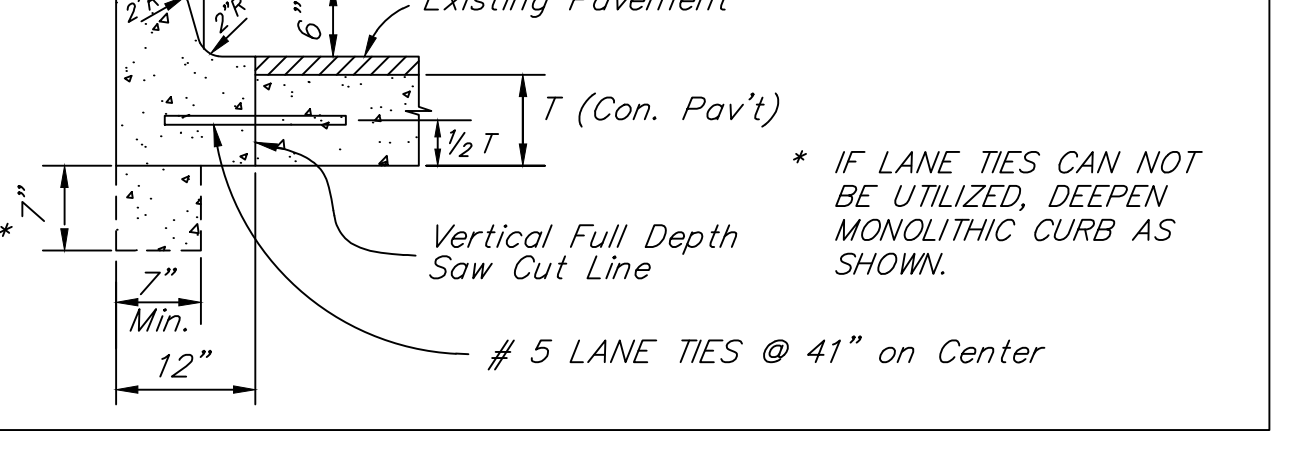
STRAIGHT CURB AND GUTTER TYPE 3 WAYNE COUNTY PERMIT STANDARDS (RS-3, SHEET 1)  
 N.T.S.



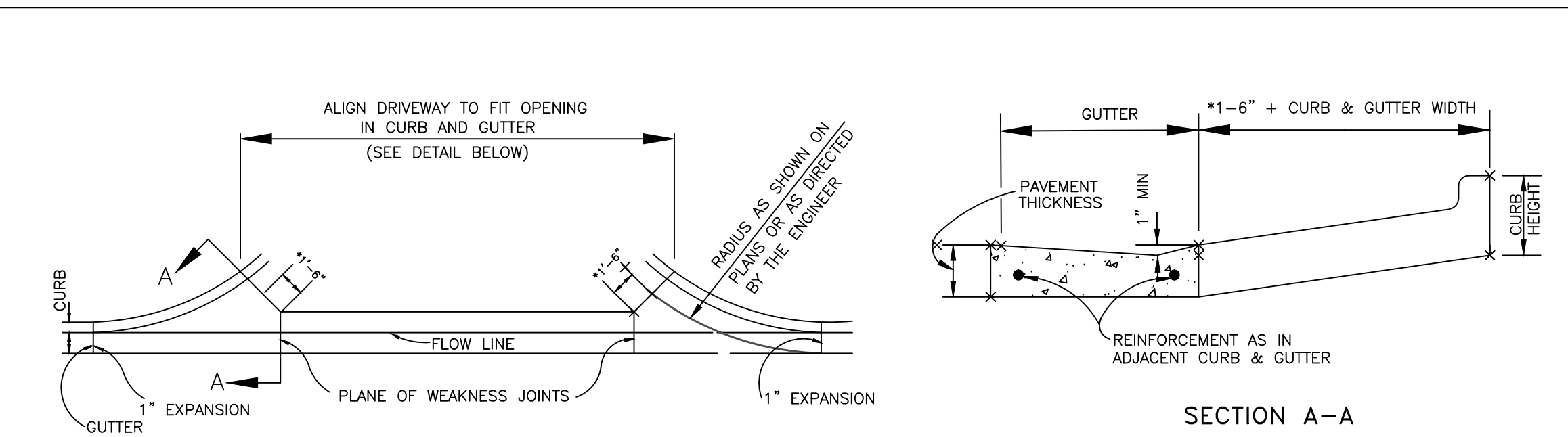
PRIMARY ROAD - NON-REINFORCED CONCRETE BASE COURSE WIDENING AT RESIDENTIAL STREET WAYNE COUNTY PERMIT STANDARDS (P-5, SHEET 1)  
 N.T.S.



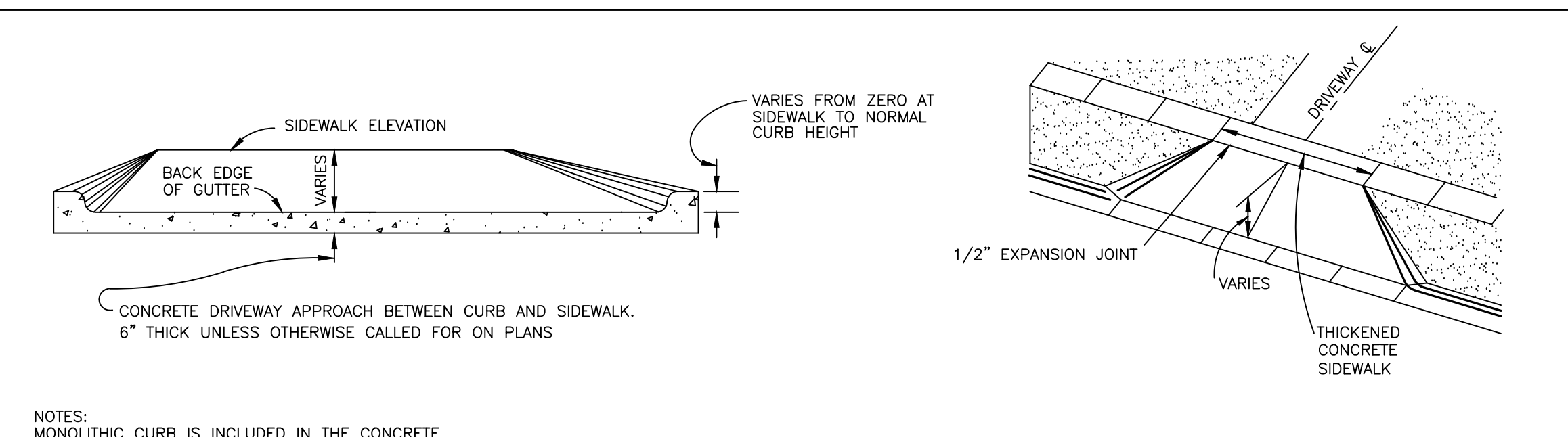
CURB DETAIL "C" (CURB REPLACEMENT)  
 N.T.S.



CURB DETAIL "C" (CURB REPLACEMENT) WAYNE COUNTY PERMIT STANDARDS (D-07, SHEET 1)  
 N.T.S.



CONCRETE DRIVEWAY OPENING - DETAIL M

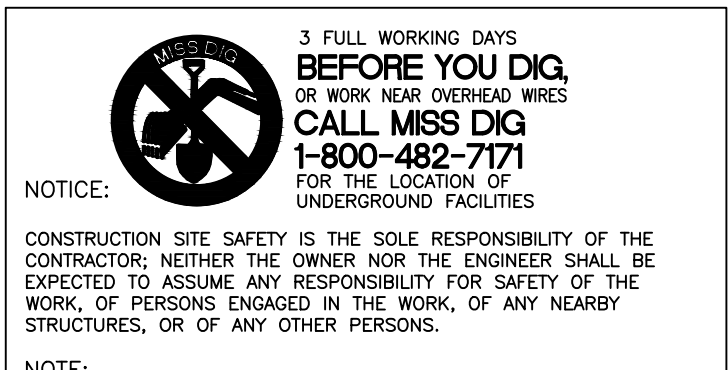


CONCRETE DRIVEWAY APPROACH (to be used with details L & M)

GENERAL NOTES (WAYNE COUNTY PERMIT STANDARDS, RS-1)  
 REVISION DATE: 8/01/2007

- ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH WAYNE COUNTY SPECIFICATIONS WHICH ARE DEFINED AS THE CURRENT MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION AS MODIFIED BY WAYNE COUNTY SPECIAL PROVISIONS.
- PAVING STANDARD PLAN DETAILS MAY BE SHOWN WITH WIRE FABRIC REINFORCEMENT. USE OF REINFORCEMENT SHALL BE REQUIRED AS CALLED FOR ON THE PLANS.
- A TRANSVERSE END OF POUR JOINT, SYMBOL (H), SHALL BE CONSTRUCTED WHEN THERE IS AN INTERRUPTION IN CONCRETE PAVING FOR MORE THAN 1/2 HOUR. TRANSVERSE END OF POUR JOINT, SYMBOL (H), SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT MDOT STANDARD PLAN, R-39 SERIES (REINFORCED CONCRETE PAVEMENT) AND R-39P SERIES (PLAIN CONCRETE PAVEMENT). THIS NOTE APPLIES TO BOTH CONCRETE BASE AND FINISHED CONCRETE PAVEMENT.
- WHEN IT IS ANTICIPATED THAT CONSTRUCTION TRAFFIC WILL BE USING THE PAVEMENT, ENDINGS WILL BE PROTECTED BY MEANS OF A TEMPORARY CONCRETE HEADER AS SHOWN ON RS-4.
- THE EXPANSION JOINT FOAM ROD SHALL BE A SOLID ROUND HEAT RESISTANT POLYURETHANE FOAM CAPABLE OF WITHSTANDING THE TEMPERATURE OF THE SEALANT. DENSITY OF THE FOAM SHALL BE 2-4 LB/CF.
- WIRE FABRIC REINFORCEMENT SHALL LAY FLAT WHEN DELIVERED TO THE WORK AREA. THE USE OF SPREADER BARS WILL BE REQUIRED FOR LIFTING BUNDLES OF REINFORCEMENT.
- WHERE THE LANE WIDTH OF THE PAVEMENT DIFFERS FROM WIRE FABRIC REINFORCEMENT STANDARDS, SPECIAL SHEETS OF THE REQUIRED WIDTH MAY BE USED OR STANDARD SHEETS MAY BE CUT TO THE REQUIRED SIZE OR SPLIT SHEETS MAY BE ADDED TO STANDARD SHEETS TO OBTAIN THE REQUIRED SIZE. SIDE LAPS SHALL NOT BE LESS THAN THE SPACING OF THE LONGITUDINAL WIRES.
- THE ENDS OF THE WIRE FABRIC REINFORCEMENT SHEETS SHALL BE FASTENED IN AT LEAST TWO PLACES AT EACH LAP TO PREVENT HORIZONTAL AND VERTICAL DISPLACEMENT.
- WHEN CONCRETE PAVEMENT REPAIRS ARE LONGER THAN 20 FEET, TRANSVERSE PLANE OF WEAKNESS JOINTS (WT) SHALL BE PLACED IN-LINE WITH EXISTING TRANSVERSE JOINTS, WORKING CRACKS, OR AT 15 FEET MAXIMUM AND 6 FEET MINIMUM SPACINGS.
- EXISTING CONCRETE PAVEMENTS WITH HMA SURFACE REQUIRING SAW-CUTTING FOR REMOVAL SHALL HAVE THE SAW CUTS EXTEND COMPLETELY THRU THE CONCRETE PAVEMENT. SAWED OVER-CUTS OCCURRING IN ADJACENT SLAB, GUTTER OR SHOULDER, WHICH WILL REMAIN IN PLACE, SHALL BE SEALED.

- CONSTRUCTION NOTES:
- CONTRACTOR SHALL PROCURE AND CONFORM TO ALL CONSTRUCTION PERMITS REQUIRED.
  - CONTRACTOR SHALL ERECT AND MAINTAIN BARRICADES, WARNING SIGNS, TRAFFIC CONES PER CITY, COUNTY, AND MDOT REQUIREMENTS. ACCESS TO DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES. ALL TRAFFIC CONTROL MEASURES SHALL BE APPROVED AND IN PLACE PRIOR TO ANY CONSTRUCTION ACTIVITY.
  - CONTRACTOR TO MAINTAIN TWO WAY TRAFFIC AT ALL TIMES WITHIN CHERRY HILL RD.
  - CONTRACTOR TO RESTORE ANY DISTURBANCE IN THE R.O.W. TO ORIGINAL CONDITION OR BETTER.



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

NOTE:  
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**LANDMARK ENGINEERING CO.**  
 Civil Engineering - Land Surveying  
 9401 General Dr., Suite 101  
 Plymouth, Michigan 48170  
 Tel: 248-557-3000  
 Fax: 248-557-3059  
 Email: landmark@landmarkengr.com

SECTION 19 TOWN 2 SOUTH - RANGE 9 EAST  
 CITY OF WESTLAND  
 WAYNE COUNTY, MICHIGAN

CLIENT: WESTLAND PRINCIPLES, LLC  
 RIGHT TURN DECELERATION LANE AND CENTERLINE EXTENSION AND CENTERLINE EXTENSION KINSHIP PROVISION AND CULTIVATION  
 PART OF THE EAST 1/2 OF

CAD NO. 1210DecelLane.dwg

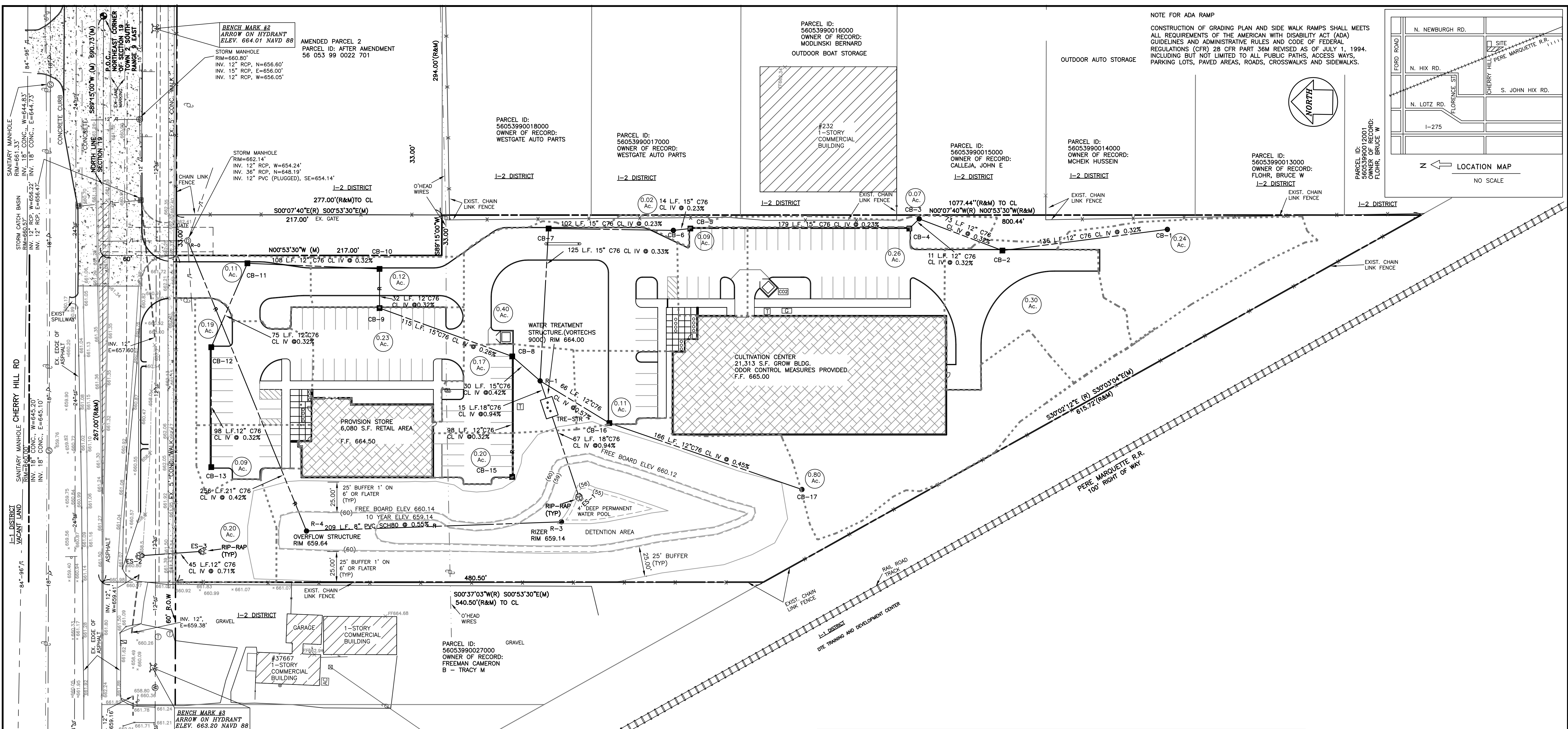
DATE: 8-16-2022  
 CONSTRUCTION PLANS

DR. BY: OHO  
 CH. BY: HMO

BOOK NO.  
 JOB NO. 1210

FILE NO. C-4





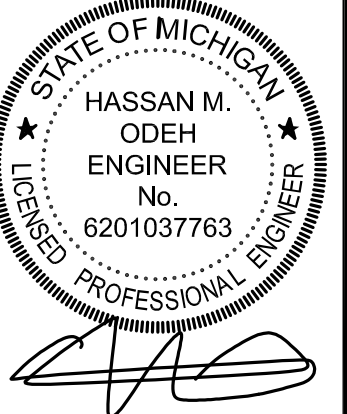
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 Plymouth, Michigan 48170  
 Tel: 248-557-3000  
 Fax: 248-557-3059  
 Email: landmark@landmarkengineeringco.com

SECTION 19 TOWN 2 SOUTH, RANGE 9  
 CITY OF WESTLAND  
 WAYNE COUNTY, MICHIGAN

CLIENT: WESTLAND PRINCIPLES, LLC  
 DRAINAGE AREA MAP  
 KINSHIP PROVISIONING AND CULTIVATION  
 PART OF THE EAST 1/2 OF

CAD NO. 2010CP01.DWG

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DATE	REVISIONS
8/16/2022	CONSTRUCTION PLANS
2/23/2022	PER OHM REVIEW
2/2/2022	PER OHM REVIEW
1/4/2022	

DATE: 3/1/2021  
 DR. BY: H.M.O  
 CH. BY: H.M.O

PROPERTY OWNER:  
 WESTLAND PRINCIPLES, LLC  
 ATTN: CURT MOLINO  
 26621 EAST RIVER ROAD  
 GROSSE ILE, MI 48138  
 Phone: 313-218-4069  
 EMAIL: curt.molino@yahoo.com

WAYNE COUNTY DPS PLAN REVIEW R 21-149

ALL MATERIAL AND INSTALLATION MUST CONFORM TO THE CURRENT ENGINEERING DESIGN STANDARDS OF THE CITY OF WESTLAND AND WAYNE COUNTY.

JOB NO. 1210  
 SHEET NO. C-5

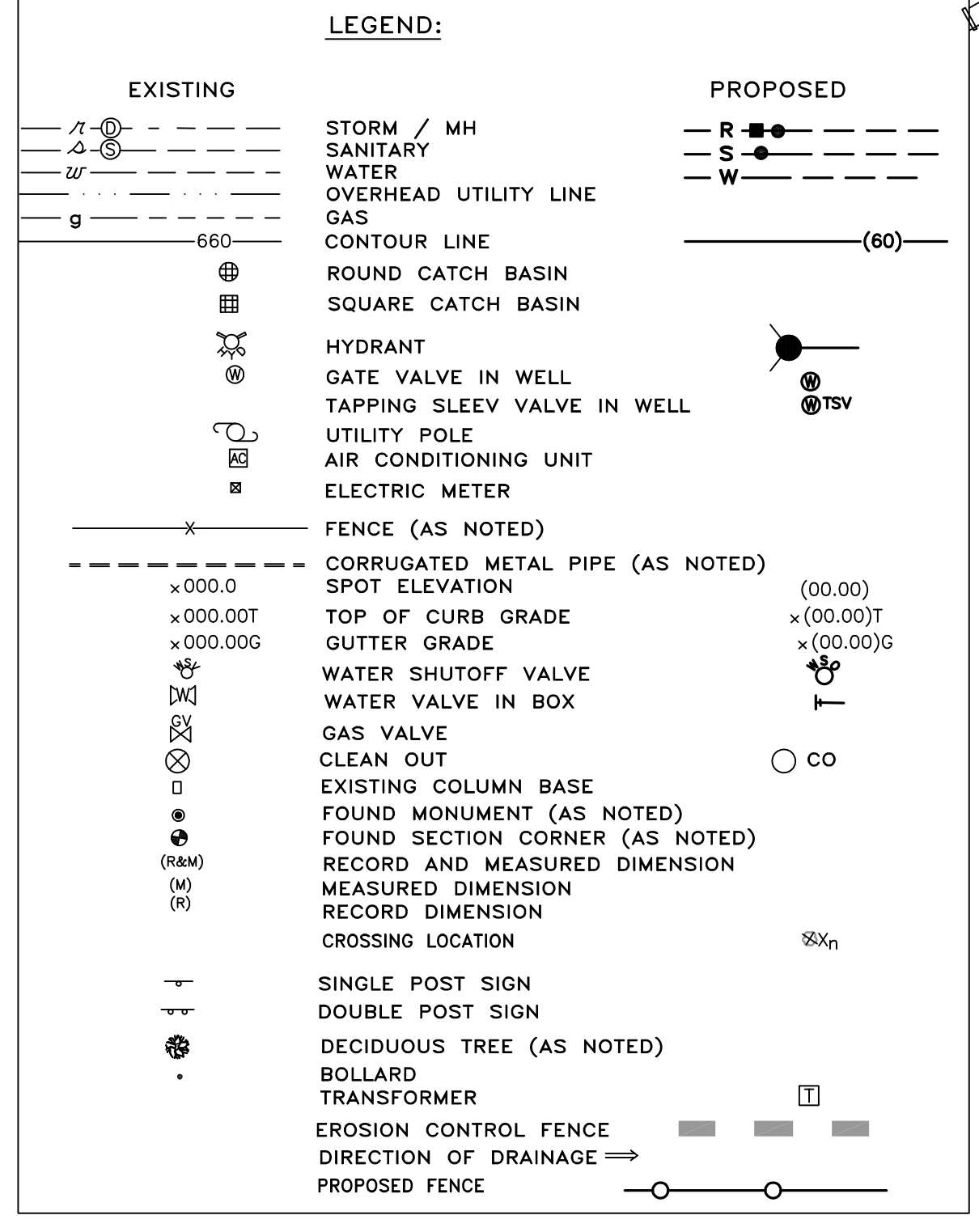
AMENDED PARCEL 3: PARCEL ID: AFTER AMENDMENT 56 053 99 0028 701  
 THAT PART OF THE EAST 1/2 OF SECTION 19, TOWN 2, RANGE 9 EAST, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE NORTH LINE OF SAID SECTION DISTANT S89°15'00"W 590.73 FEET FROM THE NORTHEAST CORNER OF SECTION 19 AND PROCEEDING THENCE S89°15'00"W ALONG SAID NORTH LINE 267.00 FEET; THENCE S00°53'30"E 540.50 FEET TO NORTHEASTLY LINE OF PERE MARQUETTE RAILROAD RIGHT-OF-WAY; THENCE S30°03'04"E ALONG SAID NORTHEASTLY LINE 615.72 FEET; THENCE N00°53'30"W 800.44 FEET; THENCE S89°15'00"W 33.00 FEET; THENCE N00°53'30"W 277.00 FEET TO THE POINT OF BEGINNING, CONTAINING 5.361 ACRES GROSS (4.993 ACRES NET), MORE OR LESS, SUBJECT TO EASEMENTS AND RESTRICTIONS, RIGHT OF WAY, RECORDED OR OTHERWISE.

NOTE: CONTRACTOR SHALL EXPOSE THE EXISTING GAS OR ANY OTHER EXISTING UTILITY LINE AT THE AREA OF CROSSING WITH PROPOSED SANITARY SEWERS AND/OR WATER MAIN PRIOR TO STARTING CONSTRUCTION OF THE SANITARY SEWERS. CONTRACTOR SHALL VERIFY THAT THE EXISTING UTILITY LINE WILL NOT CONFLICT WITH THE PROPOSED SEWERS OR WATER, AND INFORM ENGINEER (TO REVISE DESIGN PLANS) IF CONFLICT EXISTS.

**MISS DIG**  
 3 FULL WORKING DAYS BEFORE YOU DIG, OR WORK NEAR OVERHEAD WIRES CALL MISS DIG 1-800-482-7171 FOR THE LOCATION OF UNDERGROUND FACILITIES

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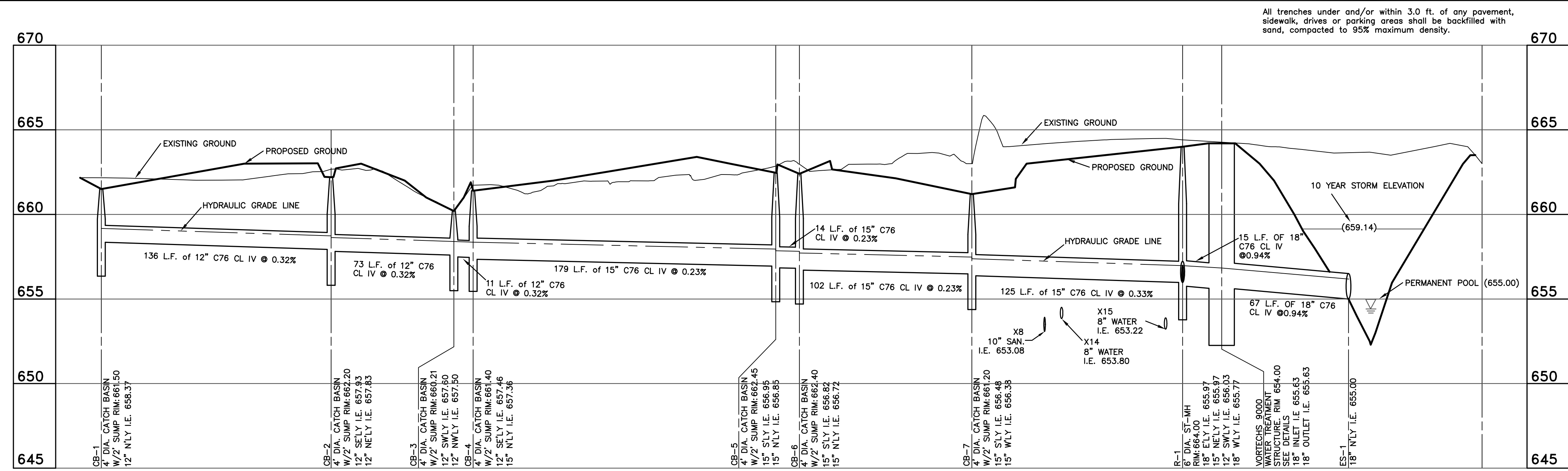


**STORM SEWER SYSTEM DESIGN**

$Q = A^*(1.486/n) \times R^{2/3} \times S^{1/2}$   $n = 0.013$   $Q = CIA$   $I_{10} = 151.8/(T+19.9)$

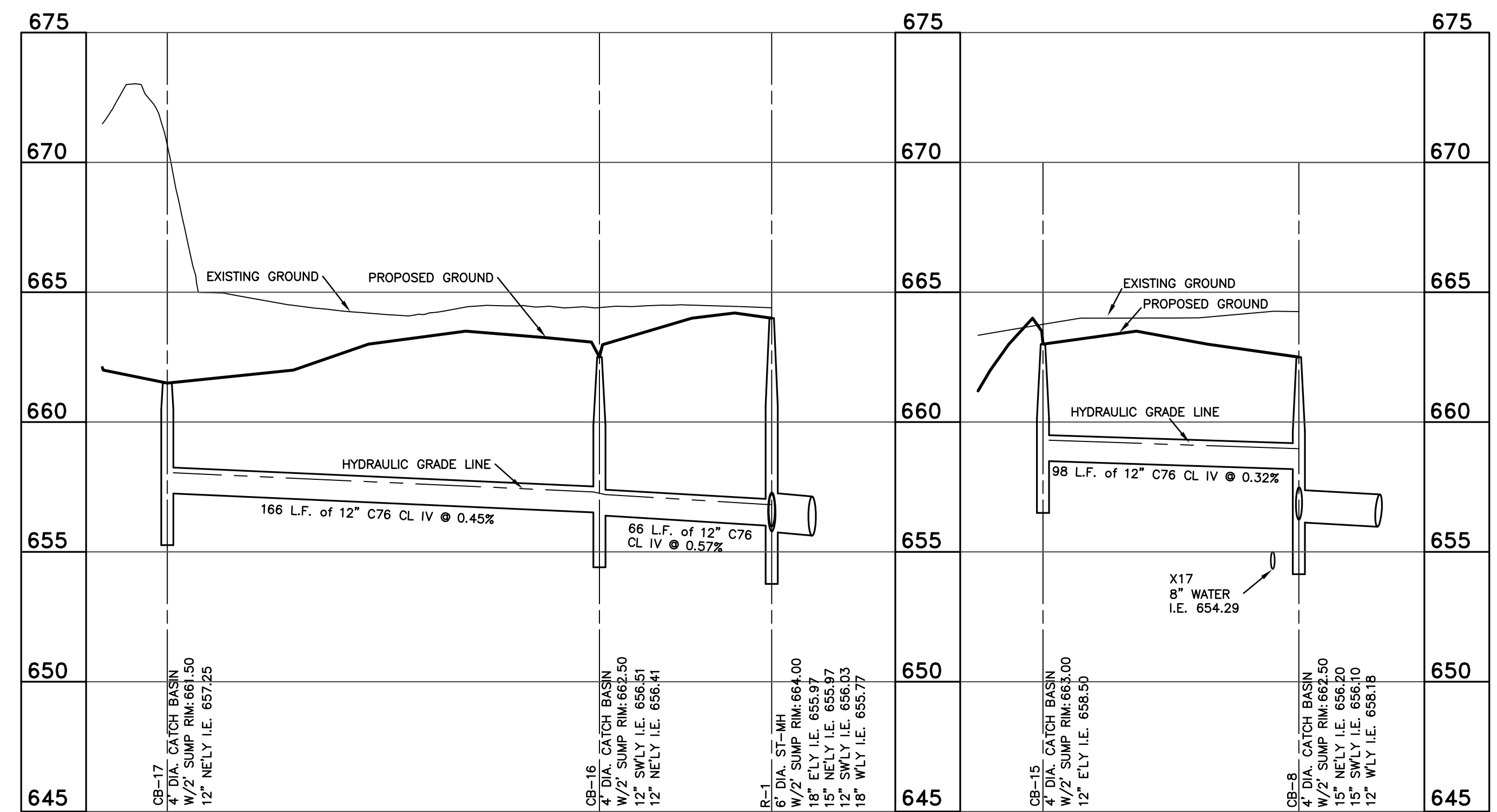
Structure No.	Incremental Area (A)	Total Area (A)	Runoff Coefficient (C)	Equivalent Area (EA)	Total Equiv. Area (EQA)	Time (T)	Rainfall Intensity (I)	Flow Q(CFS)	Flow Q(CFS)	Diameter of Pipe	Length of Pipe to Next Structure	Slope of Pipe	Slope of HGL	Velocity of Flow	Time of Flow	INVERT ELEV.		H.G.L. ELEV.		STRUCTURE RIM	COVER D/T/P	HGL BELOW RIM (FT)	
																Upper End	Lower End	Upper End	Lower End				
CB-1	0.24	0.24	0.40	0.096	0.096	15.00	4.350	0.4	2.0	12	136	0.32%	0.32%	2.57	0.88	658.37	657.93	659.17	658.73	661.50	2.13	2.33	
CB-2	0.30	0.54	0.63	0.189	0.285	15.88	4.242	1.2	2.0	12	73	0.32%	0.32%	2.57	0.47	657.83	657.60	658.63	658.40	662.20	3.37	3.57	
CB-3	0.07	0.61	0.40	0.028	0.313	16.36	4.187	1.3	2.0	12	11	0.32%	0.32%	2.57	0.07	657.50	657.46	658.30	658.26	660.21	1.71	1.91	
CB-4	0.26	0.87	0.95	0.247	0.560	16.43	4.178	2.3	3.1	15	179	0.23%	0.23%	2.52	1.18	657.36	656.95	658.36	657.95	661.40	2.79	3.04	
CB-5	0.09	0.96	0.95	0.086	0.646	17.61	4.047	2.6	3.1	15	14	0.23%	0.23%	2.52	0.09	656.85	656.82	657.85	657.82	662.45	4.35	4.60	
CB-6	0.02	0.98	0.30	0.006	0.652	17.70	4.037	2.6	3.1	15	102	0.23%	0.23%	2.52	0.67	656.72	656.48	657.72	657.48	662.40	4.43	4.68	
CB-7	R-1	0.40	1.38	0.69	0.276	0.928	18.38	3.966	3.7	3.7	15	125	0.33%	0.33%	3.02	0.69	656.38	655.97	657.38	656.97	661.20	3.57	3.82
R-1	TRE-STR	3.40			2.621	19.07	3.896	10.2	10.2	18	15	0.94%	0.94%	5.76	0.04	655.77	655.63	656.97	656.83	664.00	6.73	7.03	
TRE-STR	ES-1	3.40			2.621	19.11	3.891	10.2	10.2	18	67	0.94%	0.94%	5.76	0.19	655.63	655.00	656.83	656.20				
CB-13	CB-12	0.09	0.09	0.95	0.086	0.086	15.00	4.350	0.4	2.0	12	98	0.32%	0.32%	2.57	0.64	657.90	657.58	658.70	658.38	662.45	3.55	3.75
CB-12	CB-11	0.19	0.28	0.90	0.171	0.257	15.64	4.271	1.1	2.0	12	75	0.32%	0.32%	2.57	0.49	657.48	657.24	658.28	658.04	661.55	3.07	3.27
CB-11	CB-10	0.11	0.39	0.95	0.105	0.361	16.13	4.213	1.5	2.0	12	108	0.32%	0.32%	2.57	0.70	657.14	656.80	657.94	657.60	661.00	2.86	3.06
CB-10	CB-9	0.12	0.51	0.95	0.114	0.475	16.83	4.133	2.0	2.0	12	32	0.32%	0.32%	2.57	0.21	656.70	656.60	657.50	657.40	661.20	3.50	3.70
CB-9	CB-8	0.23	0.74	0.95	0.219	0.694	17.04	4.109	2.8	3.3	15	115	0.26%	0.26%	2.68	0.71	656.50	656.20	657.50	657.20	661.70	3.96	4.21
CB-8	R-1	0.17	1.11	0.95	0.162	1.045	17.75	4.032	4.2	4.2	15	30	0.42%	0.42%	3.41	0.15	656.10	655.97	657.10	656.97	662.50	5.15	5.40
R-1	TRE-STR	1.11				17.90					15												
CB-15	CB-8	0.20	0.20	0.95	0.190	0.190	15.00	4.350	0.8	2.0	12	98	0.32%	0.32%	2.57	0.64	658.50	658.18	659.29	658.98	663.00	3.50	3.71
CB-17	CB-16	0.80	0.80	0.70	0.560	0.560	15.00	4.350	2.4	2.4	12	166	0.45%	0.45%	3.04	0.91	657.25	656.51	658.05	657.31	661.50	3.25	3.45
CB-16	R-1	0.11	0.91	0.80	0.088	0.648	15.91	4.239	2.7	2.7	12	66	0.57%	0.57%	3.42	0.32	656.41	656.03	657.21	656.83	662.50	5.09	5.29





\*NOTE Xn INDICATES LOCATION AND DESIGNATION OF CROSSING REFERENCE PLAN AND CROSSING TABLE

SCALE: H: 1" = 40', V: 1" = 4'  
STORM SEWER PROFILES  
CB1 - POND



SCALE: H: 1" = 40', V: 1" = 4'  
STORM SEWER PROFILES  
CB17 - R1

\*NOTE Xn INDICATES LOCATION AND DESIGNATION OF CROSSING REFERENCE PLAN AND CROSSING TABLE

SCALE: H: 1" = 40', V: 1" = 4'  
STORM SEWER PROFILES  
CB15 - CB-8

All trenches under and/or within 3.0 ft. of any pavement, sidewalk, drives or parking areas shall be backfilled with sand, compacted to 95% maximum density.

**LANDMARK ENGINEERING CO.**  
Civil Engineering - Land Surveying  
9401 General Dr., Suite 101  
Plymouth, Michigan 48170  
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Fax: 248-557-3059  
Email: landmark@landmarkengineeringco.com

SECTION 19 TOWN 2 SOUTH, RANGE 9 EAST  
CITY OF WESTLAND  
WAYNE COUNTY, MICHIGAN  
SCALE 1 INCH = 40 FEET

CLIENT: WESTLAND PRINCIPLES, LLC  
STORM PROFILES  
KINSHIP PROVISIONING AND CULTIVATION  
PART OF THE EAST 1/2 OF

CAD NO. 2010CP01.DWG

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REVISIONS	
DATE:	8/16/2022
DR. BY:	H.M.O
CH. BY:	H.M.O
JOB NO.	1210
SHEET NO.	C-6

NOTE:  
CONTRACTOR SHALL EXPOSE THE EXISTING GAS OR ANY OTHER EXISTING UTILITY LINE AT THE AREA OF CROSSING WITH PROPOSED SANITARY SEWERS AND/OR WATER MAIN PRIOR TO STARTING CONSTRUCTION OF SEWERS OR WATER. CONTRACTOR SHALL VERIFY THAT THE EXISTING UTILITY LINE WILL NOT CONFLICT WITH THE PROPOSED SEWERS OR WATER, AND INFORM ENGINEER (TO REVISE DESIGN PLANS) IF CONFLICT EXISTS.

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3 FULL WORKING DAYS  
**BEFORE YOU DIG,**  
OR WORK NEAR OVERHEAD WIRES  
CALL MISS DIG  
1-800-482-7171  
FOR THE LOCATION OF  
UNDERGROUND FACILITIES

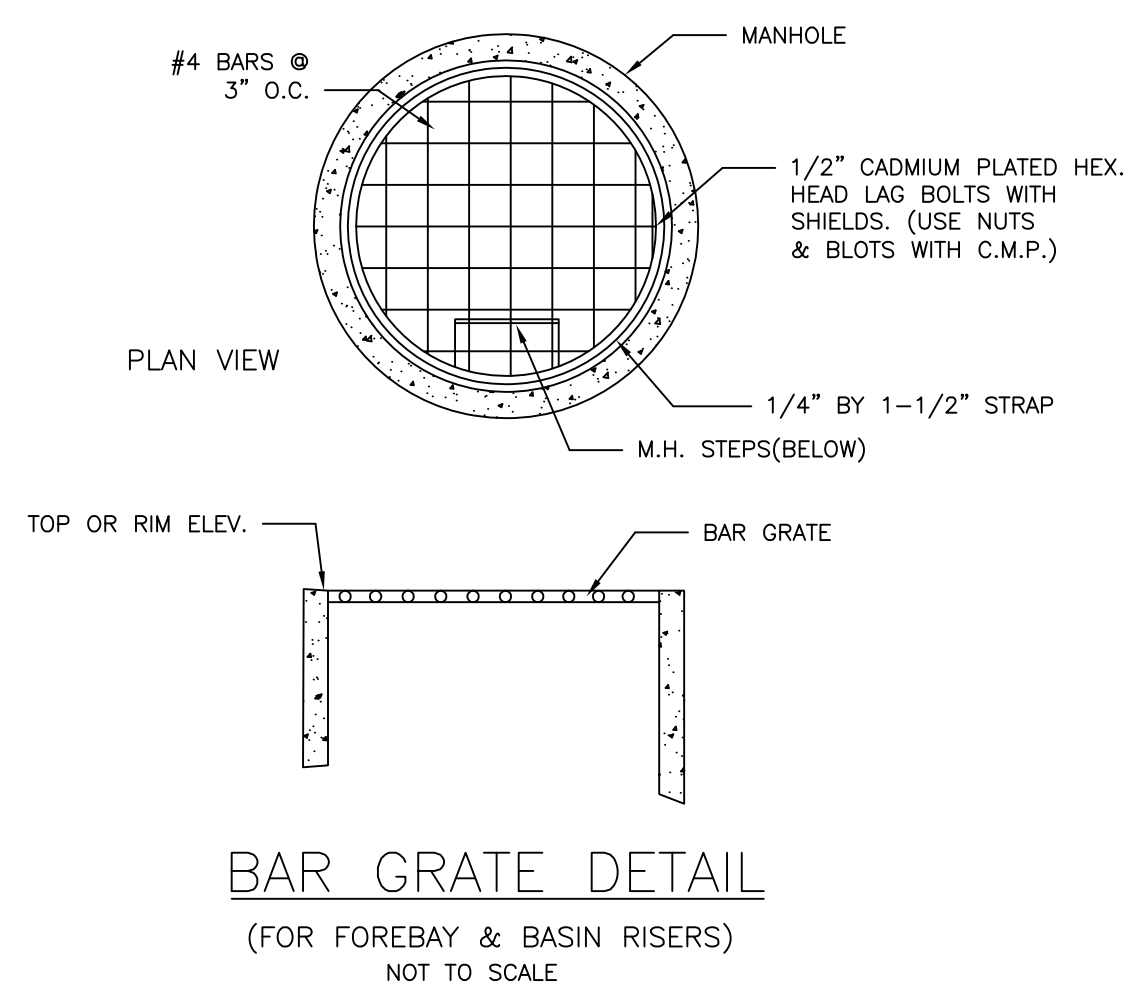
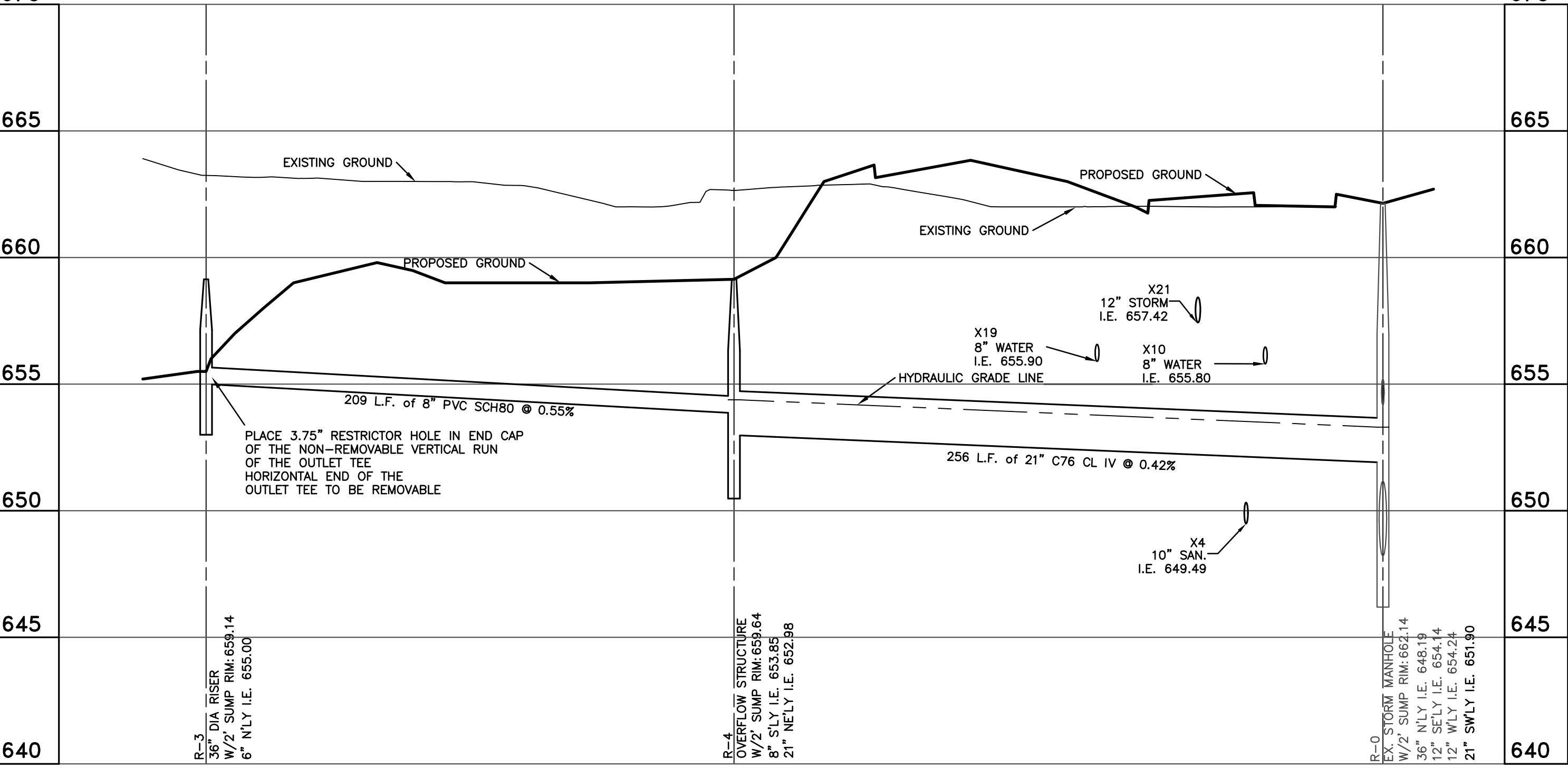
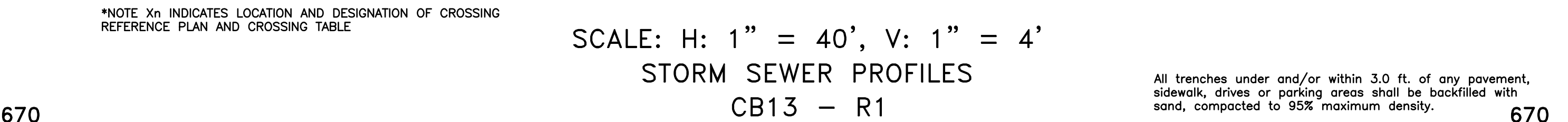
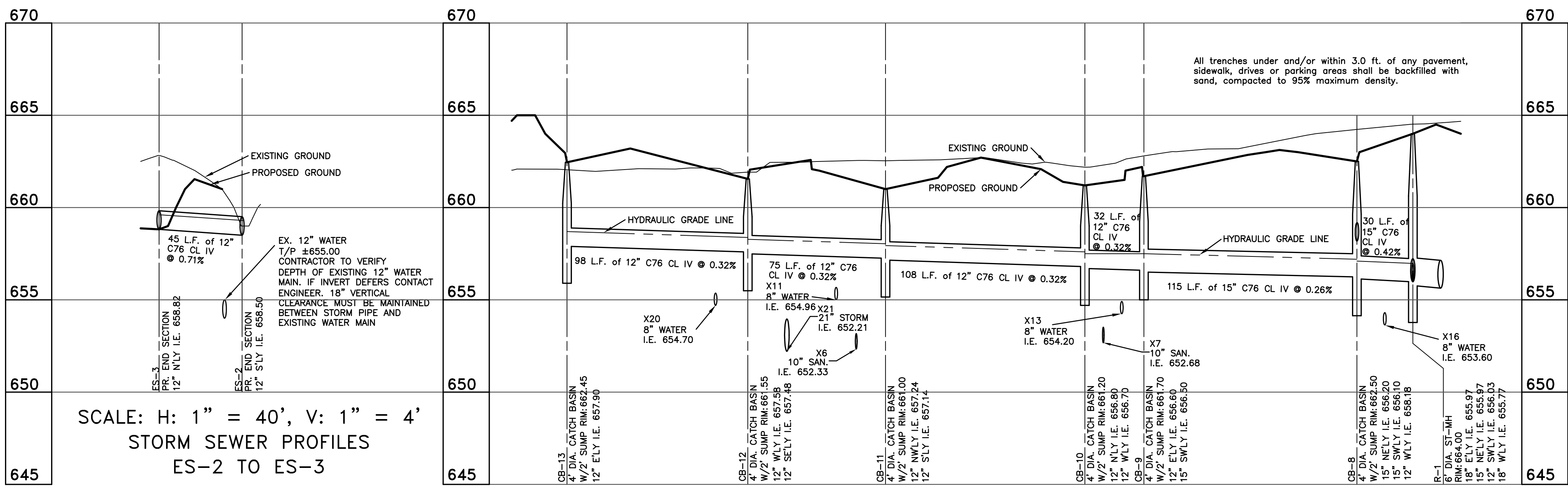
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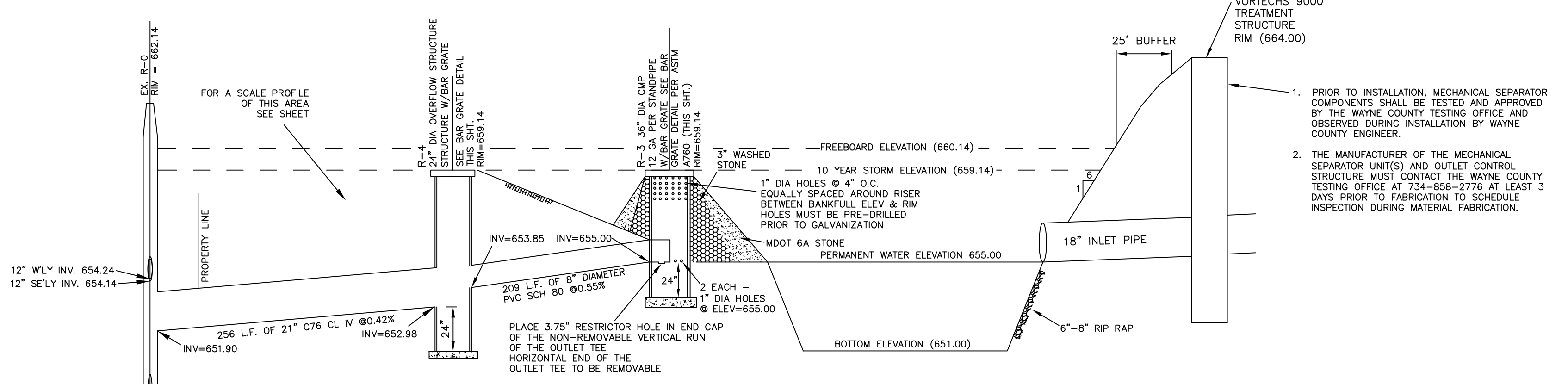
PROPERTY OWNER:  
WESTLAND PRINCIPLES, LLC  
ATTN: CURT MOLINO  
26621 EAST RIVER ROAD  
GROSSE ILE, MI 48138  
Phone: 313-218-4069  
EMAIL: curt.molino@yahoo.com

WAYNE COUNTY DPS PLAN REVIEW R 21-149  
ALL MATERIAL AND INSTALLATION MUST CONFORM TO THE CURRENT ENGINEERING DESIGN STANDARDS OF THE CITY OF WESTLAND AND WAYNE COUNTY.





Detention Note:  
Following seeding and planting in the detention basin, snow fence shall be installed at the freeboard elevation around all ponds and forebays. This snow fence shall remain in place and maintained properly during the duration of the project until the final Certificate of Occupancy is granted at the site.



SCALE: H: 1" = 40', V: 1" = 4'  
STORM SEWER PROFILES  
DETENTION POND TO EX. R0

NOTE:  
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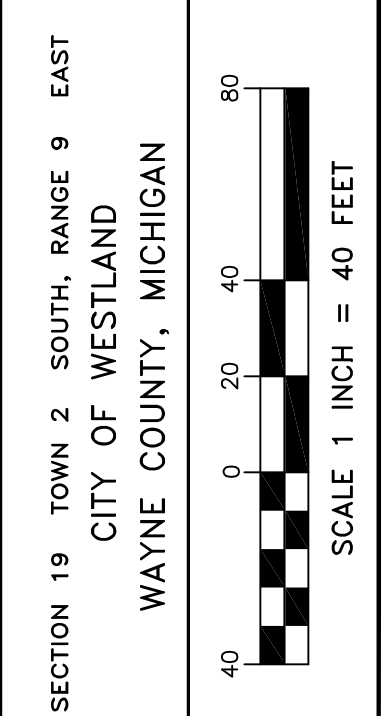
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PROPERTY OWNER:  
WESTLAND PRINCIPLES, LLC  
ATTN: CURT MOLINO  
26621 EAST RIVER ROAD  
GROSSE ILE, MI 48138  
Phone: 313-218-4069  
EMAIL: curt.molino@yahoo.com

DETENTION BASIN OUTLET SECTION

WAYNE COUNTY DPS PLAN REVIEW R 21-149  
ALL MATERIAL AND INSTALLATION MUST CONFORM TO THE CURRENT ENGINEERING DESIGN STANDARDS OF THE CITY OF WESTLAND AND WAYNE COUNTY.

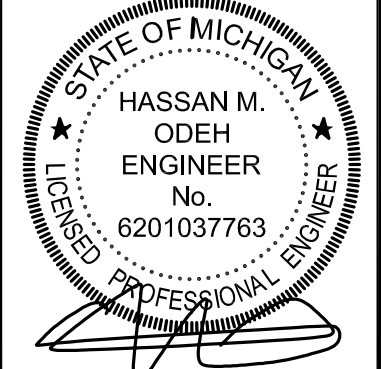
**LANDMARK ENGINEERING CO.**  
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CLIENT: WESTLAND PRINCIPLES, LLC  
STORM PROFILES  
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PART OF THE EAST 1/2 OF

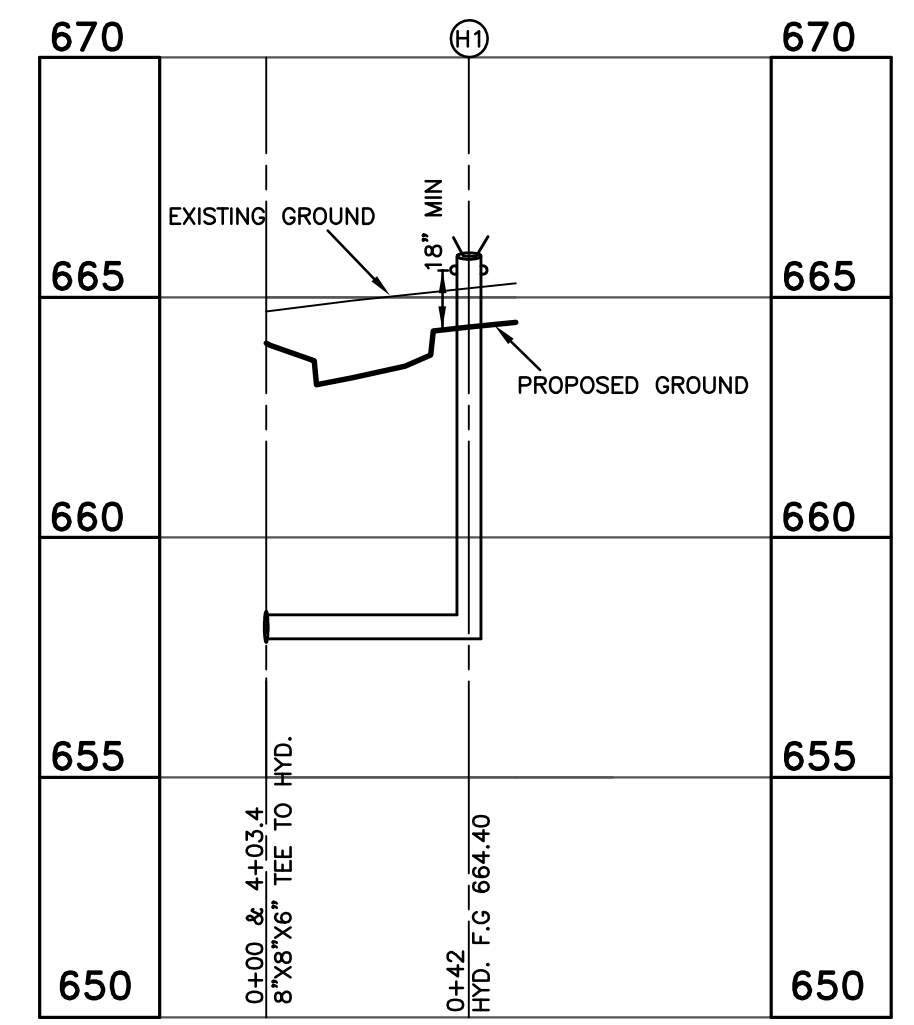
CAD NO. 2010CP01.DWG

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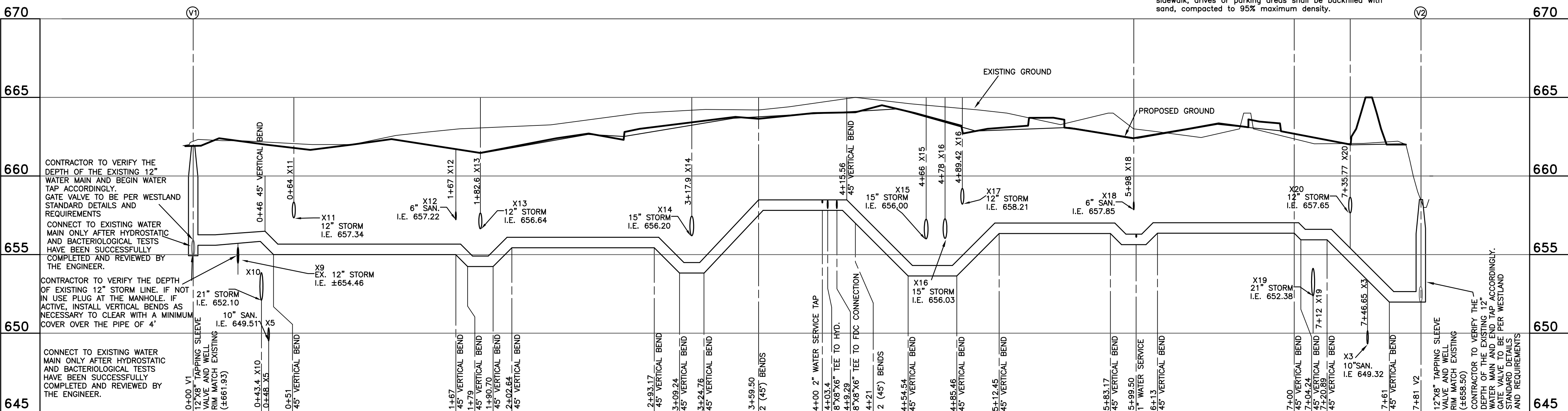


REVISIONS	
DATE:	8/16/2022
DR. BY:	H.M.O
CH. BY:	H.M.O
JOB NO.	1210
SHEET NO.	C-7





SCALE: H: 1" = 40', V: 1" = 4'  
WATER MAIN PROFILE



SCALE: H: 1" = 40', V: 1" = 4'  
WATER MAIN PROFILE

NOTE:  
10 States Standard Art 8.8.3 (b) states:  
"At crossings, one full length of water pipe shall be located so both joints will be as far from the sewer as possible, Special structural support for the water and sewer pipes may be required".

SEE RULE 4.16 HORIZONTAL DIRECTIONAL DRILLING (HDD) (this sheet)

**BORE AND JACK CASING DETAILS**

- THE CONTRACTOR SHALL ABIDE BY ALL ROAD COMMISSION SAFETY PRECAUTION INCLUDING THE MICHIGAN MANUAL TRAFFIC CONTROL DEVICES.
- THE SHEETING OF THE FRONT AND SIDE FACES OF THE BORING PIT WILL BE REQUIRED IF UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED.
- THE CASING PIPE MUST ALWAYS PRECEDE THE AUGER HEAD.
- CASING PIPE SHALL BE STEEL, CAST IRON OR DUCTILE IRON, SHALL CONFORM TO ASTM SPEC A-139 GRADE B AND SHALL BE FURNISHED IN 20' LENGTHS, PREPARED FOR FIELD WELD.
- THE CASING SHALL BE 20" OD WITH A MINIMUM WALL THICKNESS OF 15/32".
- PLACE BORE PITS A MINIMUM OF 10' FROM THE EDGE OF PAVEMENT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE AGENCY HAVING JURISDICTION OVER THE LOCATION OF PROPOSED BORING 72 HOURS PRIOR TO BEGINNING BORING.
- THE CONTRACTOR SHALL PROTECT AND/OR RESTORE ALL PROPERTY WITHIN THE R.O.W.

**CASING DETAILS**

- Approved material for direction drilling include: medium density polyethylene (MDPE) high density polyethylene (HDPE), steel, fusible PVC, restrained joint PVC and ductile iron pipes, and shall conform to the current ASTM Standards. Alternate materials shall be approved by the County Engineer.
- Plastic pipe for directionally-drilled pipe shall meet the requirements of ASTM D 2513; SDR 11. Plastic pipe may be used for medium pressure gas pipelines (pressure less than 100 PSI), as a carrier pipe or as a casing for other utility facilities. The minimum plastic pipe wall thickness, pipe joining methods, and testing requirements for a gas pipeline installation shall meet the requirements of the Michigan Gas Safety Code.
- Steel pipe for directionally-drilled pipe shall meet the requirements identified in the MDO Standard Specifications for Construction, and, when applicable, the Michigan Gas Safety Code.
- Flowable Fill material shall conform to the specification indicated in Rule 4.13. 5. A drilling fluid of water and bentonite or a polymer shall be used to lubricate and line the drilled hole.

**OPERATIONS**

- Alignment of the utility shall be installed as indicated in the plans or permit. The path of the proposed bore must be marked in advance of the boring to check for conflicts with utility and structures.
- All shafts or pits shall be located at least ten (10') feet off the edge of pavement or behind the curb on primary roads and five (5') feet off the edge of pavement or behind the curb on residential streets. All access pits, open excavations, equipment and supplies within the right-of-way shall be protected with suitable fencing and plastic drums to prohibit access to the work site. Equipment shall not be used in lieu of fencing to protect access pits.
- The required piping shall be assembled in a manner that does not obstruct adjacent roadways or public utilities.
- Sufficient space shall be allocated to fabricate and layout the product pipeline into one continuous pipe length, thus enabling the pull back to be conducted during a single operation.
- When boring near electrical supply cables, proper care shall be taken to protect the operator, locator and others from shock hazards.
- The drill path alignment shall be as straight as possible to minimize the frictional resistance during pullback and maximize the length of the pipe that can be installed during a single pull.
- The minimum radius of curvature of the directional drill should be 1,200 times the nominal diameter of the pipe to be installed.
- Directionally drilled pipe shall serve as a carrier pipe or as a casing for a carrier pipe. The ends of each section of MDPE and HDPE pipe shall be inspected and cleaned as necessary to be free of debris immediately prior to joining the pipes by means of thermal butt-fusion. The polyethylene pipe shall be of the same type, grade and class of the polyethylene compound used in the process.
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- The handling of the joined pipeline shall be in such a manner that the pipe is not damaged by dragging it over sharp or jagged objects. Sections of the pipes with cuts and gouges exceeding ten (10%) percent of the pipe wall thickness or kinked sections shall be removed and the ends rejoined.
- Pipe rollers, skates or other protective devices shall be used to prevent damage to the pipe, eliminate ground drag, reduce pulling force and reduce the stress on the pipe and joints.
- Pipe diameters greater than twenty (20") inches, an intermediate preaming is required before pulling the utility into place.
- Where "heads" are used to develop the conduit opening, holes with diameters larger than two (2") inches shall be developed by increasing the head size by one (1") inch increments.
- The diameter of the cone, reamer or wing cutter shall not exceed the diameter of the carrier pipe by more than one and one-half (1 1/2) times. An approved flowable fill shall be pumped into the void between the carrier pipe and drill hole displacing the drilling fluid when the cone, reamer or wing cutter exceeds the pipe diameter by two (2") inches.

**RULE 4.16 Horizontal Directional Drilling (HDD)**

4.16.1 The Horizontal Directional Drilling (HDD) method consists of augering, jacking or drilling a "steerable" rod with a device that also senses the location of the head. The head is then pulled out of the hole with a cone, reamer or wing cutter that provides the desired diameter. Underground utility installations utilizing this operation shall use an approved directionally-drilled method that shall ensure the safety of the right-of-way facilities and provide minimal inconvenience to vehicular traffic.

4.16.2 For Directional Drilling, the following requirements must be followed:

a) Equipment

- Shall be of type with radio location bearing head.
- Location equipment shall be used to track bore head location.
- Back reaming by approved methods only.
- Contractor back reaming is not allowed.
- Proper drilling lubricant shall be provided.
- Only steerable type boring is allowed.
- Hammer moles are not allowed.

b) Materials

- Approved material for direction drilling include: medium density polyethylene (MDPE) high density polyethylene (HDPE), steel, fusible PVC, restrained joint PVC and ductile iron pipes, and shall conform to the current ASTM Standards. Alternate materials shall be approved by the County Engineer.
- Plastic pipe for directionally-drilled pipe shall meet the requirements of ASTM D 2513; SDR 11. Plastic pipe may be used for medium pressure gas pipelines (pressure less than 100 PSI), as a carrier pipe or as a casing for other utility facilities. The minimum plastic pipe wall thickness, pipe joining methods, and testing requirements for a gas pipeline installation shall meet the requirements of the Michigan Gas Safety Code.
- Steel pipe for directionally-drilled pipe shall meet the requirements identified in the MDO Standard Specifications for Construction, and, when applicable, the Michigan Gas Safety Code.
- Flowable Fill material shall conform to the specification indicated in Rule 4.13. 5. A drilling fluid of water and bentonite or a polymer shall be used to lubricate and line the drilled hole.

c) Operations

- Alignment of the utility shall be installed as indicated in the plans or permit. The path of the proposed bore must be marked in advance of the boring to check for conflicts with utility and structures.
- All shafts or pits shall be located at least ten (10') feet off the edge of pavement or behind the curb on primary roads and five (5') feet off the edge of pavement or behind the curb on residential streets. All access pits, open excavations, equipment and supplies within the right-of-way shall be protected with suitable fencing and plastic drums to prohibit access to the work site. Equipment shall not be used in lieu of fencing to protect access pits.
- The required piping shall be assembled in a manner that does not obstruct adjacent roadways or public utilities.
- Sufficient space shall be allocated to fabricate and layout the product pipeline into one continuous pipe length, thus enabling the pull back to be conducted during a single operation.
- When boring near electrical supply cables, proper care shall be taken to protect the operator, locator and others from shock hazards.
- The drill path alignment shall be as straight as possible to minimize the frictional resistance during pullback and maximize the length of the pipe that can be installed during a single pull.
- The minimum radius of curvature of the directional drill should be 1,200 times the nominal diameter of the pipe to be installed.
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- The diameter of the cone, reamer or wing cutter shall not exceed the diameter of the carrier pipe by more than one and one-half (1 1/2) times. An approved flowable fill shall be pumped into the void between the carrier pipe and drill hole displacing the drilling fluid when the cone, reamer or wing cutter exceeds the pipe diameter by two (2") inches.

**SANITARY SEWER BASIS OF DESIGN (FOR ULTIMATE SITUATION)**

PROPOSED 2 BUILDINGS  
PROVISION STORE-6,080 S.F. RETAIL AREA WITH 12 EMPLOYEES PER SHIFT

CULTIVATION CENTER-21,313 S.F. AREA WITH 20 EMPLOYEES PER SHIFT

POPULATION DENSITY:  
MAXIMUM NUMBER OF PERSONS WORKING IN ONE SHIFT 32 PERSONS

SEWAGE FLOW COMPUTATION:  
STANDARD USAGE = 100 GAL/PERSON/DAY  
QAvg = 32 x 100 = 3,200 G.P.D. = 0.00495 c.f.s.  
QMax = 0.00495 c.f.s. x 4.26 peaking factor = 0.021 c.f.s.

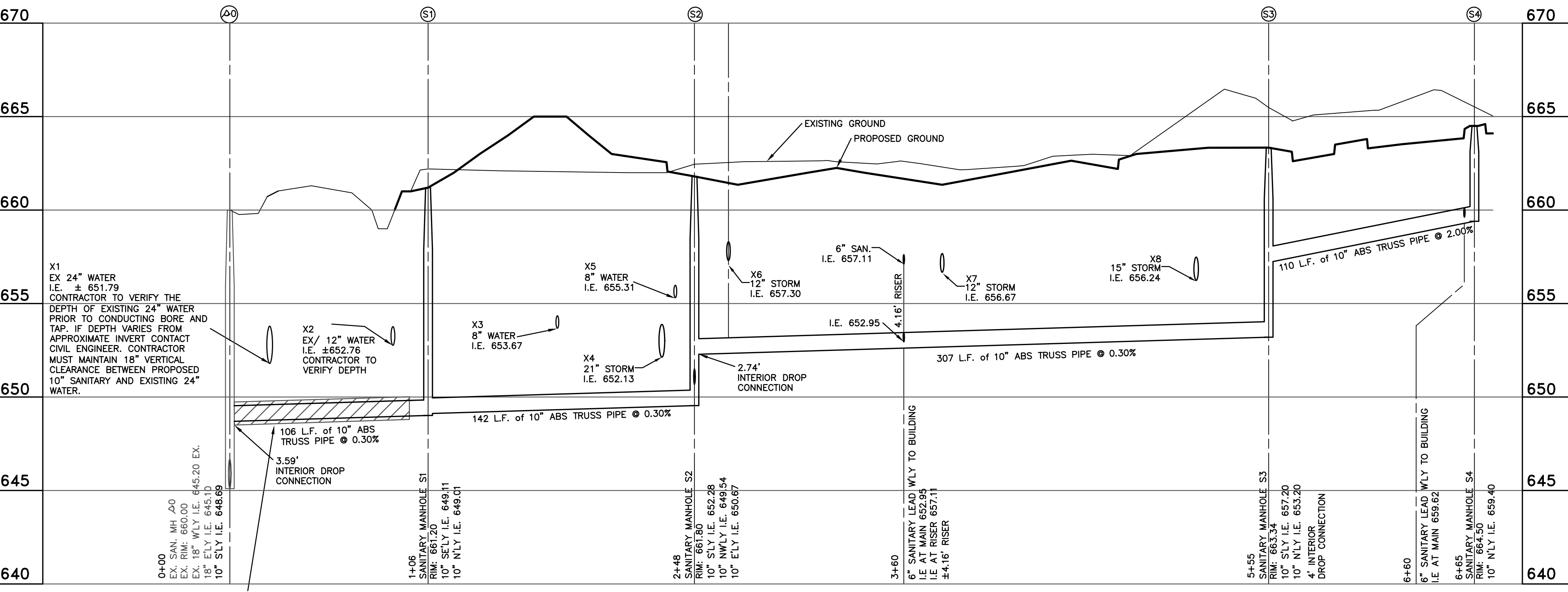
SEWER TO BE CONSTRUCTED 10" @ 0.30% MIN. WITH FLOW CAPACITY OF 1.20 c.f.s.

10" PIPE SHALL BE PVC TRUSS PIPE OR ABS TRUSS MEETING ASTM-D2680 PER WESTLAND STANDARD

6" LEADS SHALL BE SDR 23.5 PLASTIC

**RULE 4.16 Horizontal Directional Drilling (HDD) Continue**

- When back reaming pilot holes and dragging product, the use of compaction type cutter heads is prohibited. The Contractor shall use a cutting lead suitable to cutting a hole large enough to accommodate the product and lubricating fluid.
- Trace wire is required for all non-metallic pipe installation for post construction location purposes.
- The drilling fluid in the annular region outside of the pipe shall not be removed after installation and remain in place to provide support for the pipe and neighboring soil. Plain water will not be used as a lubricating fluid on bores exceeding two (2") inches in diameter.
- To monitor possible heaving or settling of pavement, a survey along the centerline of the bore shall be performed one (1) day prior to initiating the operation. All elevations shall be taken at ten (10') foot intervals and recorded to the nearest one hundredth (0.01) of a foot. Thirty (30) days after completion of the bore, a second survey shall be performed, comparing all elevations to the check for any heaving or settling of the pavement. A copy of each survey shall be provided to the Permit Office.
- After boring operations and connections are completed, the Contractor shall backfill all excavations with a suitable material approved by the Permit Office and restore all disturbed areas to the same or better than original conditions.
- The Contractor shall provide the Permit Office with a log of the bores on all conduits over two (2") inches in diameter showing the final depth and path of the conduit under the roadway.
- Failure
- Should anything prevent completion of the directionally-drilled operations, the remainder of the pipe shall be constructed by methods approved by the County Engineer or the partially completed directionally-drilled pipe shall be abandoned in place, and the carrier pipe shall be backfilled completely with flowable fill.
- In the event of damage to the pavement or roadside due to drilling operations, the Contractor shall repair the pavement or roadside as directed by the County Engineer before further boring operations may continue.
- If any settlement or other change in grade of the roadway, curbs or ditches occurs, the road and/or drainage facilities shall be repaired or reconstructed as directed by the County Engineer.



SCALE: H: 1" = 40', V: 1" = 4'  
SANITARY PROFILE

ALL NEW SANITARY LEADS CONNECTION TO THE MAIN SHALL BE WYE CONNECTION.

**BORE & JACK ±96 L.F. OF ROAD BY USING CASING W/ MIN. DIAMETER OF 20" AND MIN. WALL THICKNESS OF 15/32". PLACE BORE PITS 10' FROM BACK OF CURB OR AS DIRECTED BY THE ENGINEER (PER WAYNE COUNTY STANDARD)**

**NOTE Xn INDICATES LOCATION AND DESIGNATION OF CROSSING REFERENCE PLAN AND CROSSING TABLE**

**3 FULL WORKING DAYS BEFORE YOU DIG, OR WORK NEAR OVERHEAD WIRES CALL MISS DIG 1-800-482-7171 FOR THE LOCATION OF UNDERGROUND FACILITIES**

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

**NOTE:**  
THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS PLAN ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES AND PROPOSED UTILITIES CROSSINGS IN THE FIELD PRIOR TO CONSTRUCTION. THE VARIOUS UTILITY LINES SHOWN HEREON ARE BASED UPON FIELD DATA WHEREVER POSSIBLE. ADDITIONAL INFORMATION REGARDING UNDERGROUND UTILITIES HAS NOT BEEN AVAILABLE TO US.

**NOTE:**  
CONTRACTOR SHALL EXPOSE THE EXISTING GAS OR ANY OTHER EXISTING UTILITY LINE AT THE AREA OF CROSSING WITH PROPOSED SANITARY SEWERS AND/OR WATER MAIN PRIOR TO STARTING CONSTRUCTION OF SEWERS OR WATER. CONTRACTOR SHALL VERIFY THAT THE EXISTING UTILITY LINE WILL NOT CONFLICT WITH THE PROPOSED SEWERS OR WATER, AND INFORM ENGINEER (TO REVISE DESIGN PLANS) IF CONFLICT EXISTS.

**LANDMARK ENGINEERING CO.**  
Civil Engineering - Land Surveying  
9401 General Dr., Suite 101  
Plymouth, Michigan 48170  
Tel: 248-557-3000  
Fax: 248-557-9059  
Email: landmark@landmarkengineeringco.com

SECTION 19 TOWN 2 SOUTH, RANGE 9 EAST  
CITY OF WESTLAND  
WAYNE COUNTY, MICHIGAN

SCALE 1 INCH = 40 FEET

CLIENT: WESTLAND PRINCIPLES, LLC  
STORM AND SANITARY PROFILES  
KINSHIP PROVISIONING AND CULTIVATION  
PART OF THE EAST 1/2 OF

CAD NO. 2010CP01.DWG

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STATE OF MICHIGAN  
HASSAN M. ODEH  
ENGINEER  
No. 6201037763  
PROFESSIONAL ENGINEER

PROPERTY OWNER: WESTLAND PRINCIPLES, LLC  
ATTN: CURT MOLINO  
26621 EAST RIVER ROAD  
GROSSE ILE, MI 48138  
Phone: 313-218-4069  
EMAIL: curt.molino@yahoo.com

REVISIONS

DATE: 8/16/2022  
CONSTRUCTION PLANS

DR. BY: H.M.O  
CH. BY: H.M.O

JOB NO. 1210  
SHEET NO. C-8

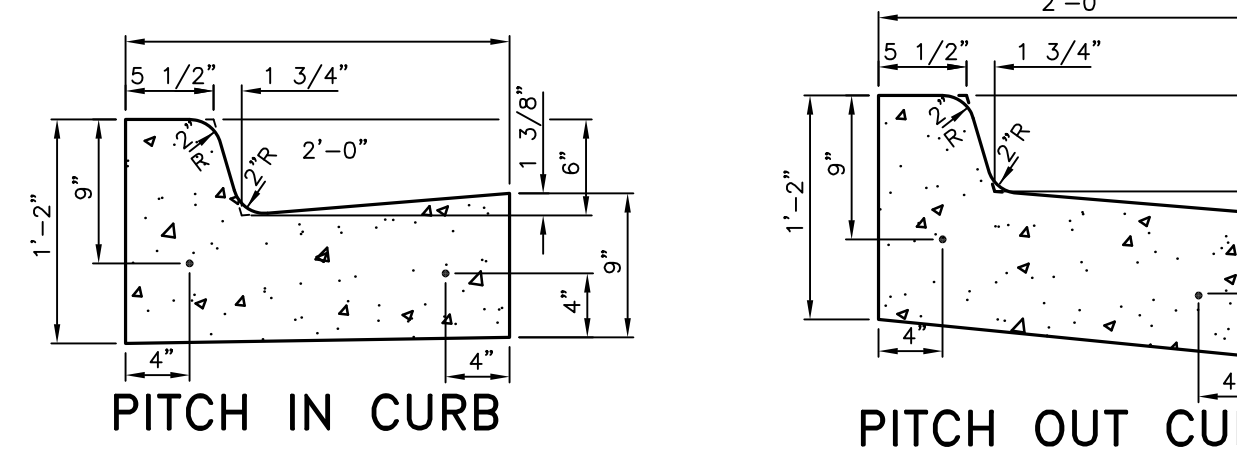
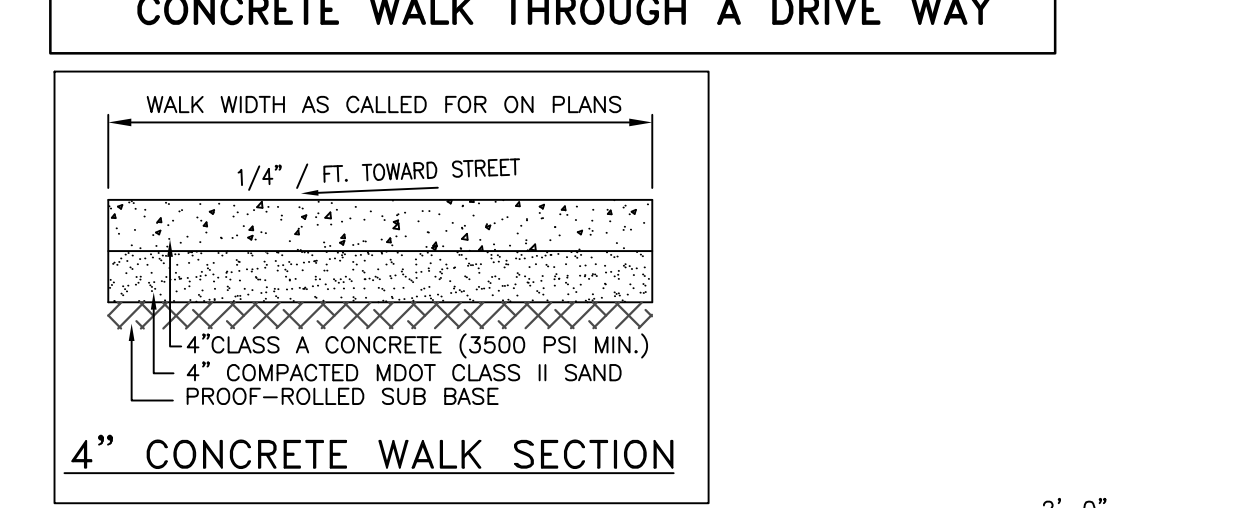
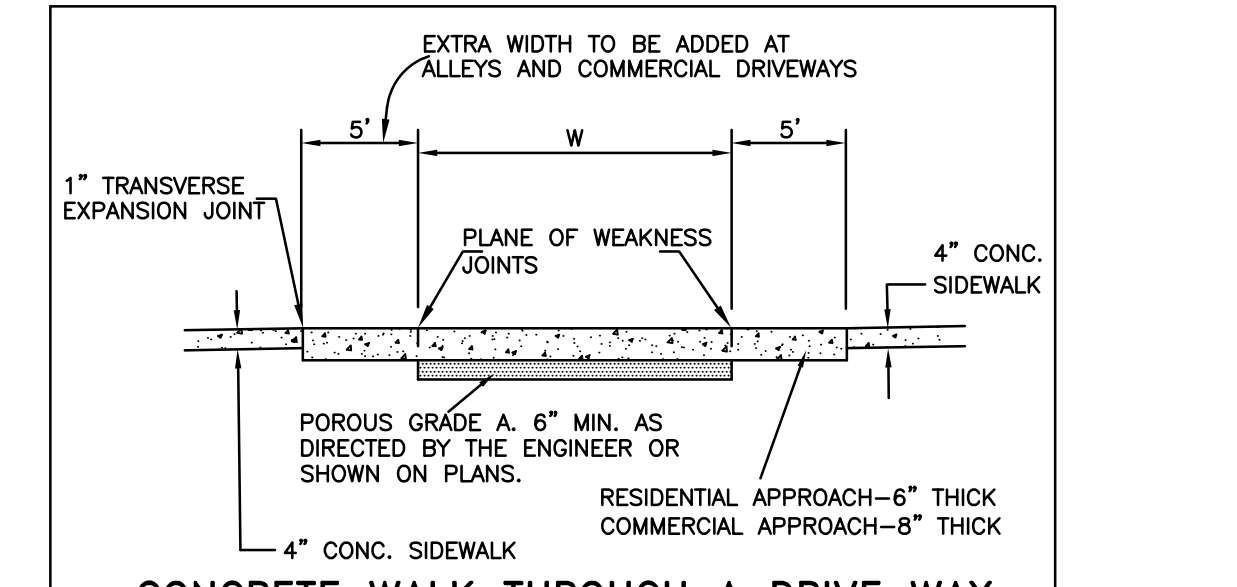
WAYNE COUNTY DPS PLAN REVIEW R 21-149  
ALL MATERIAL AND INSTALLATION MUST CONFORM TO THE CURRENT ENGINEERING DESIGN STANDARDS OF THE CITY OF WESTLAND AND WAYNE COUNTY.



### MICHIGAN UNIFIED KEYING SYSTEM SOIL EROSION AND SEDIMENTATION CONTROL MEASURES

6	SEEDING WITH MULCH AND OR MATING	FACILITATES ESTABLISHMENT OF VEGETATIVE COVER EFFECTIVE FOR DRAINAGEWAYS WITH LOW VELOCITY. EASILY PLACED IN SMALL QUANTITIES BY INEXPERIENCED PERSONNEL. SHOULD INCLUDE PREPARED TOPSOIL BED
15	PAVING	PROTECTS AREAS WHICH CANNOT OTHERWISE BE PROTECTED, BUT INCREASES RUNOFF VOLUME AND VELOCITY. IRREGULAR SURFACE WILL HELP SLOW VELOCITY
16	CURB AND GUTTER	KEEPS HIGH VELOCITY RUNOFF ON PAVED AREAS FROM LEAVING PAVED SURFACE. COLLECTS AND CONDUCTS RUNOFF TO ENCLOSED DRAINAGE SYSTEM OR PREPARED DRAINAGE WAY
35	STORM SEWER	SYSTEM REMOVES COLLECTED RUNOFF FROM SITE, PARTICULARLY FROM PAVED AREAS. CAN ACCEPT LARGE CONCENTRATIONS OF RUNOFF. CONDUCTS RUNOFF TO MUNICIPAL SEWER SYSTEM OF STABILIZED OUTFALL LOCATION USE CATCH BASINS TO COLLECT SEDIMENT
38	GEOTEXTILE FILTER	INEXPENSIVE AND EASY TO CONSTRUCT. GEOTEXTILE INLET FILTER
54	SILT FENCE	INEXPENSIVE AND EASY TO CONSTRUCT. CAN BE USED AS NECESSARY TO COLLECT SEDIMENT. MAY BE USED IN CONJUNCTION WITH SNOW FENCE FOR ADDED STABILITY

**NOTES:**  
The contractor will conform to part 91 of Act 451 of 1994, Erosion and Sediment Control of runoff during construction and current local ordinances for erosion and sedimentation control.  
⑥ The number erosion control items shown on the plan are keyed to MDSH & Standard Plan V-96B. All work shall conform to this standard plan. p = permanent  
t = temporary



START DATE	END DATE	SOIL EROSION CONTROL SEQUENCE OF CONSTRUCTION
9/01/22	9/03/22	1. STONE TRACKING PAD ATOP GEOTEXTILE LINER (MUD-MAT)
9/01/22	9/03/22	2. INSTALL SILT FENCING AND PROTECTIVE FENCING IMMEDIATELY AFTER REMOVING PAVEMENT
9/04/22	9/11/22	3. STRIP AND STOCKPILE TOPSOIL
9/12/22	9/30/22	4. GRADE AND BALANCE AS REQUIRED, STABILIZE DITCHES, SWALES, COMMON AREAS AND SLOPES PER PLAN WITHIN 5 DAYS OF GRADE.
10/1/22	10/1/23	5. CONSTRUCT BUILDING
9/23/22	9/30/22	6. CONSTRUCT STORM SYSTEM, INSTALL APPROVED OUTLET, AND STABILIZE.
10/01/22	10/02/22	7. PLACE INLET FILTERS
10/01/22	10/20/22	8. INSTALL UNDERGROUND UTILITIES (I.E. SANITARY AND WATERMAIN)
11/1/22	11/30/22	9. INSTALL ALL PUBLIC UTILITIES COMPLETE (ELECTRIC, TELEPHONE, AND CABLE TV)
4/1/23	4/30/23	10. INSTALL PAVEMENT COMPLETE
5/1/23	05/15/23	11. ESTABLISH VEGETATION FOR ALL DISTURBED AREAS.
5/16/23	5/30/23	12. CLEAN OUT STORM SEWERS SYSTEM
5/16/23	5/30/23	13. CLEAN OUT STORM QUALITY STRUCTURE SYSTEM
5/30/23	6/1/23	14. REMOVE SILT FENCE FOLLOWING APPROVAL.

START DATE	WHEN INSTALLED	EROSION CONTROL MAINTENANCE SCHEDULE
9-01-22	WEEKLY	INSPECT / REPAIR SILT FENCE
9-01-22	WEEKLY	INSPECT / REPAIR BUFFER STRIP
9-01-22	WEEKLY	INSPECT / CLEAN DRAINAGE STRUCTURE
9-01-22	WEEKLY AS NEEDED	STREET SWEEPING
9-01-22	WEEKLY	INSPECT / CLEAN / REPAIR DETENTION BASIN/SEDIMENT BAY

**MISS DIG**  
BEFORE YOU DIG  
OR WORK NEAR OVERHEAD WIRES  
CALL MISS DIG  
1-800-482-7171  
FOR THE LOCATION OF UNDERGROUND FACILITIES

**NOTICE:**  
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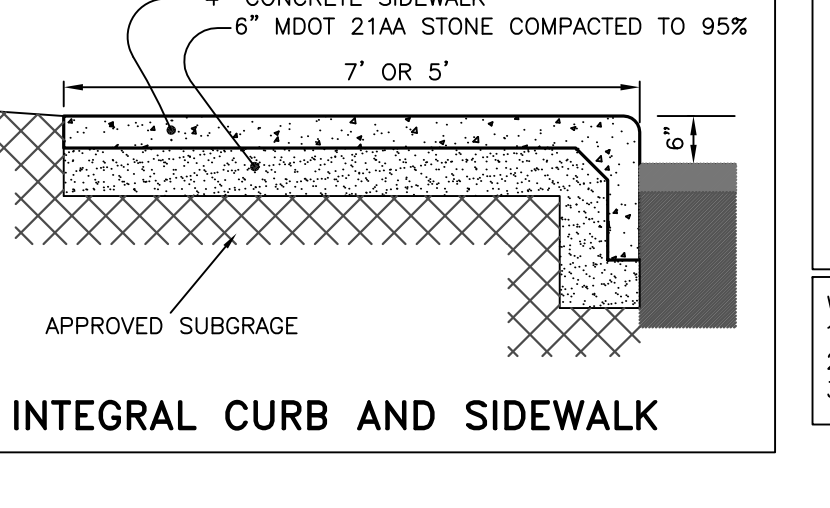
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### SOIL EROSION / SEDIMENT CONTROL NOTES:

- Contractor/developer shall submit a detailed erosion control plan, completed application and checklist forms, pay all fees and post an erosion control performance bond, as required, prior to any earth change.
- Construction operation shall be scheduled and performed so that preventative soil erosion control measures are in place prior to excavation in critical areas and temporary stabilization measures are in place immediately following backfilling operations.
- Borrow and fill disposal areas will be selected by the contractor with full consideration for soil erosion and sediment control.
- Special precautions will be taken in the use of construction equipment to prevent situations that promote erosion.
- Cleanup will be done in a manner to insure that erosion control measures are not disturbed.
- The project will continually be inspected for soil erosion and sediment control compliance. Deficiencies will be corrected by the contractor within 24 hours.
- Place geotextile filter cloth on all catch basins during construction.
- Place 6" gravel or limestone tracking surface on driveway during construction. All mud/dirt onto public roads to be removed by contractor daily.

### SOIL EROSION CONTROL SEQUENCE AS THEY APPLY TO THE JOB.

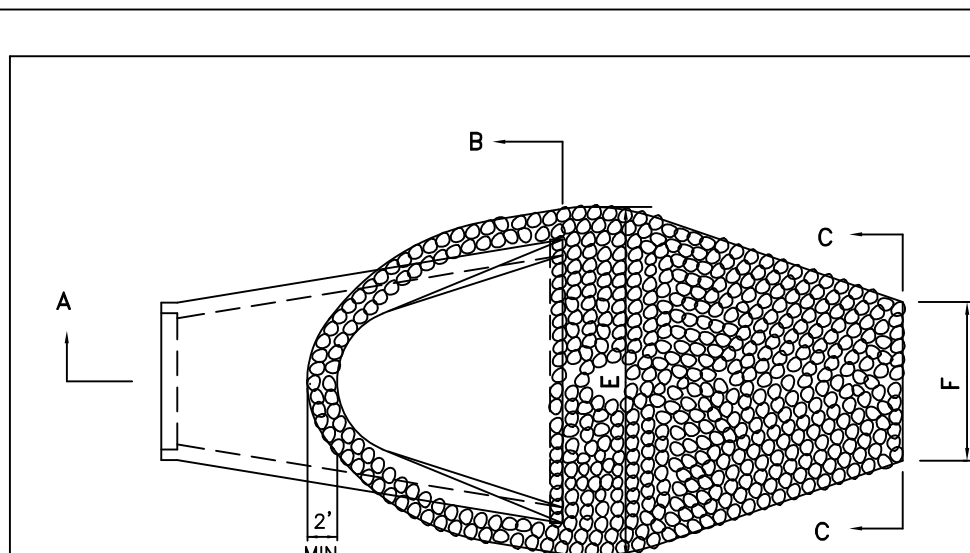
- Install all perimeter erosion and sedimentation control measures.
- Rough grade site, stock pile top soil in location approved by Owner and Engineer, and Build Retention Pond.
- Install storm drainage system, including rip-rap and parking lot inlet filter.
- Construct sanitary sewer, watermain.
- Maintain erosion and sedimentation control measures, as required.
- Bring pavement areas to sub-base grade and install curb and gutter.
- Begin building construction
- Install all utilities (phone, gas, and electric).
- Complete construction of building.
- Install pavement complete, repair or replace inlet filter as required.
- Finish grade, redistribute top soil, seed and mulch all disturbed areas.
- Remove all temporary soil erosion and sedimentation control measures.



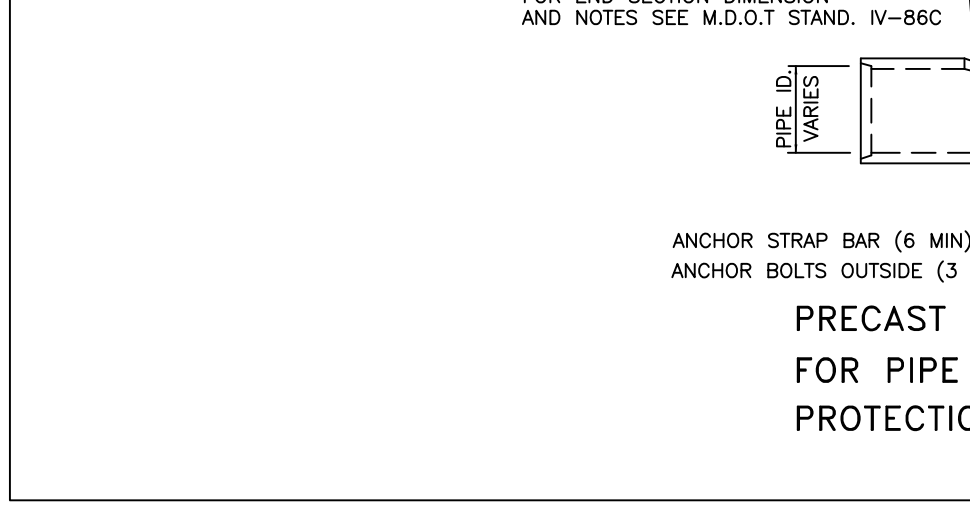
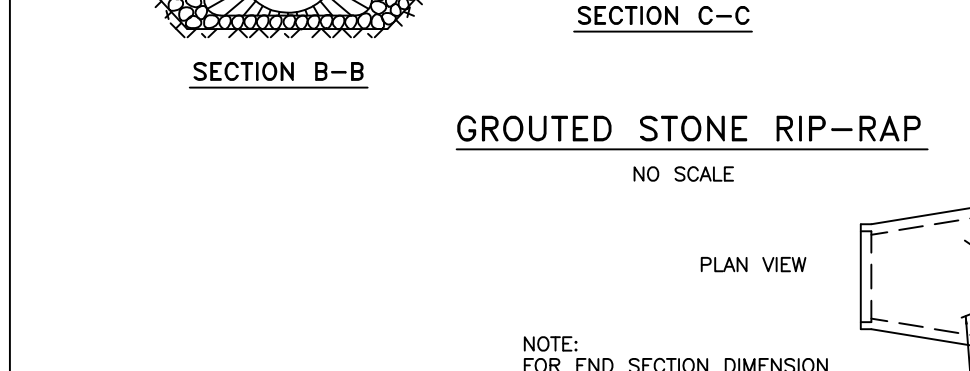
### GENERAL CONSTRUCTION NOTES:

- All construction must be conforming to the current standards and specifications adopted by CITY OF WESTLAND AND WAYNE COUNTY
- It shall be the contractor's responsibility to verify and/or obtain any information necessary regarding the presence of underground utilities which might affect this job. Prior to any excavation the contractor shall telephone Miss Dig 3 working days (1-800-482-7171) for location of underground gas and cable utilities located in the vicinity of the work. Location of existing utilities are shown approximate only, contractor to verify.
- All soil erosion and silt must be controlled and contained on-site
- All excavation under or within 3 feet of public pavement, existing or proposed, shall be back filled with MDOT Class II sand and compacted to a minimum of 95% maximum density.
- The contractor shall be responsible for damage to and the repair of any existing utility line due to the work. Utility locations and depth shown on the plans are approximate. Contractor to verify actual locations and depth.
- The Contractor is responsible for obtaining all CITY permits including a permit to occupy public utility easements or public rights-of-way.
- Trench backfill in MDOT right-of-way shall conform to MDOT requirements and be subject to the approval of the MDOT Engineer
- All trenches under and/or within 3.0 ft. of any pavement, sidewalk, drives or parking areas shall be backfilled with sand, compacted to 95% maximum density.
- No earthen berms shall be constructed over public utilities.
- We have not reviewed this project for soil content we suggest the client contact a soil engineer with regard to soil conditions and modify pavement section as required.
- Pipe shall be installed on class "B" bedding or better.
- Inlet filters shall be installed at all drainage structures or as directed by the Engineer.
- All underground utilities shall be a minimum of 10 feet from water mains and leads.
- The Developer is responsible for resolving any drainage problems on adjacent properties which are a result of the Developer's activities.
- It shall be the contractor responsibility to restore all disturbed areas off site to match its existing condition or better.
- The contractor shall familiarize himself with the existing conditions at the site, including utilities, services, etc and shall be fully responsible for any damages he causes to both existing and new construction and property and for any unauthorized disruption to the owner's normal use of utilities, services and the surrounding facilities.
- All work within any utility easement shall be coordinated with the utility owner prior to construction.
- The contractor shall field verify the sizes, locations, elevations and details of existing conditions that affect the work and shall inform the Engineer of any discrepancies in dimensions, sizes, locations and conditions before proceeding with the work.
- Disturb no trees or shrubs without the approval of the owner.
- Contractor shall be responsible for adjusting existing structures to finish grade wherever affected by this project.
- A minimum vertical clearance of 18" shall be maintained between watermain and sewers.

**WAYNE COUNTY PERMITS NOTES:**  
1. SOIL EROSION PERMIT IS REQUIRED FOR A SITE OF ONE ACRE OR GREATER ONLY  
2. WAYNE COUNTY PERMIT IS REQUIRED FOR ANY WORK TO BE DONE WITHIN PUBLIC RIGHT OF WAY.  
3. WAYNE COUNTY PERMIT IS REQUIRED FOR STORM SEWER OUTLET WITHIN PUBLIC ROAD RIGHT OF WAY

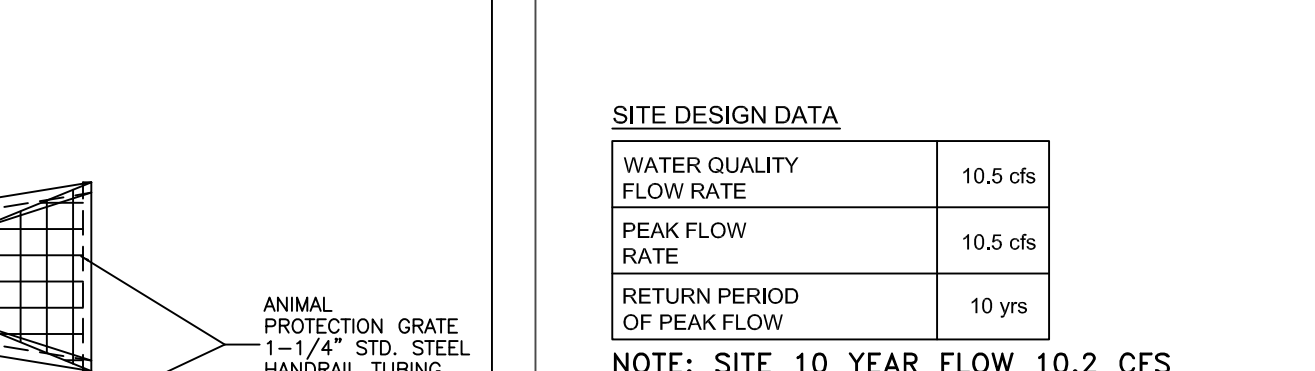
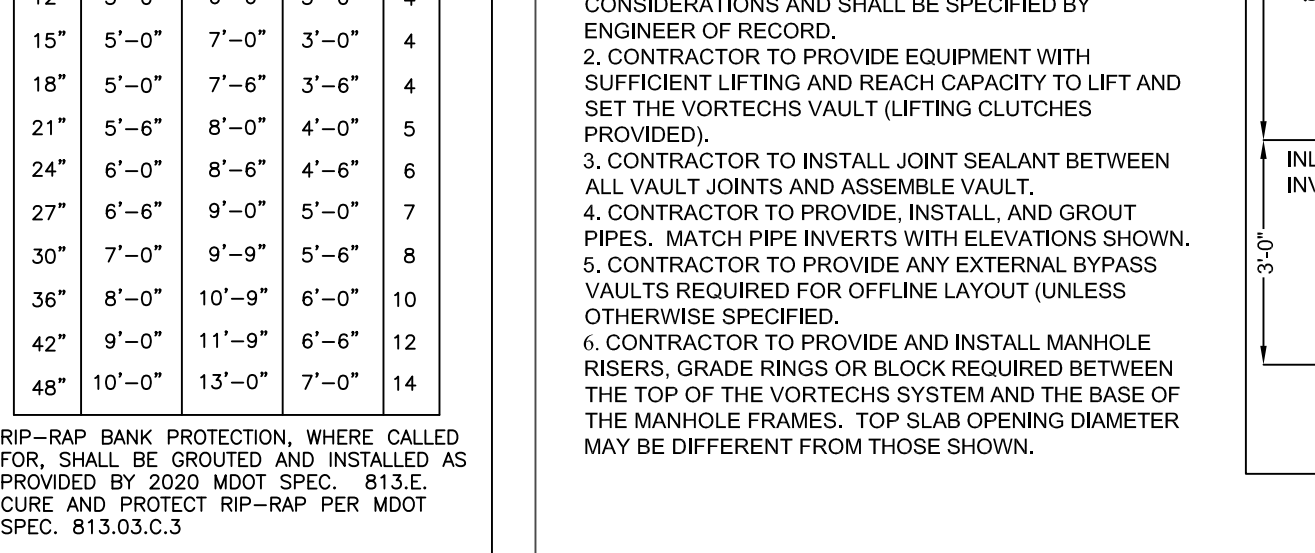
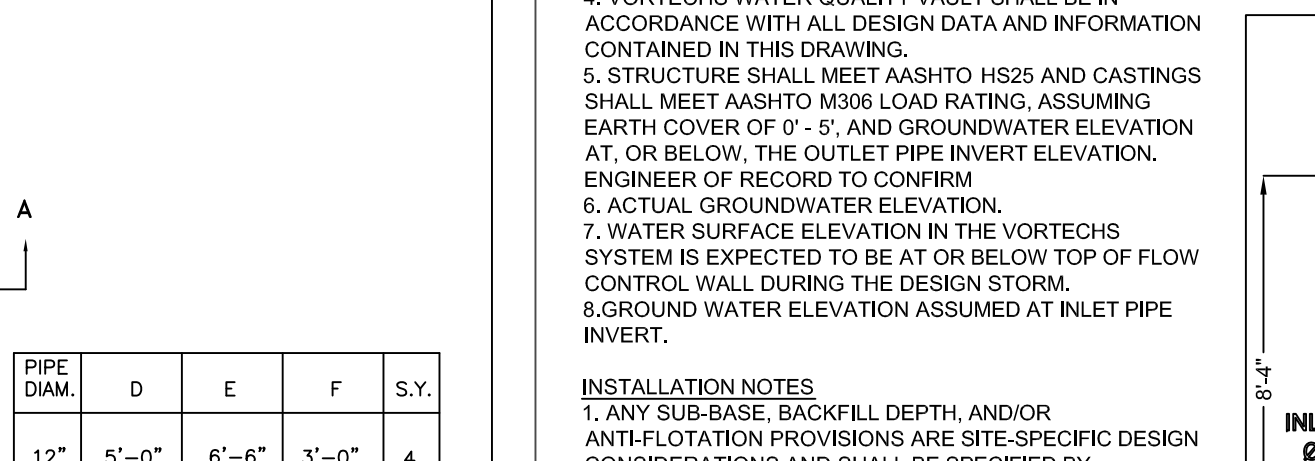
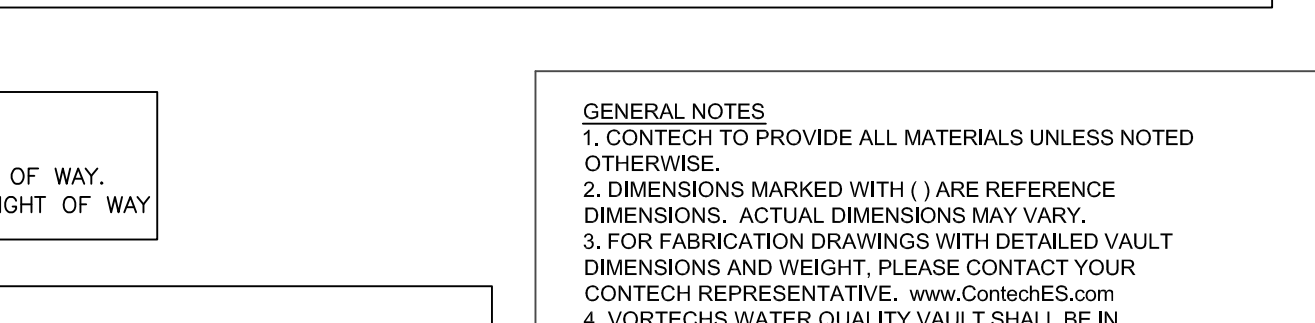
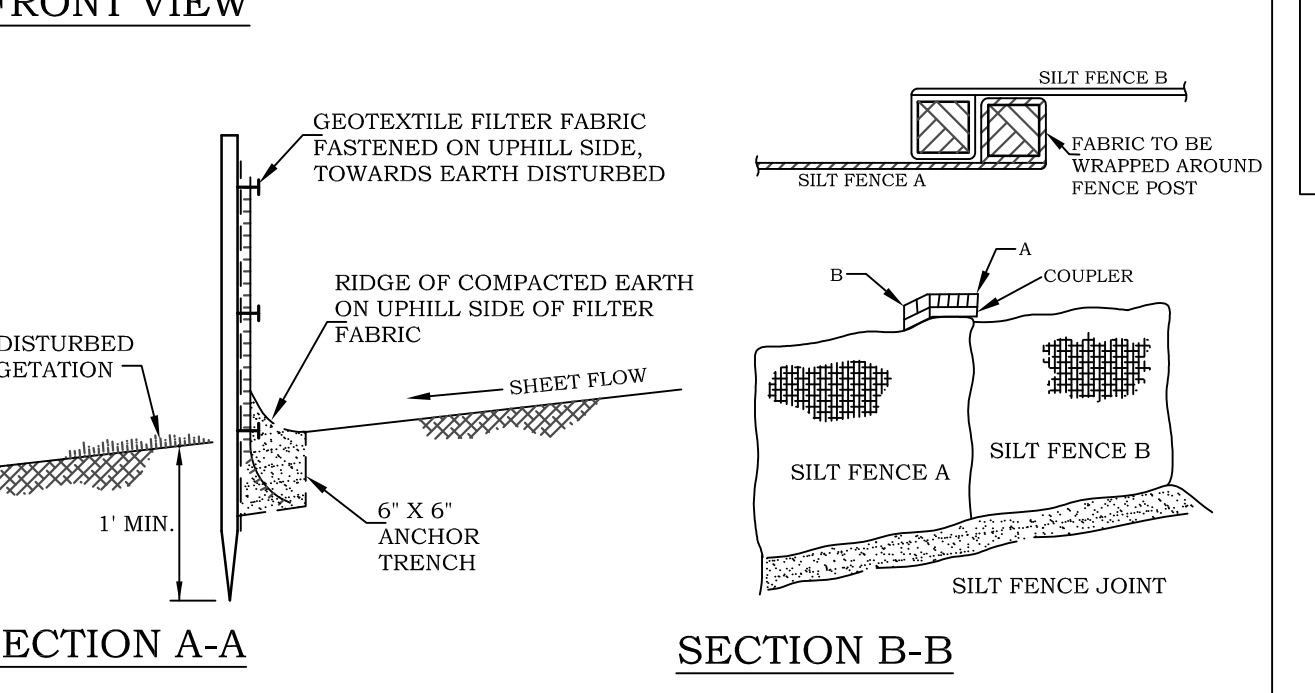
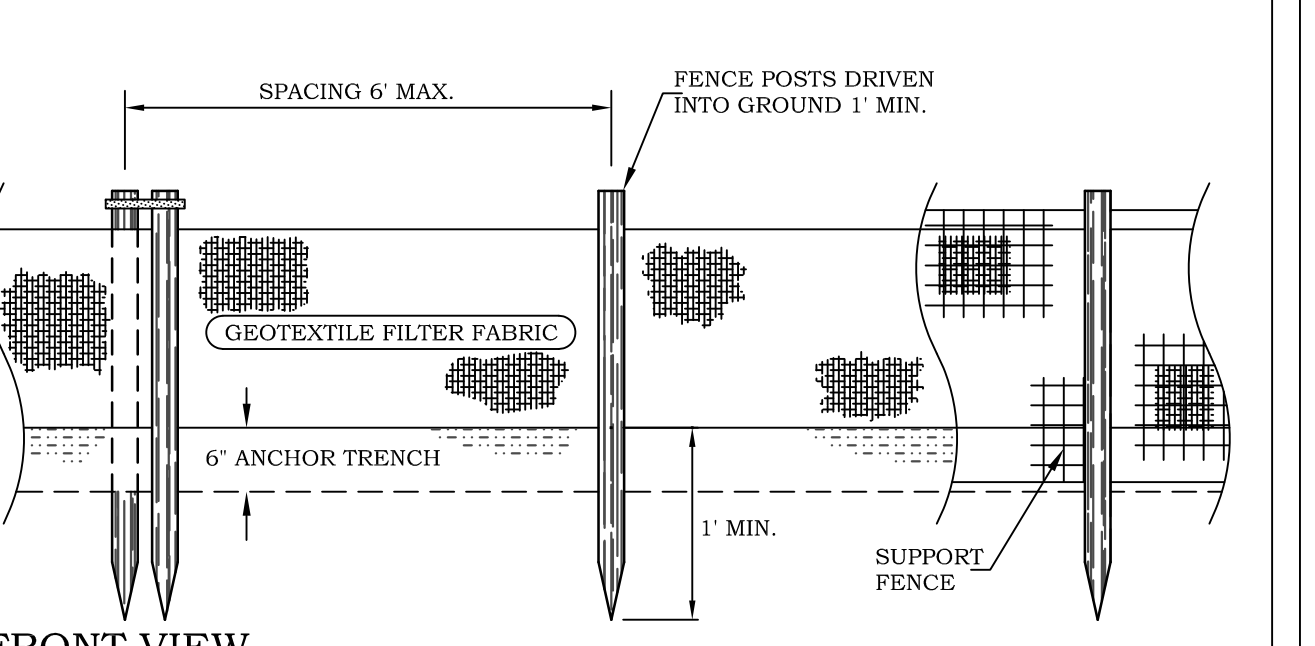
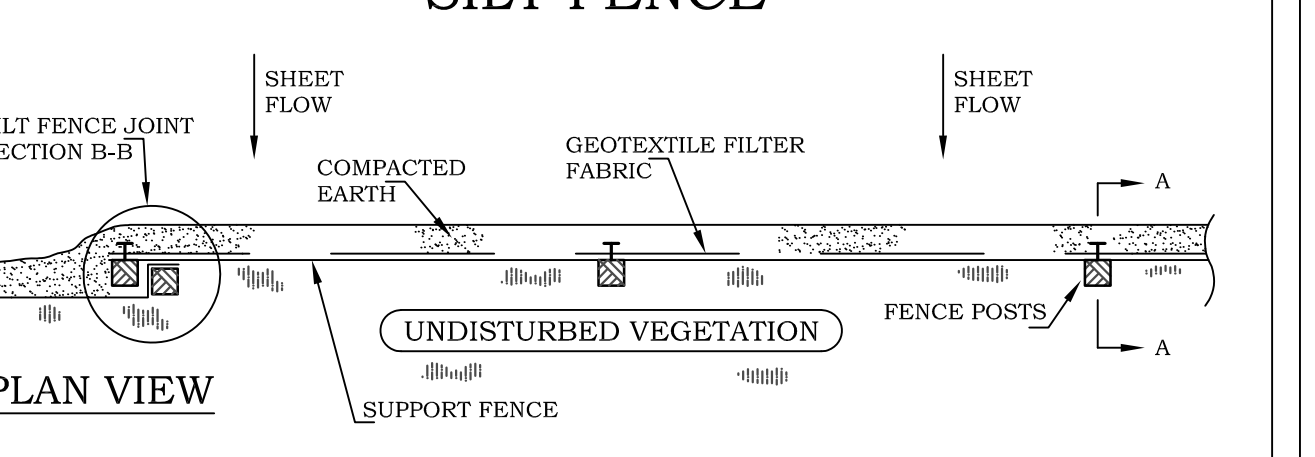


PIPE DIAM.	D	E	F	S.Y.
12"	5'-0"	6'-6"	3'-0"	4
15"	5'-0"	7'-0"	3'-0"	4
18"	5'-0"	7'-6"	3'-6"	4
21"	5'-6"	8'-0"	4'-0"	5
24"	6'-0"	8'-6"	4'-6"	6
27"	6'-6"	9'-0"	5'-0"	7
30"	7'-0"	9'-9"	5'-6"	8
36"	8'-0"	10'-9"	6'-0"	10
42"	9'-0"	11'-9"	6'-6"	12
48"	10'-0"	13'-0"	7'-0"	14



**NOTE:**  
WE HAVE NOT REVIEWED THIS PROJECT FOR SOIL CONTENT WE SUGGEST THE CLIENT CONTACT A SOIL ENGINEER WITH REGARD TO SOIL CONDITIONS AND MODIFY PAVEMENT SECTION AS REQUIRED.

### SILT FENCE



**SITE DESIGN DATA**

WATER QUALITY FLOW RATE	10.5 cfs
PEAK FLOW RATE	10.5 cfs
RETURN PERIOD OF PEAK FLOW	10 yrs

**NOTE: SITE 10 YEAR FLOW 10.2 CFS**

**MATERIALS LIST - PROVIDED BY CONTECH**

COUNT	DESCRIPTION	INSTALLED BY
1	ALUMINUM SWIRL CHAMBER	CONTECH
1	ALUMINUM WEIR PLATE	CONTECH
1	ALUMINUM ORIFICE PLATE	CONTECH
1	SWIRL CHAMBER SEALANT	CONTECH
1	SEALANT FOR JOINTS	CONTRACTOR
3	Ø24" x 4" FRAME AND COVER	CONTRACTOR

**CONTECH ENGINEERED SOLUTIONS LLC**  
www.conteches.com  
2025 Center Pointe Dr., Suite 400, West Chester, OH 45380  
VORTECHS 9000 RATED TREATMENT CAPACITY IS 10.5 CFS, OR PER WAYNE COUNTY REGULATIONS, IF THE SITE CONDITIONS EXCEED RATED TREATMENT CAPACITY, AN UPSTREAM STRUCTURE IS REQUIRED.

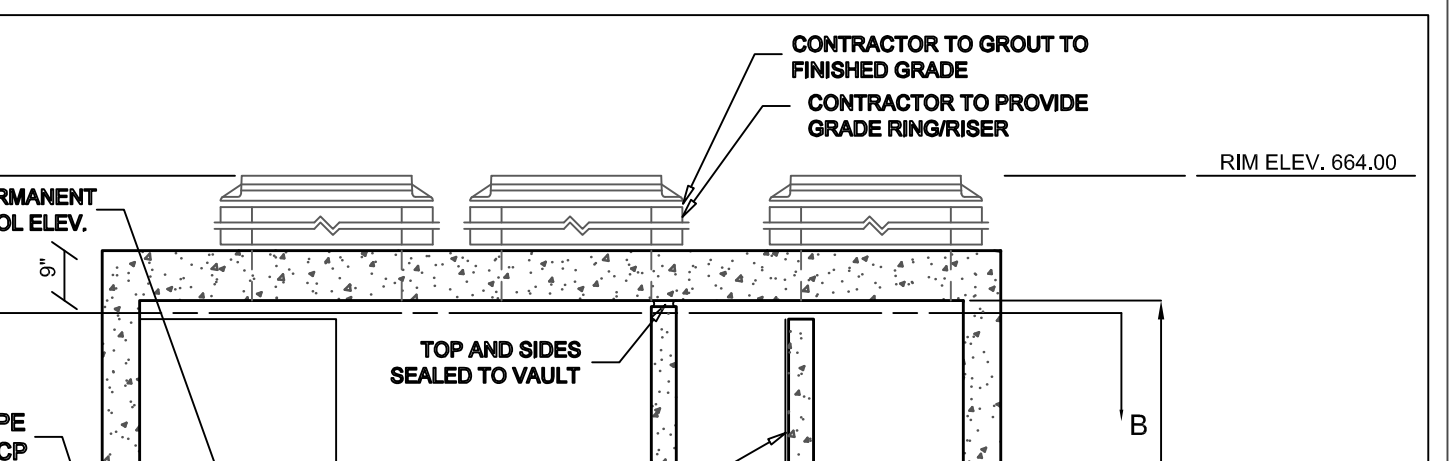
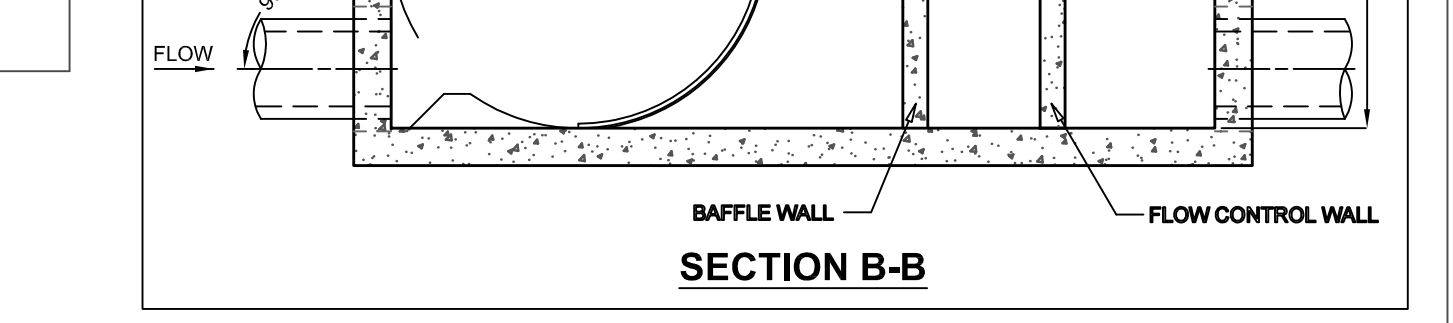
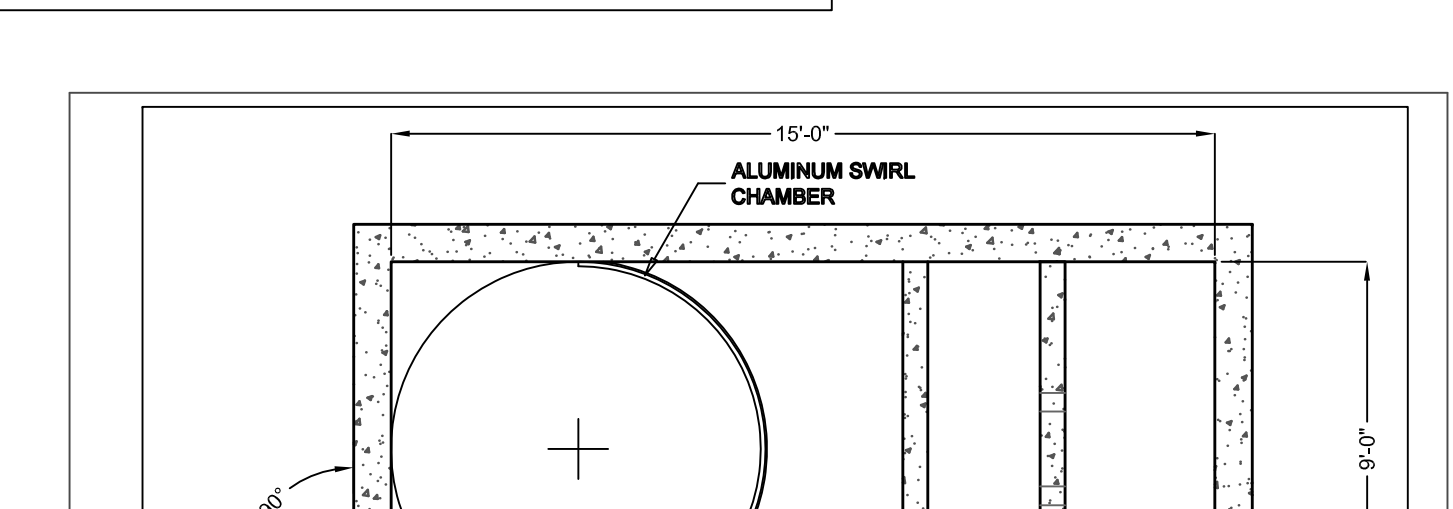
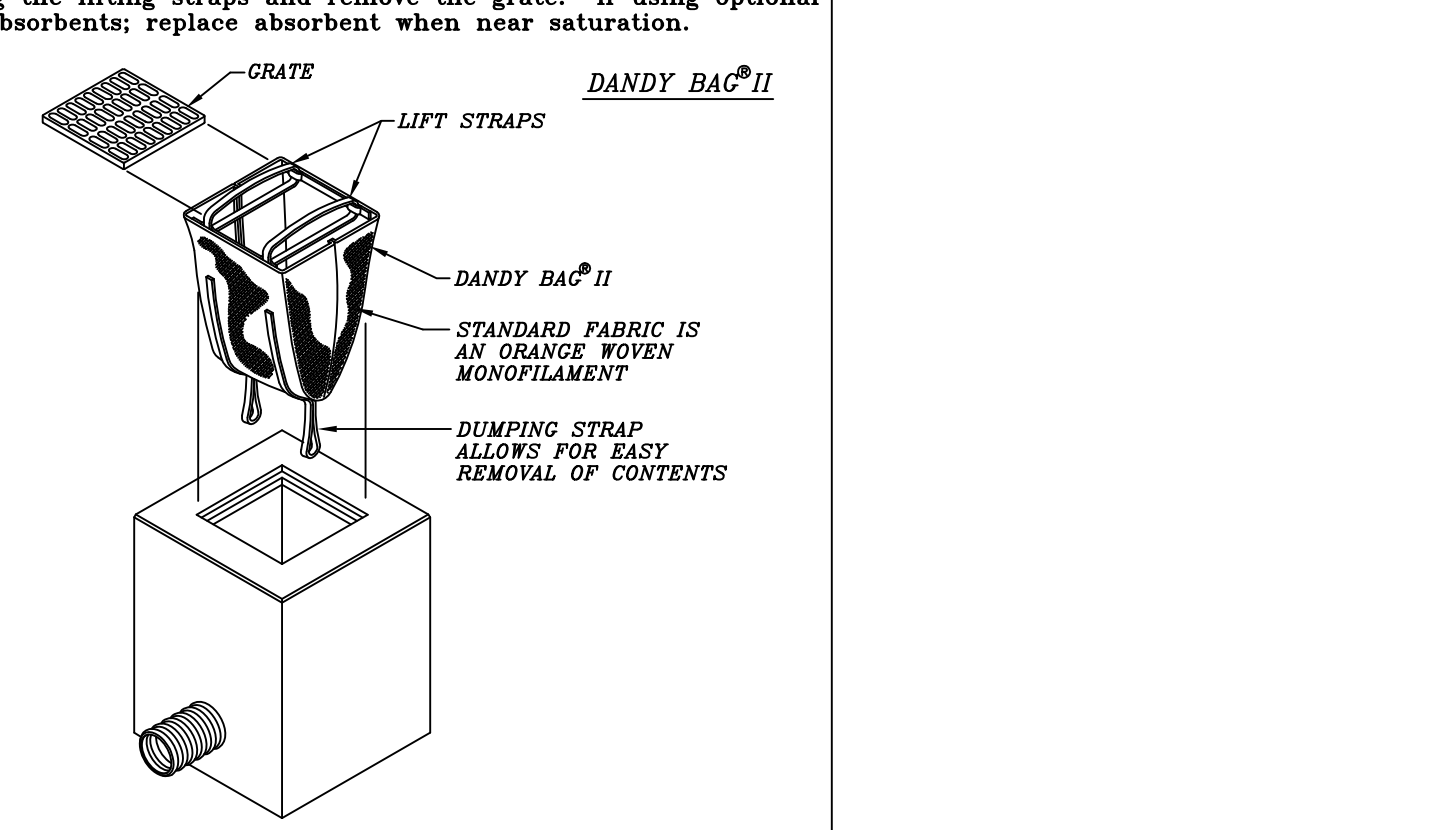
**VORTECHS 9000 DESIGN NOTES**  
THE STANDARD INLET/OUTLET CONFIGURATION IS SHOWN. FOR OTHER CONFIGURATION OPTIONS, PLEASE CONTACT YOUR CONTECH REPRESENTATIVE.  
www.conteches.com

### DANDY BAG II

INSTALL ON ALL STORM SEWER STRUCTURES (INLETS, CATCH BASINS, AND MANHOLES)  
**Installation and Maintenance Guidelines**

**Installation:** Remove the grate from catch basin. If using optional oil absorbents; place absorbent pillow in unit. Stand the grate on end. Move the top lifting straps out of the way and place the grate into the Dandy Bag II. If so that the grate is below the top straps and above the lower straps. Holding the lifting devices, insert the grate into the inlet.

**Maintenance:** Remove all accumulated sediment and debris from vicinity of unit after each storm event. After each storm event and at regular intervals, look into the Dandy Bag II. If the containment area is more than 1/3 full of sediment, the unit must be emptied. To empty unit, lift the unit out of the inlet using the lifting straps and remove the grate. If using optional oil absorbents; replace absorbent when near saturation.



**1. PRIOR TO INSTALLATION, MECHANICAL SEPARATOR COMPONENTS SHALL BE TESTED AND APPROVED BY THE WAYNE COUNTY TESTING OFFICE AND OBSERVED DURING INSTALLATION BY WAYNE COUNTY ENGINEER.**

**2. THE MANUFACTURER OF THE MECHANICAL SEPARATOR UNIT(S) AND OUTLET CONTROL STRUCTURE MUST CONTACT THE WAYNE COUNTY TESTING OFFICE AT 734-858-2776 AT LEAST 3 DAYS PRIOR TO FABRICATION TO SCHEDULE INSPECTION DURING MATERIAL FABRICATION.**

**PROPERTY OWNER:**  
WESTLAND PRINCIPLES, LLC  
ATTN: CURT MOLINO  
26621 EAST RIVER ROAD  
GROSSE ILE, MI 48138  
Phone: 313-218-4069  
EMAIL: curt.molino@yahoo.com

**CLIENT:** WESTLAND PRINCIPLES, LLC  
**NOTES AND DETAILS**  
KINSHIP PROVISIONING AND CULTIVATION  
PART OF THE EAST 1/2 OF

**SECTION 19 TOWN 2 SOUTH, RANGE 9 EAST**  
**CITY OF WESTLAND**  
**WAYNE COUNTY, MICHIGAN**

**SCALE 1 INCH = 40 FEET**

**DATE: 8/16/2022**  
**CONSTRUCTION PLANS**

**DR. BY: H.M.O**  
**CH. BY: H.M.O**

**JOB NO. 1210**  
**SHEET NO. C-9**

**LANDMARK ENGINEERING CO.**  
Civil Engineering - Land Surveying  
9401 General Dr., Suite 101  
Plymouth, Michigan 48170  
Tel: 248-557-3000  
Fax: 248-557-9059  
Email: landmark@landmarkengineeringco.com

**WESTLAND PRINCIPLES, LLC**  
**NOTES AND DETAILS**  
KINSHIP PROVISIONING AND CULTIVATION  
PART OF THE EAST 1/2 OF

**CAD NO. 1210CP01.DWG**

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**STATE OF MICHIGAN**  
**HASSAN M. ODEH**  
**ENGINEER**  
No. 6201037763  
**PROFESSIONAL ENGINEER**

**REVISIONS**

**DATE: 8/16/2022**  
**CONSTRUCTION PLANS**

**DR. BY: H.M.O**  
**CH. BY: H.M.O**

**JOB NO. 1210**  
**SHEET NO. C-9**

### EXHIBIT "B"

STORM WATER MANAGEMENT SYSTEM  
LONG TERM MAINTENANCE PLAN  
KINSHIP PROVISIONING AND CULTIVATION

TABLE 1

STORM WATER MANAGEMENT SYSTEM LONG-TERM MAINTENANCE SCHEDULE

MAINTENANCE ACTIVITIES	SYSTEM COMPONENTS					FREQUENCY
	MANUFACTURED TREATMENT SYSTEM *	UNDERGROUND DETENTION SYSTEM *	STORM STRUCTURES (CATCH BASINS & MANHOLES)	STORM SEWER COLLECTION SYSTEM	OUTLET CONTROL STRUCTURE	
INSPECT FOR SEDIMENT ACCUMULATION	X	X	X	X	X	ANNUALLY
INSPECT FOR FLOATABLES, DEAD VEGETATION & DEBRIS	X	X	X	X	X	ANNUALLY & AFTER MAJOR EVENTS
INSPECT FOR COMPONENTS DURING WET WEATHER & COMPARE TO AS-BUILT PLANS.	X	X	X	X	X	ANNUALLY
<b>PREVENTATIVE MAINTENANCE</b>						
REMOVE ACCUMULATED SEDIMENT BY VACUUM TRUCK	X	X		X		AS NEEDED *
REMOVE FLOATABLES, DEAD VEGETATION & DEBRIS	X	X	X	X		AS NEEDED
SWEEPING OF PAVEMENT SURFACES (STREETS AND PARKING)					X	AS NEEDED
<b>REMEDIAL ACTIONS</b>						
STRUCTURAL REPAIRS OR REPLACEMENT IN KIND	X	X	X	X	X	AS NEEDED
MAKE ADJUSTMENTS, REPAIRS TO ENSURE PROPER FUNCTIONING	X	X	X	X	X	AS NEEDED
OIL AND GASOLINE SPILLS					X	CLEAN OUT IMMEDIATELY

APPLICANT:  
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Email: landmark@landmarkengineeringco.com

CLIENT: WESTLAND PRINCIPLES, LLC  
DATE: 8-16-2022  
1210EA01.DWG  
JOB NO. 1210  
SCALE 1 INCH = 100 FEET  
SHEET 2 OF 2

### EXHIBIT "B"

STORM WATER MANAGEMENT SYSTEM  
LONG TERM MAINTENANCE PLAN  
KINSHIP PROVISIONING AND CULTIVATION

PROPERTY INFORMATION KINSHIP PROVISIONING AND CULTIVATION  
(±690 feet west of Newburgh Rd.)  
on the south side of Cherry Hill Road  
Part of the E 1/2 of Sec. 19, T2S., R9E  
Westland MI 48186

PROPERTY OWNER: WESTLAND PRINCIPLES, LLC  
ATTN: CURT MOLINO  
26621 EAST RIVER ROAD  
GROSSE ILE, MI 48138  
Phone: 313-218-4069  
EMAIL: curt.molino@yahoo.com

PERMIT NO. / REVIEW NO.: W.C.D.P.S. PLAN REVIEW No. R21-149

#### A. PHYSICAL LIMITS OF THE STORM WATER MANAGEMENT SYSTEM

The storm water management system (SWMS) subject to this Long-term Maintenance Plan (Plan) is depicted on Exhibit A to the Permit and includes without limitation the storm sewers, swales, manholes, catch basins, storm water inlets, manufactured treatment structure system, underground detention system, outlet structure and closed conduits that convey flow from the underground detention system into a storm manhole within the same property.

For the purposes of this plan, this storm water management system and all of its components as shown on Exhibit A is referred to as Kinship Provisioning and Cultivation Development.

#### B. TIME FRAME FOR LONG-TERM MAINTENANCE RESPONSIBILITY

WESTLAND PRINCIPLES, LLC, is responsible for maintaining the Kinship Provisioning and Cultivation Development, including complying with applicable requirements of the local or Wayne County soil erosion and sedimentation control program, until Wayne County releases the construction permit. Long-term maintenance responsibility for the Kinship Provisioning and Cultivation Development commences when defined by maintenance permit issued by the County. Long Term Maintenance continues in perpetuity.

#### C. MANNER OF ENSURING MAINTENANCE RESPONSIBILITY

City of Westland has assumed responsibility for long-term maintenance of Kinship Provisioning and Cultivation Development. The resolution by which the City of Westland has assumed maintenance responsibility is attached to the permit as Exhibit C, WESTLAND PRINCIPLES, LLC, through an agreement to reimburse for maintenance, repairs, restoration and any necessary construction of the Storm Water Management System (the "Maintenance Agreement") with The City of Westland, has agreed to perform the maintenance activities required by this plan. City of Westland retain the right to enter the property and perform the necessary maintenance of Kinship Provisioning and Cultivation Development if WESTLAND PRINCIPLES, LLC, fails to perform the required maintenance activities.

To ensure that Kinship Provisioning and Cultivation Development is maintained in perpetuity, the map of the physical limits of the storm water management system (Exhibit A), this plan (Exhibit B), the resolution attached as Exhibit C and the Maintenance Agreement between the City of Westland and the Property Owner will be recorded with Wayne County Register of Deeds. Upon recording, a copy of the recorded document will be provided to the County.

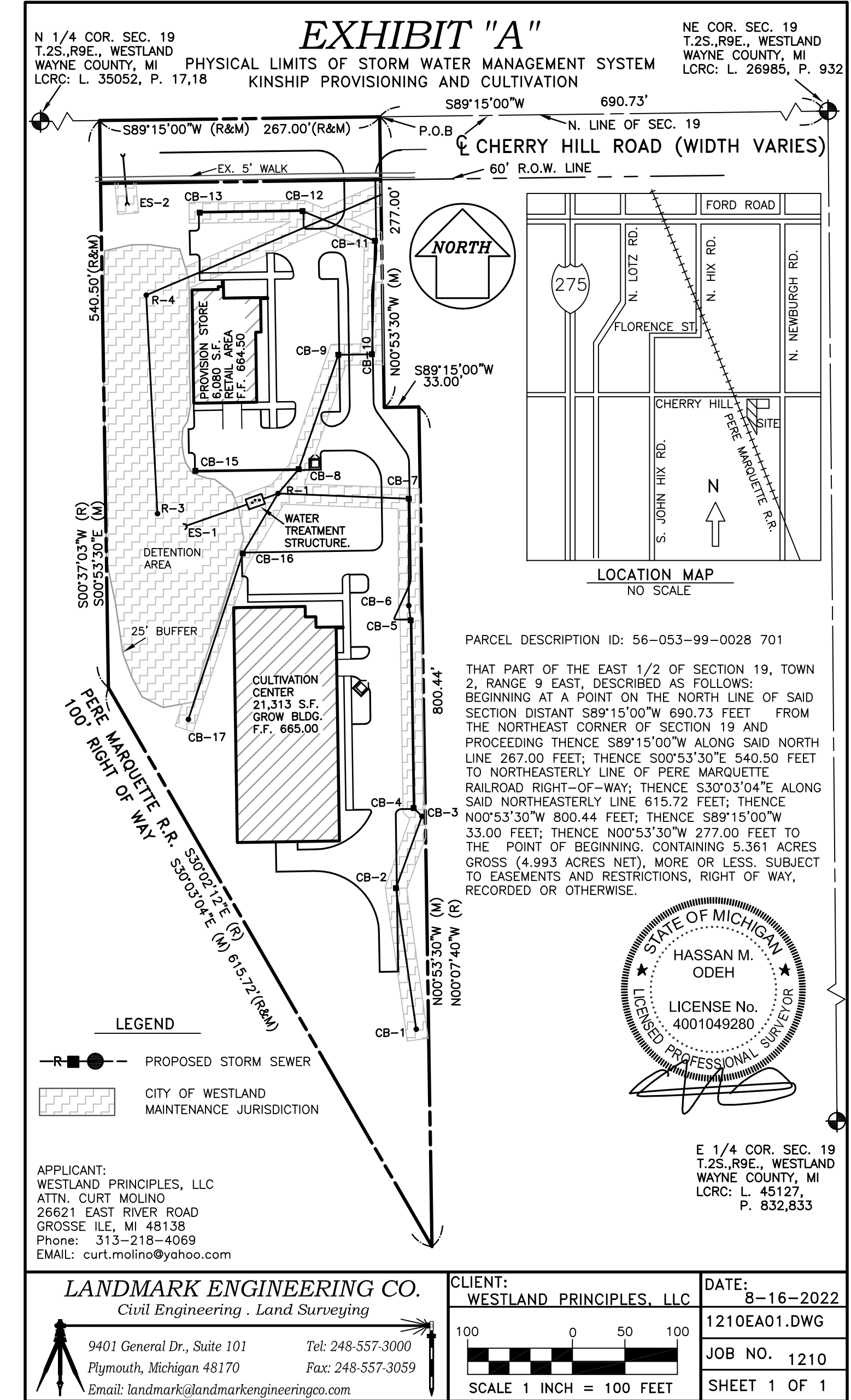
#### D. LONG TERM MAINTENANCE PLAN AND SCHEDULE

Table 1 identifies the maintenance activities to be performed, organized by category (monitoring / inspection, preventative maintenance, remedial actions). Table 1 also identifies site-specific work needed to ensure that the storm water management system function properly.

APPLICANT:  
WESTLAND PRINCIPLES, LLC  
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Civil Engineering - Land Surveying  
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Email: landmark@landmarkengineeringco.com

CLIENT: WESTLAND PRINCIPLES, LLC  
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SHEET 1 OF 2



APPLICANT:  
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SECTION 19 TOWN 2 SOUTH, RANGE 9 EAST  
CITY OF WESTLAND  
WAYNE COUNTY, MICHIGAN  
SCALE 1 INCH = 100 FEET

CLIENT: WESTLAND PRINCIPLES, LLC  
STORM MAINTENANCE EXHIBITS  
KINSHIP PROVISIONING AND CULTIVATION  
PART OF THE EAST 1/2 OF

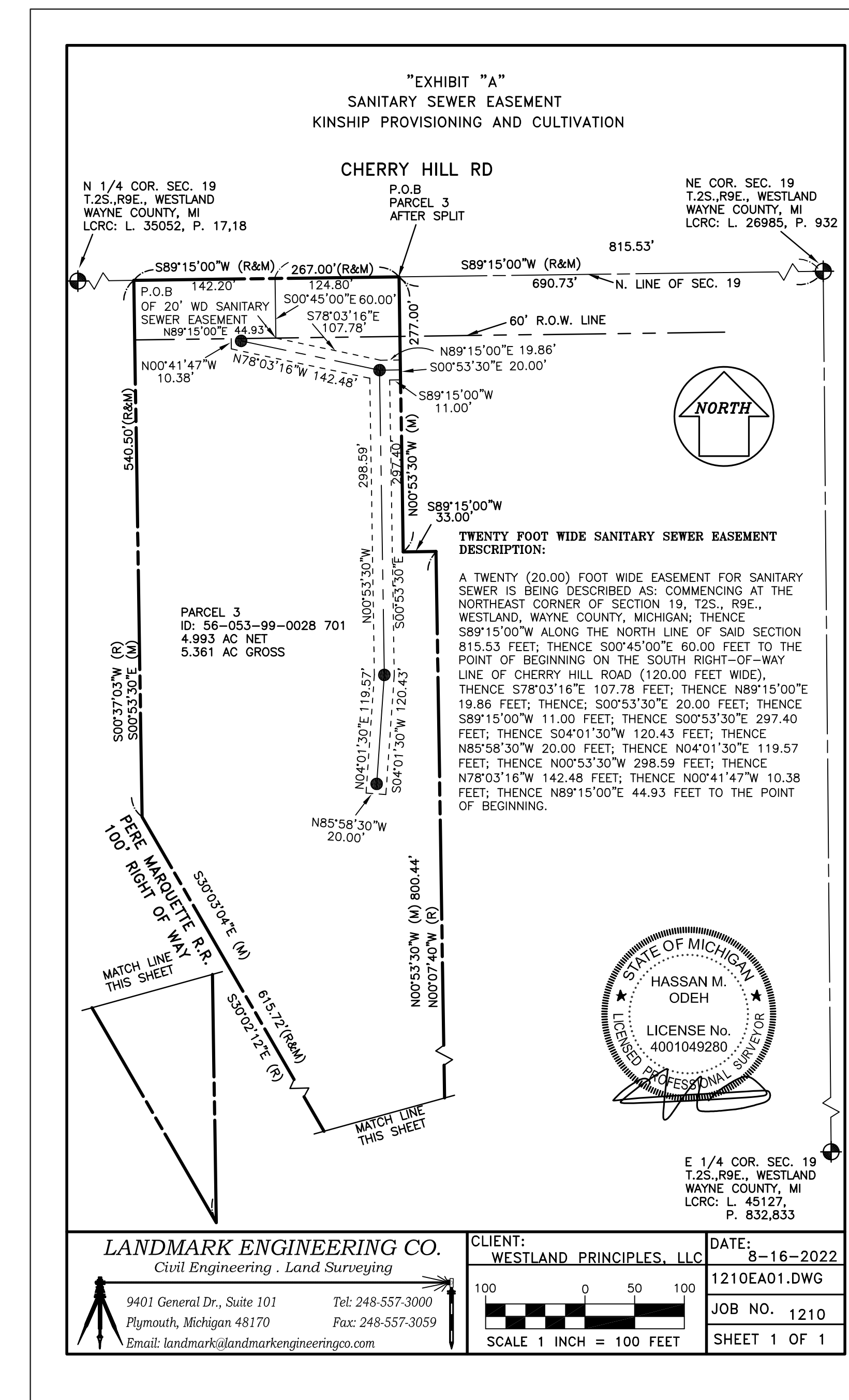
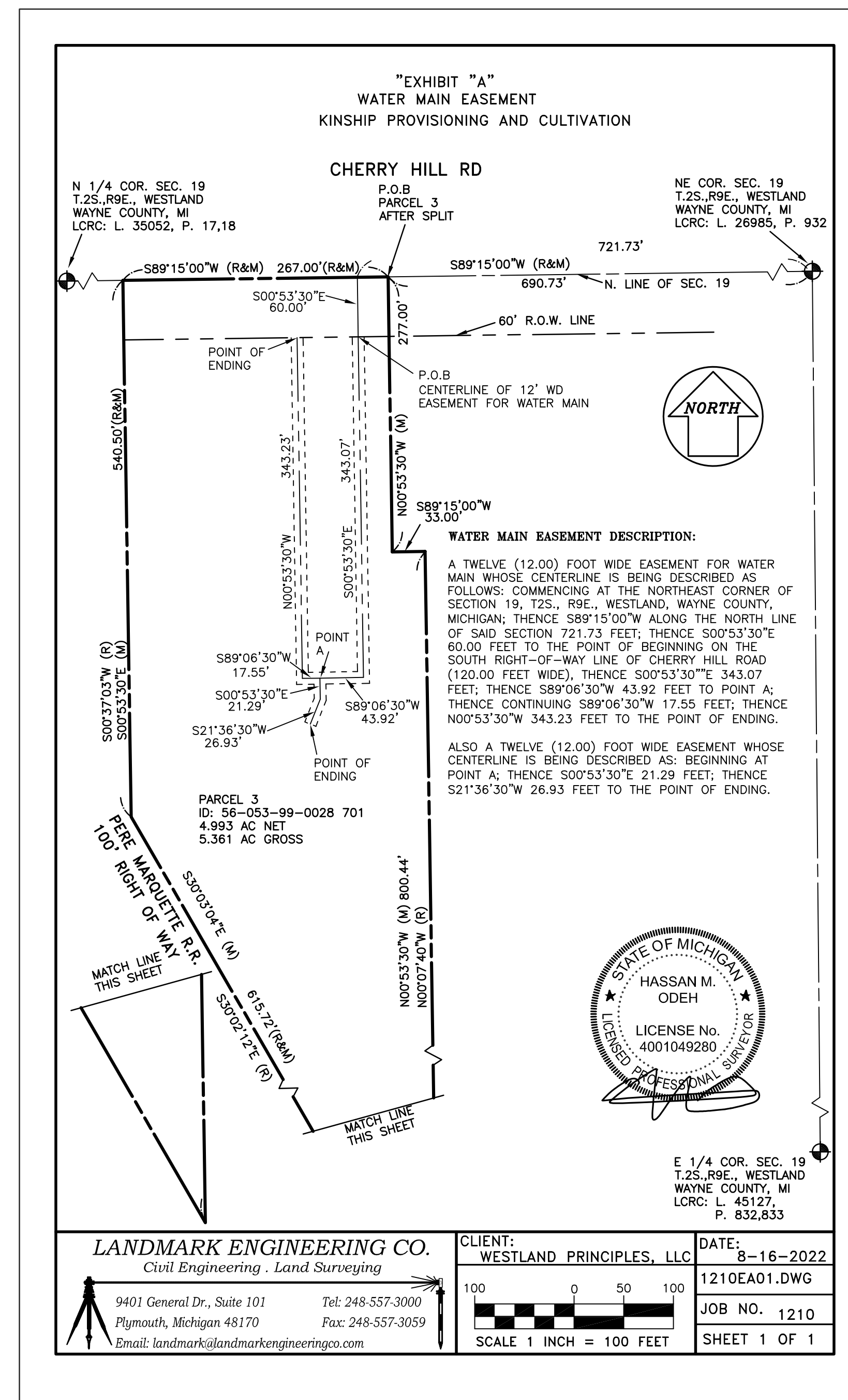
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SEAL  
STATE OF MICHIGAN  
HASSAM M. ODEH  
ENGINEER  
No. 6201037763  
LICENSED PROFESSIONAL ENGINEER

REVISIONS  
DATE: 8/16/2022  
DR. BY: H.M.O.  
CH. BY: H.M.O.  
BOOK NO. X-  
JOB NO. 1210  
FILE NO. C-10





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FOR REVIEW

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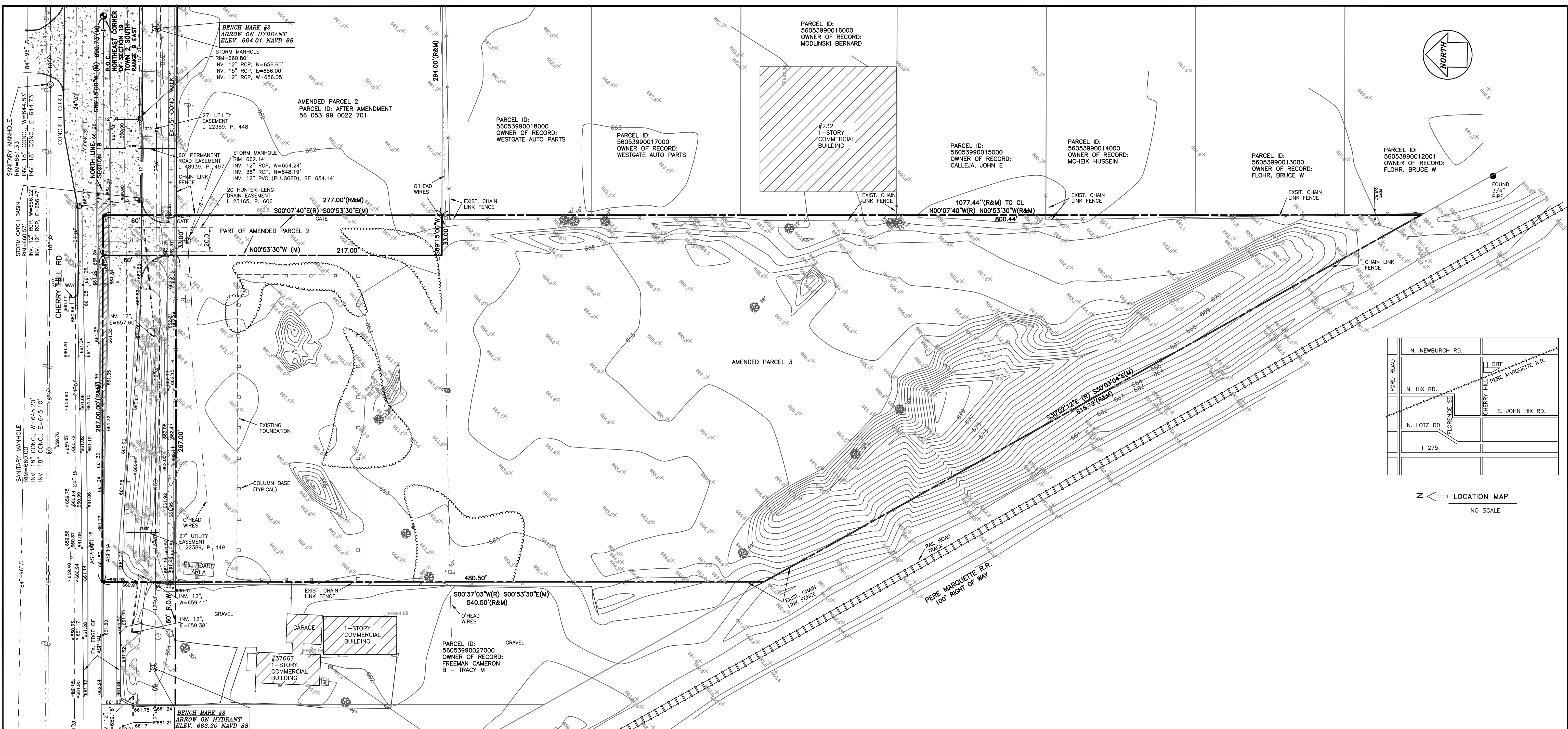
SECTION 19 TOWN 2 SOUTH, RANGE 9 EAST  
CITY OF WESTLAND  
WAYNE COUNTY, MICHIGAN

CLIENT: WESTLAND PRINCIPLES, LLC  
WATER AND SANITARY EASEMENTS  
KINSHIP PROVISIONING AND CULTIVATION  
PART OF THE EAST 1/2 OF

CAD NO. 1210EA01.DWG  
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SHEET 1 OF 1

SEAL  
STATE OF MICHIGAN  
HASSAN M. ODEH  
ENGINEER  
No. 6201037763  
LICENSED PROFESSIONAL ENGINEER

REVISIONS	
DATE:	8/16/2022
DR. BY.	H.M.O
CH. BY.	H.M.O
BOOK NO.	X-
JOB NO.	1210
FILE NO.	C-11



PARCEL ID: AFTER AMENDMENT  
56 053 99 0028 701

AMENDED PARCEL 3: (AFTER LOT SPLIT)

THAT PART OF THE EAST 1/2 OF SECTION 19, TOWN 2, RANGE 9 EAST, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE NORTH LINE OF SAID SECTION DISTANT 589'15"00" W 690.73 FEET FROM THE NORTHEAST CORNER OF SECTION 19 AND PROCEEDING THENCE 589'15"00" W ALONG SAID NORTH LINE 267.00 FEET; THENCE S00°53'30"E 540.50 FEET TO NORTHEASTERLY LINE OF PERE MARQUETTE RAILROAD RIGHT-OF-WAY; THENCE S30°03'04"E ALONG SAID NORTHEASTERLY LINE 615.72 FEET; THENCE N00°53'30"W 800.44 FEET; THENCE S89°15'00"W 33.00 FEET; THENCE N00°53'30"W 277.00 FEET TO THE POINT OF BEGINNING, CONTAINING 5.361 ACRES GROSS (4.993 ACRES NET), MORE OR LESS, SUBJECT TO EASEMENTS AND RESTRICTIONS, RIGHT OF WAY, RECORDED OR OTHERWISE.

BOUNDARY AND TOPOGRAPHIC SURVEY  
PREPARED BY KEM-TEC (800-295-7222)  
PROJECT No: 20-03323 DATED 1/15/2021  
FOR REFERENCE ONLY

**MISS DIG**  
3 FULL WORKING DAYS  
BEFORE YOU DIG,  
OR WORK NEAR OVERHEAD WIRES  
CALL MISS DIG  
1-800-482-7171  
FOR THE LOCATION OF  
UNDERGROUND FACILITIES

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

**NOTE:**  
THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS PLAN ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES AND PROPOSED UTILITIES CROSSINGS IN THE FIELD PRIOR TO CONSTRUCTION. THE VARIOUS UTILITY LINES SHOWN HEREON ARE BASED UPON FIELD DATA WHEREVER POSSIBLE. ADDITIONAL INFORMATION REGARDING UNDERGROUND UTILITIES HAS NOT BEEN AVAILABLE TO US.

**LEGEND:**

EXISTING	PROPOSED

**LANDMARK ENGINEERING CO.**  
Civil Engineering - Land Surveying  
9401 General Dr., Suite 101  
Plymouth, Michigan 48170  
Tel: 248-557-3000  
Fax: 248-557-3059  
Email: landmark@landmarkengineeringco.com

SECTION 19 TOWN 2 SOUTH, RANGE 9 EAST  
CITY OF WESTLAND  
WAYNE COUNTY, MICHIGAN

SCALE 1 INCH = 40 FEET

CLIENT: KINSHIP CANABIS CO  
SITE PLAN  
TOPOGRAPHIC SURVEY BY OTHERS  
KINSHIP PROVISIONING AND CULTIVATION  
PART OF THE EAST 1/2 OF

CAD No. 2010SP01.DWG

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STATE OF MICHIGAN  
HASSAN M. ODEH  
ENGINEER  
No. 6201037763  
LICENSED PROFESSIONAL ENGINEER

11/12/2021  
ADD LANE MARKING  
REVISIONS

2/26/2021  
DR. BY: H.M.O

CH. BY: H.M.O  
BOOK No. -

JOB No. 1210  
FILE No.

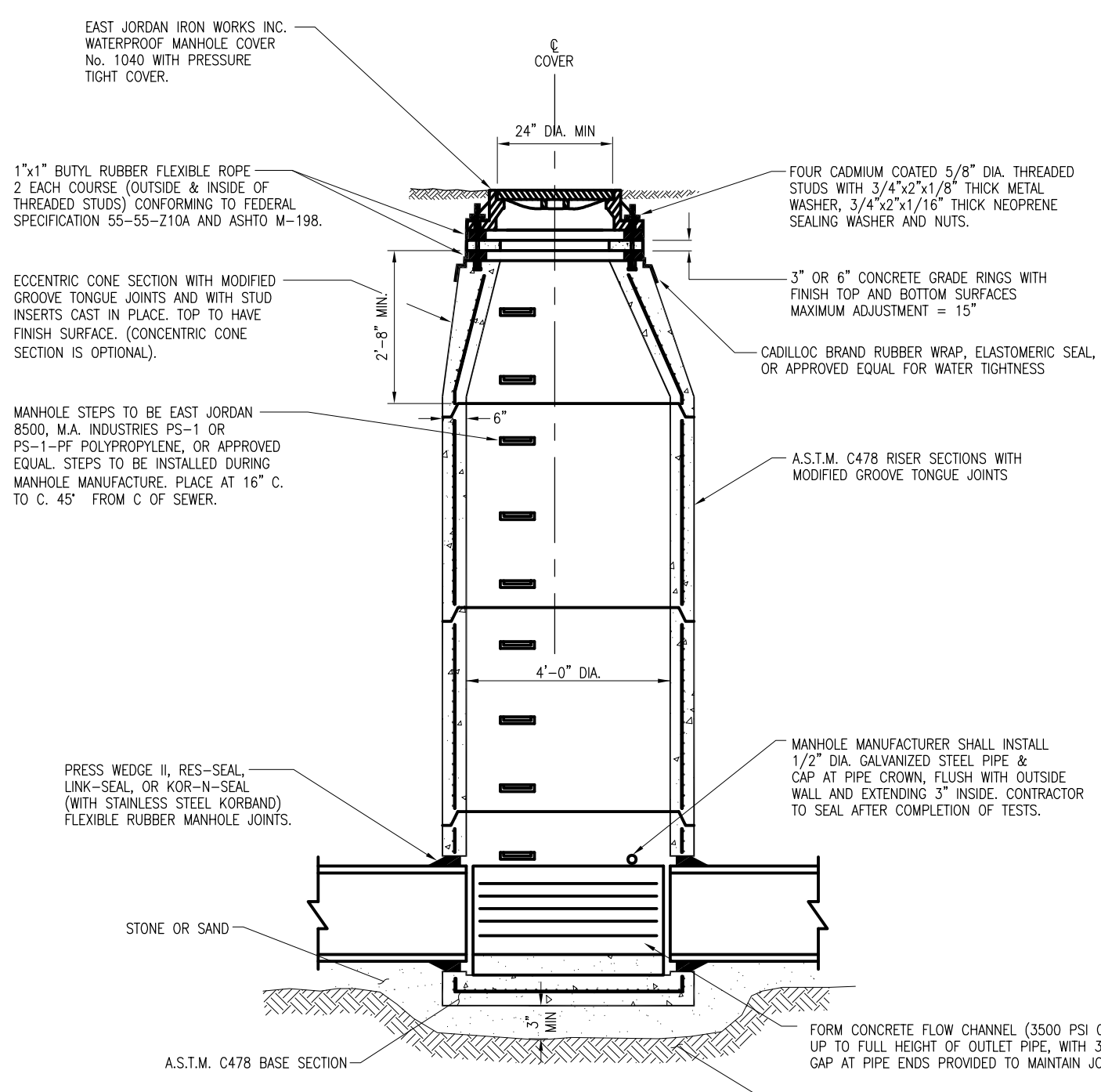
TS-1

BOUNDARY AND TOPOGRAPHIC SURVEY  
PREPARED BY KEM-TEC (800-295-7222)  
PROJECT No: 20-03323 DATED 1/15/2021  
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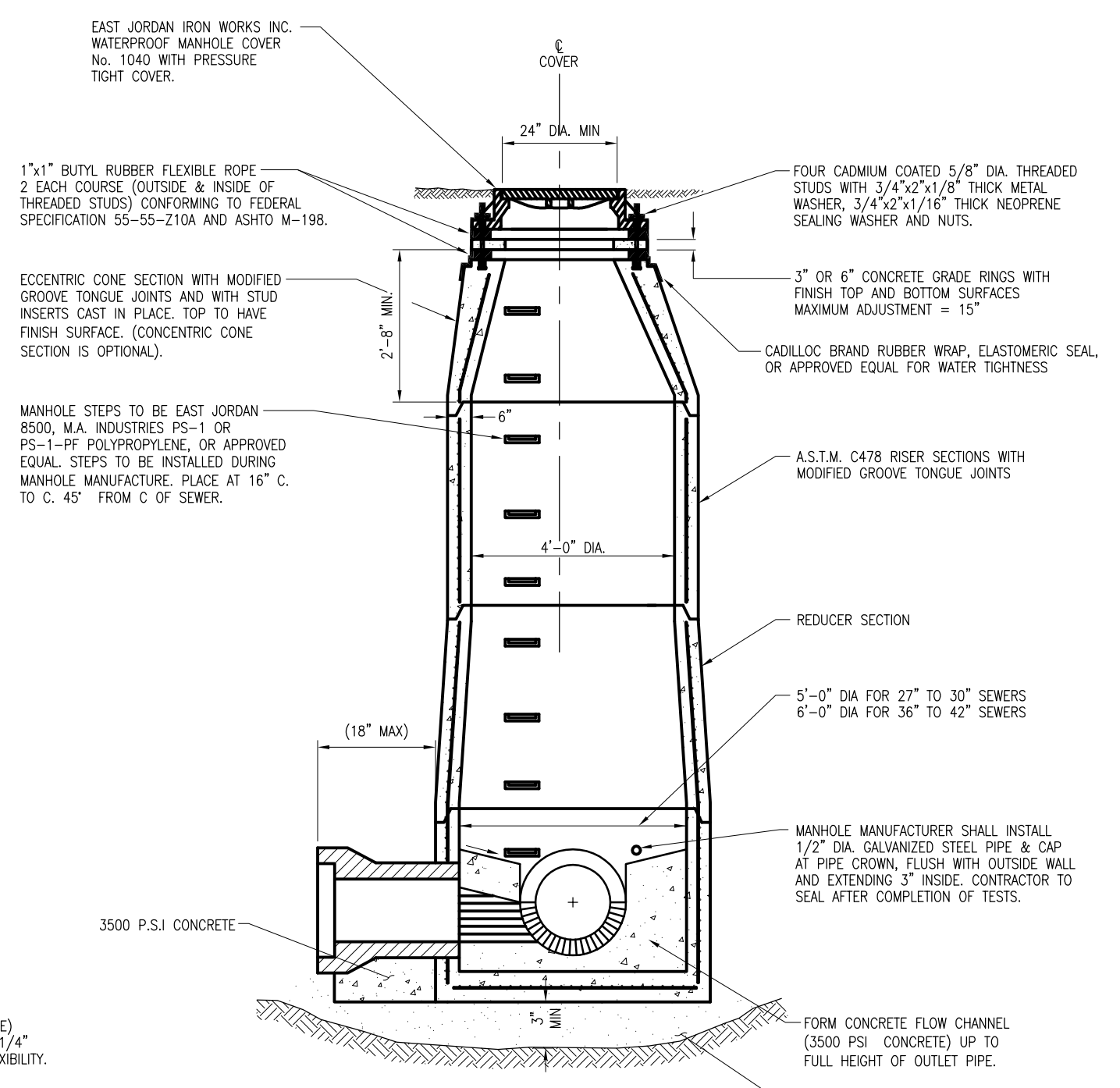


**SANITARY SEWER CONSTRUCTION NOTES**

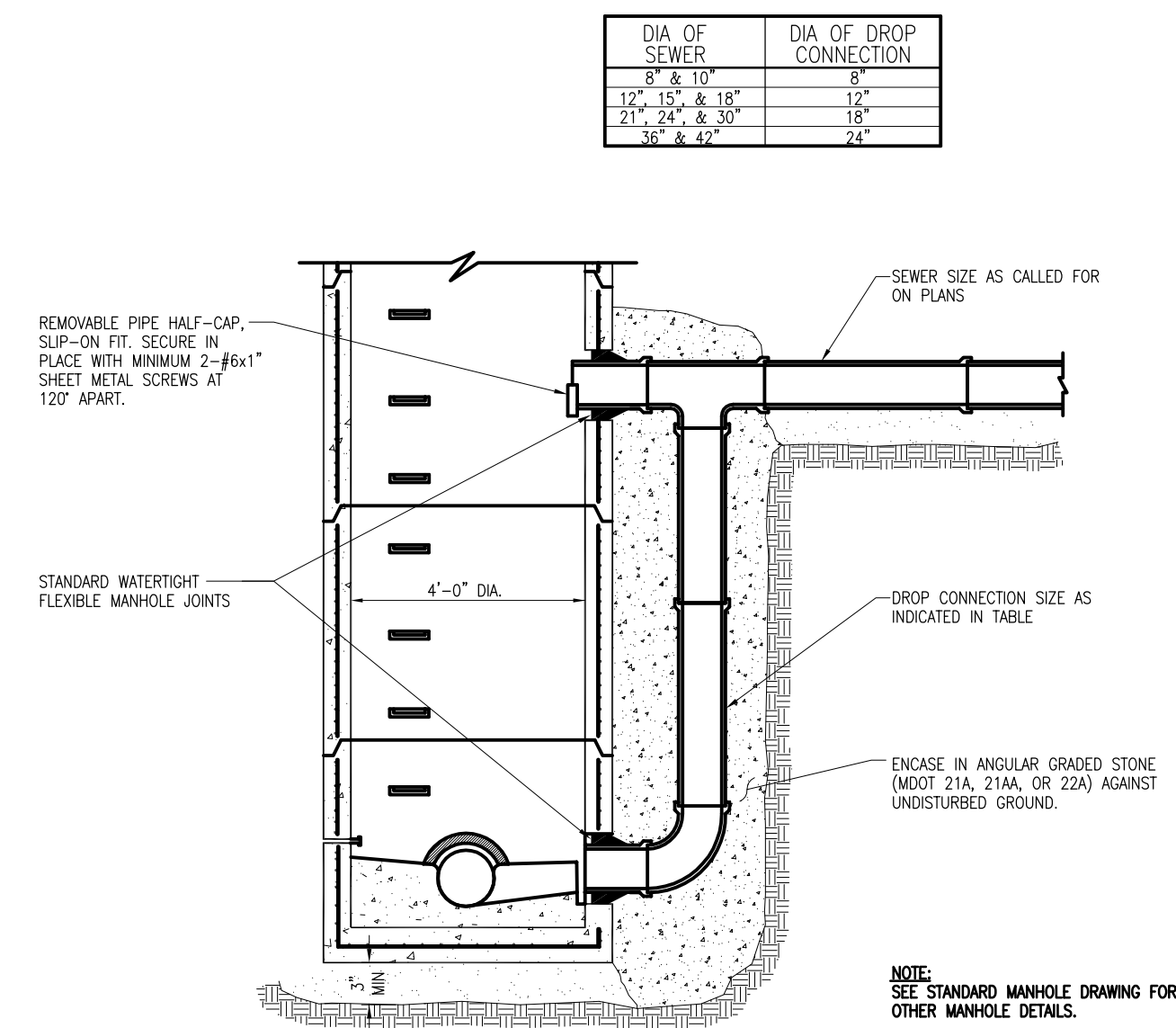
- ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF WESTLAND AND THE WAYNE COUNTY DEPARTMENT OF ENVIRONMENT (W.C.D.O.E.) FACILITIES MANAGEMENT DIVISION. ALL SANITARY SEWER CONSTRUCTION SHALL HAVE FULL TIME INSPECTION DIRECTED BY A PROFESSIONAL ENGINEER PROVIDED BY OR CAUSED TO BE PROVIDED BY THE CITY OF WESTLAND.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ANY NECESSARY INSPECTION PERMITS AND TO COMPLY WITH ANY COUNTY OR CITY REQUIREMENTS. THE SANITARY SEWER CONTRACTOR SHALL NOTIFY THE WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES ENGINEERING DIVISION PERMIT OFFICE AT (734) 595-6504 AT LEAST 48 HOURS PRIOR TO BEGINNING OF CONSTRUCTION. THE CONTRACTOR SHALL ALSO NOTIFY THE CITY OF WESTLAND AT LEAST 3 WORKING DAYS BEFORE THE START OF CONSTRUCTION.
- ALL SANITARY SEWERS AND STUBS SHALL BE SUBJECT TO INFILTRATION/EXFILTRATION OR AIR TESTING. INFILTRATION AND EXFILTRATION FOR ANY SECTION OF SANITARY SEWER BETWEEN MANHOLES SHALL NOT EXCEED 100 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOUR PERIOD PER SECTION 33.9.3 OF THE CURRENT EDITION OF THE RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES. AIR TESTS IN LIEU OF INFILTRATION TESTS SHALL BE AS SPECIFIED BY ASTM TEST F1417 (PLASTIC PIPE) OR C924 (CONCRETE PIPE). FINAL AIR TESTS MUST BE WITNESSED BY CITY PERSONNEL AND MUST BE SCHEDULED IN ADVANCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CITY AND COUNTY CHARGES AND SHOULD CONTACT THEM PRIOR TO BIDDING TO CONFIRM THESE FEES AND CHARGES.
- A VIDEOTAPE (WITH LOG AND LEAD LOCATIONS) SHALL BE SUBMITTED TO AND APPROVED BY THE CITY OF WESTLAND PRIOR TO FINAL SEWER ACCEPTANCE. A VIDEOTAPE SHALL BE PERFORMED A MINIMUM OF 30 DAYS AFTER CONSTRUCTION IS COMPLETED. IN ADDITION, A NINE-POINT MANHOLE TEST IS REQUIRED FOR ALL FLEXIBLE PIPES AND SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 33.8.5b OF THE CURRENT EDITION OF THE RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES. THE COMPLETED INSTALLATION SHALL HAVE NO PIPE DEFLECTIONS GREATER THAN 5%. IF THE PIPE FAILS ANY OF THE REQUIRED TESTS OR VIDEOTAPE REVIEW, THE CONTRACTOR SHALL FIX OR REPAIR THE NONCONFORMITY AT HIS COST. THE CONTRACTOR SHALL THEN RE-TEST AND RE-VIDEOTAPE THE SEWER AT HIS COST UNTIL FINAL ACCEPTANCE OF THE SEWER IS ACHIEVED.
- THREE (3) WORKING DAYS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL TELEPHONE MISS DIG (1-800-482-7171) FOR UNDERGROUND FACILITIES LOCATIONS.
- ALL ELEVATIONS SHALL BE BASED UPON WAYNE COUNTY DATUM (USC&GS)
- AT ALL CONNECTIONS TO AN EXISTING W.C.D.O.E. SEWER OR TO EXTENSIONS THERETO, A WATERTIGHT BULKHEAD WITH A CAPPED 1 INCH DIAMETER PIPE SHALL BE PROVIDED TO PERMIT MEASURING INFILTRATION. A TEMPORARY 12 INCH DEEP SUMP SHALL ALSO BE PROVIDED IN THE FIRST MANHOLE UPSTREAM FROM THE CONNECTION, WHICH WILL BE FILLED IN AFTER SUCCESSFUL COMPLETION OF ANY INFILTRATION TEST UP TO THE STANDARD FILLET PROVIDED FOR THE FLOW CHANNEL.
- ONLY MODIFIED GROOVE TONGUE, ASTM C425, ASTM C443, O-RING, UNILOC, AMVT, NOBEL, RING-TITE, FLUID-TITE OR EQUAL, AS APPROVED BY THE W.C.D.O.E. MAY BE USED FOR SEWER JOINTS. ALL JOINTS SHALL MEET REQUIREMENTS OF ASTM C425 OR C443.
- ALL BUILDING LEADS AND RISERS SHALL BE 6 INCH S.D.R., 23.5 ABS PIPE WITH CHEMICALLY FUSED JOINTS, SCHEDULE 40 PVC WITH RUBBER GASKET JOINT, OR AN APPROVED EQUAL PIPE AND JOINT. SEWER PIPE WYE OPENINGS SHALL CONTAIN FACTORY INSTALLED PREMIUM JOINT MATERIAL OF THE TYPE IDENTICAL TO THAT OF THE BUILDING LEAD PIPE USED. BUILDING LEADS TO BE FURNISHED WITH REMOVABLE AIRTIGHT AND WATERTIGHT STOPPERS.
- ALL SEWER PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE BEDDING DETAILS.
- ALL NEW MANHOLES SHALL HAVE APPROVED FLEXIBLE, WATERTIGHT SEALS WHERE PIPES PASS THROUGH WALLS. MANHOLES SHALL BE PRECAST SECTIONS WITH MODIFIED GROOVE TONGUE AND RUBBER GASKET TYPE JOINTS. PRECAST MANHOLE SECTIONS SHALL BE W.C.D.O.E. APPROVED MODIFIED ECCENTRIC CONE (OR OPTIONAL CONCENTRIC CONE). ALL MANHOLES SHALL BE PROVIDED WITH BOLTED, WATERTIGHT COVERS.
- MANHOLES SHALL BE CONSTRUCTED WITH FLOW CHANNEL WALLS THAT ARE FORMED TO THE FULL HEIGHT OF THE CROWN OF THE OUTLET SEWER. A BENCH SHALL BE PROVIDED ON EACH SIDE OF THE MANHOLE FLOW CHANNEL AND SHALL HAVE A SLOPE OF NOT LESS THAN 0.5 INCHES PER FOOT. (REFER TO SECTIONS 34.4 AND 34.5 OF THE CURRENT EDITION OF THE RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES.)
- WHEREVER EXISTING MANHOLES ARE TO BE TAPPED, THE TAP SHALL BE MADE BY CORING. THE CONTRACTOR SHALL PLACE A KOR-N-SEAL BOOT (OR APPROVED EQUAL) AFTER CORING IS COMPLETED. BLIND DRILLING WILL NOT BE PERMITTED IN LIEU OF CORING.
- AT ALL SEWER CONNECTIONS TO MANHOLES, DROP CONNECTIONS WILL BE REQUIRED WHEN THE DIFFERENCE IN INVERT ELEVATIONS EXCEEDS 18 INCHES. EXTERNAL DROP CONNECTIONS ARE STANDARD. INTERNAL DROP CONNECTIONS WILL ONLY BE ALLOWED FOR DEEP MANHOLE CONSTRUCTION AS APPROVED BY THE CITY.
- THE ELEVATION DIFFERENTIAL OF EXCAVATION AROUND EXISTING MANHOLES MUST NOT EXCEED 6 FEET.
- MANHOLES CONSTRUCTED OR ADJUSTED AS PART OF THE SYSTEM MAINTAINED BY THE CITY OF WESTLAND SHALL BE PROVIDED WITH COVERS READING "CITY OF WESTLAND-SANITARY" PER THE DETAIL.
- NO GROUND WATER, STORM WATER, CONSTRUCTION WATER, DOWNSPOUT DRAINAGE, FOOTING, OR WEEP TILE DRAINAGE SHALL BE ALLOWED TO ENTER ANY SANITARY SEWER INSTALLATION.
- ALL WATER MAIN ENTERING THE EXCAVATIONS OR OTHER PARTS OF THE WORK SHALL BE REMOVED UNTIL ALL THE WORK HAS BEEN COMPLETED. NO SANITARY SEWER SHALL BE USED FOR THE DISPOSAL OF TRENCH WATER.
- 18 INCH MINIMUM VERTICAL SEPARATION AND 10' MINIMUM HORIZONTAL SEPARATION MUST BE MAINTAINED BETWEEN SANITARY SEWER AND WATER MAIN.
- NO CLAY PIPE WILL BE ALLOWED FOR MAIN LINE SANITARY SEWER OR FOR SANITARY SEWER LEADS.
- WHERE SANITARY SEWER CLEANOUTS FALL WITHIN A PAVED AREA (PARKING LOT, SERVICE DRIVE AREA, ETC.), THE CLEANOUT SHALL HAVE A CAST IRON COVER THAT IS CENTERED IN A 2'x2'x6" CONCRETE SLAB HAVING A COMPRESSIVE STRENGTH OF 3000 PSI AT 28-DAY CURE TIME.



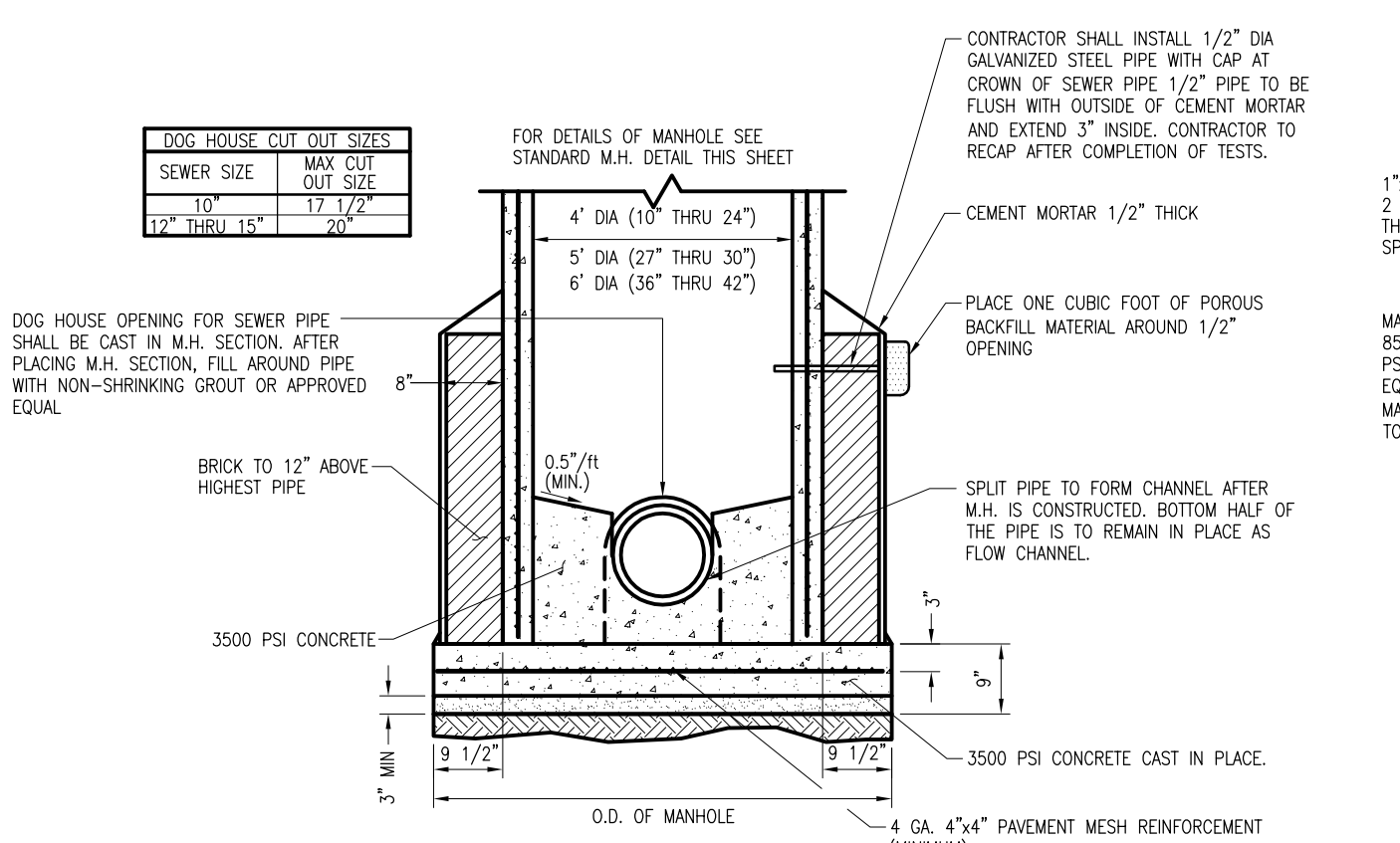
**STANDARD SANITARY MANHOLE FOR 10" THROUGH 24" SEWERS**



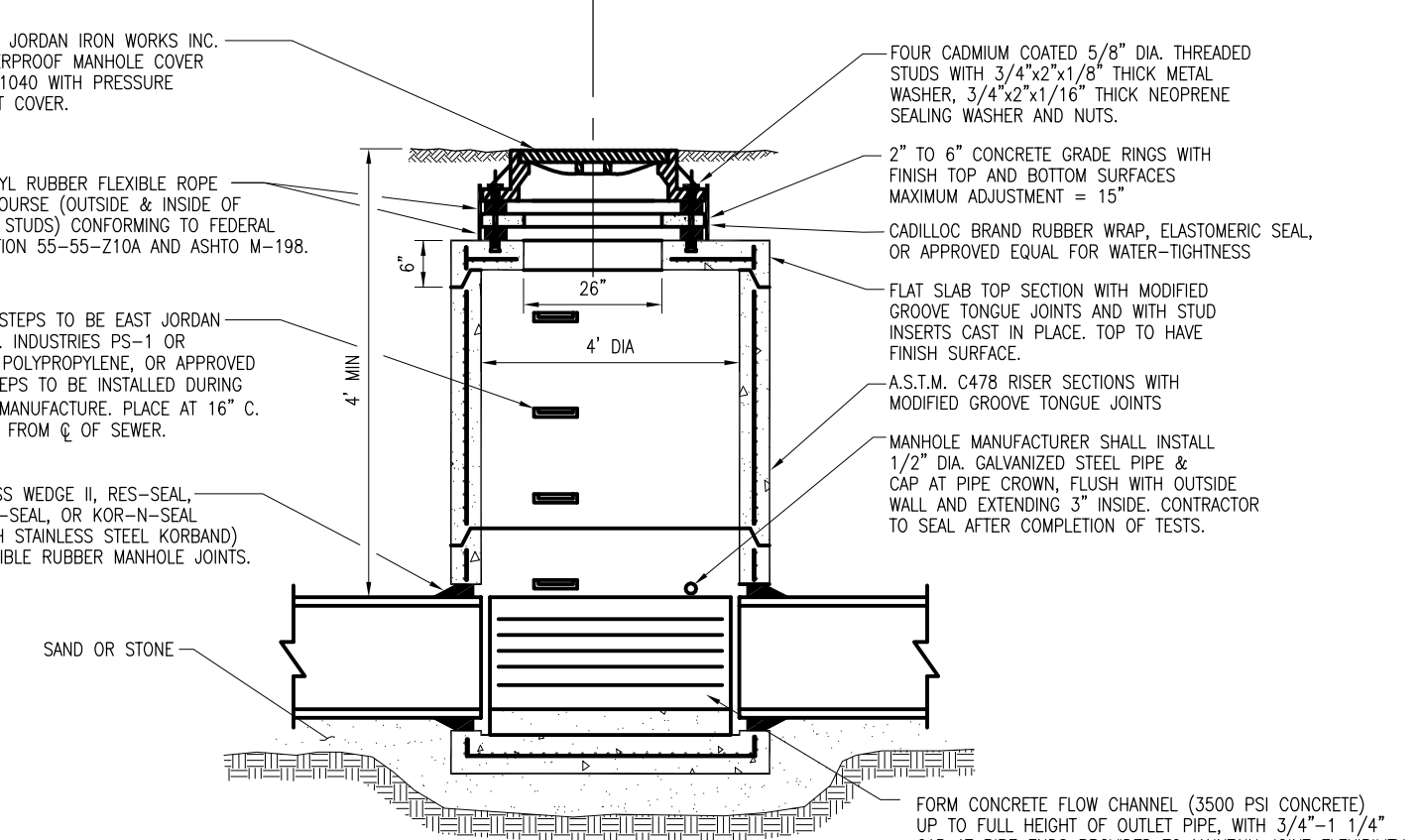
**STANDARD SANITARY MANHOLE FOR 27" THRU 42" SEWERS**



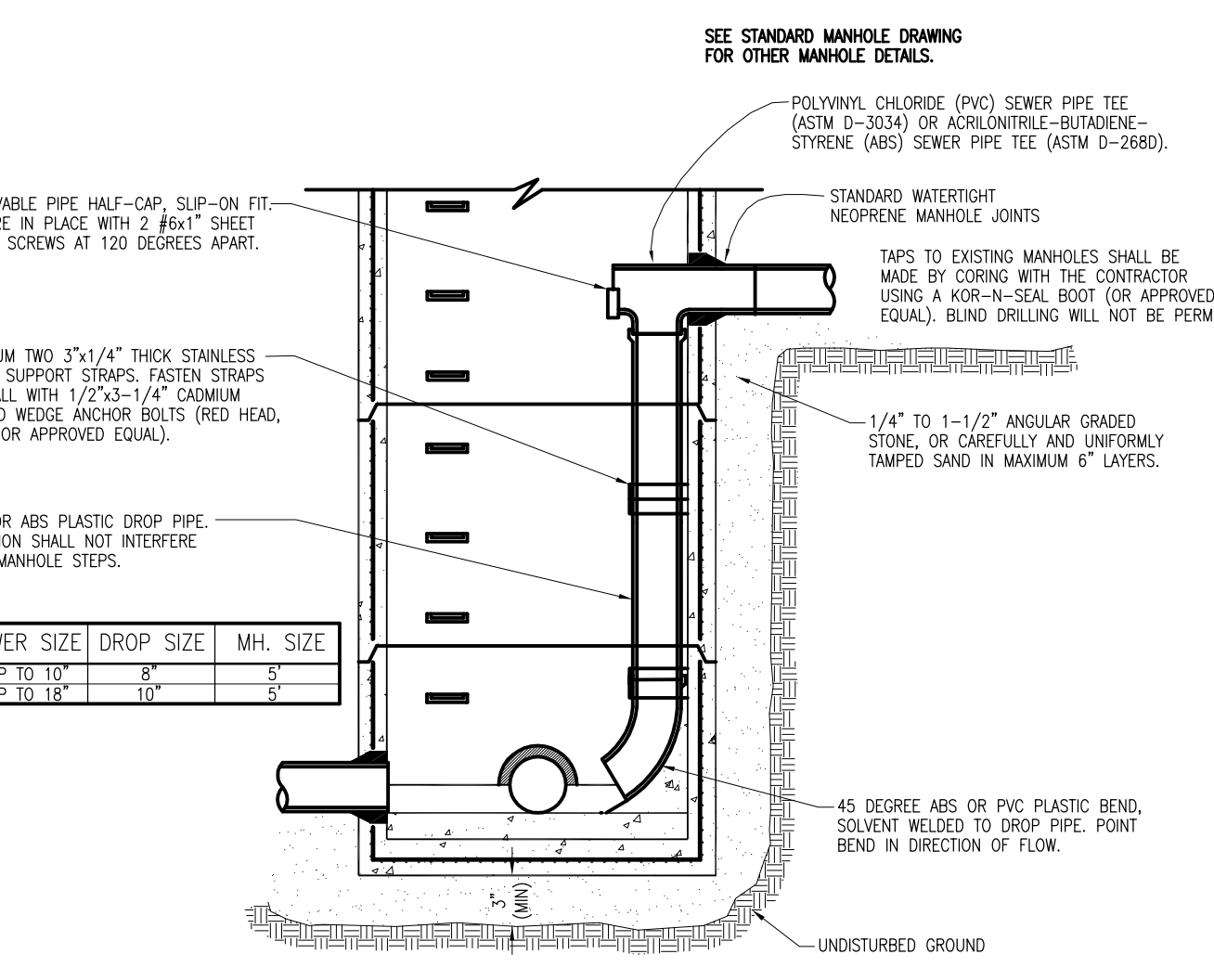
**EXTERNAL DROP MANHOLE CONNECTION**



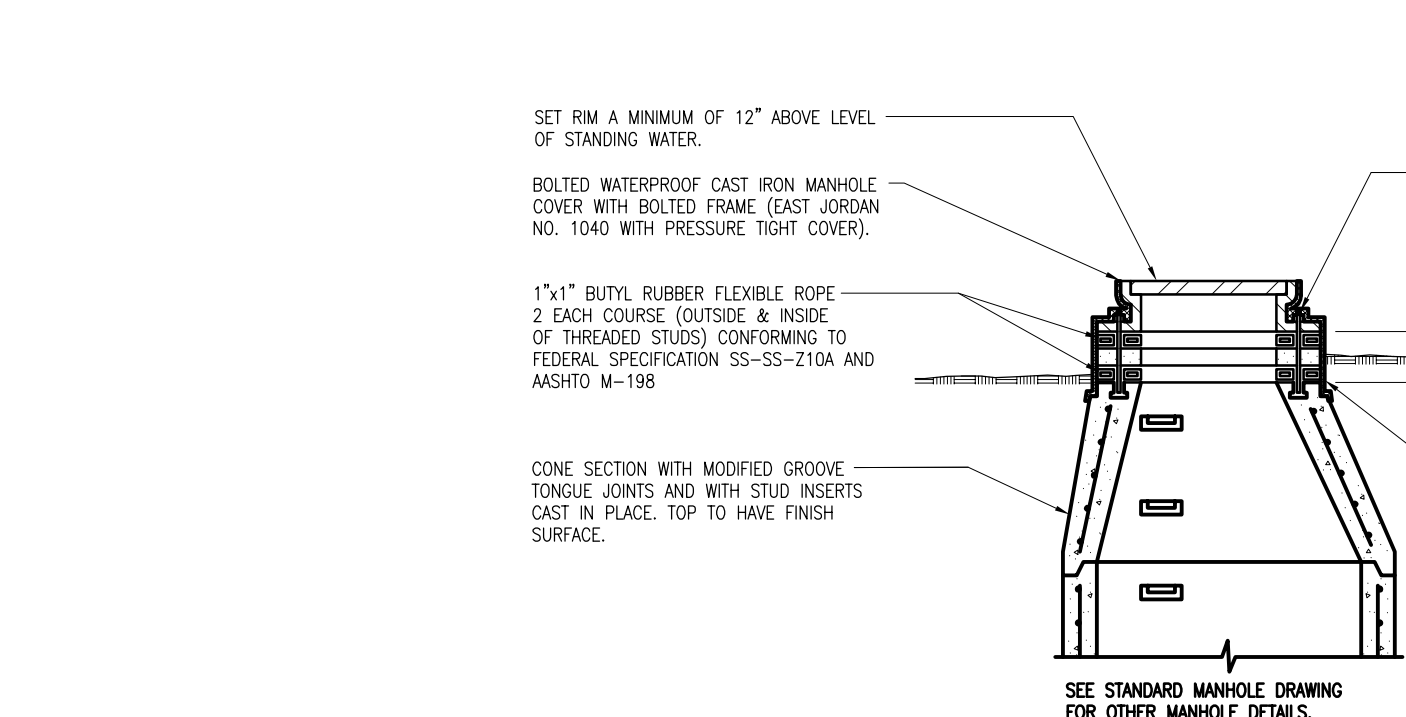
**STANDARD SANITARY MANHOLE ON EXISTING 10" THROUGH 42" DIAMETER SEWERS**



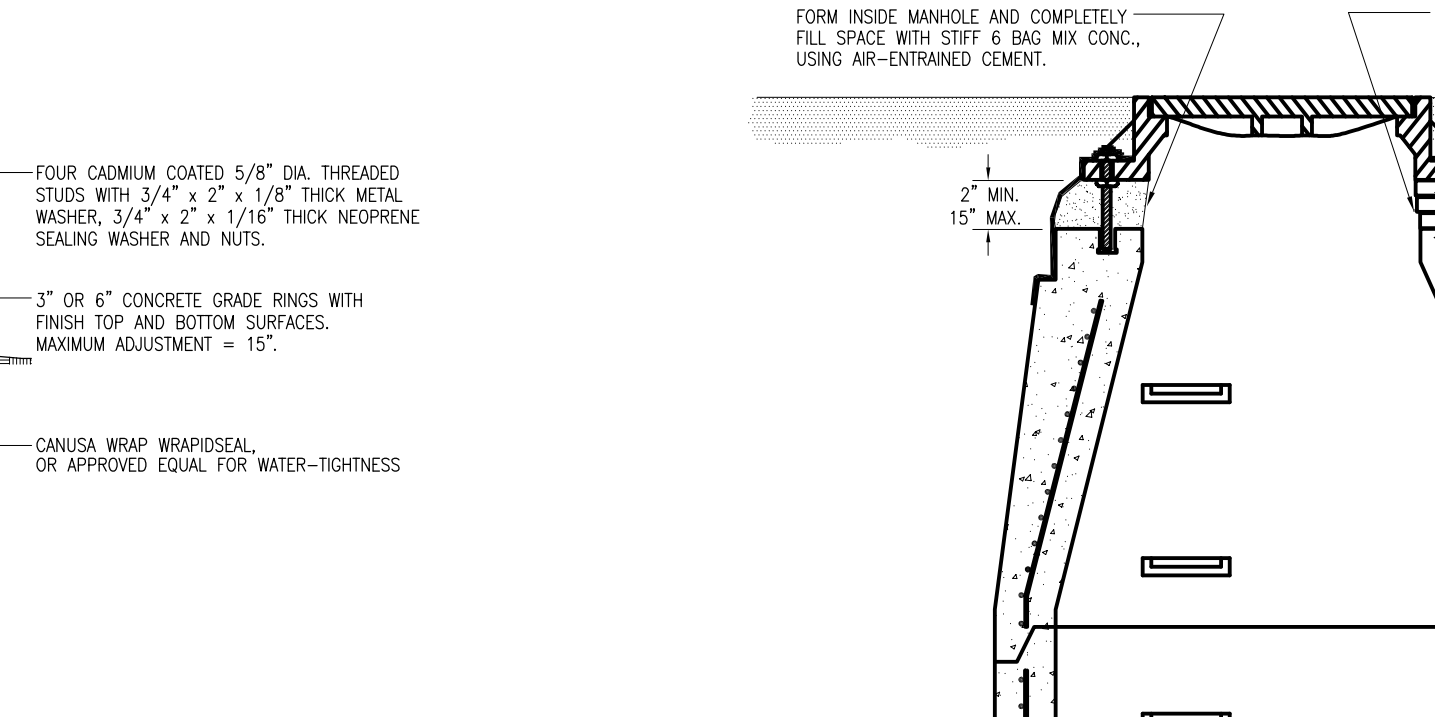
**FLAT TOP MANHOLE FOR SHALLOW MANHOLE INSTALLATIONS**



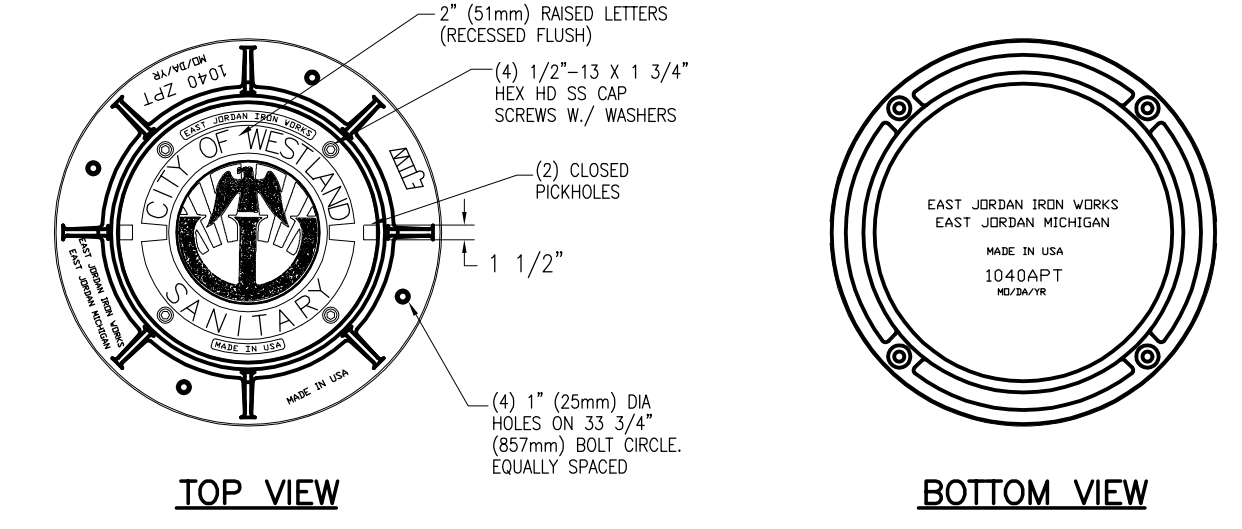
**INTERNAL DROP MANHOLE CONNECTION FOR DROP CONNECTIONS GREATER THAN 20 FEET DEPTH (ONLY AS APPROVED BY CITY OF WESTLAND)**



**CONSTRUCTION DETAILS FOR MANHOLE TOPS WITHIN FLOOD PRONE AREAS**

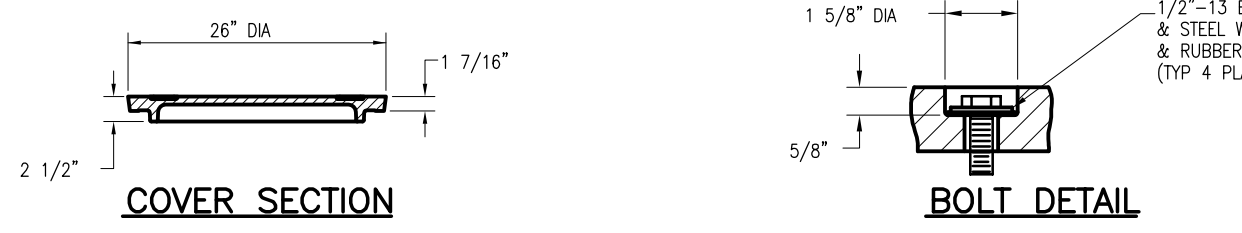


**OPTIONAL CONSTRUCTION DETAILS FOR MANHOLE TOPS WITHIN PAVEMENT AREAS**



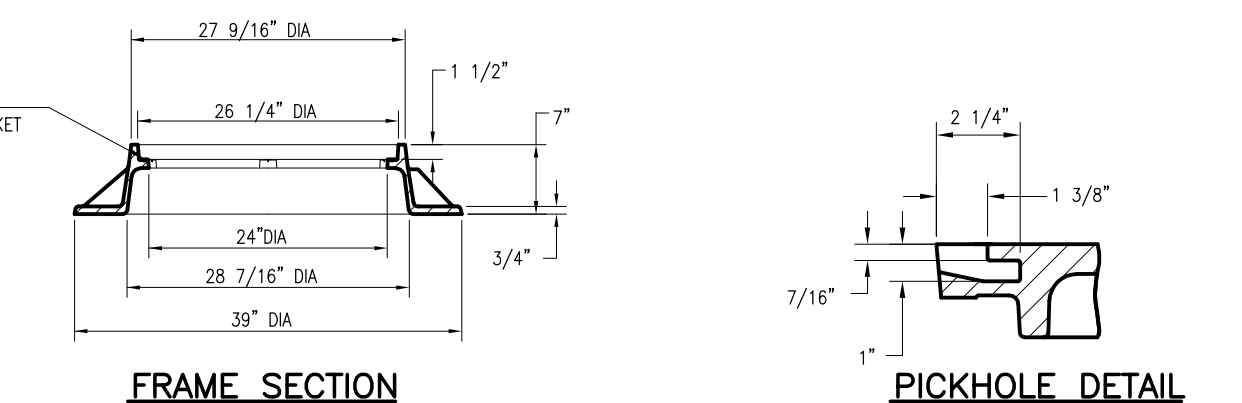
**TOP VIEW**

**BOTTOM VIEW**



**COVER SECTION**

**BOLT DETAIL**



**FRAME SECTION**

**PICKHOLE DETAIL**

**CAST IRON MANHOLE COVER E.J.I.W. 1040 TYPE "A" SOLID COVER**

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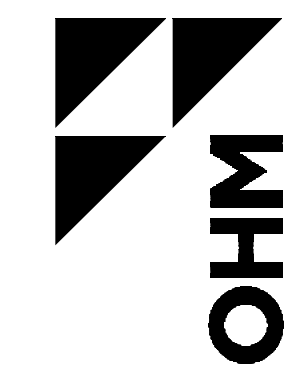
CITY/TOWNSHIP: WESTLAND COUNTY: WAYNE

DATE: MARCH 2005 CADD: KCM/PPR

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CITY OF WESTLAND  
COUNTY WAYNE

DATE: MARCH 2005  
JOB #

SCALE: H: NTS  
V: NTS

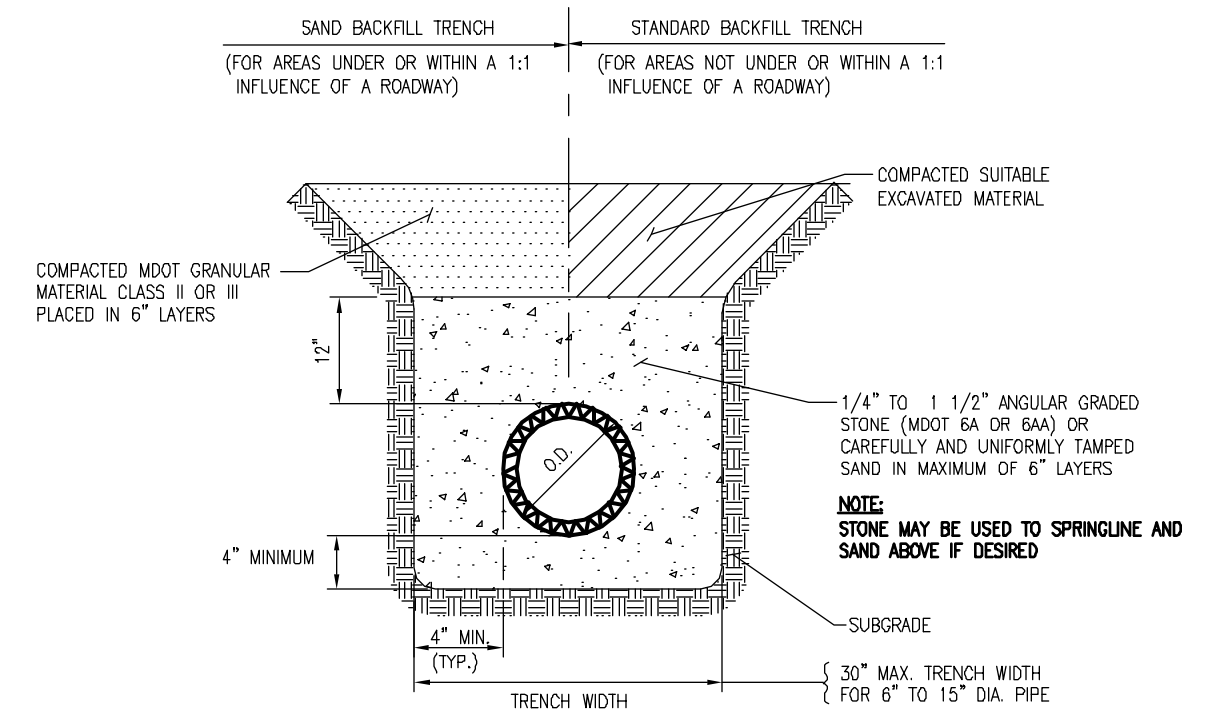
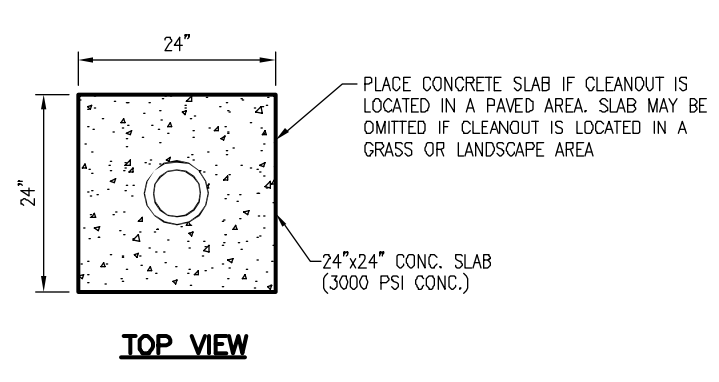
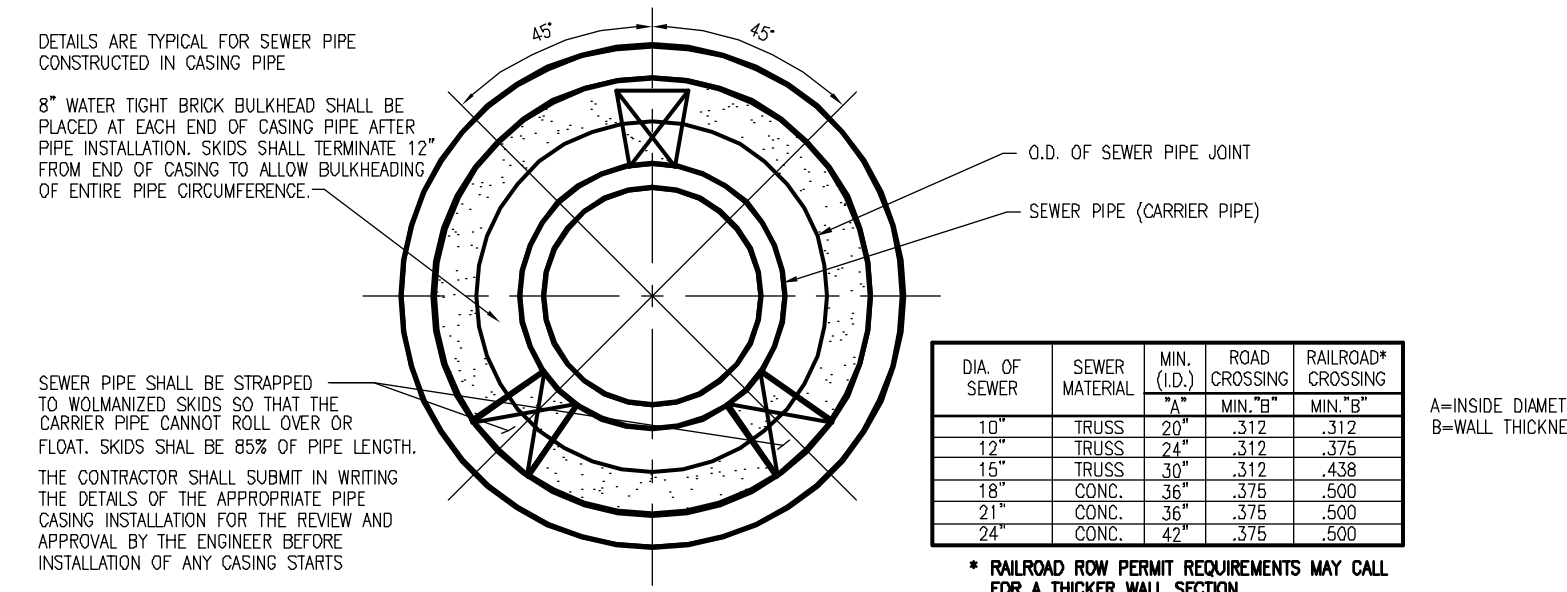
REVISIONS:

DATE: MARCH 2005  
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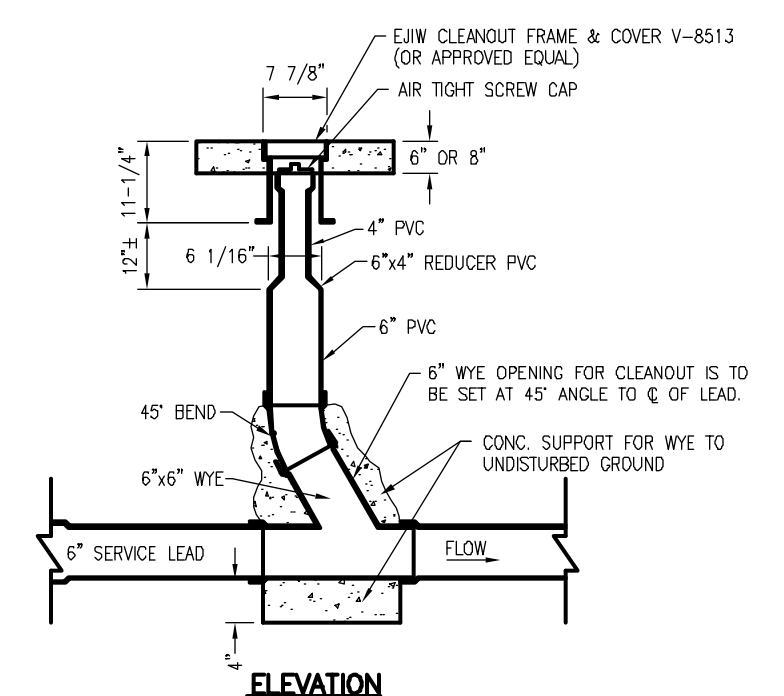
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CITY OF WESTLAND  
STANDARD SANITARY SEWER DETAILS

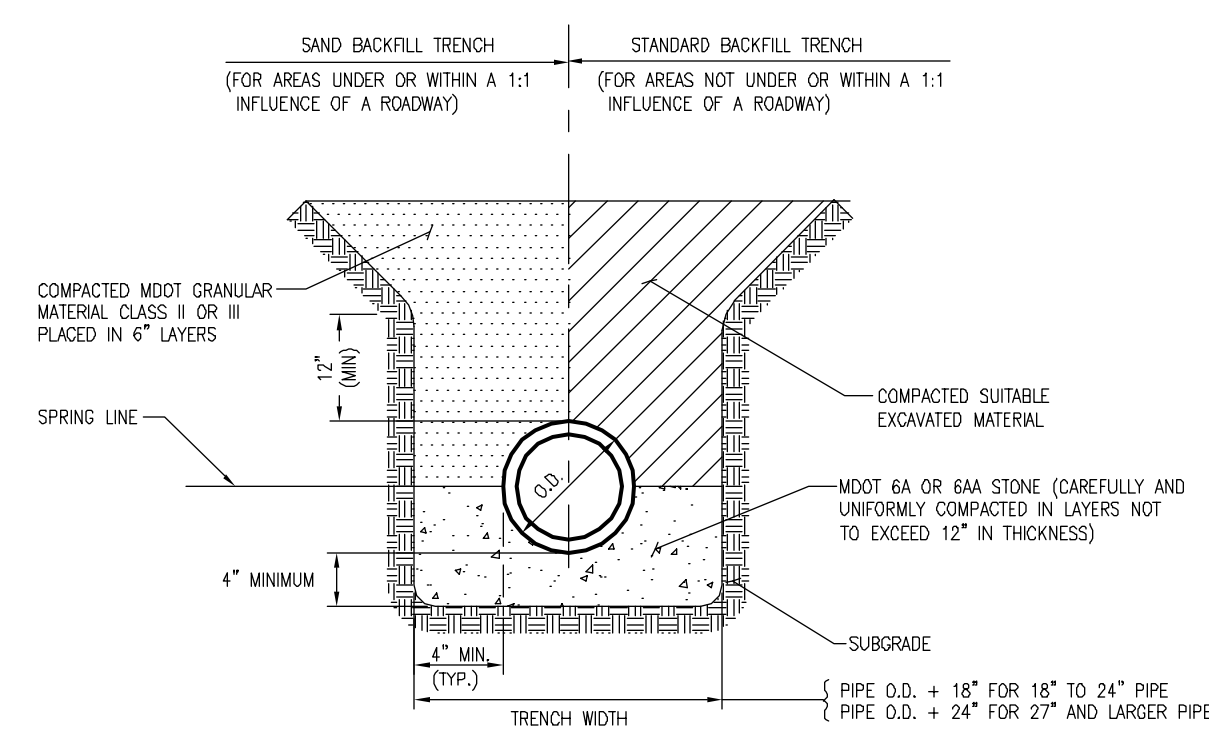
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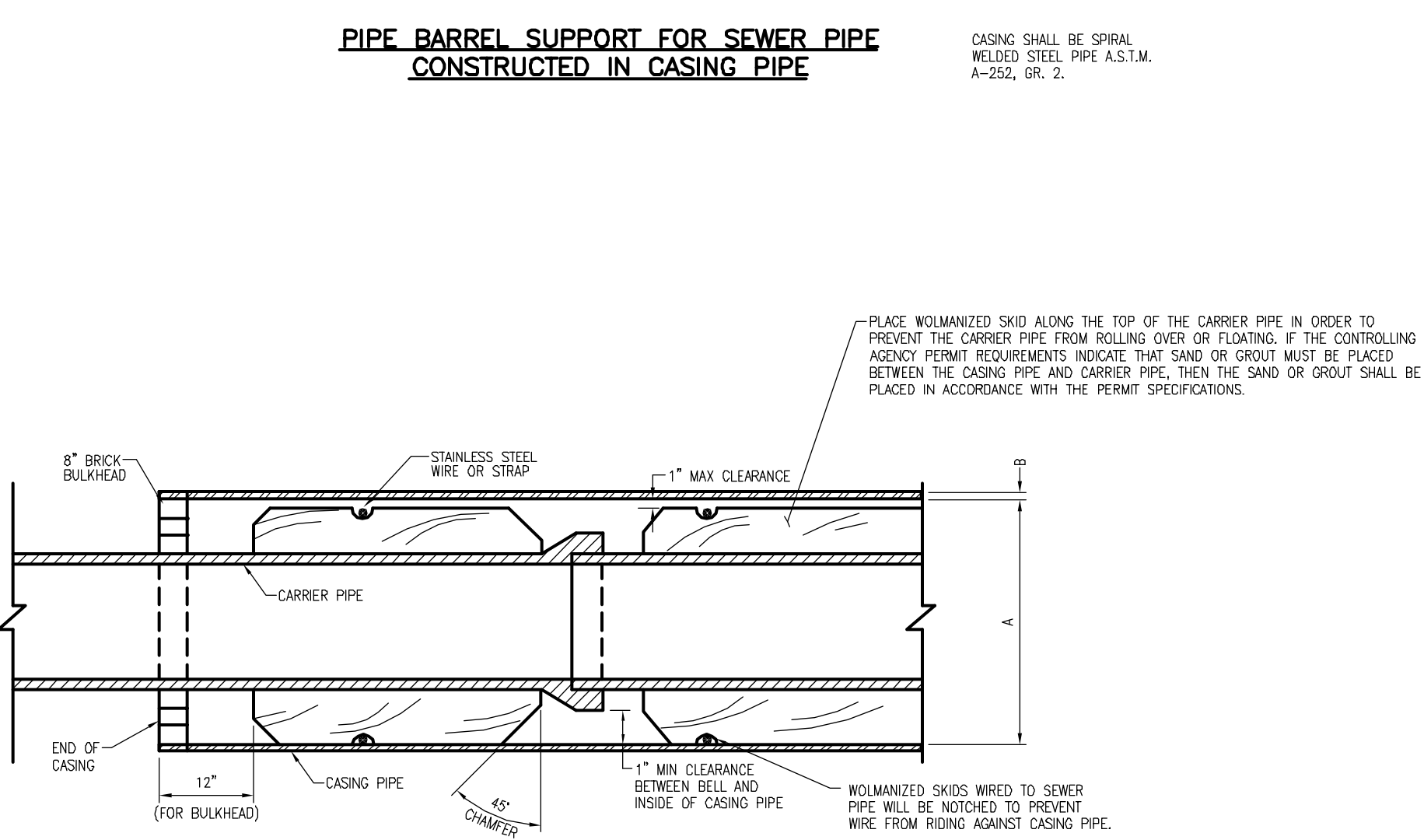
FLEXIBLE PIPE (10" OR 15" DIA ABS TRUSS OR PVC TRASS) STANDARD BEDDING AND TRENCH BACKFILL DETAIL



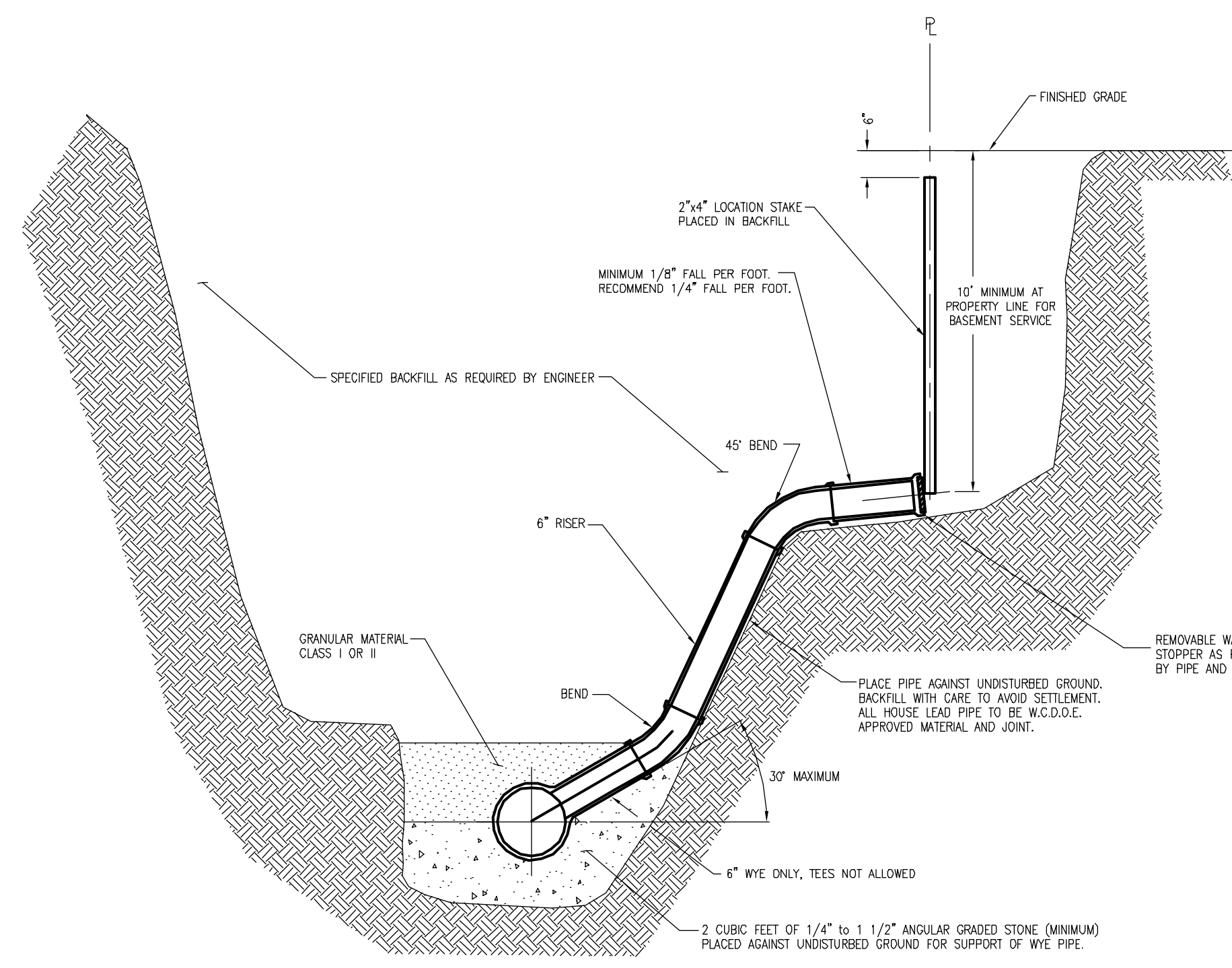
DETAIL OF SANITARY SEWER CLEANOUT



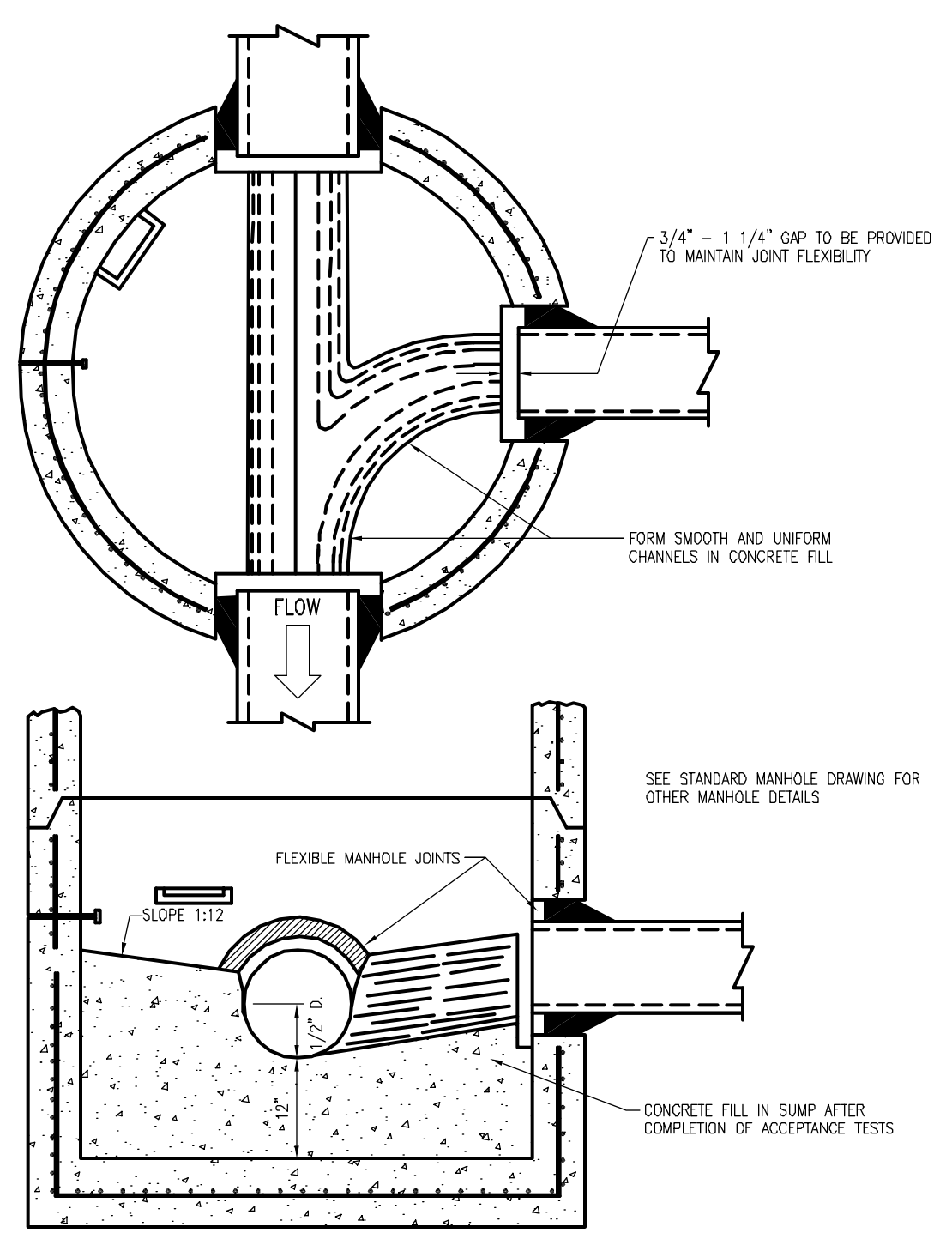
RIGID PIPE (18" DIAMETER AND LARGER CONCRETE) STANDARD BEDDING AND TRENCH BACKFILL DETAIL



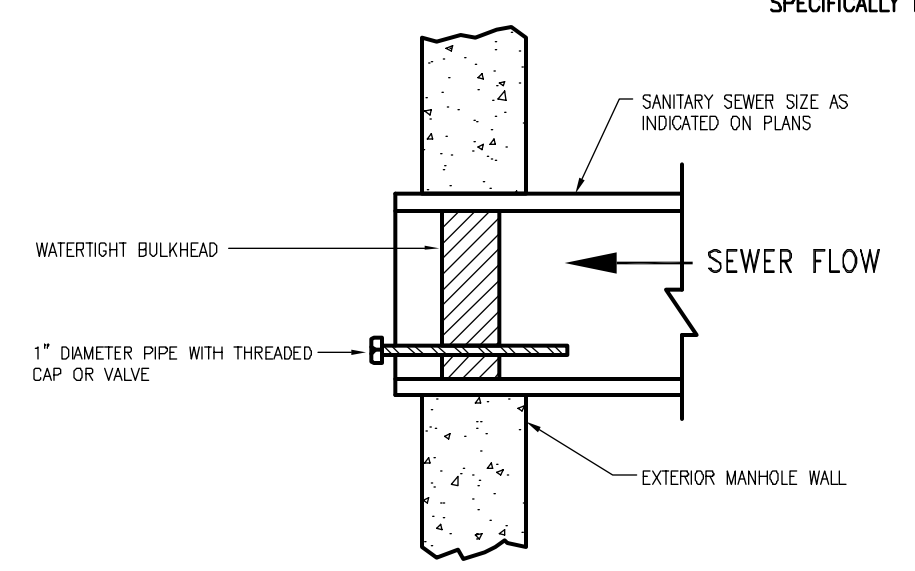
STANDARD CASING SECTION



HOUSE LEAD DETAIL



SUMP MANHOLE FOR TESTING, CLEANING & DEWATERING



BULKHEAD WITH PIPE TAP FOR TESTING

1. MATERIALS AND CERTIFICATIONS

TRUSS PIPE AND FITTINGS SHALL BE AS DESCRIBED UNDER THE CURRENT ASTM DESIGNATION D2680, STANDARD SPECIFICATION FOR ACRYLONITRILE-BUTADIENE-STYRENE (ABS) AND POLY(VINYL CHLORIDE) (PVC) COMPOSITE SEWER PIPING. APPENDIX XI OF SAID SPECIFICATION SHALL BE AS MODIFIED BY THE BEDDING REQUIREMENTS OUTLINED BELOW.

SOLID WALL ABS PIPE FOR 6" HOUSE CONNECTION SEWERS SHALL BE SDR 23.5 CONFORMING TO THE CURRENT ASTM DESIGNATION D2751 STANDARD SPECIFICATION FOR ACRYLONITRILE-BUTADIENE-STYRENE (ABS) SEWER PIPE AND FITTINGS, OR PVC SCHEDULE 40 CONFORMING TO THE CURRENT ASTM DESIGNATION D1785 STANDARD SPECIFICATION FOR POLY(VINYL CHLORIDE) (PVC) PLASTIC PIPE SCHEDULES 40, 80 AND 120. SOLID WALL PIPE SHALL BE INSTALLED IN ACCORDANCE WITH BEDDING REQUIREMENTS OUTLINED BELOW.

ALL PIPE SHALL BE CERTIFIED BY THE MANUFACTURER TO MEET THE APPLICABLE ASTM SPECIFICATION REQUIREMENTS. CERTIFICATION FORMS, TOGETHER WITH A REPORT OF THE TEST RESULTS, SHALL BE PROVIDED TO THE INSPECTOR WITH PIPE DELIVERIES AND COPIES SHALL BE FORWARDED TO THE ENGINEER OR THE OWNER. CERTIFICATION FORMS SHALL INCLUDE PROJECT NAME, LOCATION, CONTRACTOR, AND TEST LOT NUMBER. LOT TESTS SHALL BE ACCEPTABLE TO THE ENGINEER.

ALL PIPE AND FITTINGS SHALL BE SUITABLY MARKED TO PROVIDE MANUFACTURER'S NAME, EXTRUSION CODE (INCLUDING DATE AND LOCATION OF MANUFACTURE), ASTM DESIGNATION, TYPE OF PLASTIC, NOMINAL DIAMETER, AND SDR NUMBER, WHERE APPLICABLE. FITTINGS HOWEVER, NEED NOT CONTAIN THE EXTRUSION CODE. PIPE SHALL HAVE A "HOME" MARK. TRUSS PIPE WITH AN ABSENCE OF FILLER MATERIAL AT THE ENDS GREATER THAN 1/4" DEEP SHALL BE SUBJECT TO REJECTION OR ACCEPTABLE REPAIR.

2. BEDDING

BEDDING FOR TRUSS PIPE AND ABS SOLID WALL PIPE SHALL BE IN ACCORDANCE WITH THE CURRENT ASTM DESIGNATION D2321 AND AS SHOWN IN THE STANDARD BEDDING DETAILS EXCEPT THAT FLOODING OR PUDDING SHALL NOT BE USED. THE USE OF FLEXIBLE AND SEMI-FLEXIBLE PIPE REQUIRES THAT THE BEDDING PROVIDE UNYIELDING SIDE SUPPORT AND COMPLETE CONTACT UNDER PIPE HAUNCHES. BEDDING MATERIAL MUST BE PROPERLY PLACED AND COMPACTED TO PROVIDE LATERAL RESTRAINT AGAINST DEFLECTION IN THE PIPE DIAMETER. PIPE MUST BE BEDDED TO THE TRUE LINE AND GRADE THROUGHOUT ITS LENGTH. BELL HOLES SHALL BE PROVIDED WHERE REQUIRED. BEDDING FOR RIGID PIPE SHALL BE IN ACCORDANCE WITH ASTM DESIGNATION C12.

WHERE UNSTABLE BOTTOMS ARE ENCOUNTERED, THE CONTRACTOR SHALL PROVIDE A FOUNDATION CONSISTING OF AN APPROVED GRADED AND PROCESSED ANGULAR STONE OR GRAVEL TO ACT AS AN IMPERVIOUS MAT TO PREVENT MIGRATION OR VERTICAL MOVEMENT OF UNSTABLE SOILS OR BEDDING MATERIALS. WHERE TRENCH SHEETING, PLATES, OR A TRENCH BOX ARE USED DUE TO SEVERE GROUND CONDITIONS, ALL VOIDS TO THE SIDE AND BELOW THE TOP OF THE PIPE CAUSED BY THE SHEETING, PLATES, OR BOX WITHDRAWAL SHALL BE COMPLETELY FILLED OR THE SUPPORTS LEFT IN PLACE BELOW THE TOP OF THE PIPE.

CONCRETE CRADLE BEDDING SHALL NOT BE USED WHERE ALLOWABLE TRENCH WIDTHS ARE EXCEEDED. IN LIEU OF CONCRETE CRADLE BEDDING, STANDARD PIPE BEDDING SHOWN SHALL BE PROVIDED TO THE FULL WIDTH BETWEEN UNDISTURBED TRENCH WALLS OR AT LEAST 2.5 PIPE DIAMETERS ON BOTH SIDES OF THE PIPE.

DUE TO POTENTIAL DAMAGE TO EXTERIOR WALLS OF TRUSS PIPE IF ROCKS, FROZEN MATERIALS, OR LARGE OBJECTS STRIKE THE PIPE, THE CONTRACTOR SHALL CAREFULLY AVOID DUMPING ANY MATERIALS OTHER THAN APPROVED BEDDING SAND OR STONE ON THE PIPE UNTIL 24" COVER IS PLACED ON IT, PARTICULARLY UNDER COLD WEATHER CONDITIONS. PIPE WALLS AND ENDS SHALL ALSO BE PROTECTED FROM ABRASION AND DAMAGE DURING HANDLING, AND SHALL BE FULLY INSPECTED JUST PRIOR TO PLACING IN THE TRENCH.

CARE SHALL BE TAKEN DURING BEDDING COMPACTION TO AVOID DISTORTING THE SHAPE OF THE PIPE OR DAMAGING ITS EXTERIOR WALL. MOBILE EQUIPMENT SHALL NOT BE USED OVER THE PIPE TRENCH UNTIL 48" OF COVER HAS BEEN PLACED.

FIELD TAPS OF EXISTING SANITARY SEWERS SHALL BE MADE BY INSTALLING A WYE FITTING FOR A HOUSE LEAD CONNECTION. FERNCO FITTINGS WITH STAINLESS STEEL BANDS SHALL BE USED TO SECURE THE WYE FITTING TO THE SANITARY SEWER PIPE. BEDDING FOR HOUSE CONNECTION SEWERS SHALL BE EQUAL TO THAT OF THE MAIN SEWER BEDDING. RISERS IN DEEP AND UNSTABLE TRENCHES SHOULD BE BEDDED IN 6A OR 6AA ANGULAR STONE TO AVOID SETTLEMENT. CONCRETE SHALL NOT BE USED FOR BEDDING. END CAPS OR PLUGS SHALL BE BRACED OR ANCHORED TO WITHSTAND AIR TEST PRESSURES. CAPS OR PLUGS SHALL NOT BE CHEMICALLY WELDED IN PLACE.

3. BACKFILL

BACKFILL SHALL BE COMPACTED ABOVE PIPE OR AS INDICATED ON CONSTRUCTION DRAWINGS. TRENCH BACKFILL SHALL BE A SUITABLE MATERIAL AND SHALL BE FREE OF ANY ORGANIC MATERIALS AND LARGE ROCKS. UNDER ROAD SURFACES, PAVEMENT, SIDEWALKS, CURBS, DRIVEWAYS AND AREAS WHERE TRENCH IS WITHIN A 1:1 INFLUENCE OF THE PAVEMENT, SAND BACKFILL SHALL BE USED WHICH SHALL CONSIST OF MOAT GRANULAR MATERIAL CLASS II OR III COMPACTED IN LAYERS NOT TO EXCEED 12" IN THICKNESS TO A DENSITY OF 95% AS DETERMINED BY ASHTO T99. ALL BACKFILL PLACED WITHIN 3' OF STRUCTURES SHALL BE APPROVED SAND, PLACED IN 1' LAYERS AND COMPACTED. TRENCHES WHICH ARE TO BE LEFT OPEN OVERNIGHT SHALL BE ENCLOSED WITH SUITABLE FENCING AND LIGHTED BARRICADES, UNLESS OTHERWISE APPROVED BY THE CITY.

4. CHEMICALLY WELDED JOINTS

JOINTS FOR ABS TRUSS PIPE SHALL BE CHEMICALLY WELDED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION AND THE CURRENT ASTM DESIGNATIONS D2680 AND D2325. ADDITIONALLY, ALL EXPOSED ENDS OF TRUSS PIPE SHALL BE FULLY AND THOROUGHLY COATED WITH PLASTIC JOINTING CEMENT PRIOR TO MAKING JOINTS SO AS TO SEAL ENDS AND ELIMINATE THE POSSIBILITY OF FALSE LOW PRESSURE AIR TESTS. CARE SHALL BE TAKEN TO INSURE ALL JOINTS ARE PUSHED TO THE FULL "HOME" POSITION AND HELD TIGHTLY IN THE "HOME" POSITION DURING ANY GRADE OR LINE ADJUSTMENTS. PIPE SHALL BE ROTATED DURING JOINT INSERTION TO INSURE A COMPLETE SPREAD OF JOINTING CEMENT. ABS PLASTIC CEMENT PRIMER AND ABS PLASTIC PIPE CEMENT SHALL ARRIVE AT THE JOB SITE IN SEALED AND LABELED CONTAINERS. "JOHNNY MOP" OR SIMILAR SWAB TYPE APPLICATORS SHALL BE USED TO APPLY PRIMER AND CEMENT. OPENED CONTAINERS IN THE TRENCH SHALL BE PROTECTED FROM DIRT, WATER, AND OTHER CONTAMINANTS.

5. ELASTOMERIC GASKET JOINTS

JOINTS FOR PVC TRUSS PIPE AND FITTINGS SHALL BE OF THE ELASTOMERIC GASKET PUSH-ON TYPE. SUCH JOINTS SHALL CONFORM TO THE CURRENT ASTM DESIGNATION D3212 AND THE PIPE MANUFACTURER SHALL FILE WITH THE CITY OF WESTLAND A COPY OF CERTIFIED TEST RESULTS OF ITS JOINTING SYSTEM PRIOR TO USE. GASKET JOINTS SHALL BE INSTALLED IN ACCORDANCE WITH PROCEDURES SPECIFIED BY THE PIPE MANUFACTURER, SUCH THAT THE GASKET WILL BE COMPRESSED (NOT DISPLACED) IN THE JOINT TO FORM A POSITIVE SEAL. CARE SHALL BE TAKEN TO INSURE ALL JOINTS ARE PUSHED TO THE FULL "HOME" POSITION AND HELD TOGETHER IN THE "HOME" POSITION DURING ANY GRADE OR LINE ADJUSTMENTS.

CUTTING AND HANDLING

CUTTING OF PIPE LENGTHS, WHERE REQUIRED, SHALL BE PERFORMED WITH TOOLS OR EQUIPMENT THAT WILL PROVIDE A NEAT, PERPENDICULAR CUT WITHOUT DAMAGE TO THE PLASTIC OR THE FILLER MATERIAL. BOWING OR WARPING OF TRUSS PIPE CAN OCCUR WITH TEMPERATURE FLUCTUATIONS. THE CONTRACTOR SHALL STORE AND PROTECT THE PIPE TO MINIMIZE BOWING. NOMINAL 12" OR LONGER PIPE LENGTHS HAVING DEVIATIONS FROM STRAIGHT GREATER THAN 1", AS MEASURED ALONG A STRAIGHT LINE, SHALL NOT BE USED.

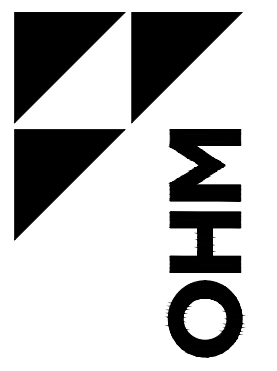
7. SPECIAL CONDITIONS

TO MAINTAIN THE FLEXIBILITY OF THE PIPE MATERIALS, CONCRETE ENCASEMENT OF DROP CONNECTIONS SHALL NOT BE USED. DROP CONNECTIONS SHALL BE ENCASED IN ANGULAR GRADED STONE (MOOT 21A, 21AA, OR 22A). WHERE ADAPTORS TO OTHER MATERIALS ARE REQUIRED, ONLY APPROVED ADAPTORS AND JOINTS MAY BE USED. WHERE THE CONNECTIONS ARE MADE TO EXISTING MANHOLES, A RUBBER WATERSTOP SHALL BE USED AROUND THE PIPE.

"AS-BUILT" PLANS SHALL BE PROVIDED TO THE CITY OF WESTLAND BY THE ENGINEER AND "AS-BUILT" PLANS SHALL SPECIFICALLY DESIGNATE WHERE ABS TRUSS OR PVC TRUSS SEWER PIPE WAS INSTALLED.

AT ALL CONNECTIONS TO AN EXISTING SEWER OR EXTENSIONS THEREOF, A WATERSTOP BULKHEAD WITH A CAPPED, 1 INCH DIAMETER PIPE TO PERMIT MEASURING INFILTRATION SHALL BE PROVIDED. A TEMPORARY 12 INCH DEEP SUMP SHALL ALSO BE PROVIDED IN THE FIRST MANHOLE UPSTREAM FROM THE CONNECTION WHICH WILL BE FILLED AFTER SUCCESSFUL COMPLETION OF ANY INFILTRATION TEST UP TO THE STANDARD FILLET PROVIDED FOR THE FLOW CHANNEL.





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CITY OF WESTLAND  
STANDARD STORM SEWER DETAILS

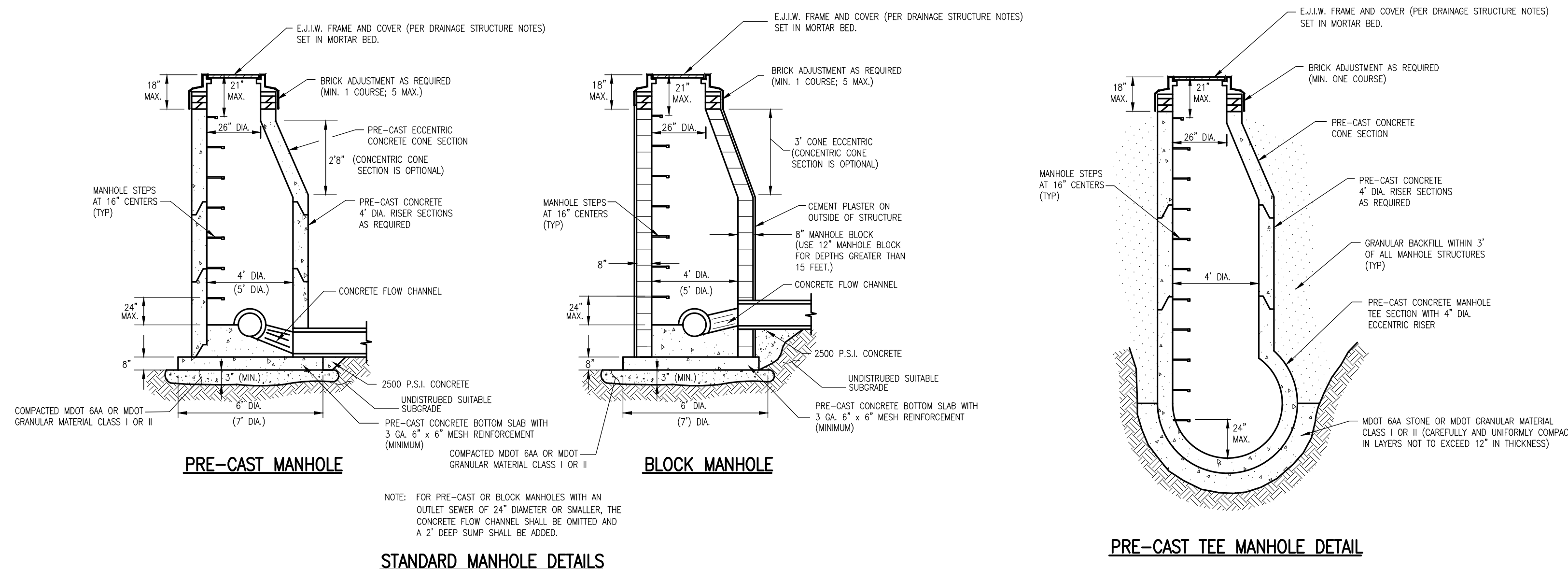
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### GENERAL NOTES FOR STORM SEWER CONSTRUCTION

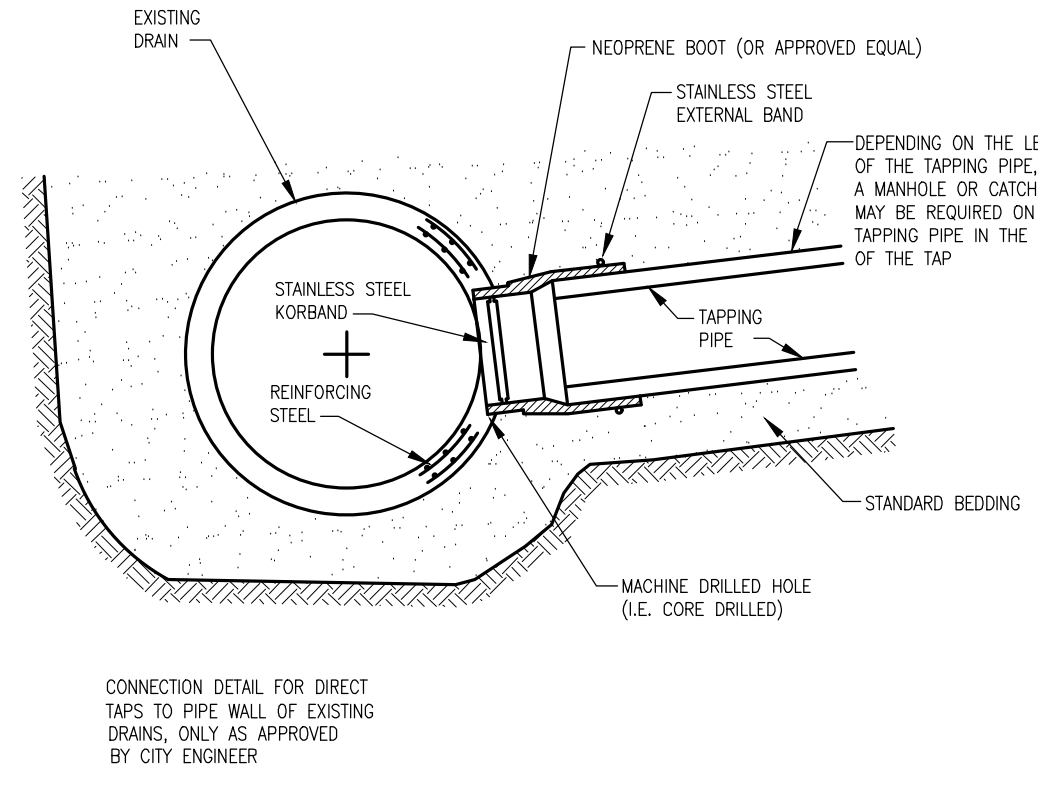
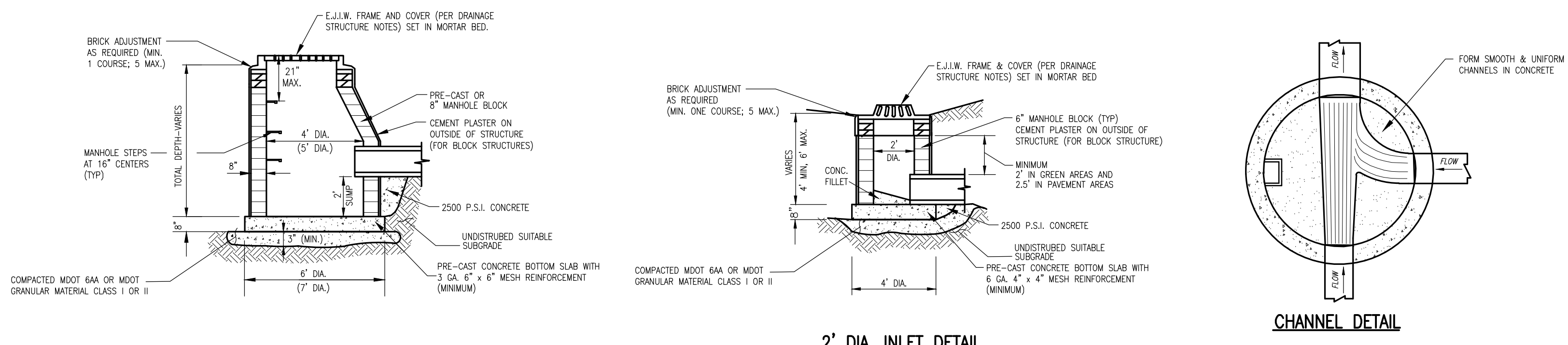
- All materials and workmanship shall be in accordance with the standards and specifications of the City of Westland.
  - Type and class of pipe shall be as specified on plans.
  - Bedding shall be used as called for on the details.
  - All end sections 18" and larger shall be provided with a galvanized bar screen.
- Contractor shall construct manholes with precast reinforced concrete in lieu of concrete, brick and block manholes in accordance with the following conditions:
  - No openings shall be made in precast units which would leave less than 12" of undisturbed precast structure wall between pipes (as measured between outside pipe walls) or would remove more than 40% of the circumference along any horizontal plane.
  - Structures for sewers larger than 18", or those not meeting the opening requirements, may be built of block or brick up to a minimum of 8" above the top of sewer, with precast units being used above this point. Where precast units rest on the block or brick, the groove in the precast unit shall be filled with mortar.
  - Openings for the outlet sewer shall be precast with a diameter of 3 inches larger than the outside diameter of the outlet pipe. All other openings shall be made in the field after the manhole has been constructed.
- All vertical openings in concrete block structure walls shall be completely filled with mortar. All vertical wall joints shall be cement pointed.
  - Concrete pipe requirements:
    - The contractor shall provide reinforced concrete pipe as specified on the plans.
    - All round reinforced concrete pipe shall meet the requirements of ASTM C76 with modified grooved tongue and rubber gasket meeting the requirements of ASTM C443.
    - All elliptical reinforced concrete pipe shall meet the requirements of ASTM C507 with tongue and grooved joints with bituminous (Dowit #10) joint material meeting the requirements of C443. Elliptical concrete pipe joints shall also be wrapped per ASTM C877 for external sealing bands for non-circular concrete pipe. In addition, elliptical concrete pipe of 42" equivalent size and larger shall require inside concrete pointing.
    - The inside joints of round pipe over 27" diameter shall be pointed with mortar upon completion of backfilling operations.
    - Where unstable ground conditions are encountered, stone bedding shall be used as directed by the Engineer in order to provide a stable foundation for pipe and manholes.
    - All pipes entering or leaving a manhole shall be adequately supported by pouring 250 psi concrete fill from undisturbed earth to springline or with approved crushed aggregate.
- HDPE pipe requirements:
  - Large diameter HDPE storm sewer may be used for underground storm water detention systems if approved by the City, depending on site conditions.
  - All HDPE storm sewer pipe that is used for underground storm water detention shall have a smooth interior.
  - HDPE pipe shall meet the requirements of ASTM M294 and D3350 with push-on type joints meeting the requirements of ASTM D3212 and F477.
- Pipe bedding and backfilling:
  - Bedding shall extend a minimum of 4" below pipe, unless otherwise noted on construction plans. Bedding shall be uniform in gradation. However, if the existing native soils meet the requirements for MDT granular material Class II (minimum 4" thick), then the storm sewer may be laid directly on the compacted native subgrade soils.
  - Backfill shall be compacted above pipe or as indicated on construction drawings. Trench backfill shall be of a suitable material and shall be free of any organic materials and rocks larger than 3" in size. Backfill shall be ramped into trench and compacted with a small dozer or other approved methods. Where trench is within a 1:1 influence of streets, alleys, sidewalks, driveways and parking areas, sand backfill shall be used which shall consist of MDT granular material Class II or III compacted in layers not to exceed 12" in thickness to a density of 95% as determined by AASHTO T99. All backfill placed within a 1:1 influence of structures shall be approved sand, placed in 1" layers and compacted. No frozen material shall be buried more than 4" below the final elevation of the ground.
  - Trenches which are to be left open overnight shall be enclosed with suitable fencing and lighted barricades, unless otherwise approved by the City.
- Sump pump lead requirements:
  - Sump pump leads shall be SDR 35, non-perforated, solid wall, PVC, ARMO Truss Pipe, or approved equal, with premium joints.
  - Sump collection system pipes shall be connected at drainage structures. However, if approved by the engineer, taps to 12" storm sewer may be made with a Fernco EZ Tap or approved equal. Taps to other size storm sewer may be made with a Romac saddle, KOR-N-TEE lateral connector for concrete pipe, or approved equal.
  - All sump pump leads shall be taken to the property line, easement line or as indicated on the plan.
  - Sump pump cleanouts shall be a minimum inside diameter of 24" and be constructed at changes of alignment, ends of sump pump mains or as indicated on the plan.

### DRAINAGE STRUCTURE REQUIREMENTS:

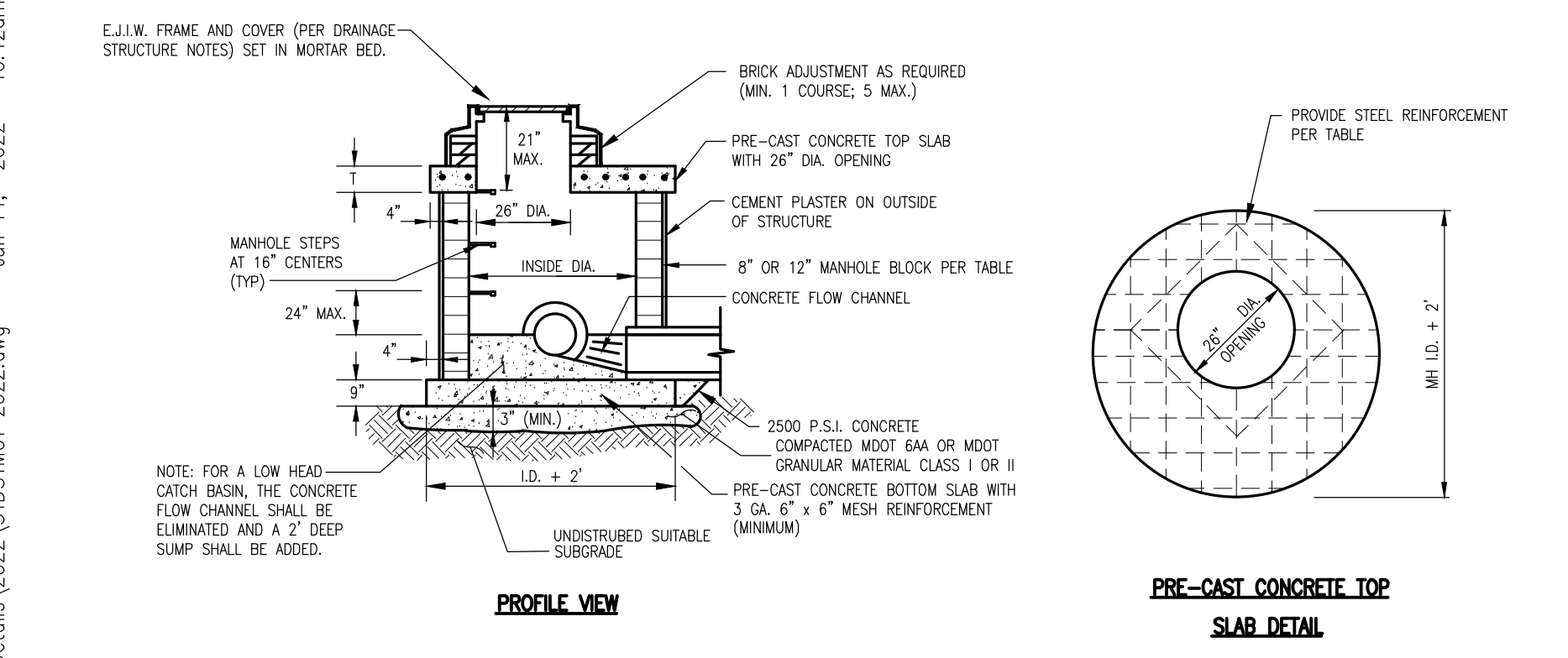
- All manholes and catch basins shall be 4' or 5' in diameter unless otherwise indicated on construction drawings. Larger diameter drainage structures (6", 7", 8", 10", 12" diameter) may be needed for large storm sewer pipe or for situations where the angles between entering pipes require a larger diameter structure in order to maintain at least 1' of structure wall between the pipes. 2' diameter inlets may be used where approved by the City Engineer.
- Manhole and catch basin steps shall be steel, encased with polypropylene plastic or approved equivalent. Acceptable steps include M.A. Industries, Inc., PSI-375 or East Jordan Iron Works 8502. Manhole steps shall be set at 16" centers.
- Manhole frame and cover shall be East Jordan Iron Works 1040, type "B" perforated cover or as per construction drawings.
- Catch Basin and inlet frame and cover shall be:
  - East Jordan Iron Works 5080, type "M2" sinusoidal cover for areas with straight face or integral curb and gutter.
  - East Jordan Iron Works 1040, type "M" cover for low points in paved parking areas.
  - East Jordan Iron Works 1040, type "O1" cover (beehive) to be used in open ditches and swales.
  - East Jordan Iron Works 1040, type "N" cover (low beehive) to be used for low points in lawn areas or rear yards.
- Manhole and Catch Basin Frames shall be set in full bed of mortar and the side shall be overlapped to prevent leakage.
- A proper channel shall be constructed within the existing manhole or other structure at which the connection is to be made in order to direct the flow to the existing outlet in a manner which will tend to create the least amount of turbulence. The channel shall be constructed to the same size as the inside diameter of the existing pipes, and shall be built to height of 1/3 the existing pipe diameter with a minimum of 2% slope on the benches.
- Standard Brick Adjustment: minimum of one course and a maximum of 5 courses of brick.
  - All bricks and blocks used for adjustment shall be concrete.
  - Block used for standard catch basins and manholes shall be 8" (for 0'-15" deep) and 12" (for 15'-25" deep). Block used for 2' diameter inlets and catch basins shall be 6".
  - Precast reinforced concrete section as minimum shall conform to ASTM C-478.
  - Concrete base for manhole, catch basin, and inlet shall be MDT grade 30P (Min.), 8" thick, 3000 psi.
- Plaster all outside masonry surfaces with 1:2 1/2 masonry cement (type II) 1/2" thick.
- When tapping into an existing structure, a brick collar shall be placed 12" thick around the pipe and extended 12" beyond the opening. If pre-cast section is tapped, bend mesh and use as reinforcement with brick collar.
- All precast riser(s) shall be placed in a full bed of mortar. All joints & liffholes shall be pointed up with mortar on the outside and inside.
  - All vertical and horizontal bars shall be tack-welded to the angle frame.
  - The bar grate screen shall be hot-dipped galvanized after fabrication is complete.
- Hinged bar grates will be required for headwalls per MDT standards.



### STANDARD MANHOLE DETAILS



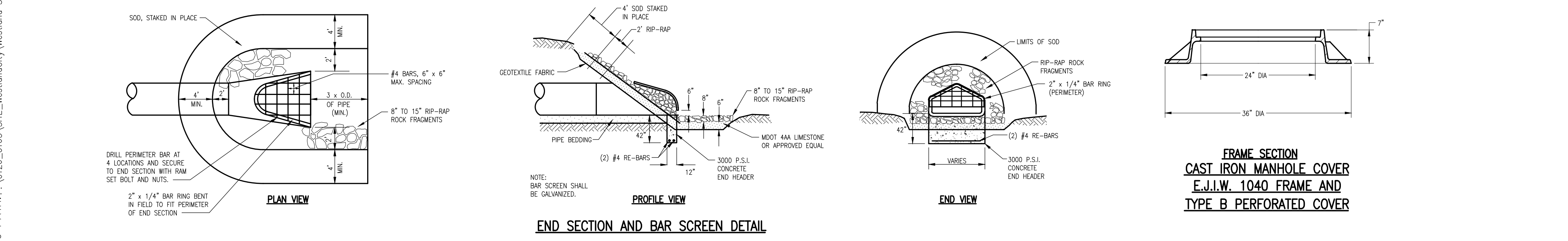
### KOR-N-TEE TAP FOR CONCRETE PIPE



### LOW HEAD MANHOLE AND CATCH BASIN DETAIL

OUTLET PIPE DIA.	M.H. I.D.	TOP SLAB 11"	M.H. BLOCK	TOP SLAB 11"
24"	4'	9"	8"	#6 @ 9" EA. WAY
30"	4'	9"	8"	#6 @ 9" EA. WAY
36"	4'	9"	12"	#6 @ 9" EA. WAY
42"	5'	10"	12"	#6 @ 9" EA. WAY
48"	6'	11"	12"	#7 @ 9" EA. WAY
54"	7'	12"	12"	#7 @ 9" EA. WAY
60"	8'	12"	12"	#8 @ 9" EA. WAY

STEEL REINFORCEMENT TABLE

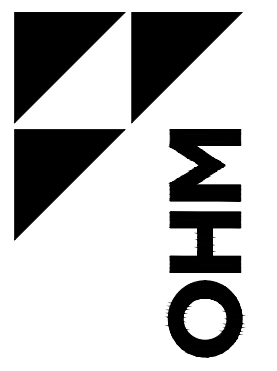


### FRAME SECTION CAST IRON MANHOLE COVER E.J.W. 1040 FRAME AND TYPE B PERFORATED COVER

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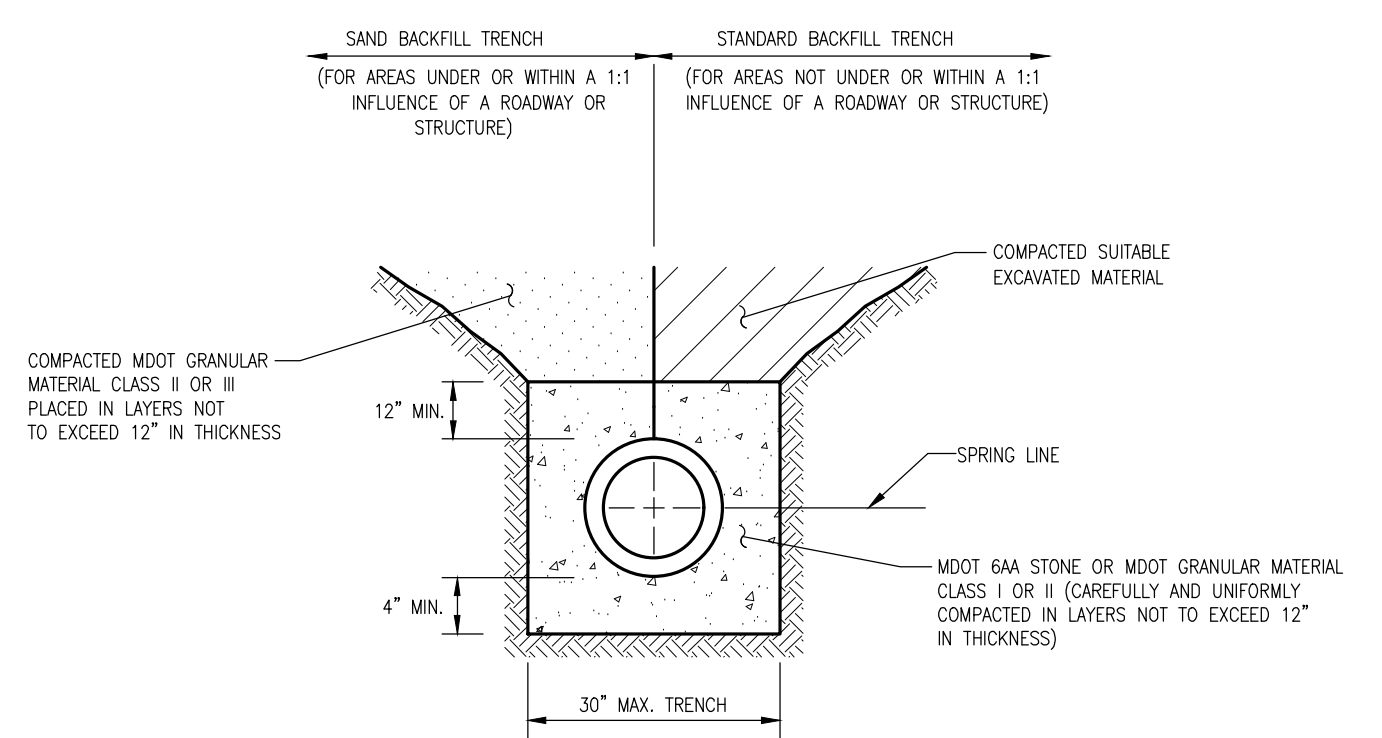




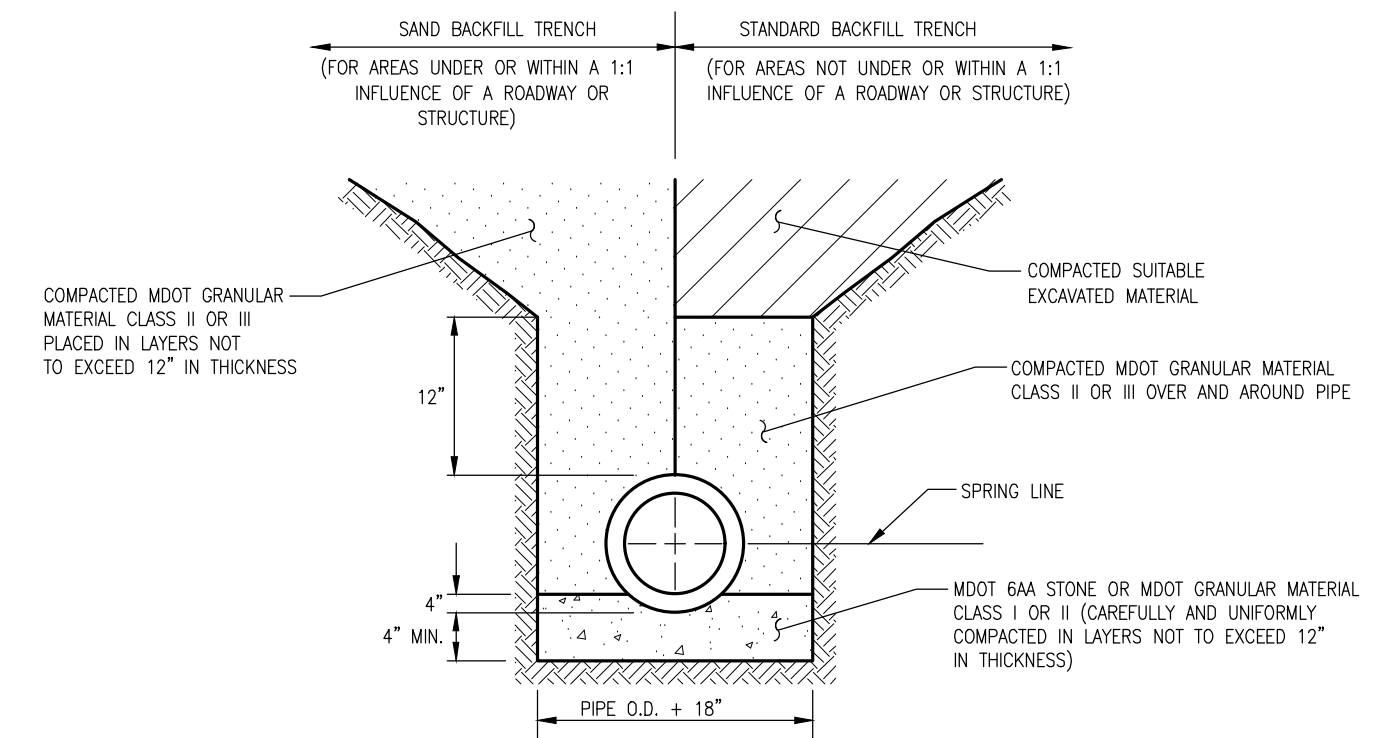
CITY/TOWNSHIP: WESTLAND COUNTY: WAYNE  
 SCALE: V: NTS H: NTS  
 CITY/TOWNSHIP: WESTLAND COUNTY: WAYNE  
 PROJECT: 34000 Plymouth Road Livonia, MI 48150 | P (734) 522-6711 | F (734) 522-6427 WWW.OHM-ADVISORS.COM  
 DATE: JUN 2022  
 DRAWN BY: KC/PR/AM  
 CHECKED BY: [blank]  
 REVISIONS: [blank]

CITY OF WESTLAND  
 STANDARD STORM SEWER DETAILS

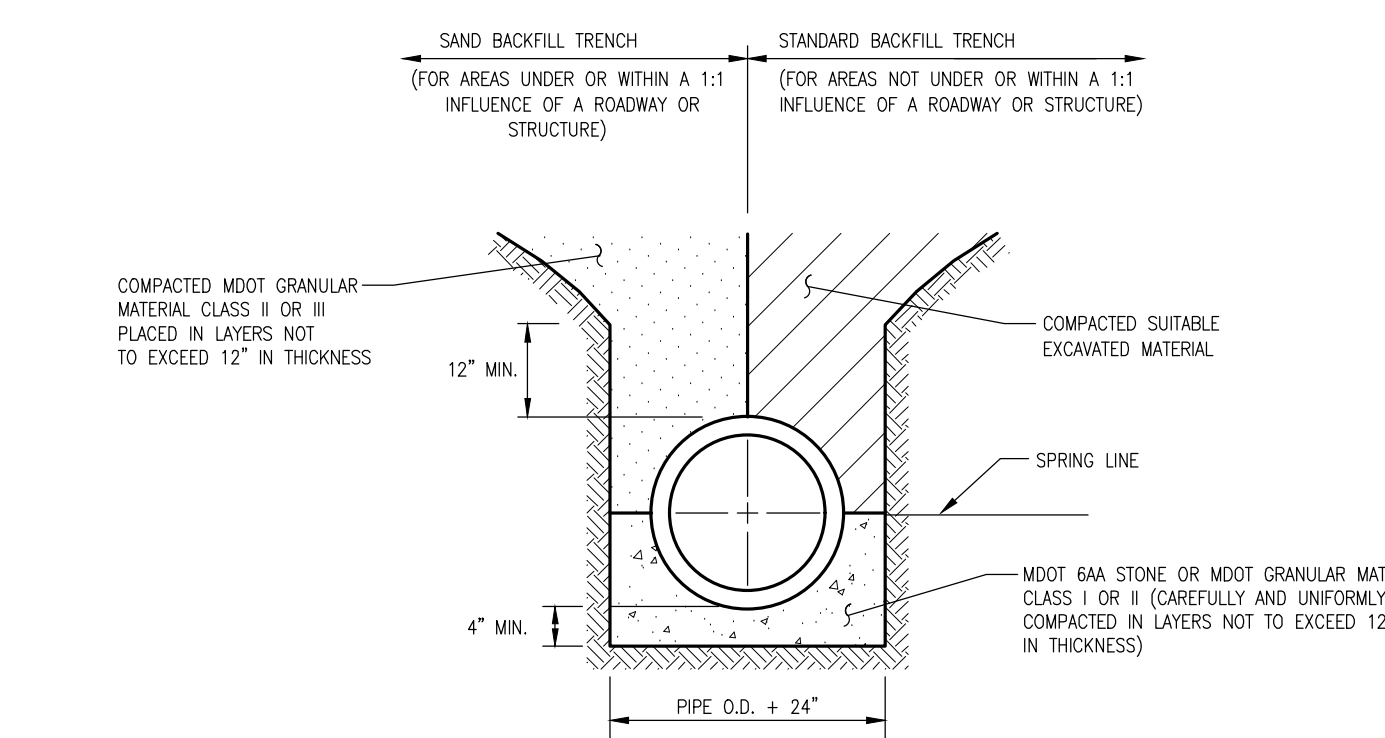
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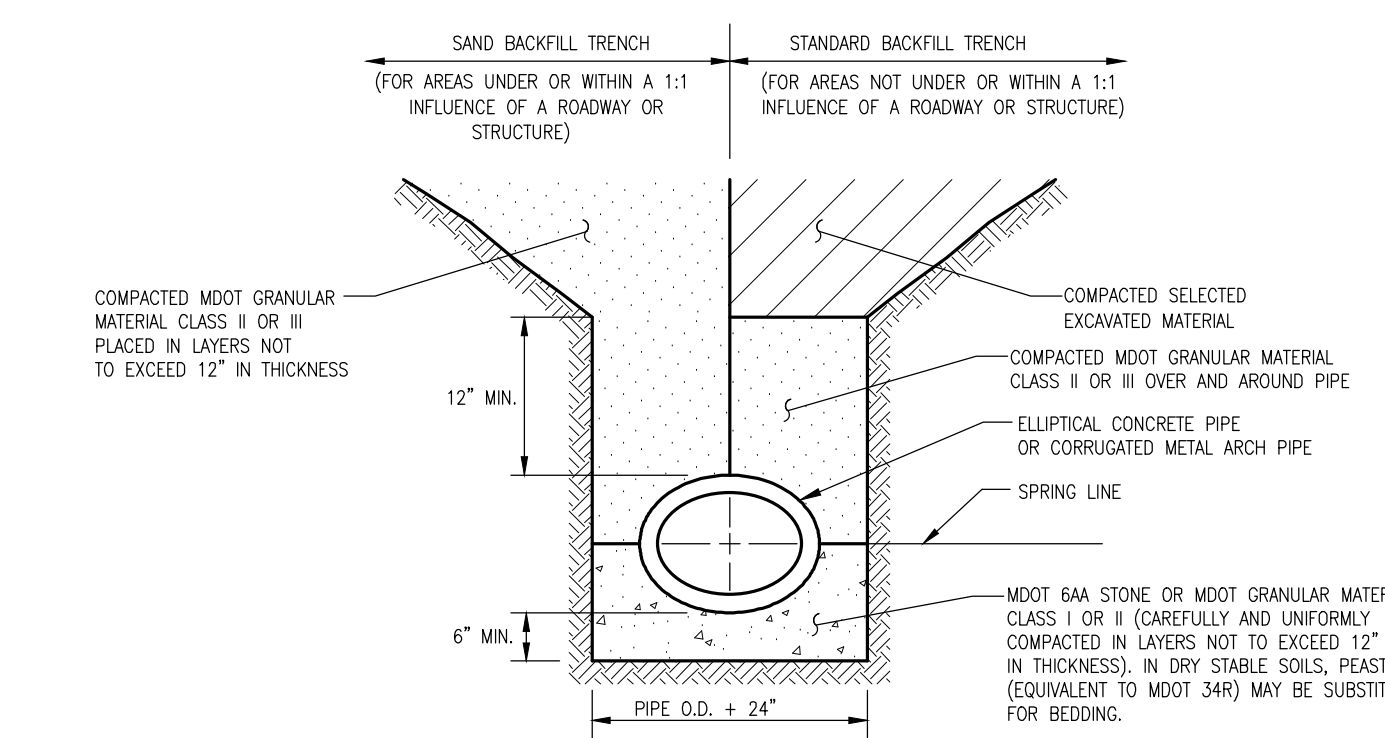
**BEDDING AND TRENCH BACKFILL DETAIL FOR 18" DIAMETER AND SMALLER PIPE (PVC AND HDPE PIPE)**



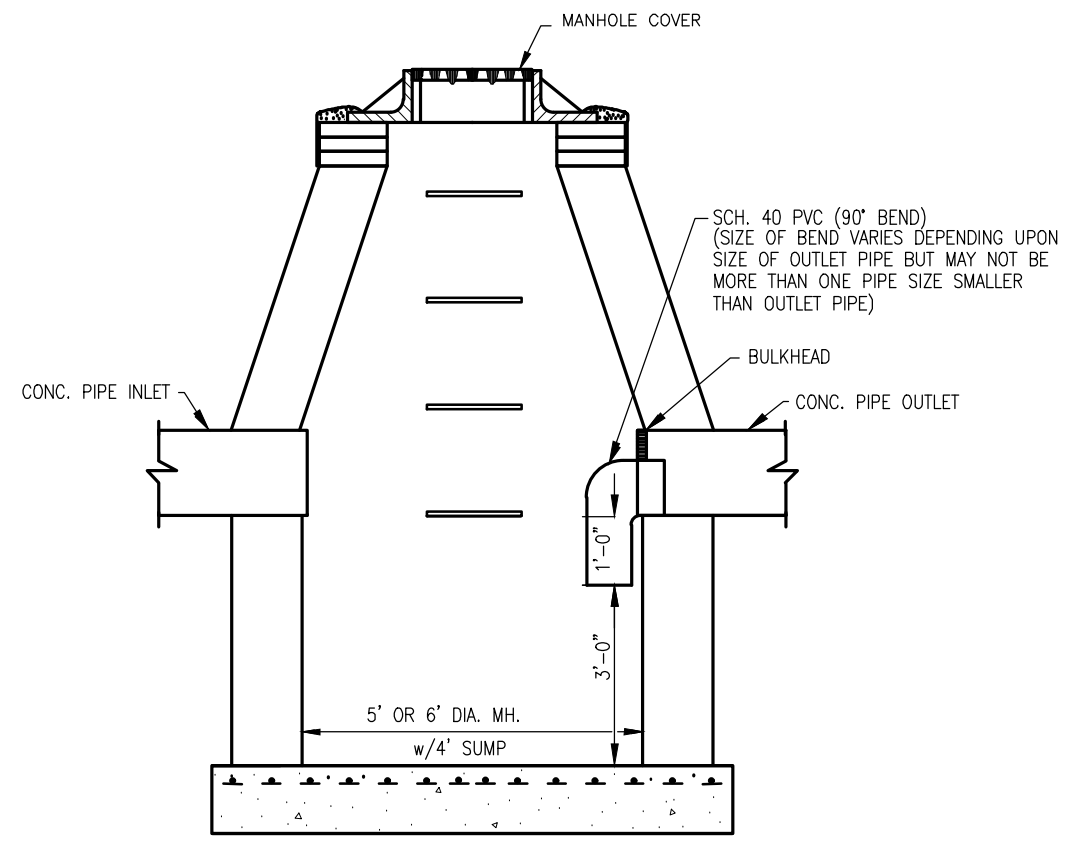
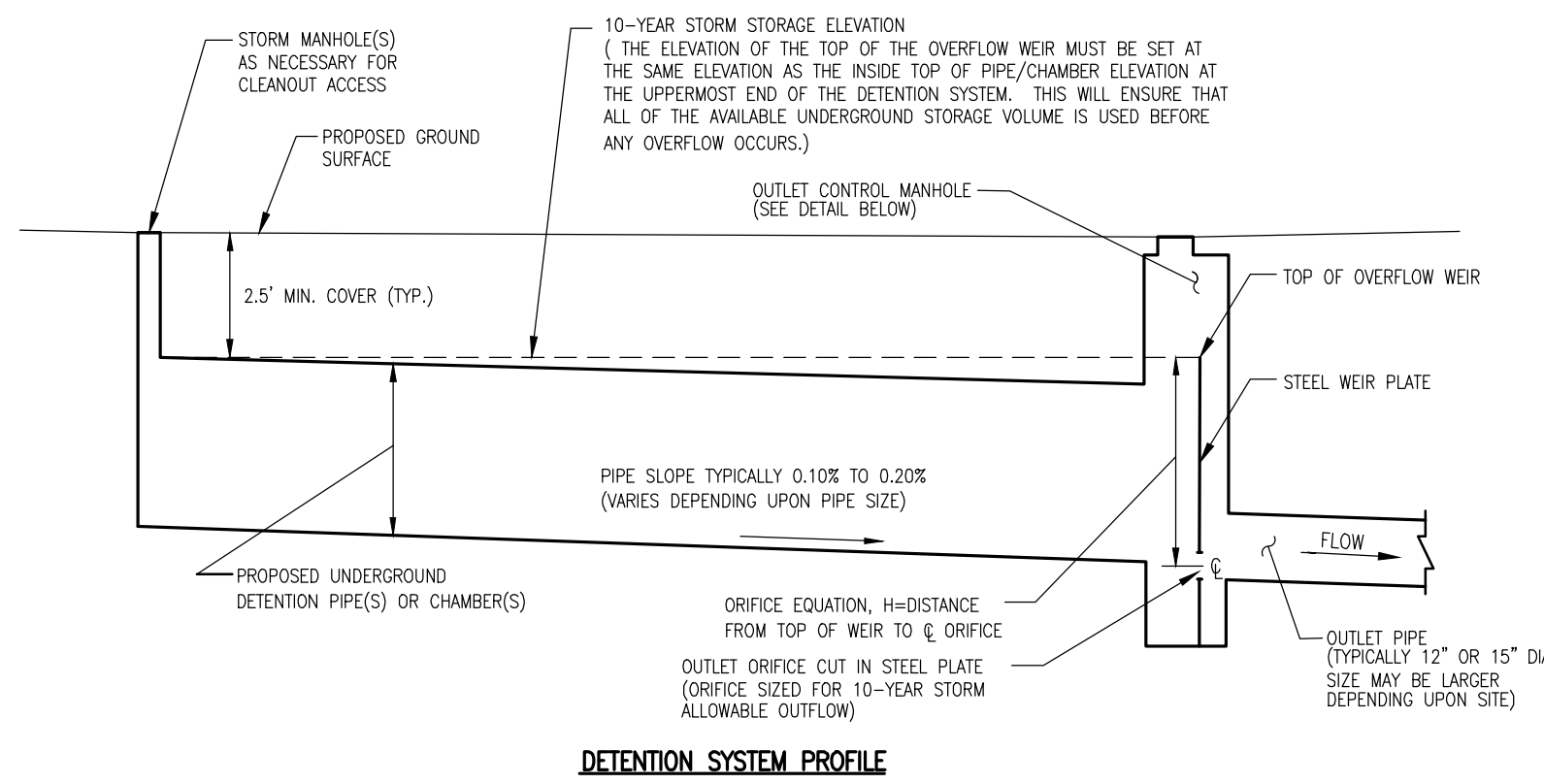
**BEDDING AND TRENCH BACKFILL DETAIL FOR 24" DIAMETER AND LARGER PIPE (CONCRETE AND METAL PIPE)**



**BEDDING AND TRENCH BACKFILL DETAIL FOR 27" DIAMETER AND LARGER PIPE (CONCRETE AND METAL PIPE)**

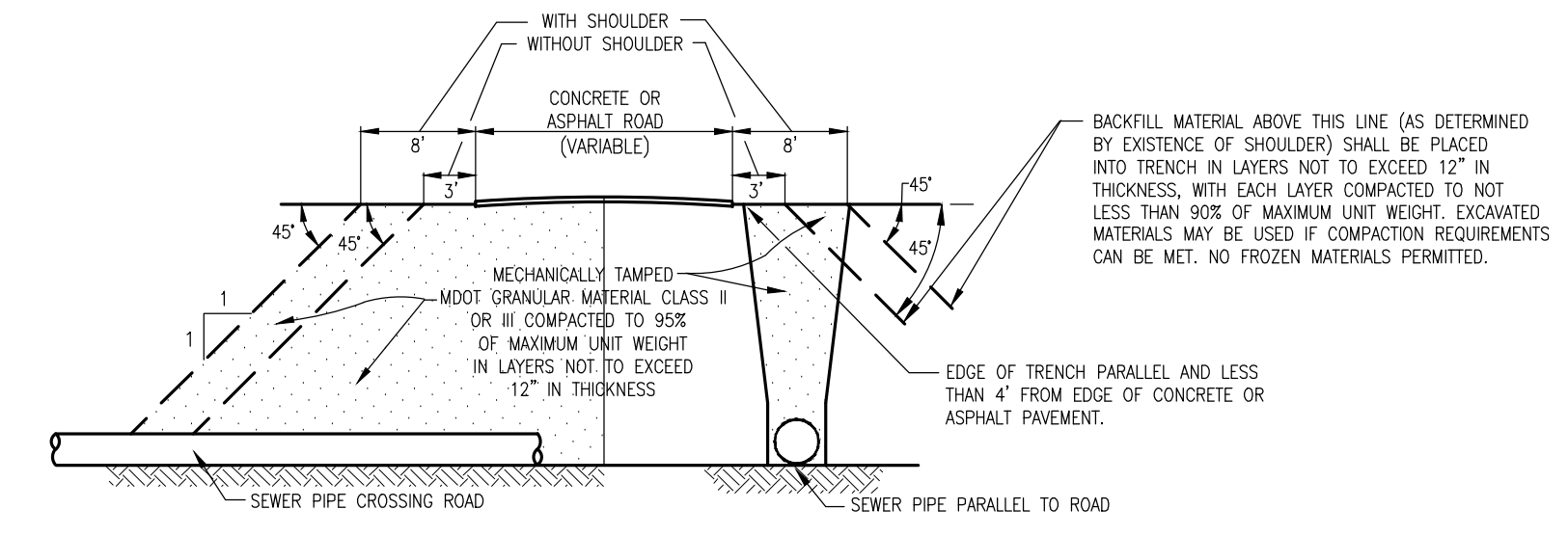


**BEDDING AND TRENCH BACKFILL DETAIL FOR ELLIPTICAL CONCRETE PIPE OR CORRUGATED METAL ARCH PIPE**

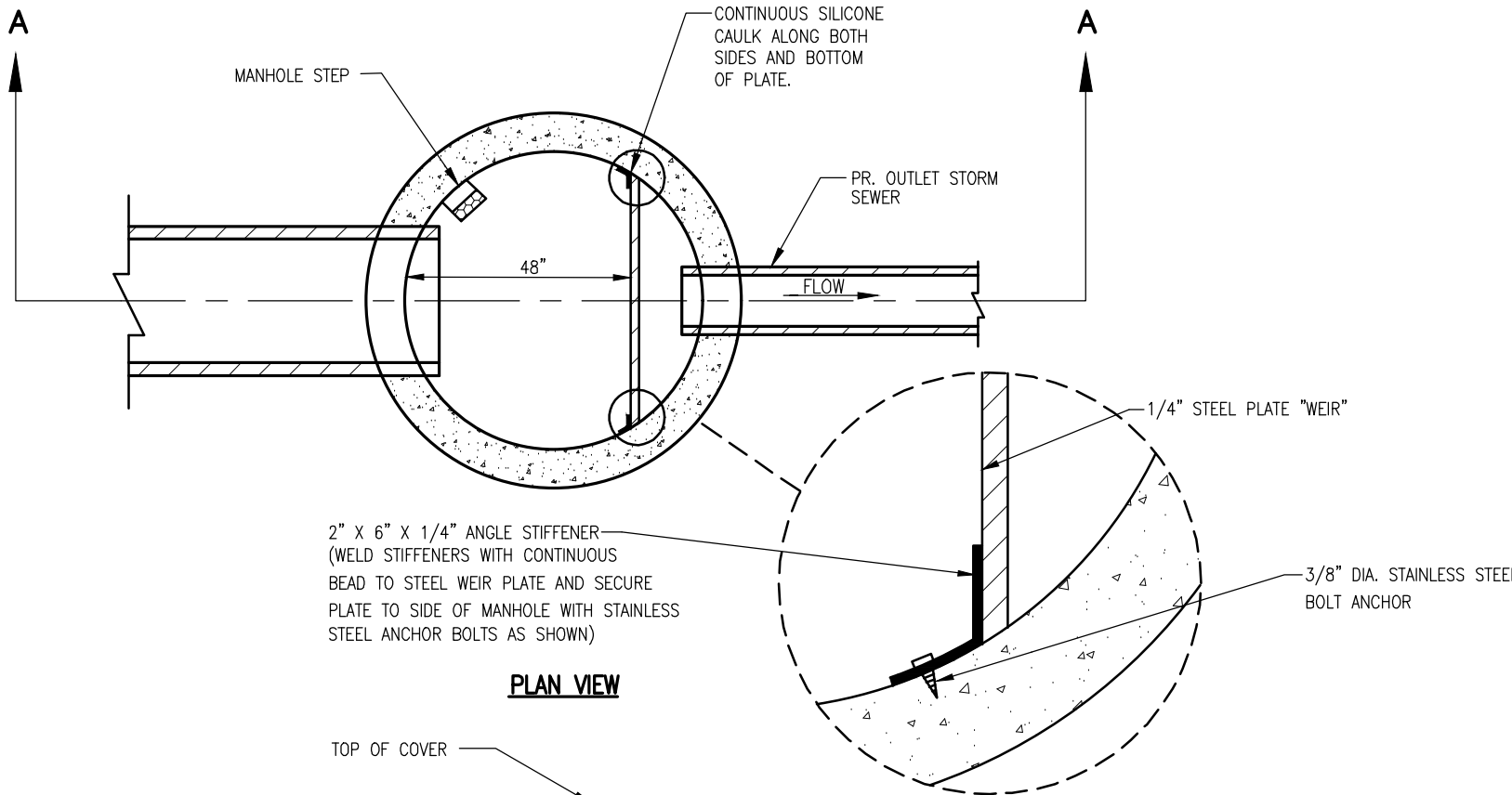


**OIL/GAS SEPARATOR PLACEMENT DETAIL FOR 18" DIAMETER AND SMALLER OUTLET PIPE**

(FOR OUTLET PIPES LARGER THAN 18" IN DIAMETER AN ALTERNATE DESIGN MUST BE APPROVED BY THE CITY ENGINEER)

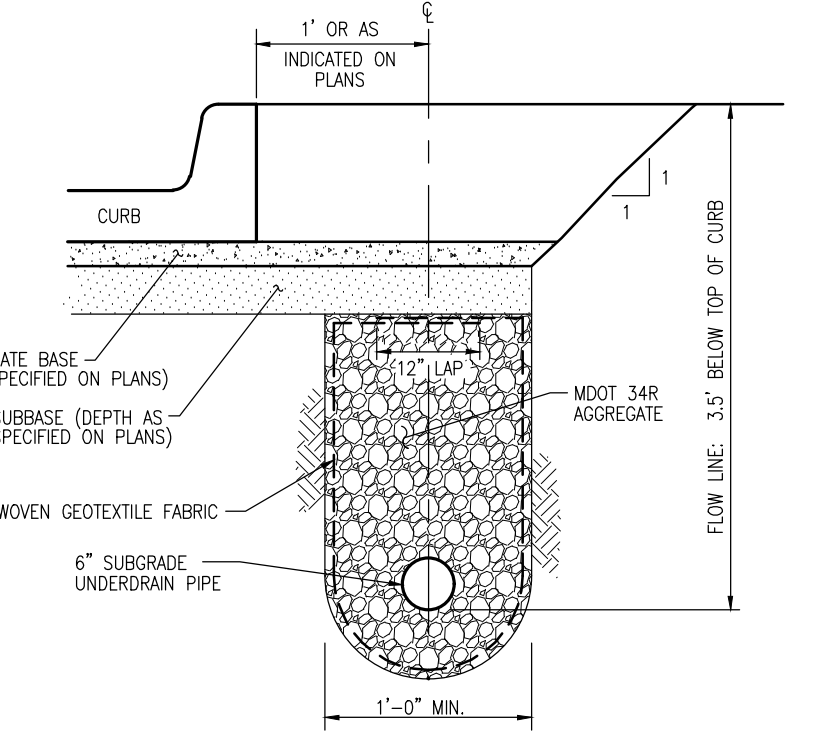


**SAND OR GRAVEL BACKFILL DETAILS FOR SEWERS UNDER CONCRETE OR ASPHALT PAVEMENTS, SIDEWALKS, DRIVEWAYS AND PARKING AREAS**



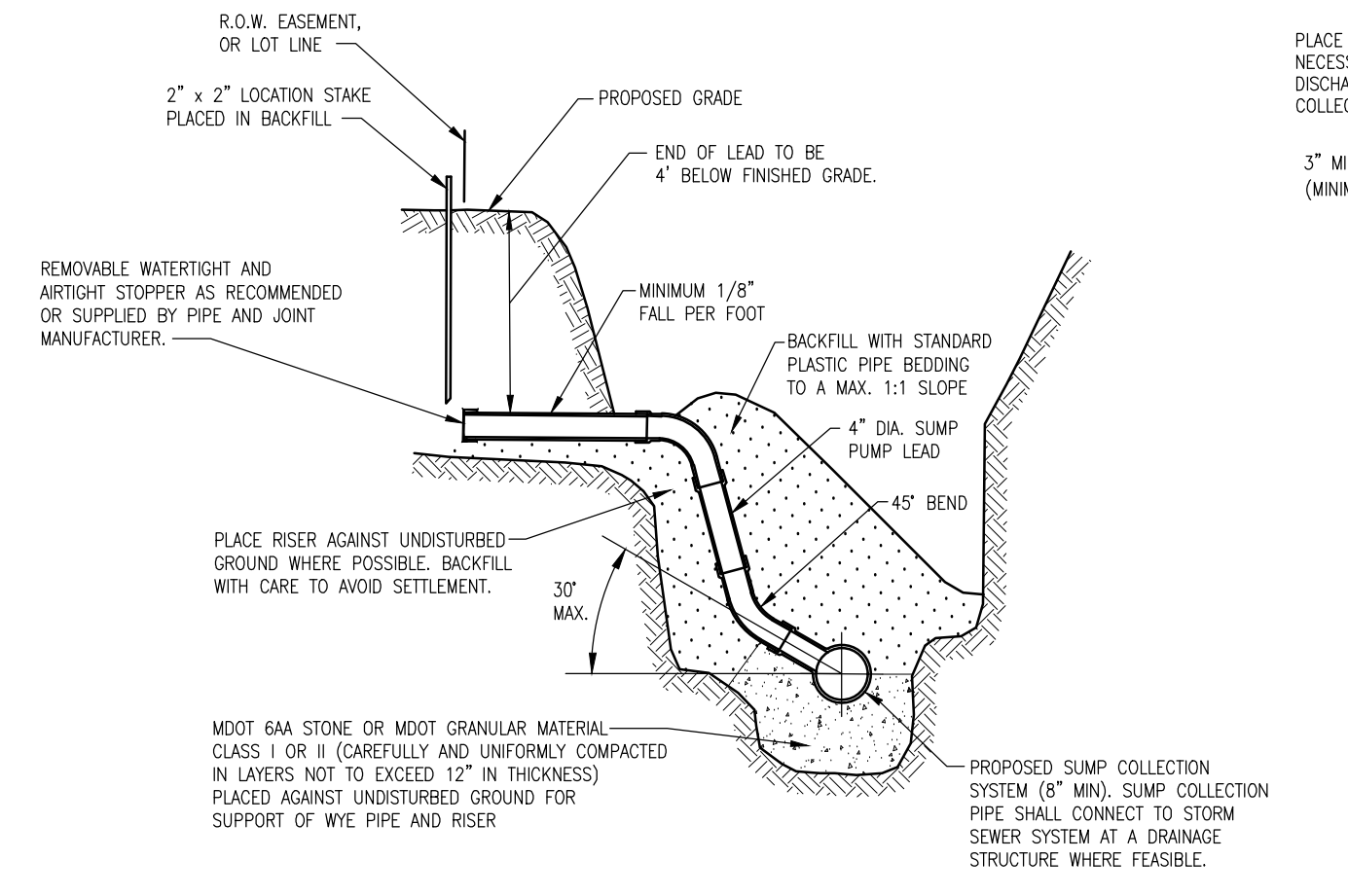
**6 FT. DIA. OUTLET MANHOLE SECTION A-A**

**TYPICAL UNDERGROUND DETENTION AND OUTLET MANHOLE DETAILS**

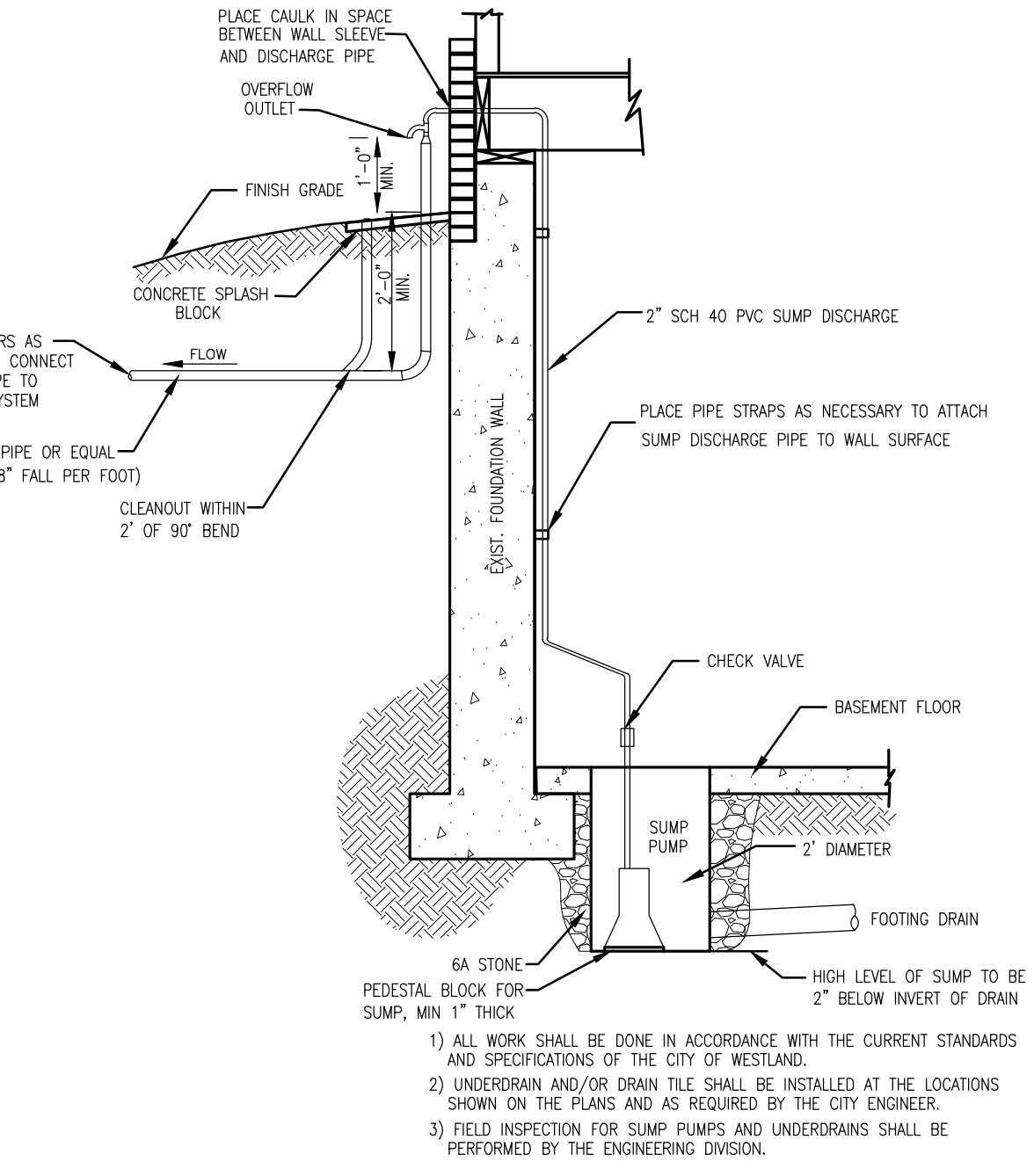


- NOTES:
1. LOCATION MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
  2. ALL UNDERDRAIN SHALL BE APPROVED PLASTIC PIPE. METAL PIPE SHALL NOT BE USED.
  3. ALL UNDERDRAIN SHALL OUTLET TO DRAINAGE STRUCTURE.
  4. UNDERDRAIN CONNECTIONS (AT LOW POINTS) SHALL BE MADE AS CLOSE TO THE STRUCTURE INVERT AS PRACTICAL, WITH A SPIRAL WRAP OF THE STRUCTURE USED TO MAKE THE TRANSITION FROM THE REQUIRED FLOW LINE DEPTH TO STRUCTURE INVERT.

**SUBGRADE UNDERDRAIN, 6"**



**HOUSE LEAD DETAIL FOR 4" DIA. PLASTIC SUMP PUMP LEADS**

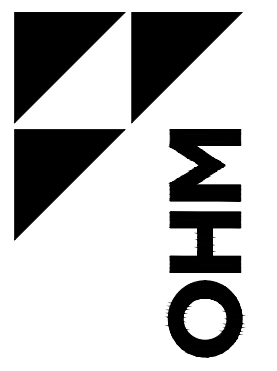


**SUMP PUMP DETAIL AT HOUSE**

- 1) ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF WESTLAND.
- 2) UNDERDRAIN AND/OR DRAIN TILE SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON THE PLANS AND AS REQUIRED BY THE CITY ENGINEER.
- 3) FIELD INSPECTION FOR SUMP PUMPS AND UNDERDRAINS SHALL BE PERFORMED BY THE ENGINEERING DIVISION.

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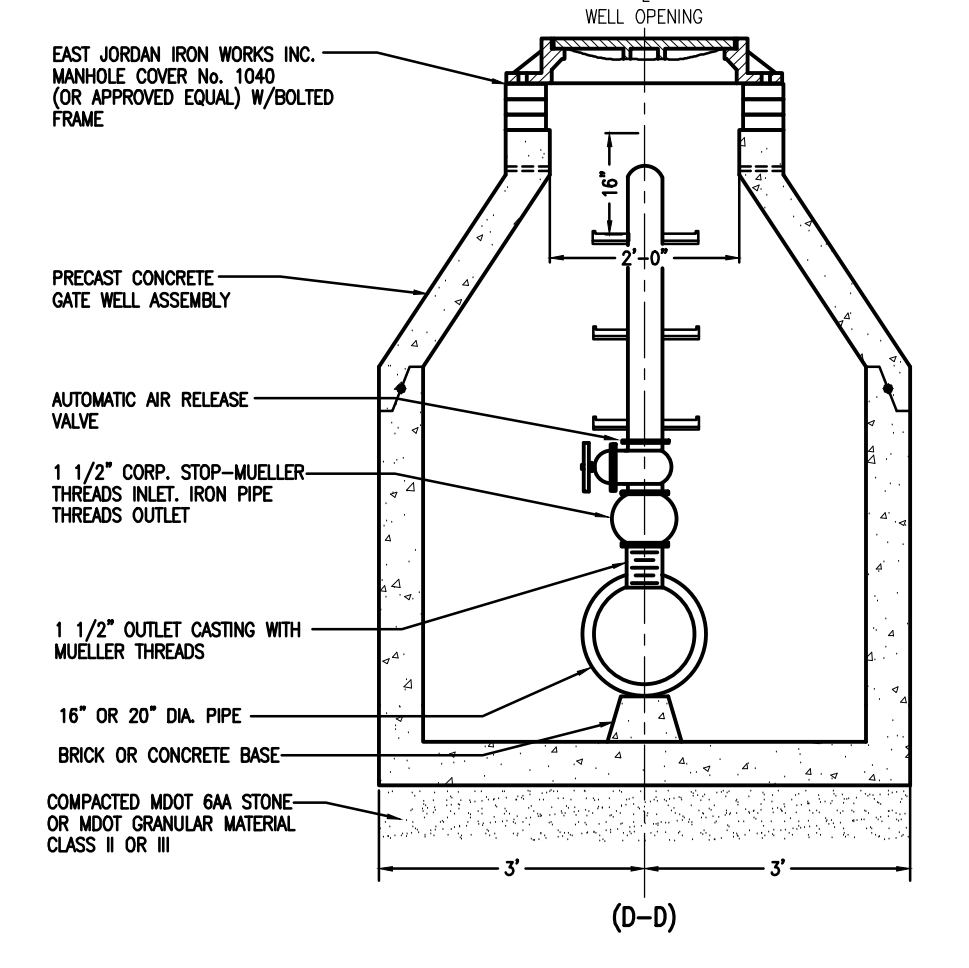
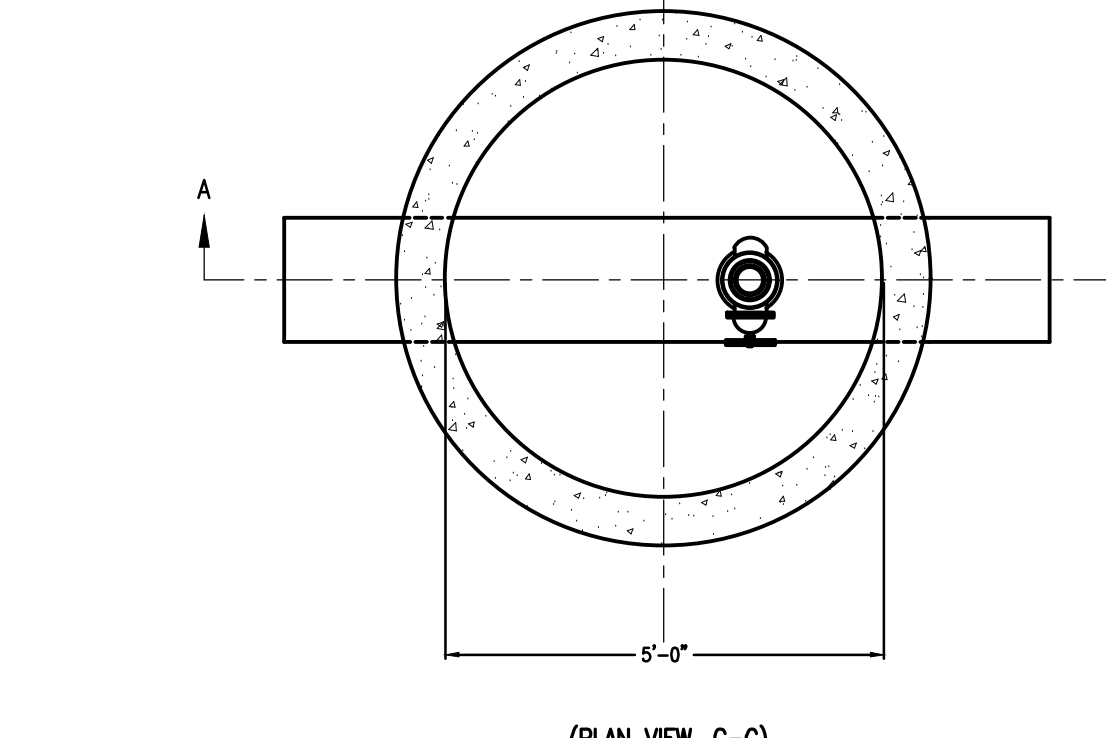
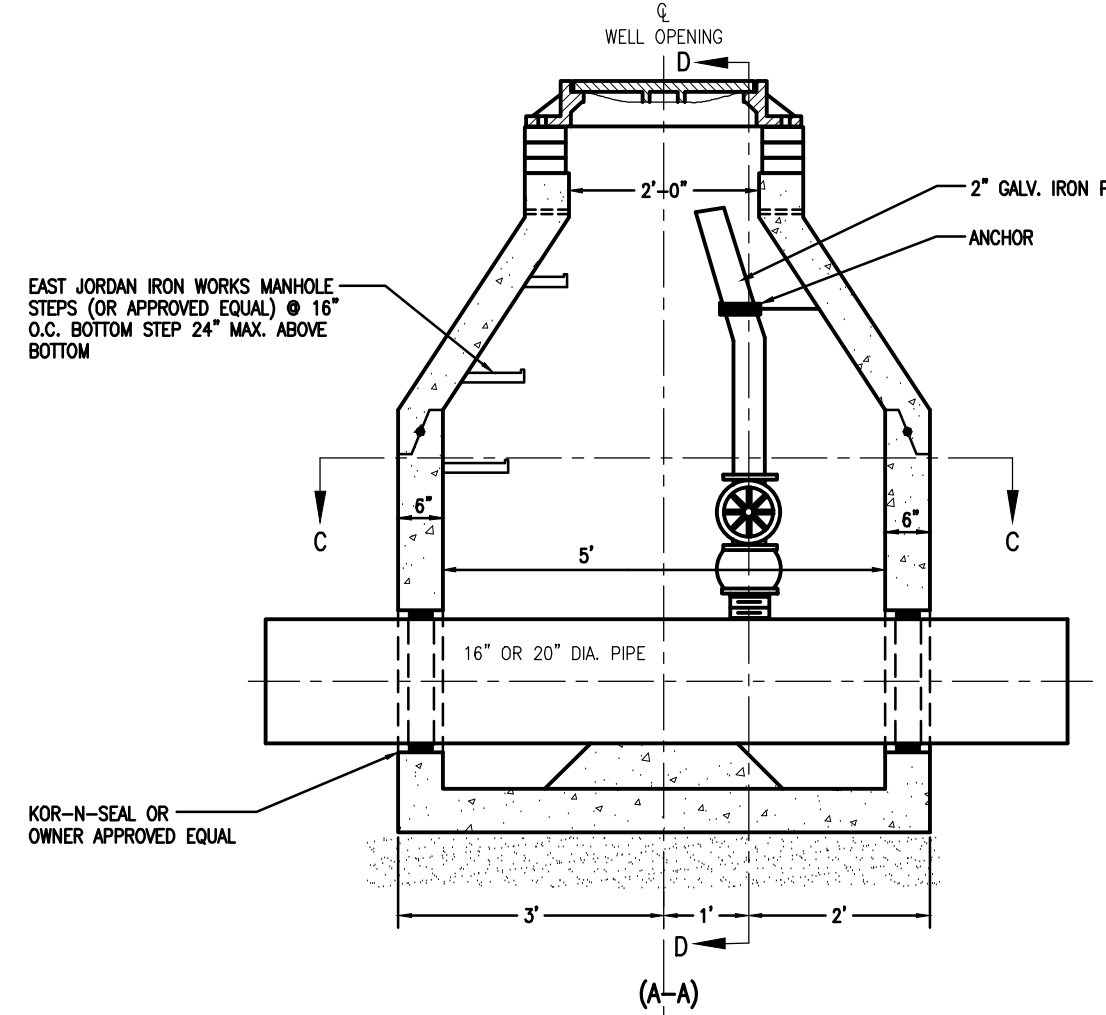
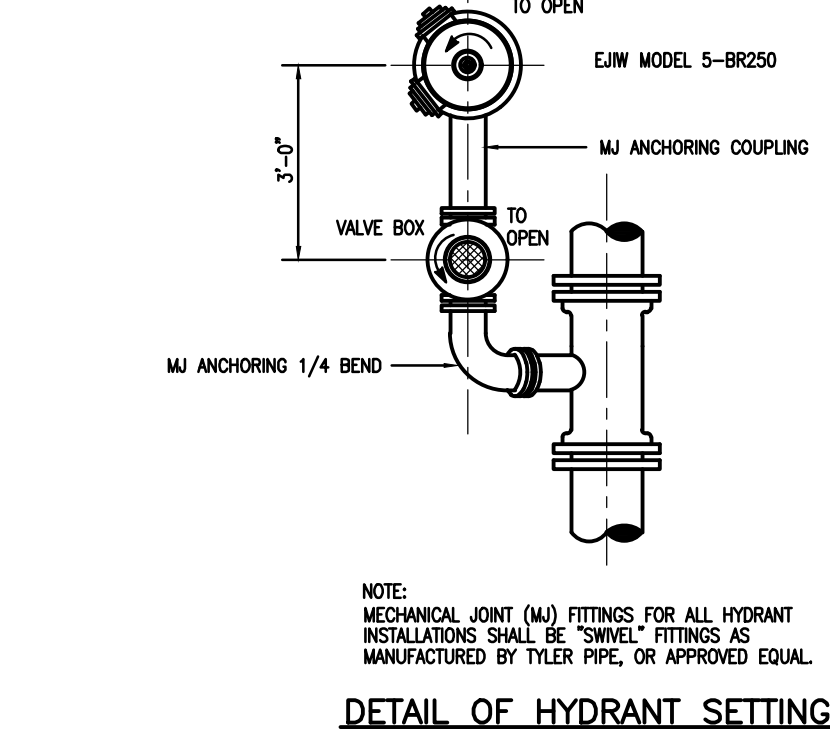
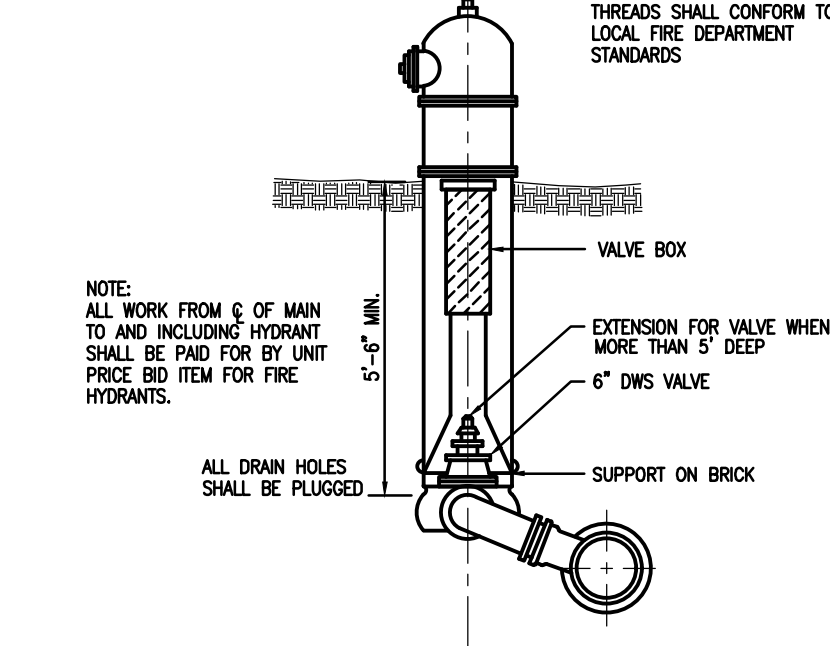
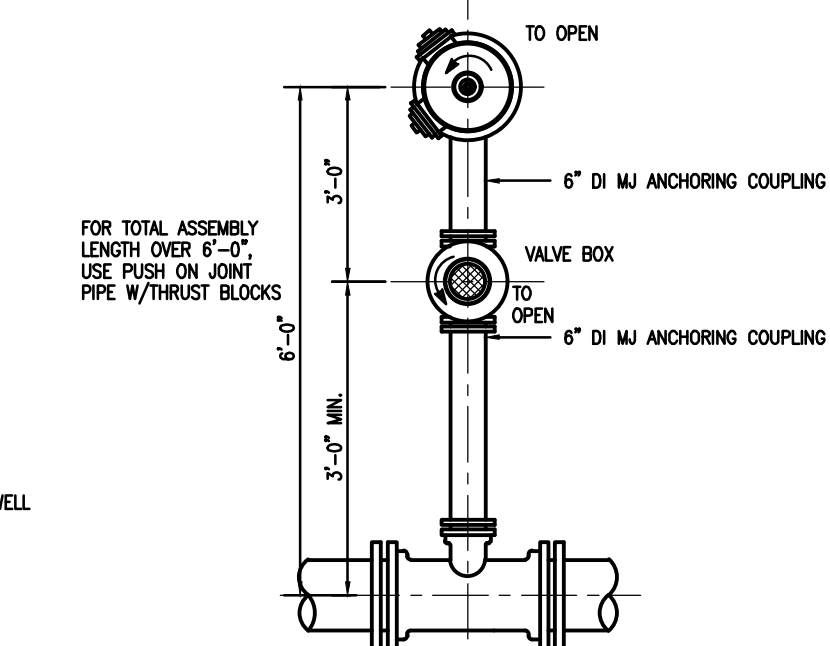
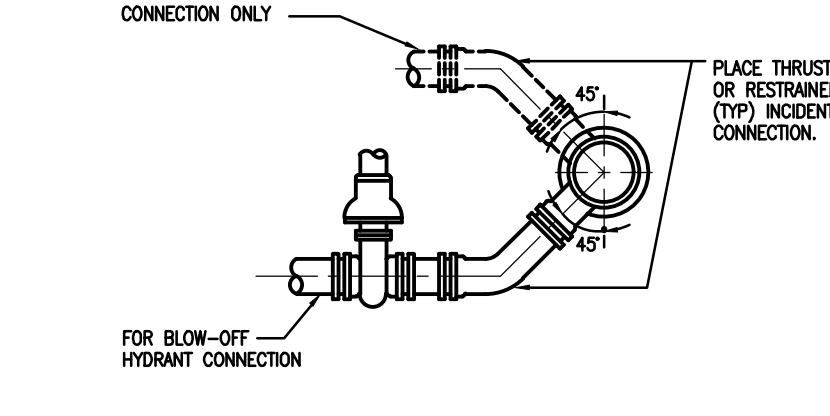
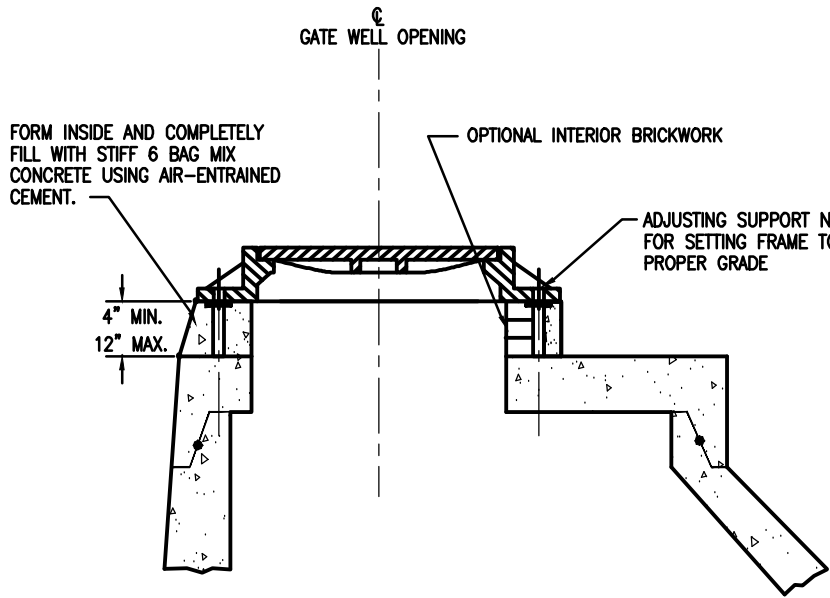
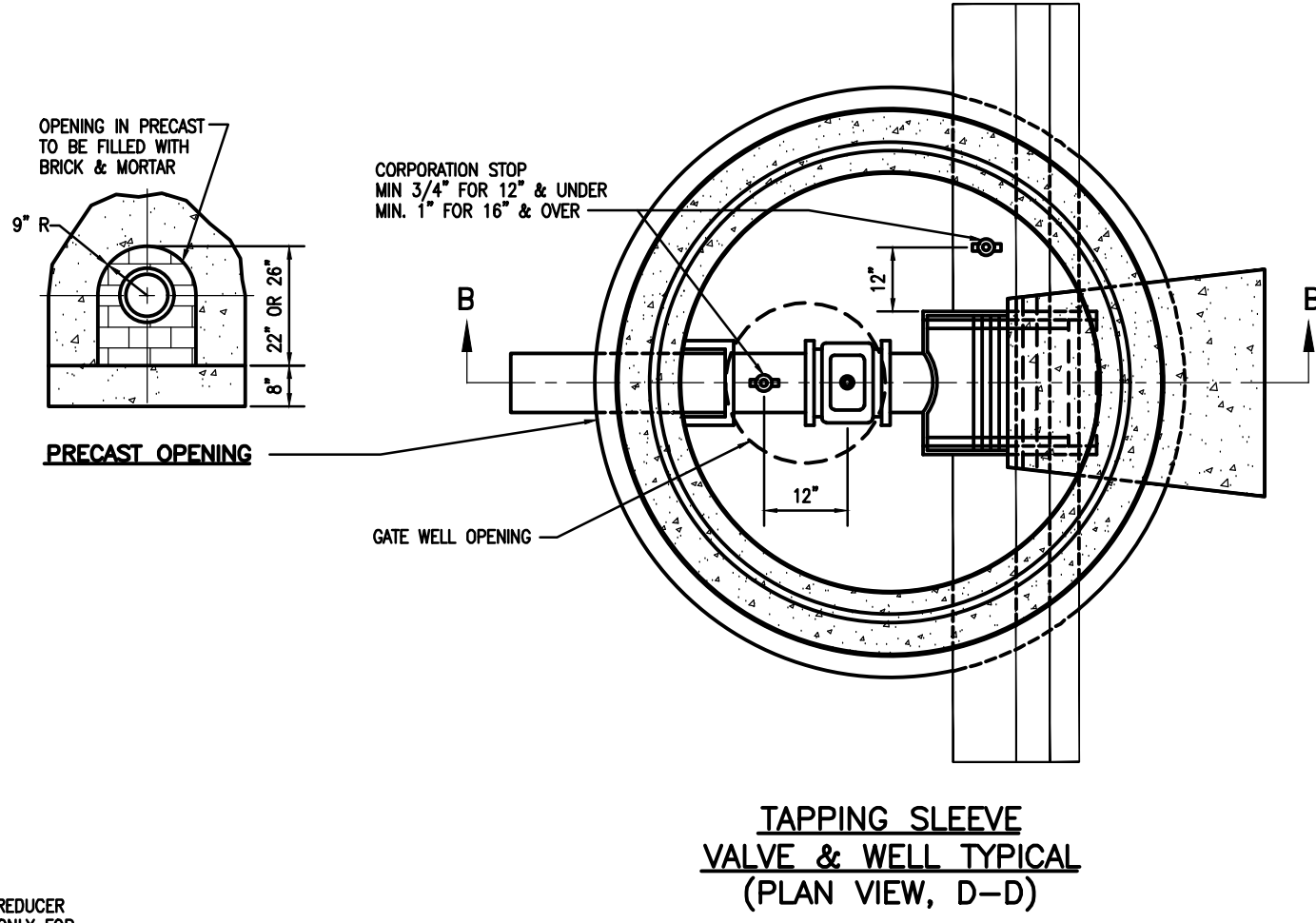
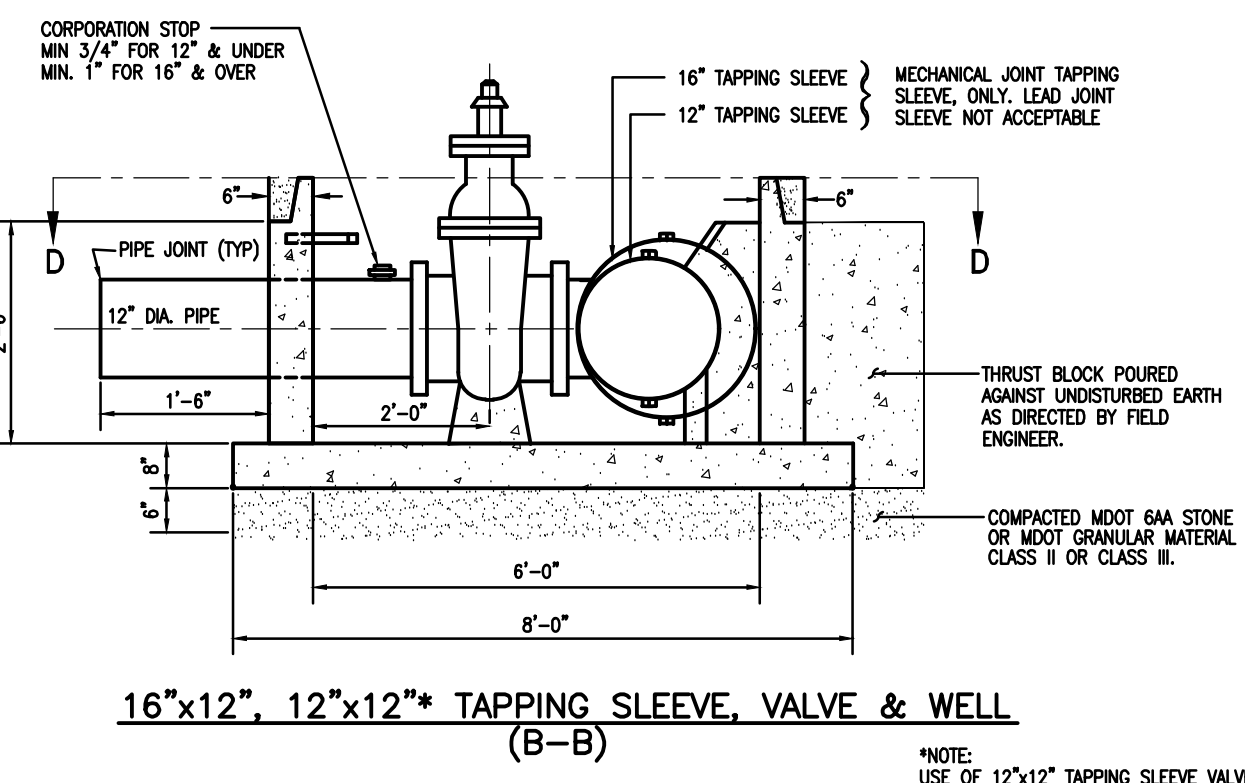
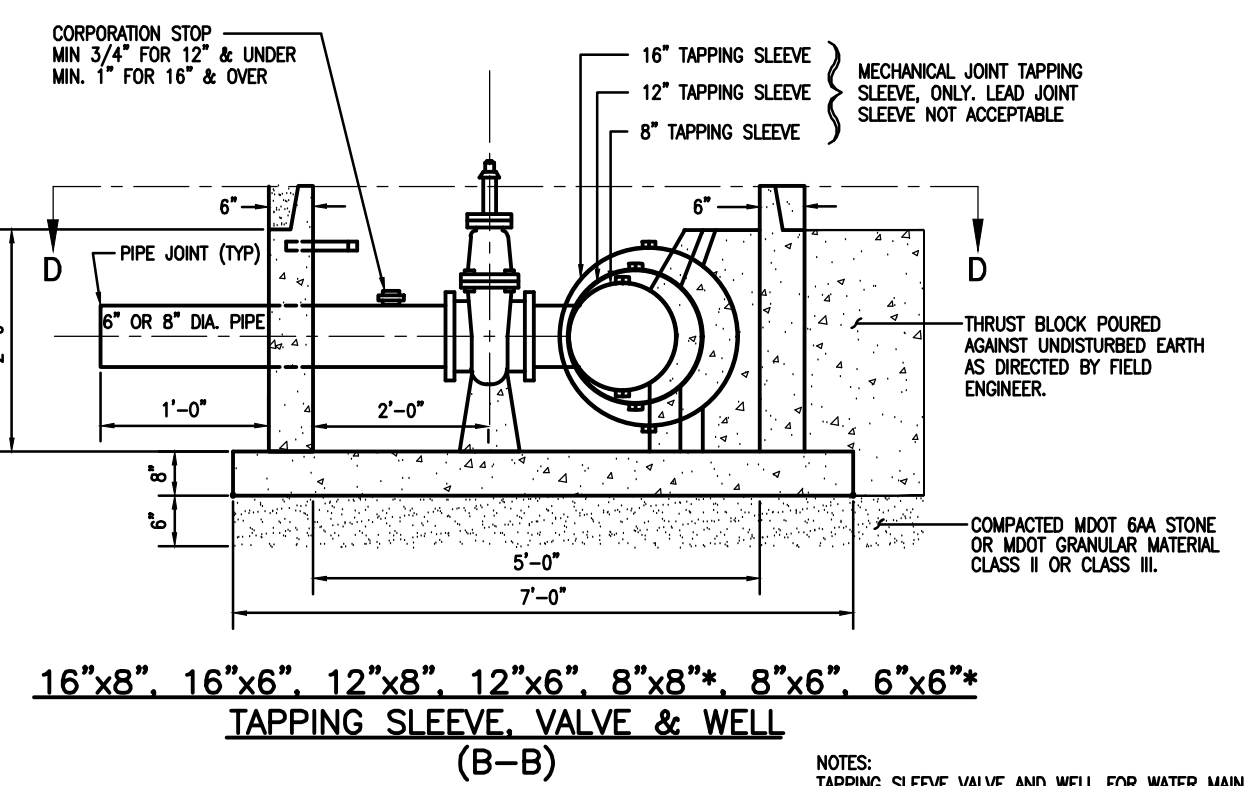
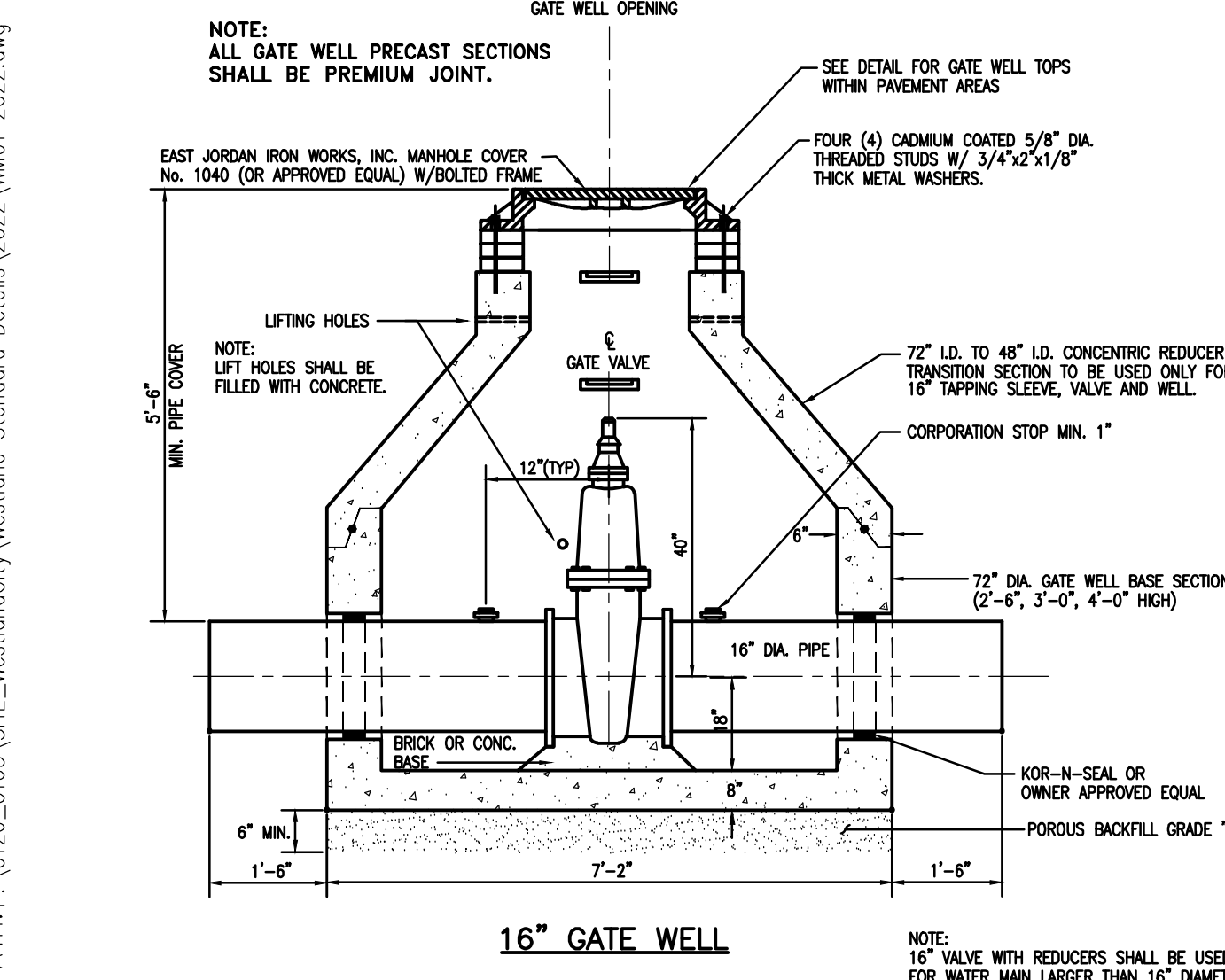
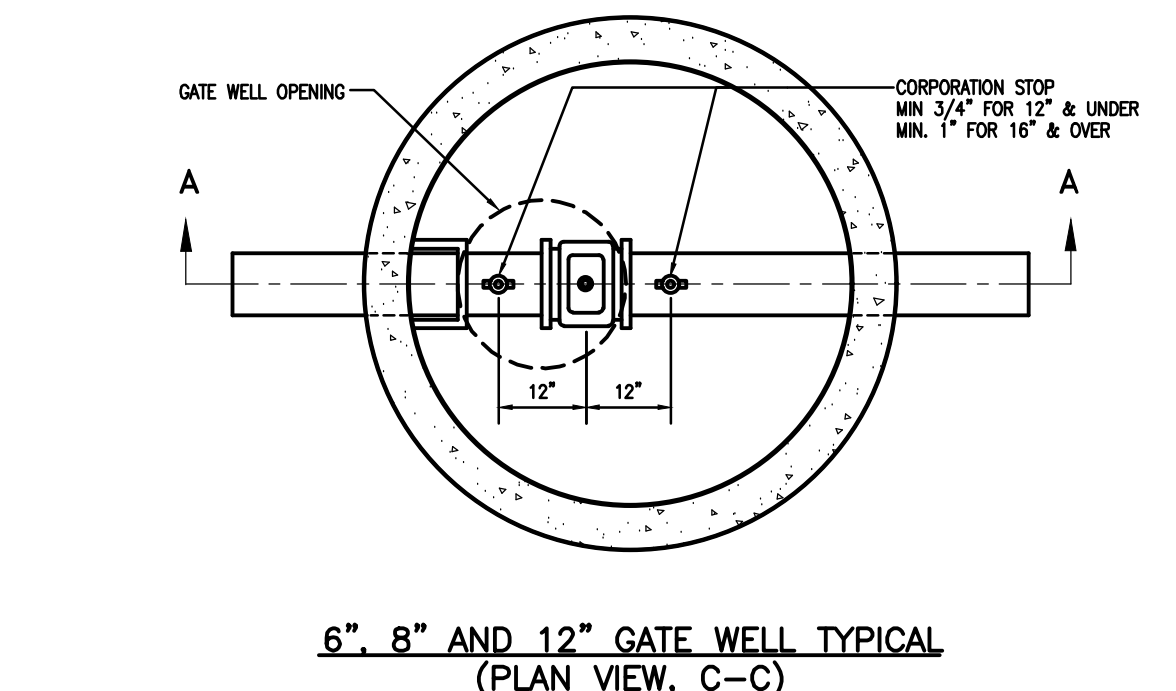
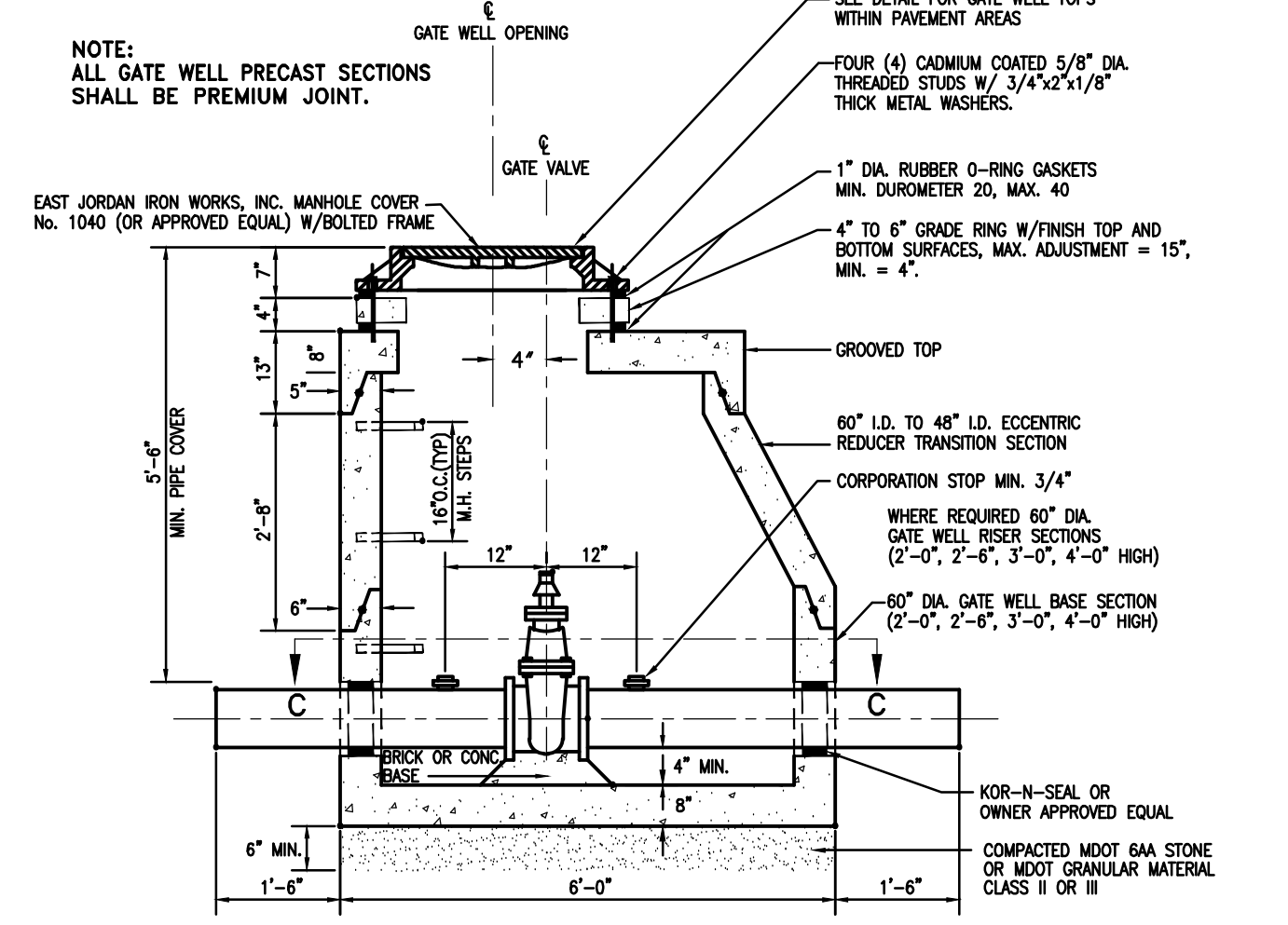
CITY OF WESTLAND  
STANDARD WATER MAIN DETAILS

DATE: JUN 2022 CAD: JVK/AC/AM COUNTY: WAYNE CITY/TOWNSHIP: WESTLAND SCALE: V: NTS H: NTS JOB #:

CLIENT: 34000 Plymouth Road Livonia, MI 48150 P (734) 522-6711 F (734) 522-6427 WWW.OHM-ADVISORS.COM

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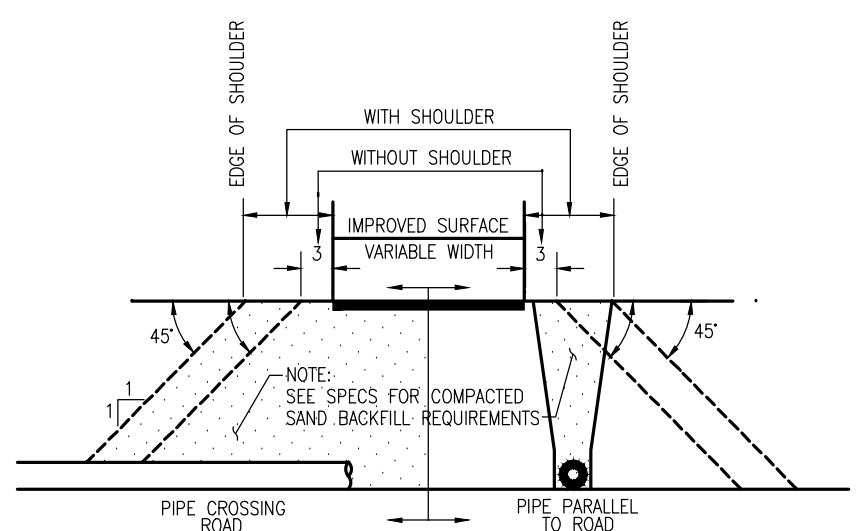
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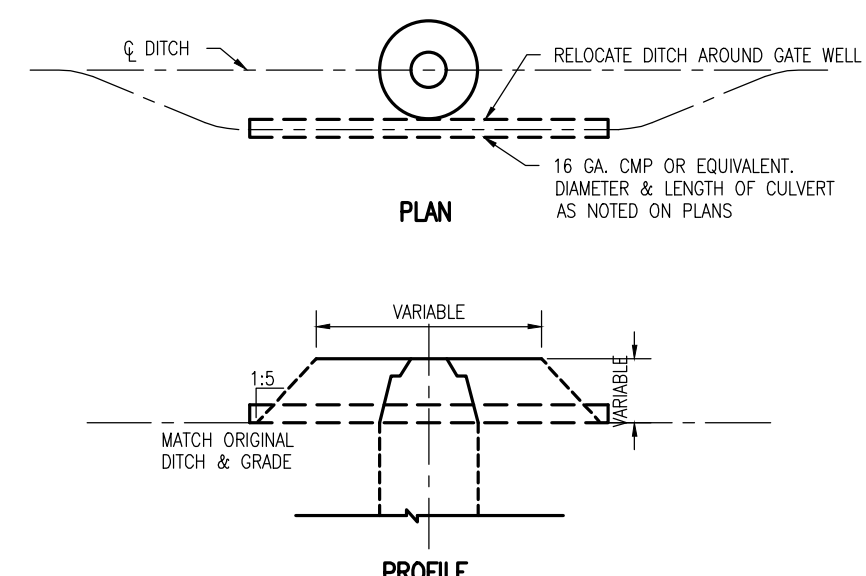
- WATER MAIN NOTES**
- All construction procedures and materials used on all water main projects shall conform to Detroit Water System and the City of Westland current Standards and Specifications.
  - All hydrants shall be E.J.I.W. #5BR-250 WaterMaster and shall conform to AWWA specification C502 as amended and shall have a minimum 6" valve opening which closes with the water pressure. Hydrants shall meet all test requirements and be listed by Underwriters Laboratories, Inc. and meet the requirements of Factory Mutual. They must also be in accordance with the East Jordan Iron Works 5BR-250 Fire Hydrant Specifications - Westland. Hydrants shall be traffic style with breakable flange and coupling. Hydrants shall have a swivel flange to allow bonnet to be turned 360 degrees without removing the bonnet, and barrel flanges shall be integrally cast with the barrel. Inlet shoe shall have a bronze valve seat, which can be removed without digging. Inlet connection shall be 6" mechanical joint, ASA-A21-11. Stem threads shall be sealed with double "O" rings and shall be permanently lubricated with all weather grease. Hose connections: Two (2) 3/4" DFD thread pumper nozzles. Nozzles shall "thread" counterclockwise into hydrant barrel utilizing "O" ring pressure seals. A suitable nozzle lock shall be in place to prevent inadvertent nozzle removal. Wedge locks and/or ductile iron retainer rings to secure nozzles shall not be allowed. Operating Nut: (1) 1/2" P-F pentagon, open left. All hydrants shall have a Carroll drain. Hydrants shall be painted yellow above the ground and black below, with a finish coat of Glomortex 501 enamel or approved equal. Nozzle caps shall be painted per Westland Fire Dept. requirements.
  - All water mains shall be ductile iron, as per the following specification Ductile iron pipe shall be ANSI 1-A21.51 (AWWA-C151) standard wall thickness, cement lined with bituminous seal coat Class 54 for sizes 6" through 20" and Class 55 for 24" pipe.
  - Gate Valves shall be iron body, fully bracket mounted, E.J.I.W. resilient wedge, non-rising stem, opening clockwise conforming to City of Detroit Water Department specifications. All gate valves with operating nuts at a distance greater than 5' below ground surface shall be provided with an extension stem. The length of the extension shall be such that it will be within 5' of ground surface when an extension stem is used. It shall be held in place by two extension stem guide assemblies. Each assembly shall be comprised of a "J" bracket and "L" bracket supplied by E.J.I.W. The stem guides shall be located opposite from each other, and shall be suitably fastened to the wall of the gate well. In addition, a "stop" shall be welded to the extension stem in a location that will prevent the extension stem from slipping off the operating nut. Details of extension stem and method of installation shall be approved by the engineer prior to installation. All precast concrete gate well sections shall be manufactured to conform with ASTM C478, standard specifications for precast reinforced concrete manhole sections, except wall thickness, shall be shown on these details. All joints for precast concrete gate well sections shall be "modified grooved tongue" with gasket manufactured to conform with ASTM C443, standard specification for joints for circular concrete sewer and culvert pipe rubber gaskets. All gate well covers shall be E.J.I.W. #1040 with bolted and have words "City of Westland Water Dept" in raised letters on the frame cover, or approved equal.
  - Tapping sleeve shall be mechanical joint with DWS Mechanical Joint Tapping Gate Valve. Lead joint sleeves shall not be used.
  - No installation of water main shall be attempted without City's inspector being present. Unless otherwise specified on plans, top of all water mains shall be 5.5 ft. below existing or proposed road centerline, or 5.5 ft. below existing or proposed ground, whichever results in lower elevation. An 18" minimum vertical clearance between storm or sanitary sewer shall be maintained.
  - The design engineer shall furnish the City of Westland with mylar "As-Built" water main plans along with a computer disk using the most recent release of AutoCAD, upon job completion. Plans shall locate all water mains, hydrants and gate valves and wells.
  - All required cross connection devices shall be installed as required by the local plumbing inspector and in accordance with the standards of the Michigan Department of Public Health.
  - Three (3) working days before you dig, dial MISS DIG at 1-800-482-7171.
  - Where work is to be performed in the vicinity of a City of Detroit water main, the contractor shall notify the Detroit Metropolitan Water Services Inspection Department, (Bill Gowin) at (313) 833-8649 (7:30-9:30 AM, 3:30-4:30 PM), 3 working days prior to start of construction and request an inspection of the job.
  - All pipe and all pipe fittings shall be made in the U.S.A.
  - All bolts on all flanged and mechanical joint fittings shall be domestic origin high strength, low alloy COR-BLUE steel bolts or approved equal. These bolts shall meet the current provisions of American National Standard ANSI/AWWA C111/A21.11-90 for rubber gasket joints for ductile iron pressure pipes and fittings. Bolt manufacturer's certificate of compliance must accompany each shipment.
  - All bolts used in securing fittings to the water main shall be "COR-BLUE" bolts or approved equal.
  - BACKFILL NOTE: Under road surfaces, pavement, sidewalk, curb, driveways and where the edge of the trench is within 3 (three) feet of the pavement or as called for on the plans, the trench depth shall be 4 (four) inches lower than the proposed water main elevation. The trench width shall be the outside diameter plus 16 (sixteen) inches for pipe diameters up to 36 (thirty-six) inches and larger. The trench shall be backfilled by placing granular material by the "controlled Density Method" or other means having approval of the engineer and compacting it to 95 (ninety-five) percent of its maximum unit weight.
  - Tracing wire shall be provided for all water main. Wire shall be copper, 12 gage stranded, insulated per city requirements. Connection is required at all service leads, hydrants, and gate well, with exposed wire above the ground surface. Conductivity shall be tested by the City prior to the acceptance of the main. All splices shall be made using a gel-cap product which provides a waterproof seal, such as 3M's Direct Bury Splice kit #P054007/09964 or approved equal.
  - Polywrap shall be placed as required by the City.
  - Like size to like size tapping sleeves shall not be used with transite pipe.
  - Where water main is located under pavement, the City shall be responsible for repairing pavement within the easement in the event that maintenance or repairs to the water main become necessary.
  - Joints shall be either a FASTITE® or TYTON® that meet all the material requirements of ANSI/AWWA C111/A21.1 for push-on type rubber gaskets.



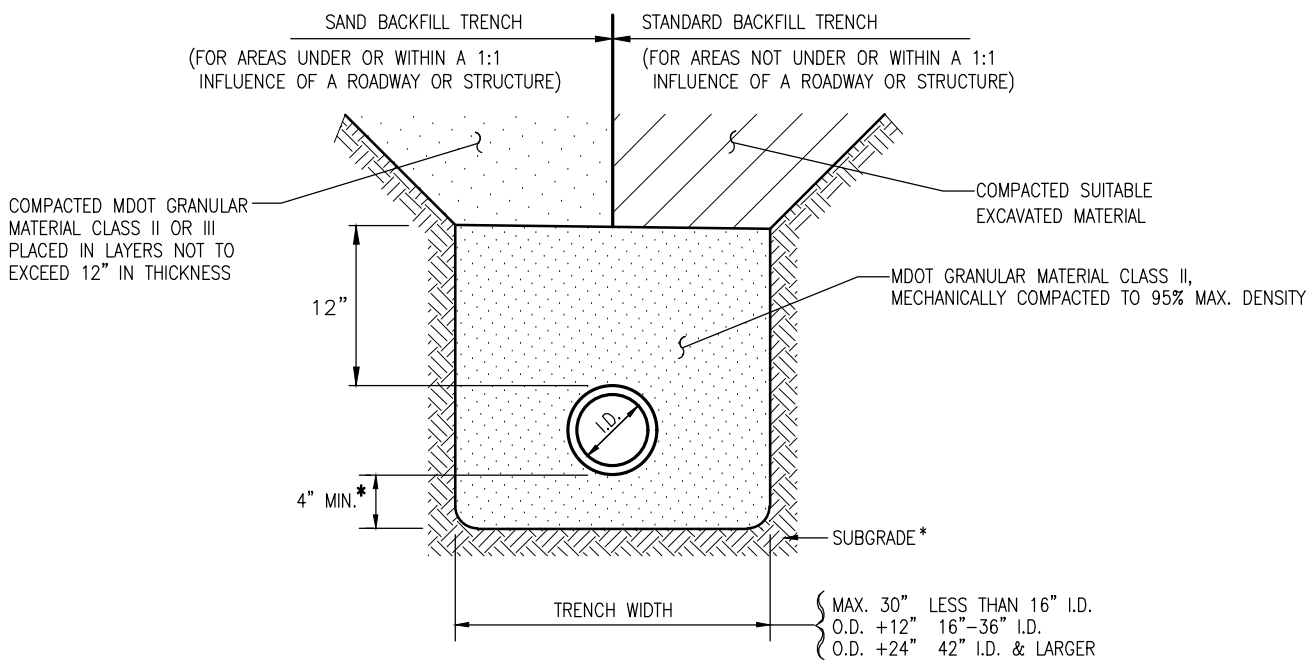
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**BACKFILL IN THE AREA OF STREETS, ALLEYS, SIDEWALKS, DRIVES & PARKING LOTS**

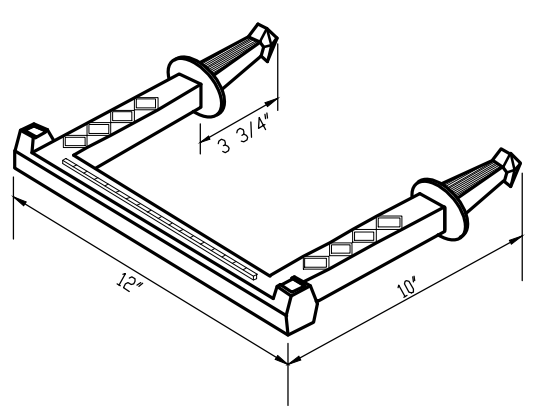


**DITCH ENCLOSURE AT GATE WELL OR HYDRANT**

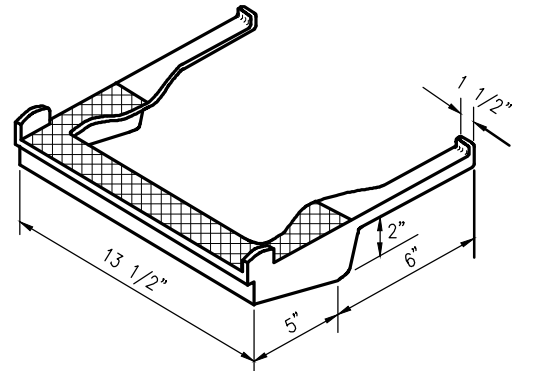


**STANDARD BEDDING AND TRENCH BACKFILL DETAIL FOR WATER MAIN**

\* NOTE: IF THE EXISTING SUBGRADE SOILS MEET THE REQUIREMENTS FOR MOOT GRANULAR MATERIAL CLASS II (MINIMUM 4" THICK), THEN THE WATER MAIN MAY BE LAID DIRECTLY ON THE COMPACTED NATIVE SUBGRADE SOILS.

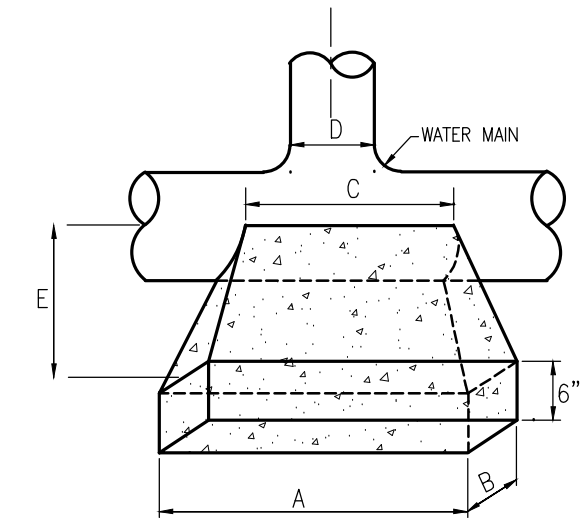
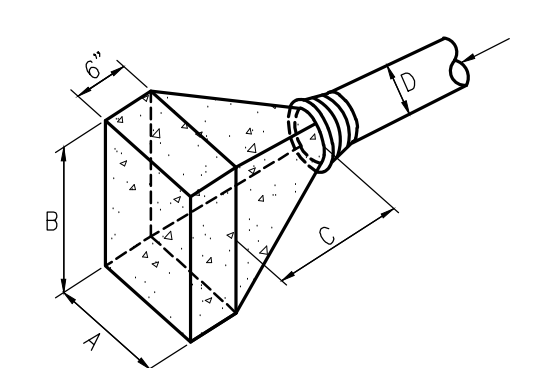
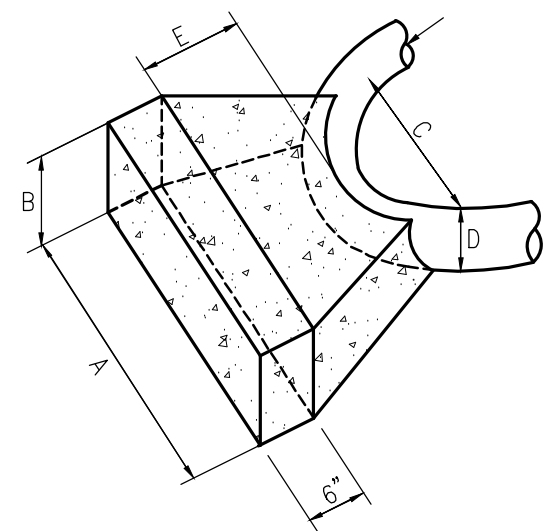


**M.A. INDUSTRIES PSI-375**



**E.J.L.W. 8502**

**STANDARD MANHOLE STEP**



**THRUST BLOCK DETAILS**

NOTE: ADDITIONAL CONCRETE TO BE PLACED PER ENGINEER'S DIRECTION FOR HYDRANTS REQUIRING THRUST BLOCKS. THE THRUST BLOCKS ARE INCIDENTAL TO HYDRANT INSTALLATION.

**FOR 90° BENDS OR SMALLER**

D	A	B	C	E MIN.
20"	8'	6.5'	3.5'	2.5'
16"	6'	4'	2.5'	2'
12"	4'	3'	2'	1.75'
10"	3'	3'	2'	1.75'
8"	3'	2'	2'	1.5'
6"	2'	1.5'	2'	1.25'

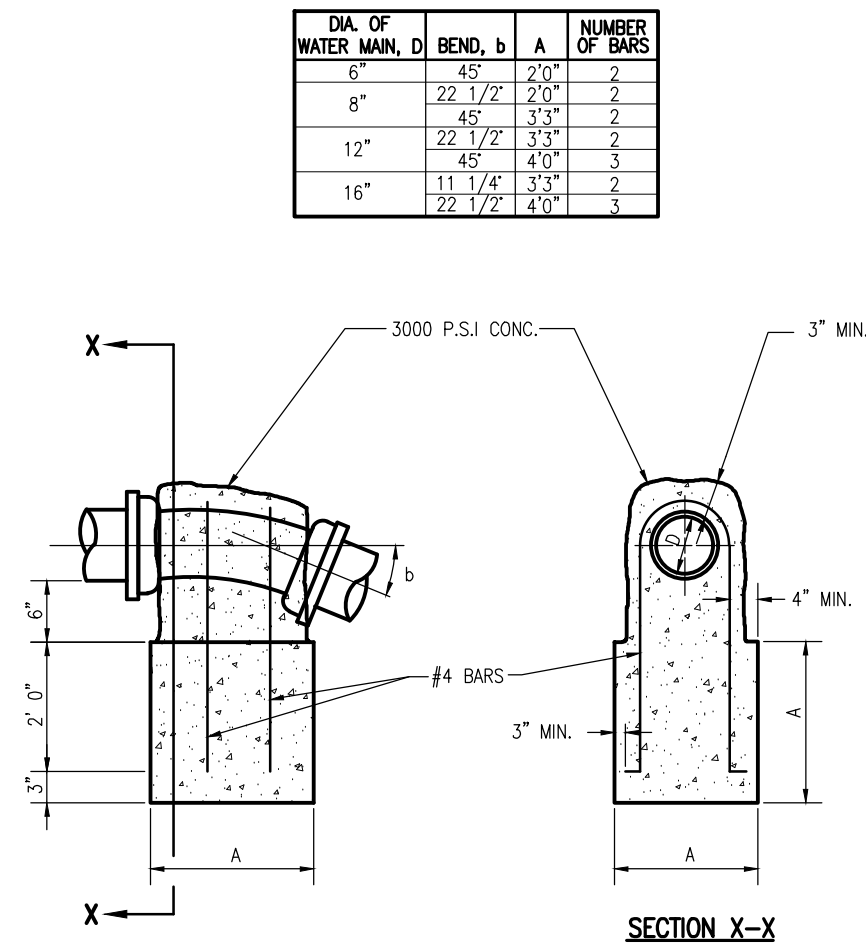
NOTE: 3000 PSI CONCRETE TO BE USED. THRUST BLOCK TO ABUT & REST AGAINST UNDISTURBED SOIL.

**FOR PLUS**

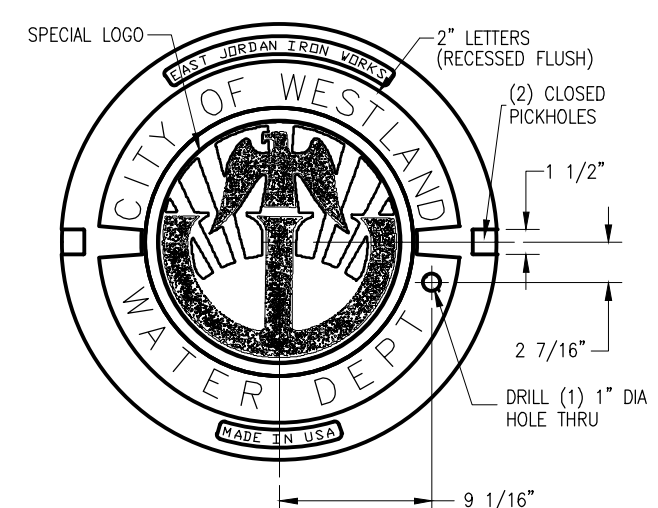
D	A	B	C	E MIN.
20"	7'	5'	2.5'	2'
16"	4'-10"	4'-10"	2'	2'
12"	4'-4"	3'	1'-9"	2'
10"	3'	2'	1'-6"	2'
8"	2'-10"	2'-6"	1'-6"	2'
6"	1'-6"	1'-6"	3"	2'

**FOR TEES**

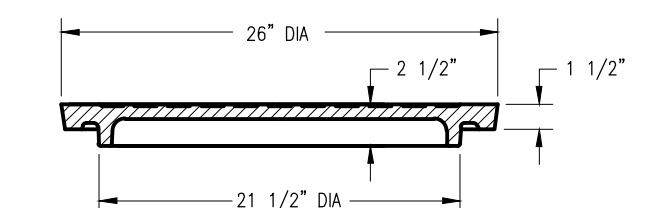
D	A	B	C	E MIN.
20"	6.5'	4.5'	3.5'	3'
16"	4'-8"	4'-8"	2.5'	2.75'
12"	4'	3'	2.5'	2.5'
10"	3'	2'	2'	2.25'
8"	2'-6"	2'	2'	2.25'
6"	2'	2'	2'	2.25'



**VERTICAL ANCHORAGE DETAIL**

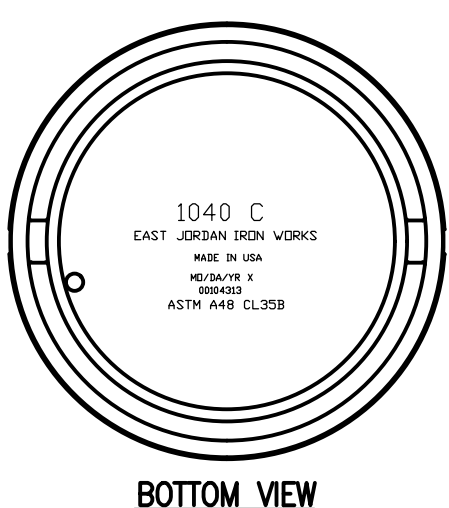


**COVER SECTION**

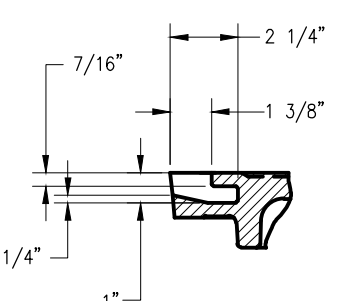


**FRAME SECTION**

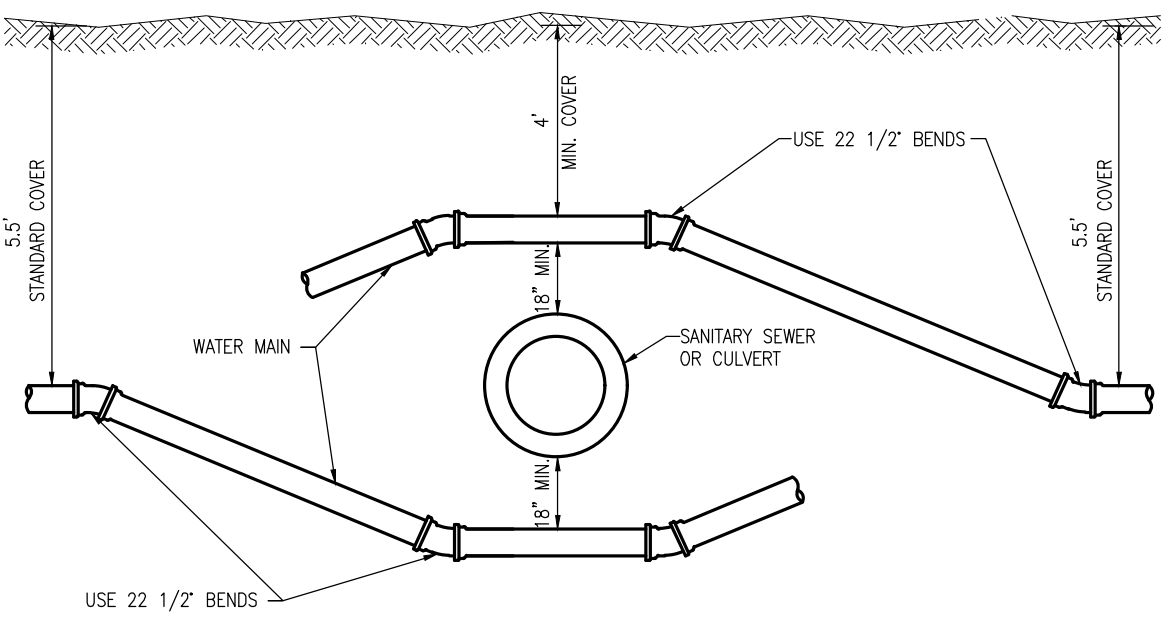
**CAST IRON GATE WELL COVER E.J.L.W. 1040 TYPE "C" SOLID COVER**



**BOTTOM VIEW**

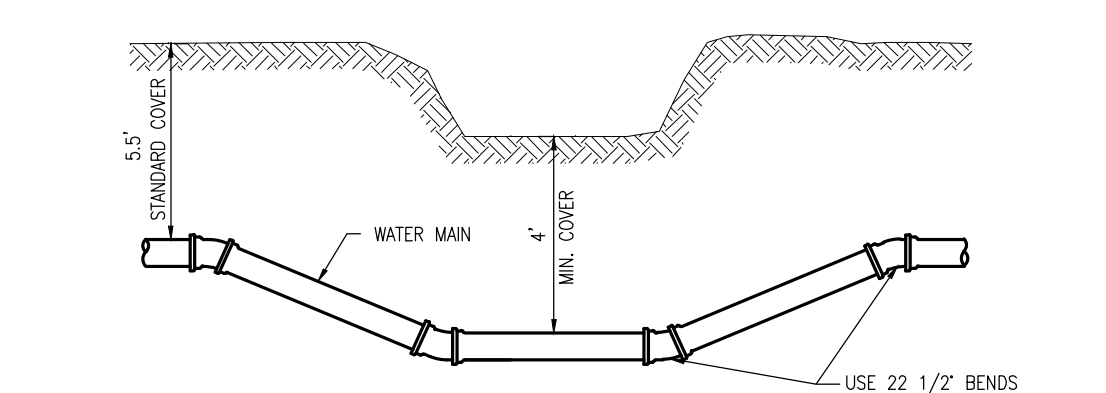


**PICKHOLE DETAIL**



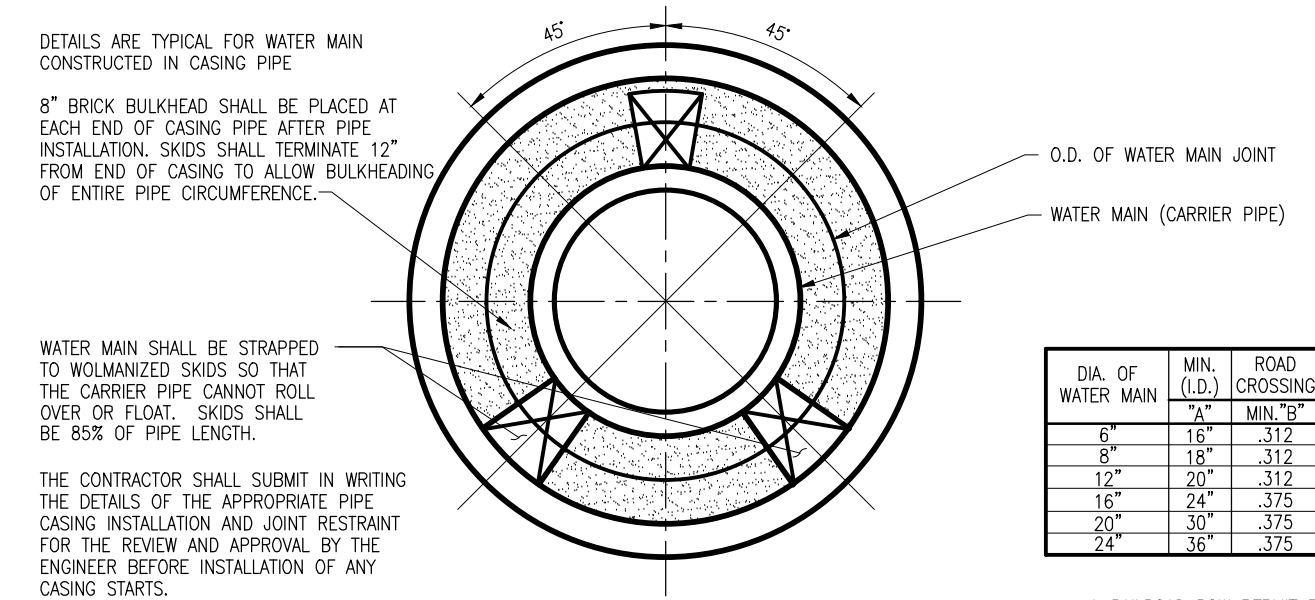
**SEWER OR CULVERT CROSSING**

NOTE:  
1. BENDS CAN BE ELIMINATED FOR MINOR VERTICAL DEFLECTIONS IN DUCTILE IRON PIPE (1 DEGREE OR LESS). IN THIS CASE, THE PIPE MAY BE DEFLECTED UP TO 4" PER JOINT.  
2. PLACE AND COMPACT GRANULAR MATERIAL CLASS II BETWEEN PIPES IN THE VICINITY OF THE CROSSING.  
3. PROVIDE JOINT RESTRAINT BY MEANS OF THRUST BLOCKS AND VERTICAL ANCHORAGES OR OTHER METHOD THAT IS APPROVED BY THE ENGINEER.

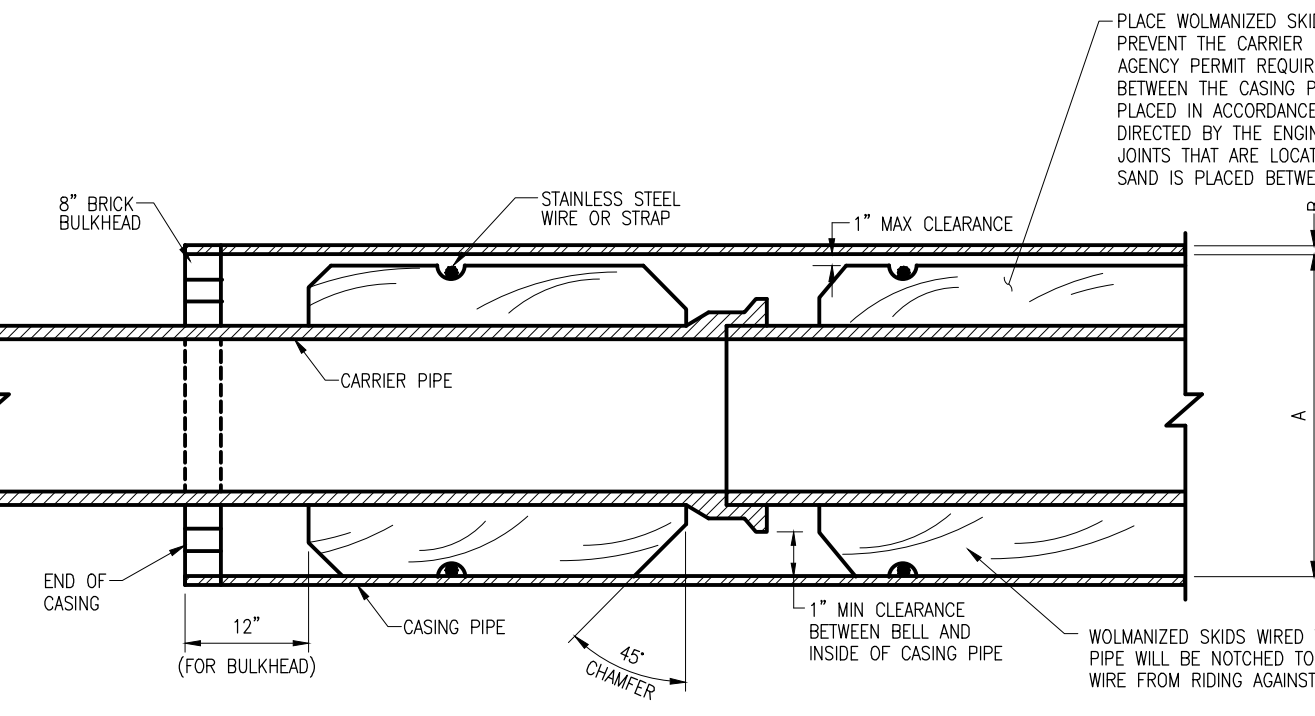


**DITCH OR STREAM CROSSING**

NOTE:  
1. BENDS CAN BE ELIMINATED FOR MINOR VERTICAL DEFLECTIONS IN DUCTILE IRON PIPE (1 DEGREE OR LESS). IN THIS CASE, THE PIPE MAY BE DEFLECTED UP TO 4" PER JOINT.  
2. PLACE AND COMPACT GRANULAR MATERIAL CLASS II BETWEEN PIPES IN THE VICINITY OF THE CROSSING.  
3. PROVIDE JOINT RESTRAINT BY MEANS OF THRUST BLOCKS AND VERTICAL ANCHORAGES OR OTHER METHOD THAT IS APPROVED BY THE ENGINEER.



**PIPE BARREL SUPPORT FOR WATER MAIN CONSTRUCTED IN CASING PIPE**



**STANDARD CASING SECTION**

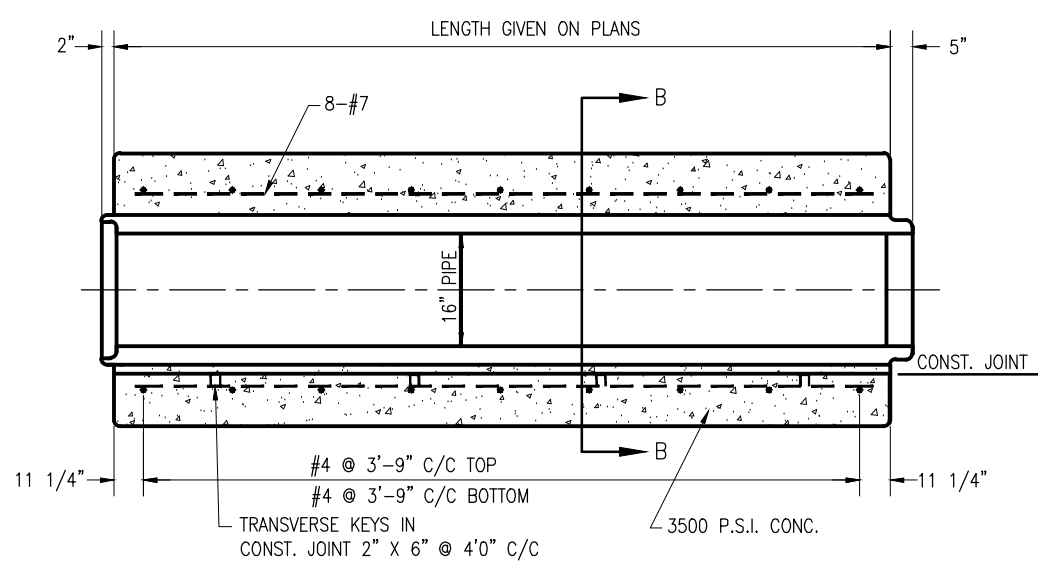
DETAILS ARE TYPICAL FOR WATER MAIN CONSTRUCTED IN CASING PIPE.  
8" BRICK BULKHEAD SHALL BE PLACED AT EACH END OF CASING PIPE AFTER PIPE INSTALLATION. SKIDS SHALL TERMINATE 12" FROM END OF CASING TO ALLOW BULKHEADING OF ENTIRE PIPE CIRCUMFERENCE.  
WATER MAIN SHALL BE STRAPPED TO WOLMANIZED SKIDS SO THAT THE CARRIER PIPE CANNOT ROLL OVER OR FLIP. SKIDS SHALL BE 80% OF PIPE LENGTH.  
THE CONTRACTOR SHALL SUBMIT IN WRITING THE DETAILS OF THE APPROPRIATE PIPE CASING INSTALLATION AND JOINT RESTRAINT FOR THE REVIEW AND APPROVAL BY THE ENGINEER BEFORE INSTALLATION OF ANY CASING STARTS.

DIA. OF WATER MAIN (I.D.)	MIN. ROAD CROSSING	RAILROAD CROSSING	A=INSIDE DIAMETER B=WALL THICKNESS
6"	15'	312'	312'
8"	15'	312'	312'
12"	20'	312'	438'
16"	24'	375'	500'
20"	30'	375'	500'
24"	36'	375'	500'

\* RAILROAD ROW PERMIT REQUIREMENTS MAY CALL FOR A THICKER WALL SECTION.

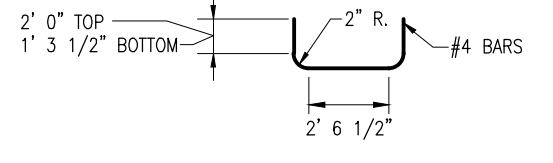
CASING SHALL BE SPIRAL WELDED STEEL PIPE A.S.T.M. A-252, GR. 2.

PLACE WOLMANIZED SKID ALONG THE TOP OF THE CARRIER PIPE IN ORDER TO PREVENT THE CARRIER PIPE FROM ROLLING OVER OR FLOATING IF THE CONTROLLING AGENCY PERMIT REQUIREMENTS INDICATE THAT SAND OR GROUT MUST BE PLACED BETWEEN THE CASING PIPE AND CARRIER PIPE. THEN THE SAND OR GROUT SHALL BE PLACED IN ACCORDANCE WITH THE PERMIT SPECIFICATIONS. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, RESTRAINED JOINTS SHALL BE REQUIRED FOR WATER MAIN JOINTS THAT ARE LOCATED INSIDE THE CASING PIPE IN THE EVENT THAT NO GROUT OR SAND IS PLACED BETWEEN THE CASING PIPE AND CARRIER PIPE.

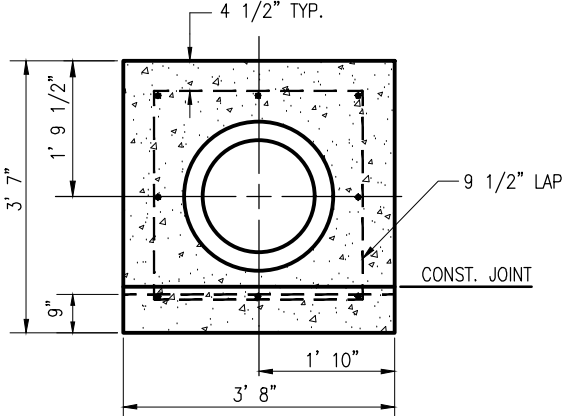


**PROFILE**

LENGTH OF TOP BARS = 7' 1 1/2"  
LENGTH OF BOT. BARS = 5' 8 1/2"



**BAR BENDS**

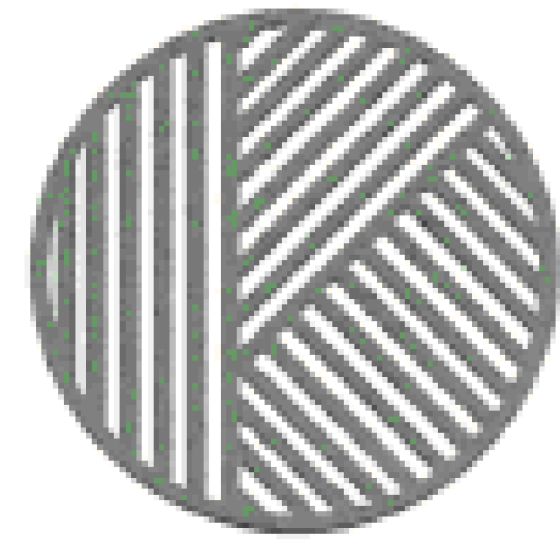


**SECTION B-B**

**16" WATER MAIN ENCASEMENT UNDER DRAINS & DITCHES**



**ISSUED FOR: SITE PLAN APPROVAL**



**Kinship**  
Cultivation + Provisioning

**WESTLAND, MICHIGAN**

**OWNER:**

KINSHIP PROVISION CENTER  
ATTN. CURT MOLINO  
22174 HARLAN DRIVE  
GROSSE ILE, MI 48138

**ARCHITECT:**

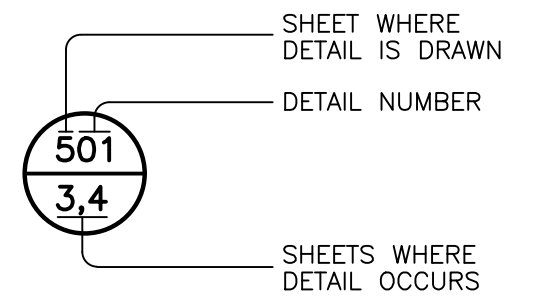
GUIDO ARCHITECTS INC.  
23419 FORD ROAD  
DEARBORN, MICHIGAN 48128  
(313) 274-7800  
dkrestel@guidoarchitects.com

**ENGINEERING:**

LANDMARK ENGINEERING  
HASSAN ODEH  
9401 GENERAL DR.  
PLYMOUTH, MICHIGAN 48170  
(248) 557-3000  
hodeh@landmarkengineeringco.com



THE INTERNATIONAL SYMBOL OF ACCESSIBILITY FOR THE PHYSICALLY HANDICAPPED TO BE POSTED AS REQUIRED BY MICHIGAN STATE LAW.



**SHEET INDEX:**

ARCHITECTURAL/STRUCTURAL

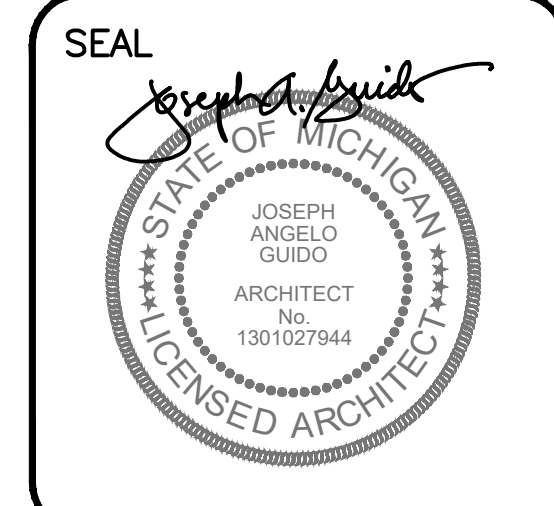
T-1	TITLE SHEET
1 (1 OF 2)	KEMTEC PARTIAL ALTA SURVEY (ALL PARCEL 3/PART PARCEL 2 BEFORE AMENDMENT)
2 (2 OF 2)	KEMTEC PARTIAL ALTA SURVEY (ALL PARCELS 1&2/PART PARCEL 3 BEFORE AMENDMENT)
ASP-1	ARCHITECTURAL SITE PLAN (WITH AMENDED PARCELS 2&3)
21-69292V2	PHOTOMETRIC PLAN
SP-0	SITE PLAN COVER SHEET
SP-1	SITE PLAN LAYOUT/UTILITIES PLAN
SP-2	SITE PLAN GRADING/SOIL EROSION CONTROL PLAN
TS-1	SITE PLAN TOPOGRAPHIC SURVEY (WITH AMENDED PARCELS 2&3)
LP-1	LANDSCAPE PLANTING PLAN
LP-2	LANDSCAPE NOTES AND DETAILS
A-1	PROVISION STORE FLOOR PLAN
A-2	CULTIVATION FACILITY FLOOR PLAN
A-3	PROVISION STORE ELEVATIONS
A-4	PROVISION STORE ELEVATIONS
A-5	CULTIVATION FACILITY ELEVATIONS

UNDER SEPARATE COVER

EXTERIOR RENDERINGS  
INTERIOR RENDERINGS  
TRAFFIC STUDY

THESE CONSTRUCTION DOCUMENTS WERE PREPARED FOR COMPLIANCE WITH THE MICHIGAN CONSTRUCTION CODES IN EFFECT AT THE TIME OF PERMIT SUBMITTAL. ALL ENGINEERS, CONTRACTORS AND SUPPLIERS INVOLVED WITH THIS PROJECT SHALL COMPLY WITH THE SAME CODES, ISSUED AND APPROVED CODE MODIFICATIONS AND/OR MUNICIPALITY CONSTRUCTION BOARDS OF APPEALS RULINGS AND WHENEVER REQUIRED SHALL PROVIDE SHOP DRAWINGS AND SUBMITTALS CLEARLY DESCRIBING COMPLIANCE TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE FOR REVIEW AND APPROVAL.

ISSUED	1/7/2022
SPA	
REVISED	2/2/2022
OHM REVIEW-SHT. TITLES	



JOB NO.	1821
SHEET NO.	T-1



STORM CATCH BASIN  
 INV. 12' CONC. W=657.84'  
 INV. 12' CONC. E=657.89'  
 INV. 12' CONC. N=657.89'  
 INV. 12' CONC. S=657.89'

STORM CATCH BASIN  
 INV. 12' CONC. W=657.84'  
 INV. 12' CONC. E=657.89'  
 INV. 12' CONC. N=657.89'  
 INV. 12' CONC. S=657.89'

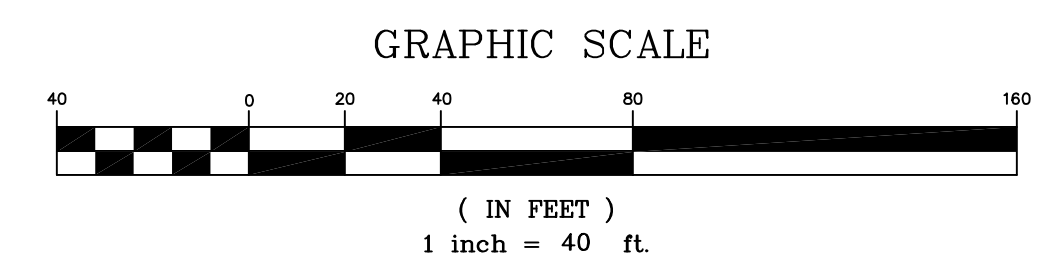
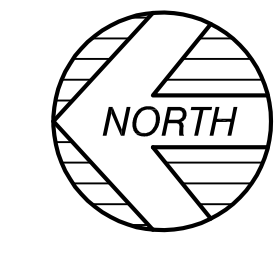
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 INV. 12' CONC. E=657.89'  
 INV. 12' CONC. N=657.89'  
 INV. 12' CONC. S=657.89'

STORM CATCH BASIN  
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 INV. 12' CONC. W=657.84'  
 INV. 12' CONC. E=657.89'  
 INV. 12' CONC. N=657.89'  
 INV. 12' CONC. S=657.89'



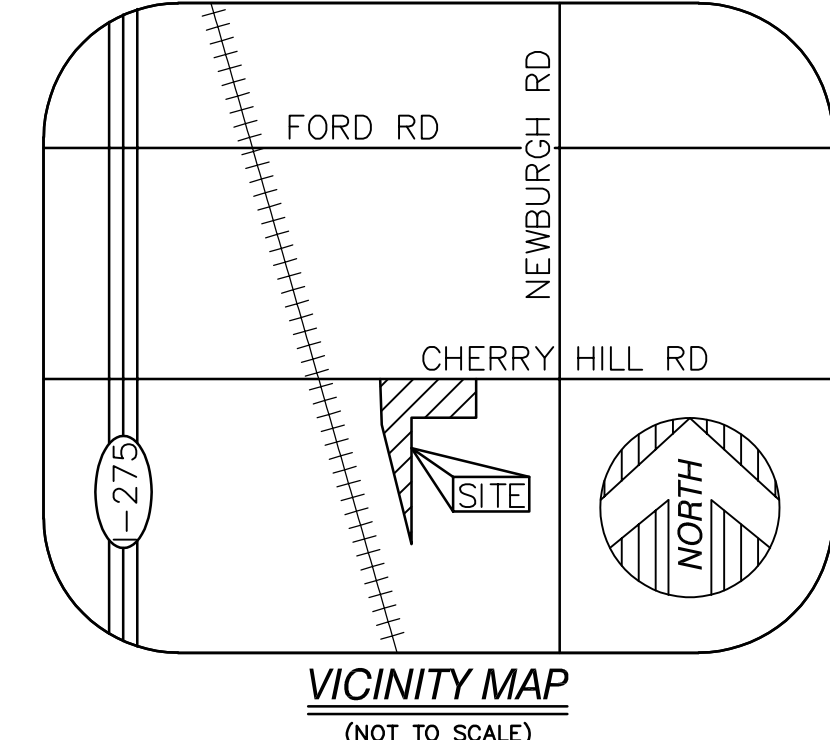
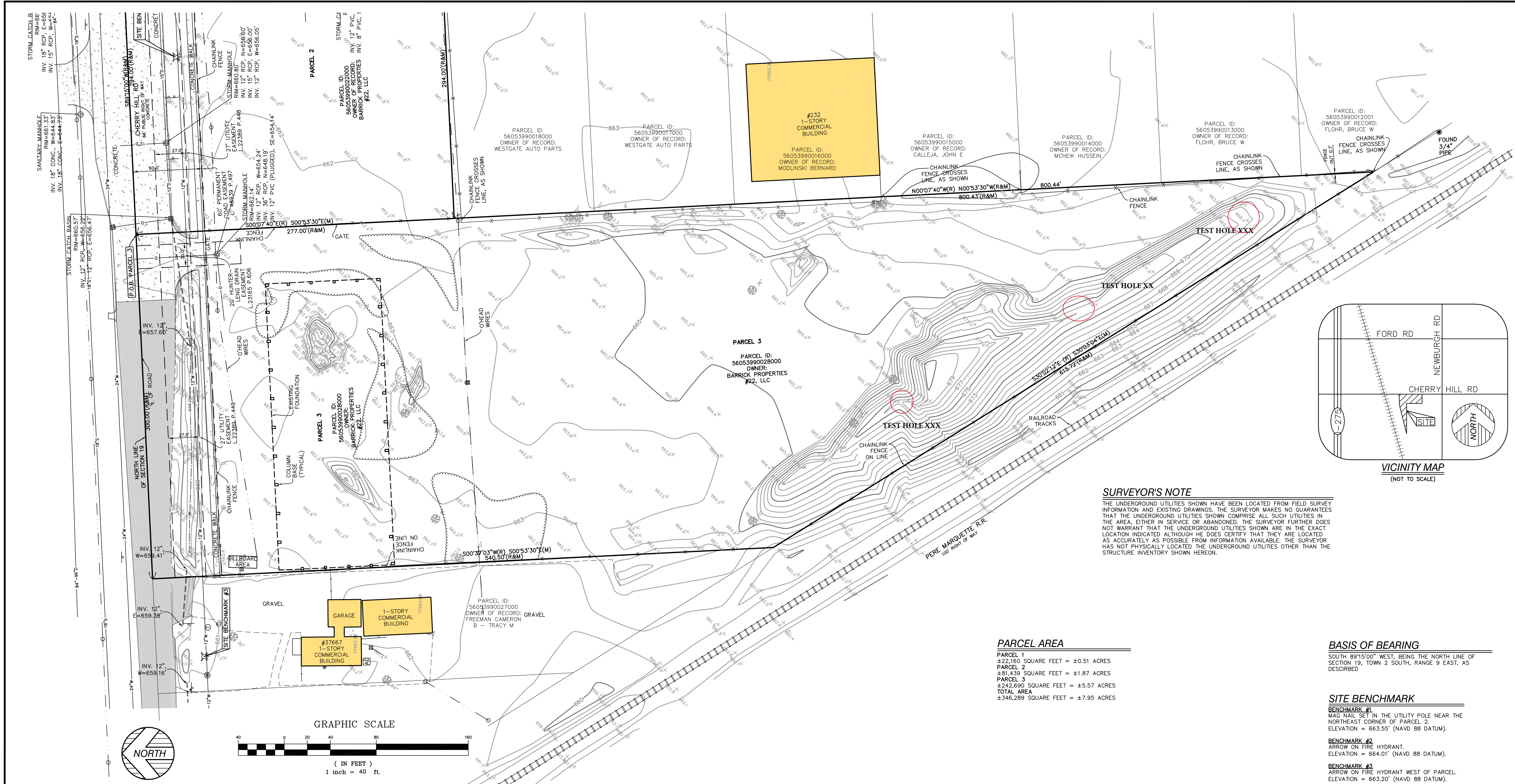
**LEGEND**

- FOUND MONUMENT (AS NOTED)
- (R&M) FOUND SECTION CORNER (AS NOTED)
- (R) RECORD AND MEASURED DIMENSION
- (M) MEASURED DIMENSION
- X 0.50 GROUND ELEVATION
- ELECTRIC METER
- UTILITY POLE
- TELEPHONE MANHOLE
- CLEANOUT
- ROUND CATCH BASIN
- SQUARE CATCH BASIN
- STORM DRAIN MANHOLE
- FIRE HYDRANT
- WATER GATE MANHOLE
- AIR CONDITIONING UNIT
- BOLLARD
- SINGLE POST SIGN
- DOUBLE POST SIGN
- DECIDUOUS TREE (AS NOTED)
- EXISTING COLUMN BASE
- PARCEL BOUNDARY LINE
- - - ADJOINER PARCEL LINE
- - - SECTION LINE
- - - EASEMENT (AS NOTED)
- BUILDING
- CONCRETE CURB
- EDGE OF CONCRETE (CONC.)
- EDGE OF ASPHALT (ASPH.)
- EDGE OF GRAVEL
- - - FENCE (AS NOTED)
- - - WALL (AS NOTED)
- TREE / BRUSH LINE (AS NOTED)
- OVERHEAD UTILITY LINE
- STORM LINE
- WATER LINE
- CORRUGATED METAL PIPE (AS NOTED)
- MINOR CONTOUR LINE
- MAJOR CONTOUR LINE
- BUILDING AREA
- ASPHALT
- CONCRETE

**ALTA / NSPS LAND TITLE SURVEY**  
 PREPARED FOR: KINSHIP CANNABIS CO  
 37435 CHERRY HILL RD, WESTLAND, MICHIGAN,  
 PART OF SECTION 19,  
 TOWN 2 SOUTH, RANGE 9 EAST

DATE	BY	REVISION	DESCRIPTION
01/15/21	DJ	3	ROTATE AND CHANGE SCALE OF DRAWING, REVISE PROPERTY LINE CALLS
12/21/20	JMH	2	REVISED UTILITIES AND TOPOGRAPHY
12/15/20	MRJ	1	REVISED UTILITIES





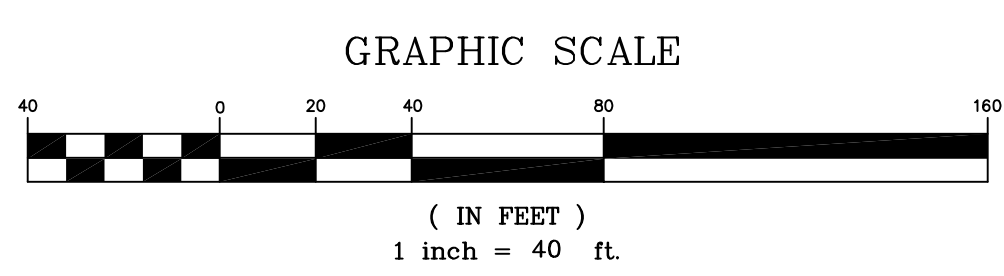
**SURVEYOR'S NOTE**  
 THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO WARRANTIES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT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

**PARCEL AREA**

PARCEL 1	\$22,160 SQUARE FEET = ±0.51 ACRES
PARCEL 2	±81,439 SQUARE FEET = ±1.87 ACRES
PARCEL 3	±242,690 SQUARE FEET = ±5.57 ACRES
<b>TOTAL AREA</b>	<b>±346,289 SQUARE FEET = ±7.95 ACRES</b>

**BASIS OF BEARING**  
 SOUTH 89°15'00" WEST, BEING THE NORTH LINE OF SECTION 19, TOWN 2 SOUTH, RANGE 9 EAST, AS DESCRIBED

**SITE BENCHMARK**  
**BENCHMARK #1**  
 MAG NAIL SET IN THE UTILITY POLE NEAR THE NORTHEAST CORNER OF PARCEL 2.  
 ELEVATION = 663.55' (NAVD 88 DATUM).  
**BENCHMARK #2**  
 ARROW ON FIRE HYDRANT.  
 ELEVATION = 664.01' (NAVD 88 DATUM).  
**BENCHMARK #3**  
 ARROW ON FIRE HYDRANT WEST OF PARCEL.  
 ELEVATION = 663.20' (NAVD 88 DATUM).



**LEGEND**

●	FOUND MONUMENT (AS NOTED)	—	CONCRETE CURB
○	FOUND SECTION CORNER (AS NOTED)	—	EDGE OF CONCRETE (CONC.)
(R&M)	RECORD AND MEASURED DIMENSION	—	EDGE OF ASPHALT (ASPH.)
(R)	RECORD DIMENSION	—	EDGE OF GRAVEL
(M)	MEASURED DIMENSION	—	FENCE (AS NOTED)
0.00	GROUND ELEVATION	—	WALL (AS NOTED)
⊕	ELECTRIC METER	—	TREE / BRUSH LINE (AS NOTED)
⊕	UTILITY POLE	—	OVERHEAD UTILITY LINE
⊕	TELEPHONE MANHOLE	—	STORM LINE
⊕	CLEANOUT	—	WATER LINE
⊕	ROUND CATCH BASIN	—	CORRUGATED METAL PIPE (AS NOTED)
⊕	SQUARE CATCH BASIN	—	MINOR CONTOUR LINE
⊕	STORM DRAIN MANHOLE	—	MAJOR CONTOUR LINE
⊕	FIRE HYDRANT	—	BUILDING AREA
⊕	WATER GATE MANHOLE	—	ASPHALT
⊕	AIR CONDITIONING UNIT	—	CONCRETE
⊕	BOLLARD		
⊕	SINGLE POST SIGN		
⊕	DOUBLE POST SIGN		
⊕	DECIDUOUS TREE (AS NOTED)		
⊕	EXISTING COLUMN BASE		
—	PARCEL BOUNDARY LINE		
—	ADJOINER PARCEL LINE		
—	SECTION LINE		
—	EASEMENT (AS NOTED)		
—	BUILDING		

**PROPERTY DESCRIPTION**  
 PARCELS OF LAND SITUATED IN THE CITY WESTLAND, COUNTY OF WAYNE, STATE OF MICHIGAN, BEING DESCRIBED AS:

**PARCEL 1:**  
 THAT PART OF THE EAST 1/2 OF SECTION 19, TOWN 2 SOUTH, RANGE 9 EAST, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE NORTH LINE OF SAID SECTION DISTANT SOUTH 89 DEGREES 15 MINUTES WEST 288.71 FEET FROM THE NORTHEAST CORNER OF SECTION 19 AND PROCEEDING THENCE SOUTH 89 DEGREES 15 MINUTES WEST ALONG SAID NORTH LINE 80 FEET; THENCE SOUTH 00 DEGREES 07 MINUTES 40 SECONDS EAST, 277 FEET; THENCE NORTH 89 DEGREES 15 MINUTES EAST 80 FEET; THENCE NORTH 00 DEGREES 07 MINUTES 40 SECONDS WEST, 277 FEET TO THE POINT OF BEGINNING.

**PARCEL 2:**  
 THAT PART OF THE EAST 1/2 OF SECTION 19, TOWN 2 SOUTH, RANGE 9 EAST, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE NORTH LINE OF SAID SECTION DISTANT SOUTH 89 DEGREES 15 MINUTES WEST 368.71 FEET FROM THE NORTHEAST CORNER OF SECTION 19 AND PROCEEDING THENCE SOUTH 89 DEGREES 15 MINUTES WEST ALONG SAID NORTH LINE 80 FEET; THENCE SOUTH 00 DEGREES 07 MINUTES 40 SECONDS EAST, 277 FEET; THENCE NORTH 89 DEGREES 15 MINUTES EAST, 294 FEET; THENCE NORTH 00 DEGREES 07 MINUTES 40 SECONDS WEST, 277 FEET TO THE POINT OF BEGINNING.

**PARCEL 3:**  
 THAT PART OF THE EAST 1/2 OF SECTION 19, TOWN 2 SOUTH, RANGE 9 EAST, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE NORTH LINE OF SAID SECTION DISTANT SOUTH 89 DEGREES 15 MINUTES WEST 662.71 FEET (RECORDED SOUTH 89 DEGREES 43 MINUTES 50 SECONDS WEST, 657.73 FEET) FROM THE NORTHEAST CORNER OF SECTION 19 AND PROCEEDING THENCE SOUTH 89 DEGREES 15 MINUTES WEST (RECORDED AS SOUTH 89 DEGREES 43 MINUTES 50 SECONDS WEST) ALONG SAID NORTH LINE 300.00 FEET; THENCE SOUTH 00 DEGREES 37 MINUTES 03 SECONDS WEST (RECORDED AS SOUTH 00 DEGREES 24 MINUTES 40 SECONDS EAST) 540.50 FEET TO THE NORTHEASTERLY LINE OF PERE MARQUETTE RAILROAD RIGHT-OF-WAY; THENCE SOUTH 30 DEGREES 02 MINUTES 12 SECONDS EAST (RECORDED AS SOUTH 29 DEGREES 34 MINUTES 14 SECONDS EAST) ALONG SAID NORTHEASTERLY LINE 615.72 FEET; THENCE NORTH 00 DEGREES 07 MINUTES 40 SECONDS WEST (RECORDED AS NORTH 00 DEGREES 24 MINUTES 40 SECONDS WEST) 1077.43 FEET TO THE POINT OF BEGINNING.

**TITLE REPORT NOTE**  
 ONLY THOSE EXCEPTIONS CONTAINED WITHIN THE FIDELITY NATIONAL TITLE INSURANCE COMPANY COMMITMENT NO. C-147080, DATED JULY 7, 2017, AND RELISTED BELOW WERE CONSIDERED FOR THIS SURVEY. NO OTHER RECORDS RESEARCH WAS PERFORMED BY THE CERTIFYING SURVEYOR.

K. PERMANENT ROAD EASEMENT AGREEMENT AS RECORDED IN LIBER 48939, PAGE 497, WAYNE COUNTY RECORDS. (AS SHOWN)

L. EASEMENT FOR WATER MAINS AS RECORDED IN LIBER 14713, PAGE 669, WAYNE COUNTY RECORDS, AS TO PARCELS 1 AND 2. (DOCUMENT IS ILLEGIBLE)

M. POLE LINE PERMIT TO THE DETROIT EDISON COMPANY AS RECORDED IN LIBER 11376, PAGE 191, WAYNE COUNTY RECORD, AS TO PARCELS 1 AND 2. (SEE DOCUMENT FOR TERMS AND CONDITIONS)

N. POLE LINE PERMIT TO THE DETROIT EDISON COMPANY AS RECORDED IN LIBER 11376, PAGE 192, WAYNE COUNTY RECORD, AS TO PARCEL 3. (SEE DOCUMENT FOR TERMS AND CONDITIONS)

O. EASEMENT TO MICHIGAN BELL TELEPHONE COMPANY AS RECORDED IN LIBER 22389, PAGE 447, WAYNE COUNTY RECORDS, AS TO PARCEL 1. (AS SHOWN)

P. EASEMENT TO MICHIGAN BELL TELEPHONE COMPANY AS RECORDED IN LIBER 22389, PAGE 448, WAYNE COUNTY RECORDS, AS TO PARCEL 2. (AS SHOWN)

Q. EASEMENT TO MICHIGAN BELL TELEPHONE COMPANY AS RECORDED IN LIBER 22389, PAGE 449, WAYNE COUNTY RECORDS, AS TO PARCEL 3. (AS SHOWN)

R. EASEMENT FOR HUNTER-LENG DRAIN AND BRANCHES AS RECORDED IN LIBER 23165, PAGE 606, WAYNE COUNTY RECORDS, AS TO PARCEL 3. (AS SHOWN)

**SURVEYOR'S CERTIFICATION**  
 TO CHIRCO TITLE AGENCY, INC.; FIDELITY NATIONAL TITLE INSURANCE COMPANY; AND KINSHIP CANNABIS CO.

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDED ITEMS 2, 4, 5, 7A, 8, 9, AND 11 OF TABLE A, THEREOF. THE FIELD WORK WAS COMPLETED ON 12/08/20.

DATE OF PLAT OR MAP: 12/09/20

DANIEL J. JACKSON  
 PROFESSIONAL SURVEYOR  
 MICHIGAN LICENSE NO. 53499  
 22556 GRATIOT AVE., EASTPOINTE, MI 48021  
 djackson@kemtec-survey.com

**KEM-TEC**  
 A GROUP OF COMPANIES  
 PROFESSIONAL ENGINEERING, SURVEYING & ENVIRONMENTAL SERVICES  
 Eastpointe, Detroit, Grand Blanc  
 (800) 255-7222, (313) 758-0977, (734) 994-0888, (800) 694-0001  
 www.kemteccgroupofcompanies.com

**ALTA / NSPS LAND TITLE SURVEY**  
 PREPARED FOR: KINSHIP CANNABIS CO  
 37435 CHERRY HILL RD, WESTLAND, MICHIGAN,  
 PART OF SECTION 19,  
 TOWN 2 SOUTH, RANGE 9 EAST

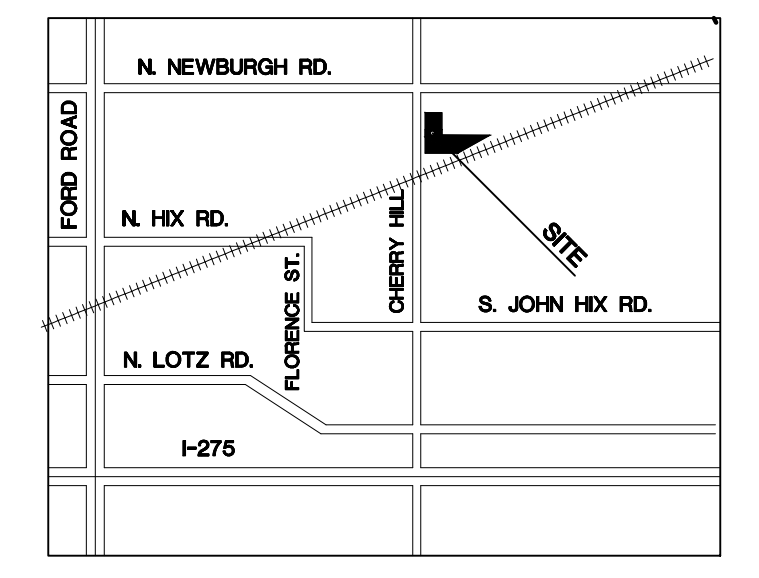
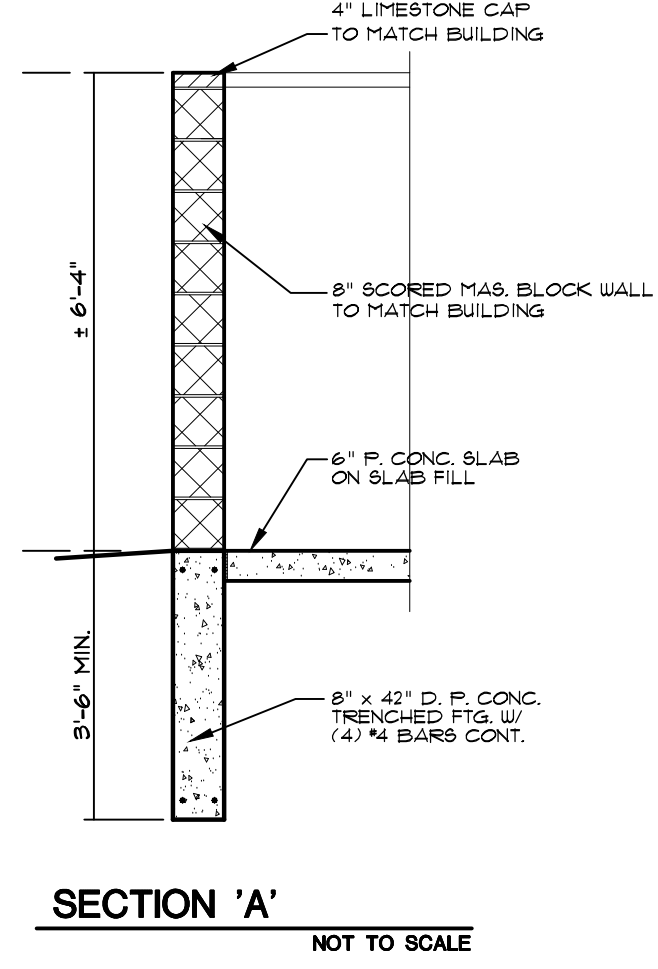
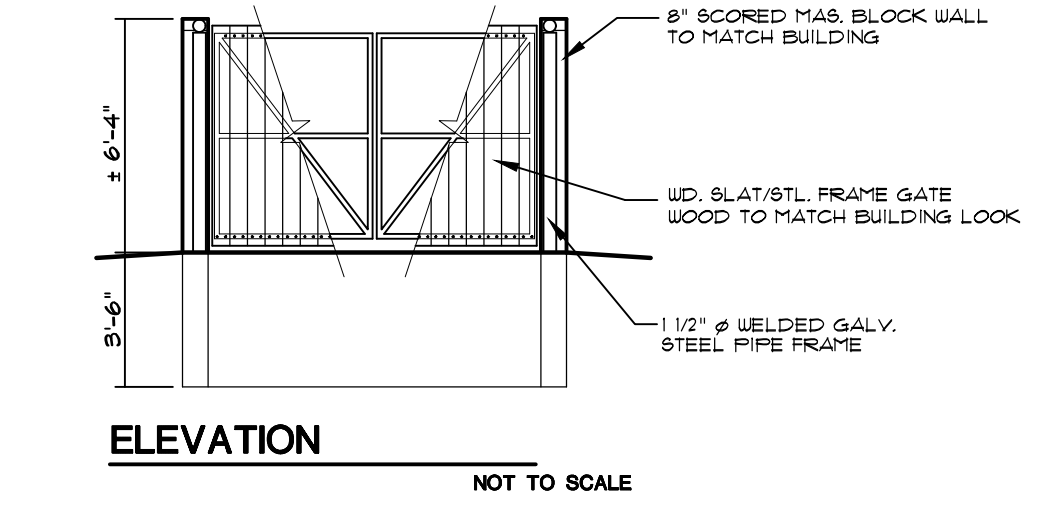
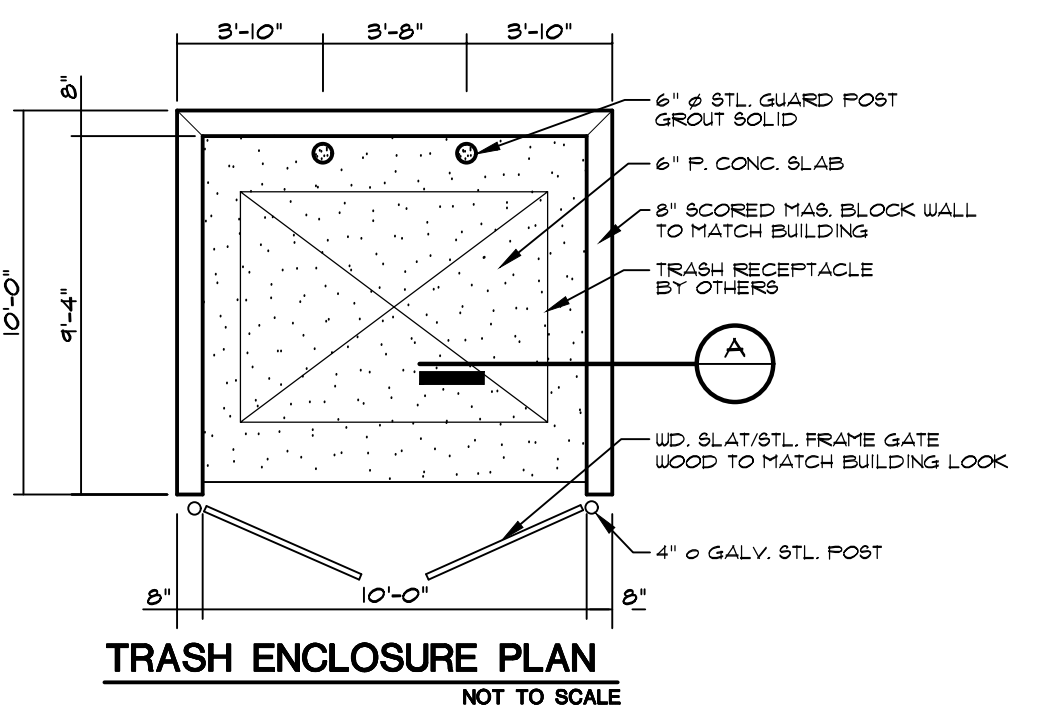
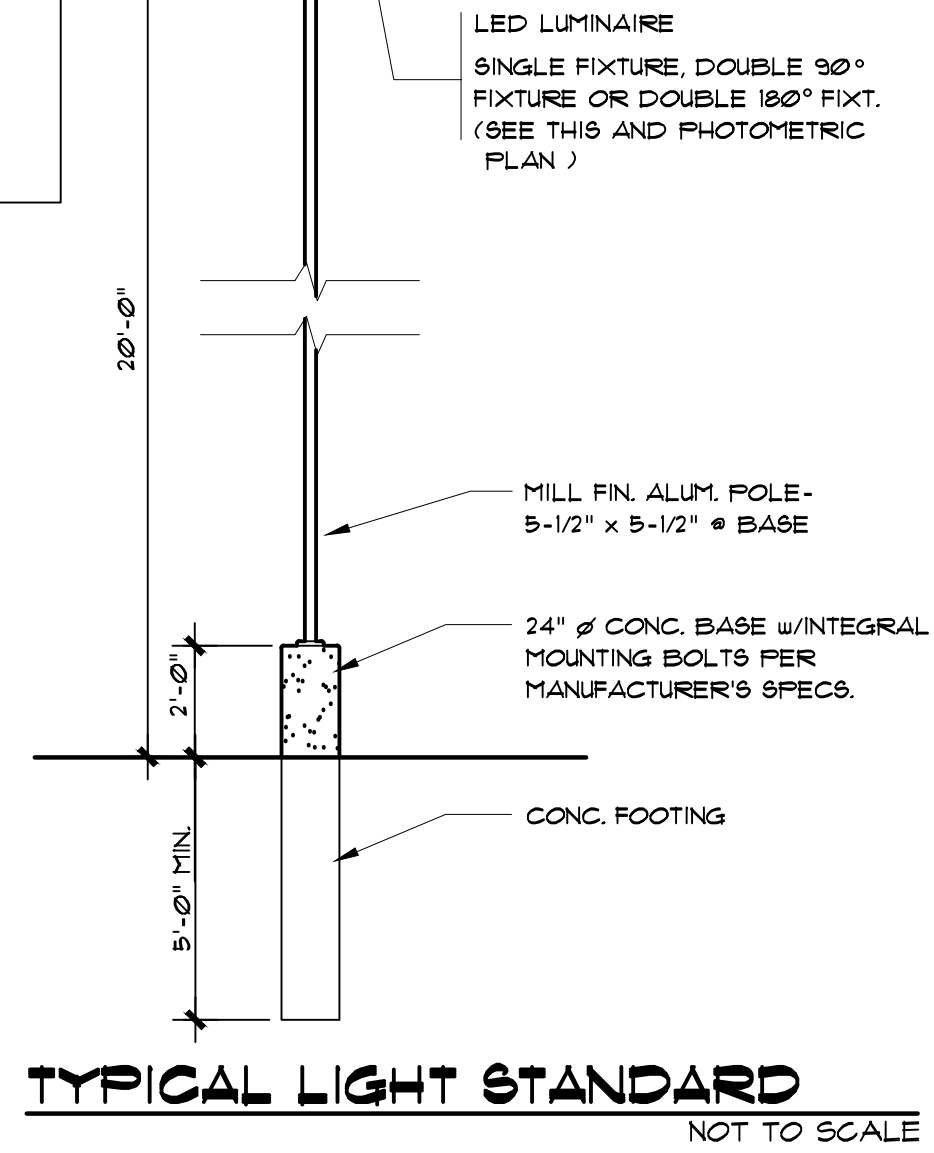
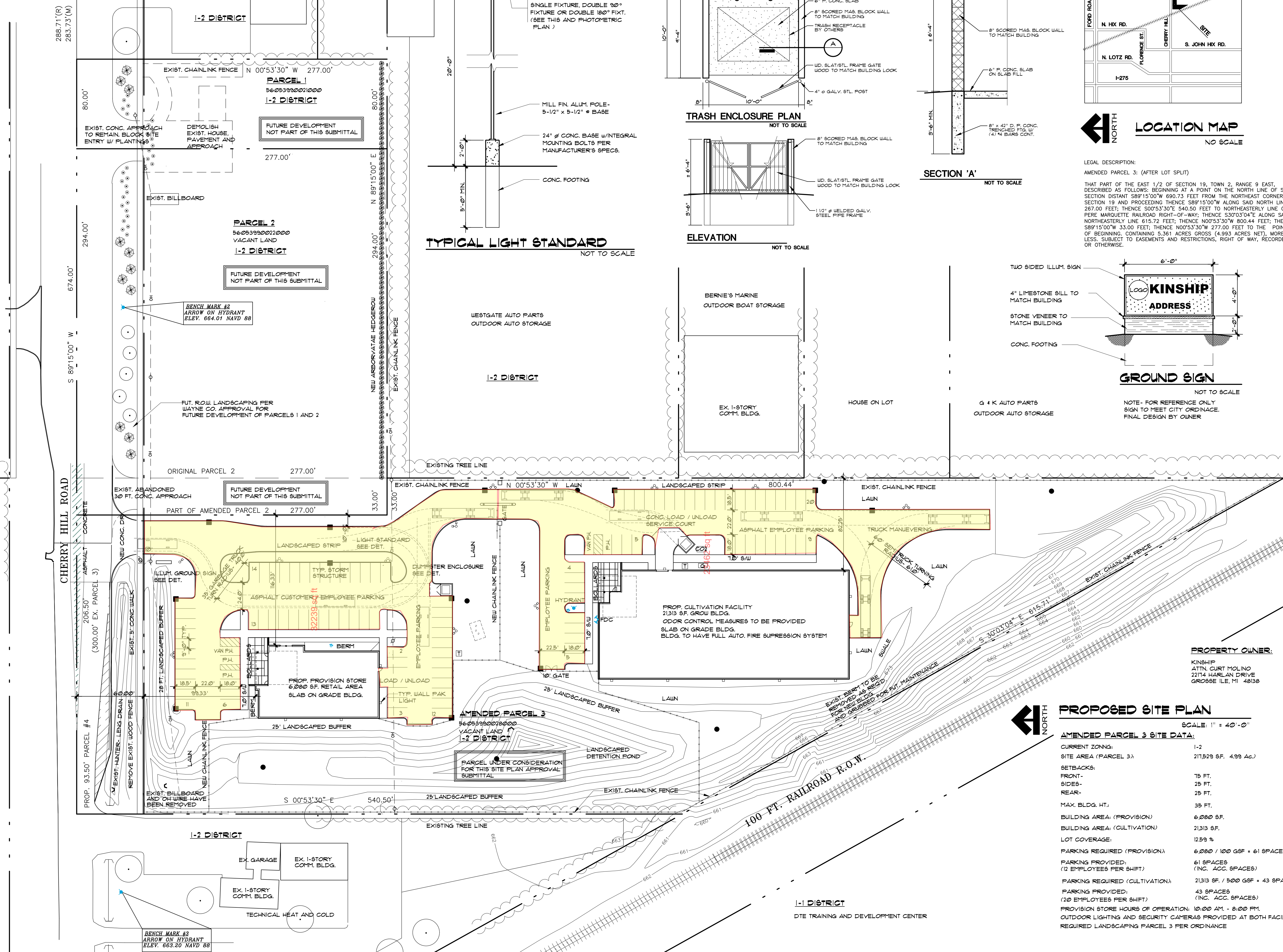
DATE	BY	REVISION	DESCRIPTION
01/15/21	DJ	3	ROTATE AND CHANGE SCALE OF DRAWING; REVISE PROPERTY LINE CALLS
12/21/20	JMH	2	REVISED UTILITIES AND TOPOGRAPHY
12/15/20	MRJ	1	REVISED UTILITIES

SCALE: 1" = 30'

1 OF 2 SHEETS

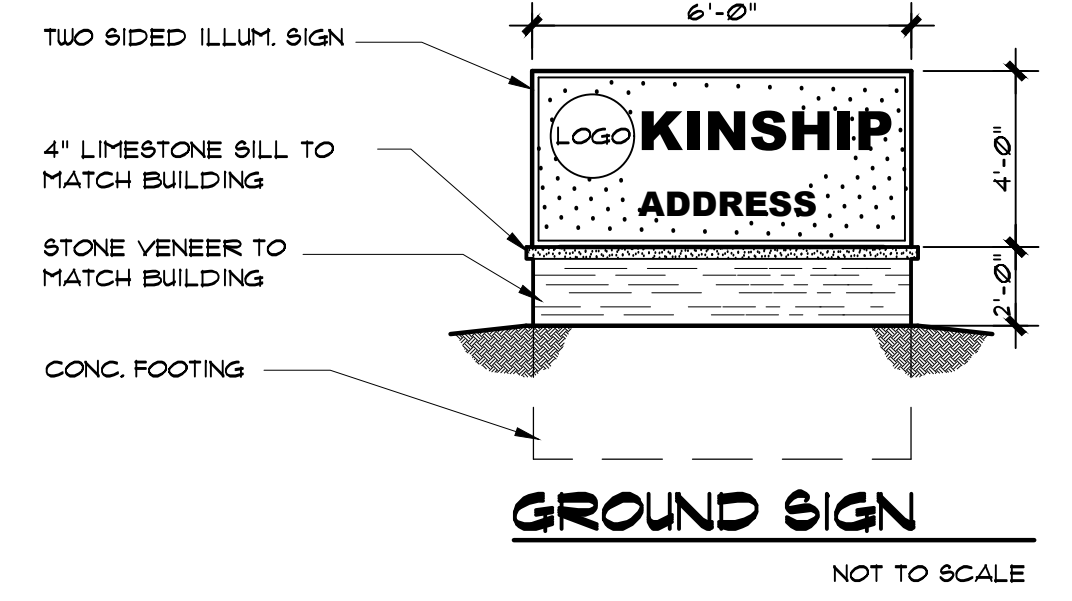


POINT OF COMMENCEMENT  
NORTHEAST CORNER  
OF SECTION 19  
TOWN 2 SOUTH  
RANGE 9 EAST



**LOCATION MAP**  
NO SCALE

LEGAL DESCRIPTION:  
AMENDED PARCEL 3: (AFTER LOT SPLIT)  
THAT PART OF THE EAST 1/2 OF SECTION 19, TOWN 2, RANGE 9 EAST, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE NORTH LINE OF SAID SECTION DISTANT S89°15'00"W 690.73 FEET FROM THE NORTHEAST CORNER OF SECTION 19 AND PROCEEDING THENCE S89°15'00"W ALONG SAID NORTH LINE 267.00 FEET; THENCE S00°53'30"E 540.50 FEET TO NORTHEASTELY LINE OF PERE MARQUETTE RAILROAD RIGHT-OF-WAY; THENCE S30°03'04"E ALONG SAID NORTHEASTELY LINE 615.72 FEET; THENCE N00°53'30"W 800.44 FEET; THENCE S89°15'00"W 33.00 FEET; THENCE N00°53'30"W 277.00 FEET TO THE POINT OF BEGINNING, CONTAINING 5.361 ACRES (GROSS (4.993 ACRES NET), MORE OR LESS, SUBJECT TO EASEMENTS AND RESTRICTIONS, RIGHT OF WAY, RECORDED OR OTHERWISE.



NOTE: FOR REFERENCE ONLY  
SIGN TO MEET CITY ORDINANCE  
FINAL DESIGN BY OWNER

**PROPOSED SITE PLAN**  
SCALE: 1" = 40'-0"

**AMENDED PARCEL 3 SITE DATA:**

CURRENT ZONING:	I-2
SITE AREA (PARCEL 3):	21,529 SF, 4.99 Ac.
SETBACKS:	
FRONT-	15 FT.
SIDES-	25 FT.
REAR-	25 FT.
MAX. BLDG. HT.:	35 FT.
BUILDING AREA: (PROVISION)	6,000 SF.
BUILDING AREA: (CULTIVATION)	21,313 SF.
LOT COVERAGE:	12.59 %
PARKING REQUIRED (PROVISION):	6,000 / 100 GSF = 61 SPACES
PARKING PROVIDED:	61 SPACES
(12 EMPLOYEES PER SHIFT)	(INC. ACC. SPACES)
PARKING REQUIRED (CULTIVATION):	21,313 SF. / 500 GSF = 43 SPACES
PARKING PROVIDED:	43 SPACES
(20 EMPLOYEES PER SHIFT)	(INC. ACC. SPACES)
PROVISION STORE HOURS OF OPERATION:	10:00 AM - 8:00 PM.
OUTDOOR LIGHTING AND SECURITY CAMERAS PROVIDED AT BOTH FACILITIES	
REQUIRED LANDSCAPING PARCEL 3 PER ORDINANCE	

Dimensions are to rough framing unless noted otherwise.  
DO NOT SCALE DRAWING. Use figure dimensions only.  
NOTE: This drawing is a treatment of services and is the intellectual property of Guido Architects Inc. The information herein is provided for informational purposes only. All rights reserved.  
Guido Architects Inc.  
2349 Ford Road, Dearborn, MI 48128  
(313) 274-7800 Fax (313) 274-7808  
Email: info@guidoarchitects.com

DATE: 10-21-21  
REVISION: 10-20-21  
DRAWN BY: JG  
CHECKED BY: JG  
DATE: 10-21-21  
REVISION: 10-20-21  
DRAWN BY: JG  
CHECKED BY: JG

DATE: 10-21-21  
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**Guido Architects Inc.**  
Architects / Planners  
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Email: info@guidoarchitects.com

PROJECT NO. 1821  
DATE: 10-21-21

**KINSHIP PROVISIONING AND CULTIVATION**  
ARCHITECTURAL SITE PLAN

PROJECT NO. 1821  
DATE: 10-21-21

**ASP-1**

DATE: 10-21-21  
REVISION: 10-20-21  
DRAWN BY: JG  
CHECKED BY: JG





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

P1, P2, & P3

**Specifications**

EPA: 0.95 ft<sup>2</sup>  
Length: 26" (660mm)  
Width: 13" (330mm)  
Height: 3" (76mm)  
Weight (max): 16.5 lbs (7.5kg)

**Introduction**

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

**Ordering Information** EXAMPLE: DSX0 LED P4 40K T3M MVOLT SPA NLTAR2 P1RH NDOBX

Label	Abb.	Color Temperature	Beam Angle	Mounting	Notes
DSX0 LED	DSX0	40K	30°	T3M	Top Mount
P1	P1	40K	30°	SPA	Spot pole mounting
P2	P2	40K	30°	SPA	Spot pole mounting
P3	P3	40K	30°	SPA	Spot pole mounting
NLTAR2	NLTAR2	40K	30°	SPA	Spot pole mounting
P1RH	P1RH	40K	30°	SPA	Spot pole mounting
NDOBX	NDOBX	40K	30°	SPA	Spot pole mounting

**System**

System	Notes	Notes
DSX0	High-IP protection (IP67)	Dark bronze
DSX0	High-IP protection (IP67)	Black
DSX0	High-IP protection (IP67)	White
DSX0	High-IP protection (IP67)	Brushed aluminum
DSX0	High-IP protection (IP67)	Black
DSX0	High-IP protection (IP67)	White
DSX0	High-IP protection (IP67)	Brushed aluminum
DSX0	High-IP protection (IP67)	Black
DSX0	High-IP protection (IP67)	White
DSX0	High-IP protection (IP67)	Brushed aluminum

LITHONIA LIGHTING COMMERCIAL OUTDOOR

One Lithonia Way • Corning, Georgia 30512 • Phone: 1-800-705-SERV (7378) • [www.lithonia.com](http://www.lithonia.com)

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DSX0 LED Rev: 09/2021 Page 1 of 8



**WDGE3 LED Architectural Wall Sconce**

W1

**Specifications**

Depth (D1): 6"  
Depth (D2): 1.5"  
Height: 10"  
Width: 18"  
Weight (without options): 19.5 lbs

**Introduction**

The WDGE3 LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean, rectangular design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing a true site-wide solution. Embedded with Lutron's DALI wireless controls, the WDGE3 family provides additional energy savings and code compliance. WDGE3 has been designed to deliver up to 12,000 lumens through a precision refractive lens with wide distribution, perfect for augmenting the lighting from pole-mounted luminaires.

**WDGE LED Family Overview**

Luminaire	Subtotal (ft. x ft.)	Light (lm)	Beam Angle	Height (ft.)	Width (ft.)	Depth (ft.)	Weight (lbs)
WDGE1 LED	48" x 18"	1,200	30°	10.0	1.5	6.0	19.5
WDGE2 LED	36" x 18"	2,500	30°	10.0	1.5	6.0	19.5
WDGE3 LED	36" x 18"	5,000	30°	10.0	1.5	6.0	19.5
WDGE4 LED	36" x 18"	12,000	30°	10.0	1.5	6.0	19.5

**Ordering Information** EXAMPLE: WDGE3 LED P3 40K 70CRI R3 MVOLT SRM DOBX

Label	Abb.	Color Temperature	Beam Angle	Mounting	Notes
WDGE3 LED	WDGE3	40K	30°	R3	Recessed
P3	P3	40K	30°	R3	Recessed
SRM	SRM	40K	30°	R3	Recessed
DOBX	DOBX	40K	30°	R3	Recessed

**System**

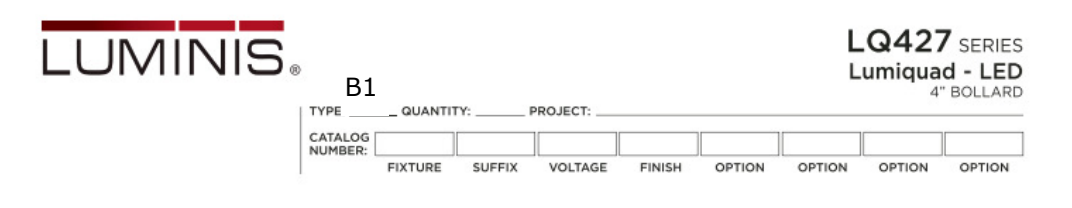
System	Notes	Notes
DSX0	High-IP protection (IP67)	Dark bronze
DSX0	High-IP protection (IP67)	Black
DSX0	High-IP protection (IP67)	White
DSX0	High-IP protection (IP67)	Brushed aluminum
DSX0	High-IP protection (IP67)	Black
DSX0	High-IP protection (IP67)	White
DSX0	High-IP protection (IP67)	Brushed aluminum
DSX0	High-IP protection (IP67)	Black
DSX0	High-IP protection (IP67)	White
DSX0	High-IP protection (IP67)	Brushed aluminum

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WDGE3 LED Rev: 09/2021 Page 1 of 8



**LQ427 SERIES Lumiquad LED BOLLARD**

B1

**Specifications**

Height: 4.5 ft  
Width: 6 inches

**Introduction**

The LQ427 Series Lumiquad LED Bollard is a modern, minimalist lighting fixture designed for outdoor use. It features a heavy cast aluminum top cover and a cast aluminum mounting base. The bollard is available in three finishes: dark bronze, black, and white. It is designed to provide a soft, ambient glow and is ideal for use in walkways, courtyards, and other outdoor spaces.

**MATERIALS**

Lumiquad bollard is made of corrosion resistant 304 aluminum alloy with a copper coating to prevent rust.

**ELECTRICAL DRIVER**

Standard driver is 0-10V dimmable (0.5% to 100%) with 0-10V dimmer control. Operating temperature range is 40°C to 100°C. LED is protected from moisture, dust, and vibration. LED is protected from moisture, dust, and vibration. LED is protected from moisture, dust, and vibration.

**LIFE**

50,000+ hours (based on ENEC TM21 Test Method and LM-80 data). See the LUMINIS LUMINAIRE WARRANTY for more information.

**FINISH**

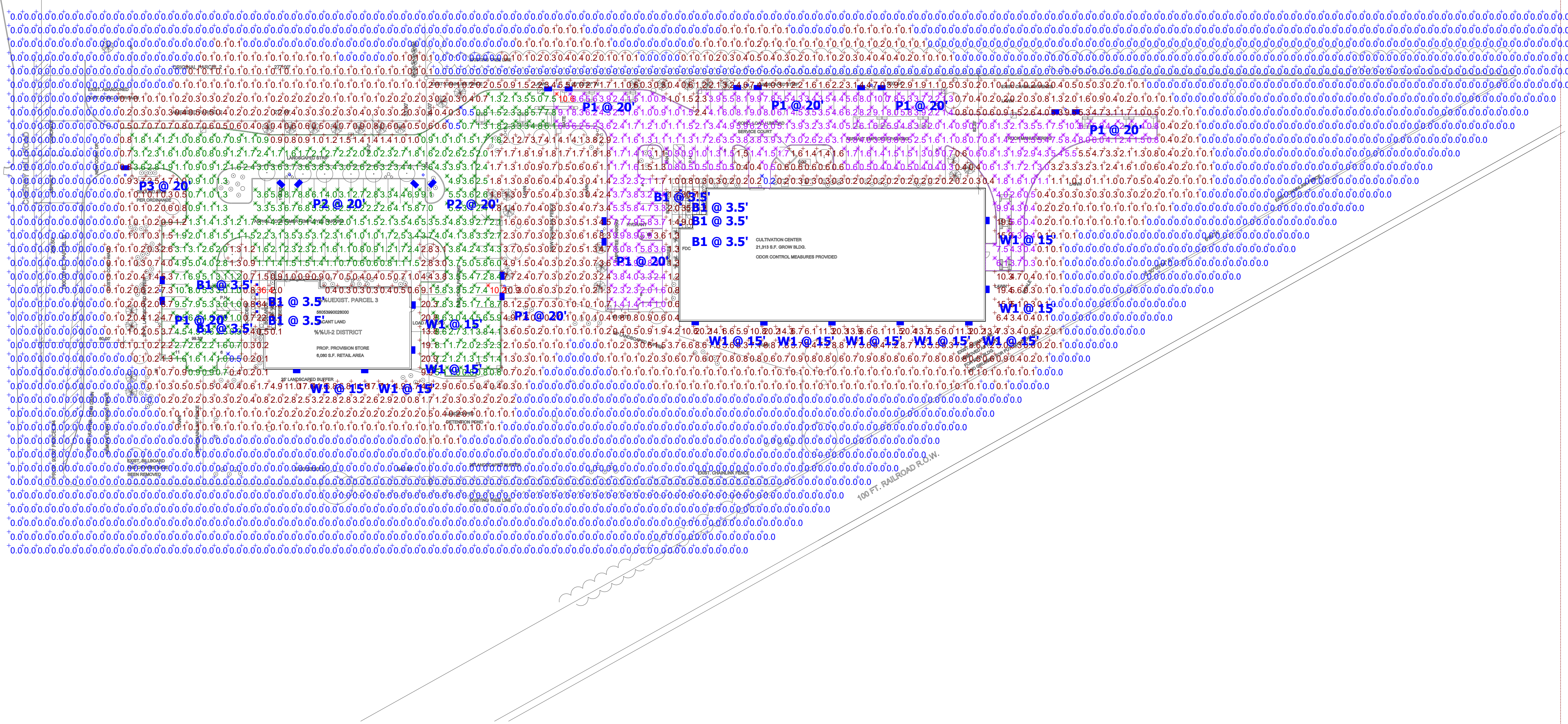
Final preparation process includes priming of cast aluminum parts for an anodized finish. Powder coating is applied through an electrocoat process and is cured for long-term finish.

**CERTIFICATION**

Tested to UL 588 and CSA 22.2 #250. ETL listed with location. Photometric testing performed by an independent laboratory in accordance with IES LM-79-08 standards at 25°C. Lumen depreciation in accordance with IESNA LM-80 standards. Report #1916.

**MOUNTING**

Mounts with a set of 4 x 5/16" x 3 x 3/16" galvanized anchor bolts.



Statistics							
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min	Avg/Max
Cultivation Center Parking	✖	3.5 fc	10.6 fc	0.2 fc	53.0:1	17.5:1	0.3:1
Grade @ 0'	+	1.1 fc	36.4 fc	0.0 fc	N/A	N/A	0.0:1
Provisioning Center Parking	✖	3.1 fc	10.2 fc	0.5 fc	20.4:1	6.2:1	0.3:1

**General Note**

- SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.
- CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 0' - 0"
- LIGHTING ALTERNATES REQUIRE NEW PHOTOMETRIC CALCULATION AND RESUBMISSION TO CITY FOR APPROVAL.

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

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

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

FOR ORDERING INQUIRIES CONTACT GASSER BUSH AT [QUOTES@GASSERBUSH.COM](mailto:QUOTES@GASSERBUSH.COM) OR 734-266-6705.

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

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

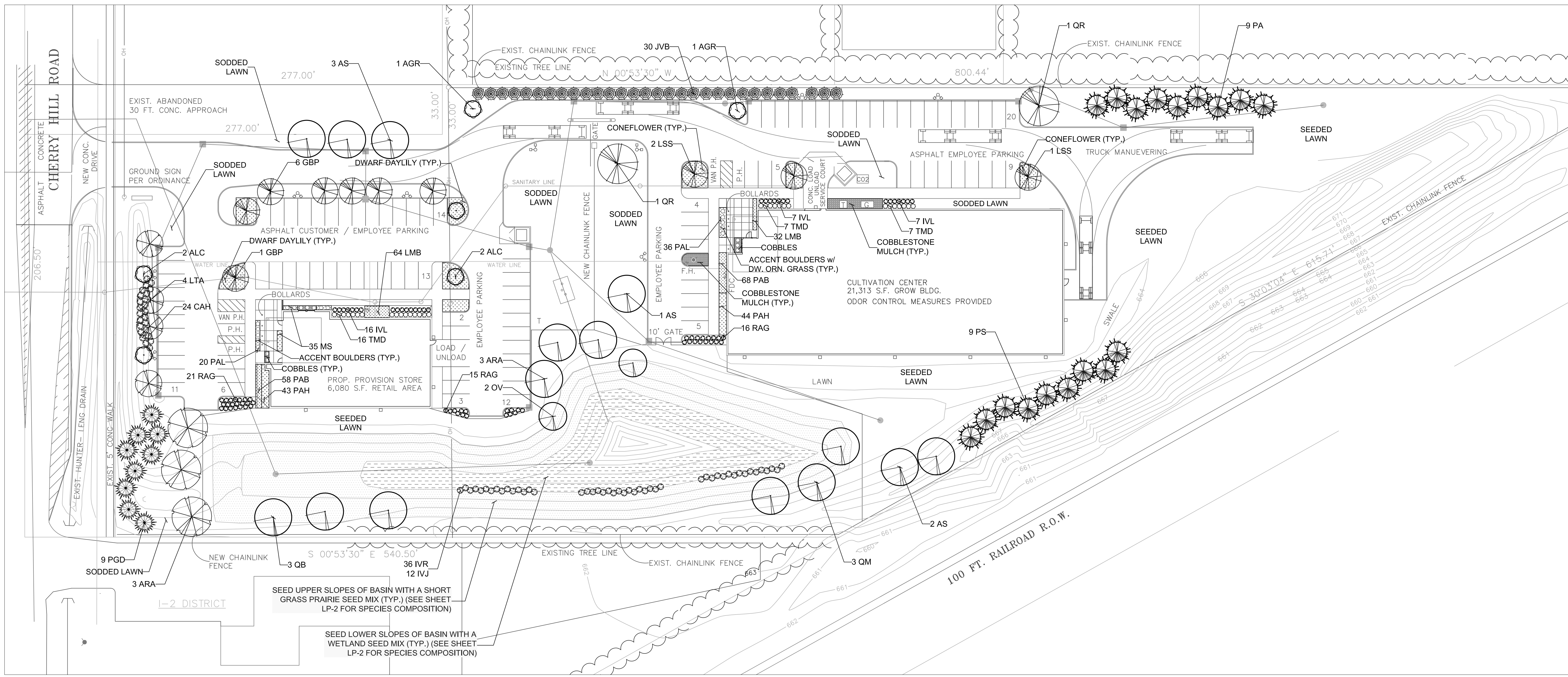
**Schedule**

Symbol	Label	Quantity	Manufacturer	Catalog Number	Lamp	Light Loss Factor
□ □	P1	7	Lithonia Lighting	DSX0 LED 40K MVOLT	LED	0.9
□ □	P2	2	Lithonia Lighting	DSX0 LED 40K MVOLT	LED	0.9
□ □	P3	1	Lithonia Lighting	DSX0 LED 40K MVOLT	LED	0.9
□ □	W1	11	Lithonia Lighting	WDGE3 LED 40K	LED	0.9
□ □	B1	8	Luminis Canada Inc.	LQ427	LED	0.9

KINSHIP CANNABIN  
PHOTOMETRIC PLAN  
PREPARED FOR: GUIDO ARCHITECTS  
GASSER BUSH ASSOCIATES  
WWW.GASSERBUSH.COM

Designer  
DS  
Date  
11/24/2021  
rev. 01/04/2022  
Scale  
Not to Scale  
Drawing No.  
#21-69292 V2





LANDSCAPE PLANTING PLAN

scale: 1" = 30'

PLANT LIST

KEYQTY.	BOTANICAL NAME	SIZE	COMMON NAME	KEYQTY.	BOTANICAL NAME	SIZE	COMMON NAME
<b>LANDSCAPING ADJACENT TO PUBLIC THOROUGHFARES (CHERRY HILL ROAD)</b>							
ALC	2 <i>Amelanchier laevis</i> 'Cumulus'	Cumulus Serviceberry	2" cal. B&B	AGR	2 <i>Amelanchier x grandiflora</i> 'Robin Hill'	Robin Hill Serviceberry	2" cal. B&B
ARA	3 <i>Acer rubrum</i> 'Autumn Flame'	Autumn Flame Red Maple	2-1/2" cal. B&B	ARA	3 <i>Acer rubrum</i> 'Autumn Flame'	Autumn Flame Red Maple	2-1/2" cal. B&B
CAH	24 <i>Clethra alnifolia</i> 'Hummingbird'	Hummingbird Summersweet	24" - 30" ht., 5 gal. pot	AS	6 <i>Acer saccharum</i>	Sugar Maple	2-1/2" cal. B&B
LTA	4 <i>Liriodendron tulipifera</i> 'Arnold'	Arnold Tuliptree	2-1/2" cal. B&B	IVL	30 <i>Itaia virginica</i> 'Little Henry'	Little Henry Sweetspire	24" ht., 3 gal. pot
PGD	9 <i>Picea glauca</i> 'Densata'	Black Hills White Spruce	8' ht. B&B	IVJ	12 <i>Ilex verticillata</i> 'Jim Dandy'	Jim Dandy Winterberry	36" ht., 5 gal. pot
<b>PARKING LOT LANDSCAPING (Provisioning Center)</b>							
ALC	2 <i>Amelanchier laevis</i> 'Cumulus'	Cumulus Serviceberry	2" cal. B&B	JVB	30 <i>Juniperus virginiana</i> 'Burkii'	Burk Upright Juniper	4' - 5' ht. B&B
GBP	7 <i>Gingko biloba</i> 'Princeton Sentry'	Princeton Sentry Gingko	2-1/2" cal. B&B	OV	2 <i>Ostrya virginiana</i>	American Hophornbeam	2-1/2" cal. B&B
HHR	* <i>Hemerocallis</i> sp. 'Happy Returns'	Happy Returns Daylily	1 gal. pot, 30" o.c.	PS	9 <i>Pinus strobus</i>	Eastern White Pine	8' ht. B&B
<b>PARKING LOT LANDSCAPING (Cultivation Center)</b>							
LSS	3 <i>Liquidambar styraciflua</i>	Slender Silhouette	American Sweetgum	QB	3 <i>Quercus bicolor</i>	Swamp White Oak	2-1/2" cal. B&B
QR	2 <i>Quercus rubra</i>	Red Oak	2-1/2" cal. B&B	QM	3 <i>Quercus macrocarpa</i>	Bur Oak	2-1/2" cal. B&B
EPM	* <i>Echinacea purpureum</i>	Pixie Meadowbrite	1 gal. pot, 18" o.c.	RAG	50 <i>Rhus aromatica</i> 'Gro-Low'	Gro-Low Fragrant Sumac	24" ht., 3 gal. pot
	* <i>Pixie Meadowbrite</i>	Purple Coneflower	1 gal. pot, 30" o.c.	TMD	30 <i>Taxus x media</i> 'Densiformis'	Densiformis Yew	24" ht., 3 gal. pot
				LMB	96 <i>Liriope muscari</i> 'Big Blue'	Big Blue Lily-Turf	1 gal. pot, 24" o.c.
				MS	35 <i>Matteuccia struthiopteris</i>	Ostrich Fern	1 gal. pot, 30" o.c.
				PAB	126 <i>Pennisetum alopecuroides</i>	Burgandy Bunny	1 gal. pot, 24" o.c.
				PAH	87 <i>Pennisetum alopecuroides</i> 'Hameln'	Hameln Fountain Grass	1 gal. pot, 30" o.c.
				PAL	56 <i>Pennisetum alopecuroides</i>	Little Bunny	1 gal. pot, 24" o.c.

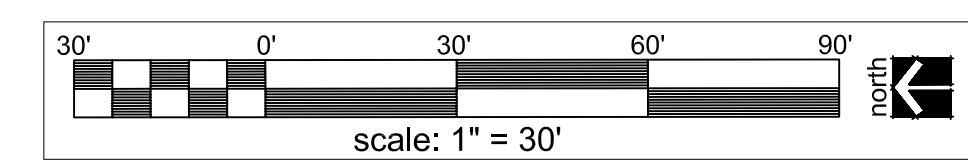
\* Quantity to be determined by the Landscape Contractor in the field.

LANDSCAPE CALCULATIONS:

**LANDSCAPING ADJACENT TO PUBLIC THOROUGHFARES**  
 Cherry Hill Road (267 l.f.)  
 \* One (1) deciduous tree / 30 l.f. = 8.33 trees = 9 trees  
 \* One (1) evergreen tree / 30 l.f. = 8.33 trees = 9 trees  
 \* One (1) intermediate shrub / 30 l.f. = 8.33 shrubs = 9 shrubs

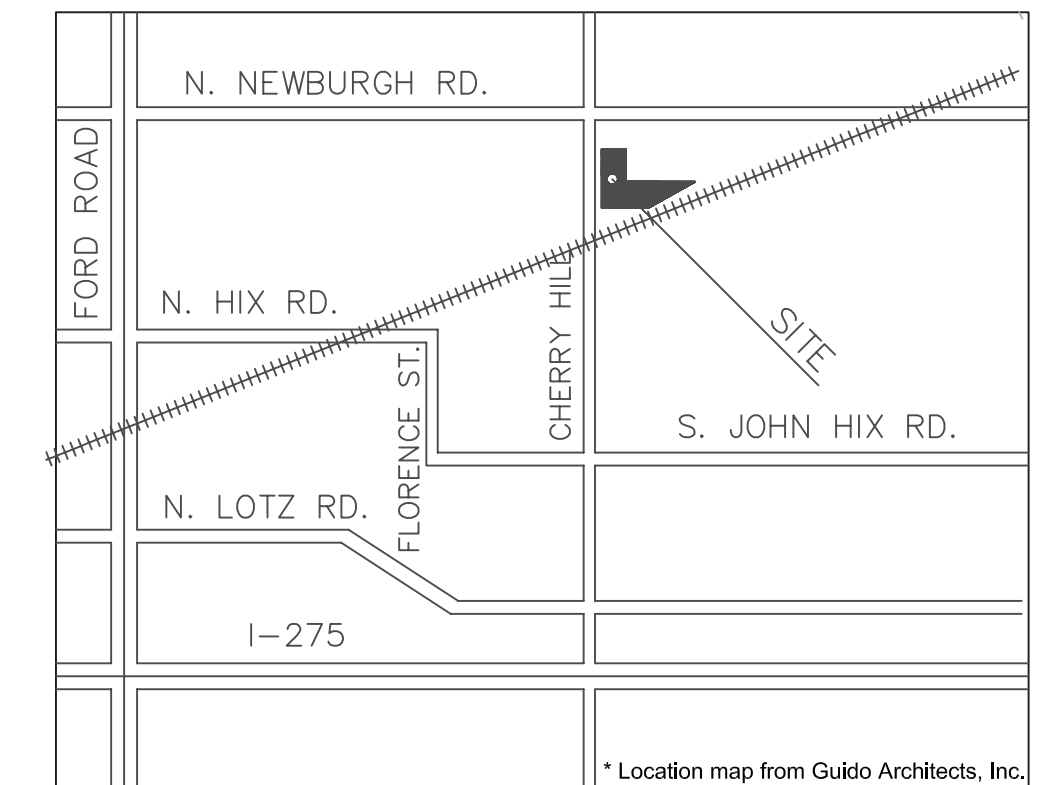
**PARKING LOT LANDSCAPING**  
 Provisioning Center (61 parking spaces)  
 \* One (1) deciduous tree for every ten (10) parking spaces = 6.1 trees = 7 trees  
 Cultivation Center (43 parking spaces)  
 \* One (1) deciduous tree for every ten (10) parking spaces = 4.3 trees = 5 trees

**OPEN SPACE LANDSCAPING (48,000 sq. ft.)**  
 \* One (1) deciduous tree shall be planted for every three thousand square feet (3,000 sq. ft.) of open space = 16 trees  
 \* One (1) evergreen tree shall be planted for every one thousand square feet (1,000 sq. ft.) of open space = 48 trees  
 \* One (1) intermediate shrub shall be planted for every one thousand square feet (1,000 sq. ft.) of open space = 48 shrubs



**NOTE:**  
 \* See Sheet LP-2: LANDSCAPE NOTES & DETAILS for landscape planting details, landscape development notes, detention pond planting notes, and seed mix compositions.

date: December 17, 2021  
 revised: 12-20-2021 Revise for Client review.



LOCATION MAP not to scale

**LANDSCAPE PLAN FOR:**  
 Guido Architects, Inc.  
 23419 Ford Road  
 Dearborn, Michigan  
 48128  
 (313) 274-7800

**PROJECT LOCATION:**  
 Kinship Cannabis  
 E. Side of Cherry Hill Road  
 & South of Newburgh Road  
 Westland, Michigan

**LANDSCAPE PLAN BY:**  
 Nagy Devlin Land Design, L.L.C.  
 31736 West Chicago Ave.  
 Livonia, Michigan 48150  
 (734) 634-9208



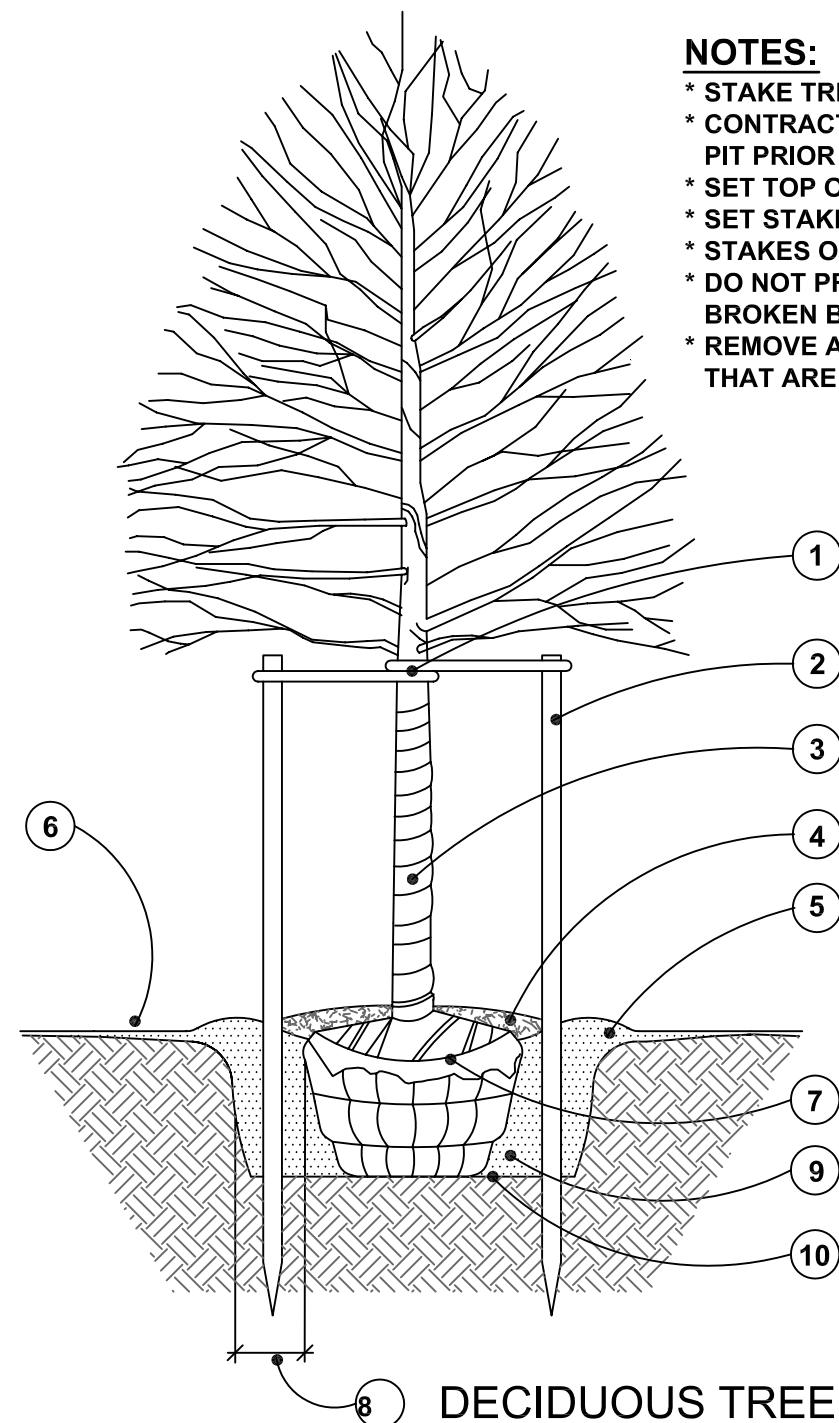
**LP - 1: LANDSCAPE PLANTING PLAN**  
 \* Base data provided by Guido Architects, Inc.



## LANDSCAPE PLANTING NOTES:

### PLANTING

- Installation of all plant material shall be in accordance with the latest edition of the *American Association of Nurserymen Standards for Nursery Stock* and with the specifications set forth by the City of Westland, Michigan.
- The plant materials shall conform to the type stated on the plant list. Sizes shall be the minimum stated on the plant list or larger. All measurements shall be in accordance with the latest edition of the *American Association of Nurserymen Standards for Nursery Stock*.
- The plant material shall be nursery grown and inspected by the Owner's representative before planting. The Owner's representative reserves the right to reject any plant material at any time.
- Plants designated "B&B" shall be balled and burlapped with firm balls of earth.
- Dig shrub pits one foot (1") larger than the shrub rootball, tree pits three (3) times the width of the tree rootball and backfill with one (1) part topsoil and one (1) part soil from excavated pit. Plant trees and shrubs at the same grade level at which they were planted at the nursery. If wet, clay soils are evident, plant trees and shrubs slightly higher.
- The Contractor is responsible for planting the materials at the correct grades and spacing. The plants shall be oriented to give the best appearance.
- When the plant has been properly set, the pit shall be backfilled with the topsoil mixture, gradually filling, patting, and settling with water.
- Trees in lawn areas to have a four foot (4') circle of mulch, four inches (4") deep, and three inches (3") away from the trunk. Shrub beds are to be mulched with shredded bark mulch to a minimum depth of three inches (3"). Only natural color shredded hardwood bark mulch will be accepted.
- Remove all twine, wire, and burlap from the top one third (1/3) of tree and shrub root balls and from tree trunks. Remove all non-biodegradable material such as plastic or nylon completely from branches and stems.
- All plant materials shall be pruned and injuries repaired. The amount of pruning shall be limited to the removal of dead or injured limbs and to compensate for the loss of roots from transplanting. Cuts should be flush, leaving no stubs. Cuts over three quarters of an inch (3/4") shall be painted with tree paint. Shrubs along the site perimeter shall be allowed to grow together in a natural form.
- Organic, friable topsoil shall be evenly distributed and fine graded over all areas to receive lawns at uniform depth of four inches (4") after settlement.
- All lawn areas shall be sodded with a Grade A Kentucky Blue Grass blend over the topsoil.
- All plantings shall be completed within three (3) months, and no later than November 30, from the date of issuance of a certificate of occupancy if such certificate is issued during the April 1 thru September 30 period; if the certificate is issued during the October 1 thru March 31 period, the planting shall be completed no later than the ensuing May 31; plantings shall thereafter be reasonably maintained, including permanence and health of plant materials to provide a screen to abutting properties and including the absence of weeds and refuse.
- Backfill directly behind all curbs and along sidewalks and compact to the top of curbs or walk to support vehicle and pedestrian weight without settling.
- All landscape areas, especially parking lot islands and landscape beds next to buildings shall be excavated of all building materials and poor soils to a depth of twelve inches to eighteen inches (12"-18") and backfilled with good, medium-textured planting soil (loam or light yellow clay loam). Add four inches to six inches (4"-6") of topsoil over the fill material and crown a minimum of six inches (6") above the top of curbs and/or walks after earth settling unless otherwise noted on the landscape plan.
- Conversion of all asphalt and gravel areas to landscape planting beds shall be done in the following manner:
  - Remove all asphalt, gravel, and compacted earth to a depth of six inches to eighteen inches (6"-18") depending on the depth of the sub base and dispose of off site;
  - Call the City for an inspection prior to backfilling;
  - Replace excavated material with good, medium-textured planting soil (loam or light yellow clay loam) to a minimum of two inches (2") above the top of the curb and sidewalk, add four inches to six inches (4"-6") of topsoil and crown to a minimum of six inches (6") above the adjacent curb and walk after earth settling, unless otherwise noted on the landscape plan.If conversion from asphalt to landscape occurs in or between an existing landscape area(s), replace excavated material from four inches to six inches (4"-6") below adjacent existing grade with good, medium-textured planting soil (loam or light yellow clay loam) and add four inches to six inches (4"-6") of topsoil to meet existing grades after earth settling.



DECIDUOUS TREE

### MATERIAL

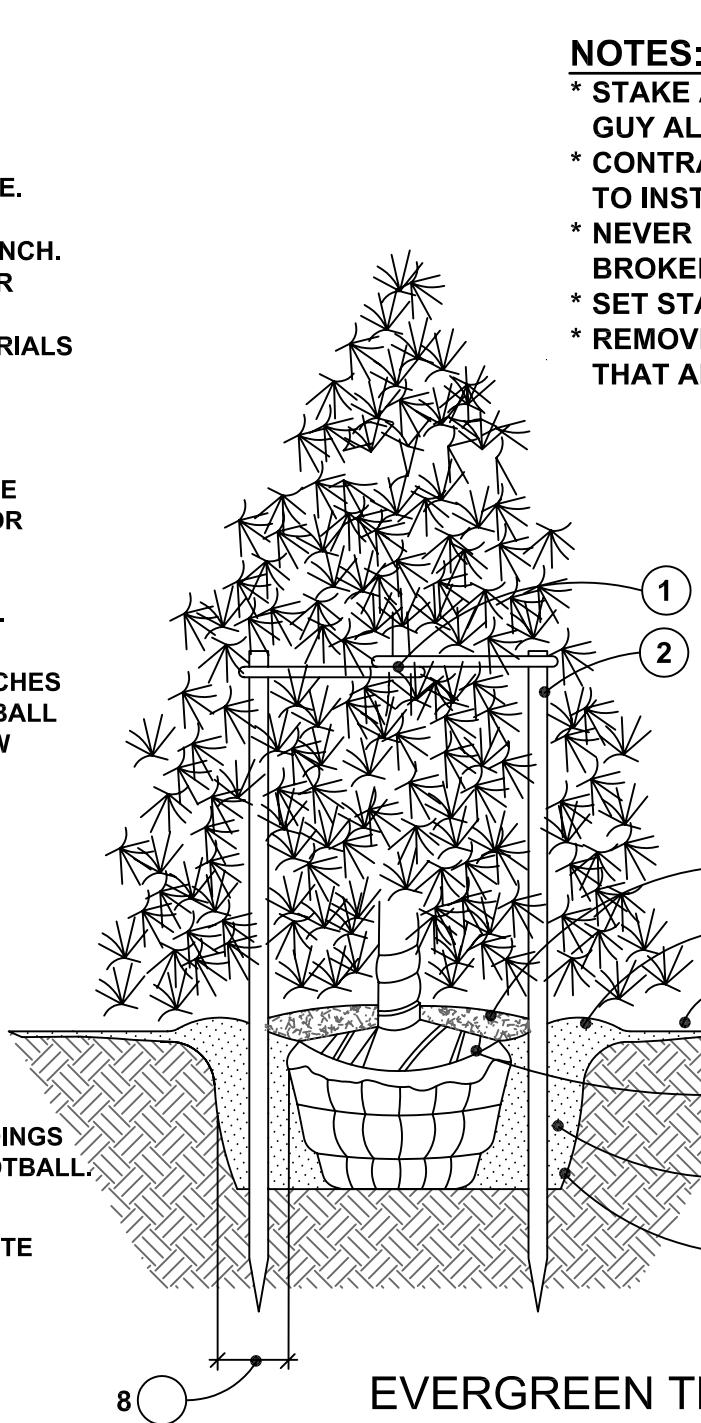
- Plants shall not be located within two feet (2') of the property line.
- Required landscape material shall satisfy the criteria of the *American Association of Nurserymen Standards for Nursery Stock* and be: a. Nursery grown; b. State Department of Agriculture inspected; c. No. 1 grade material with a straight, unscarred trunk, and well-developed uniform crown (park grade trees will not be accepted); d. Staked, wrapped, watered, and mulched according to the details provided; and e. Guaranteed for one (1) year.
- Topsoil shall be friable, fertile soil of clayloam character containing at least five percent (5%) but not more than twenty percent (20%) by weight of organic matter with a pH range between 6.0 and 7.0. The topsoil shall be free from clay lumps, coarse sand, plant roots, sticks, and other foreign materials.
- The seed mixture shall consist of the following types and proportions: Kentucky Blue Grass blend "Baron/Sheri/Adelphi" @ sixty percent (60%), Chewing Fescue @ twenty-five percent (25%), Creeping Red Fescue @ ten percent (10%), and Perennial Rye Grass @ five percent (5%). Weed content shall not exceed one percent (1%). The mix shall be applied at a rate of 200 pounds per acre.
- Sod shall be two (2) year old "Baron/Sheri/Adelphi" Kentucky Blue Grass blend grown in a sod nursery on loam soil.
- Callery Pear (*Pyrus calleryana*) and Norway Maple (*Acer platanoides*) shall not be substituted for any tree species in the plant list. Contact the Landscape Architect for acceptable plant substitutions.
- Proposed perennials shall be full, well-rooted plants.
- Cobblestone mulch to consist of two inch to six inch (2"-6") cobbles eight inches (8") deep with geotextile fabric beneath.

### GENERAL

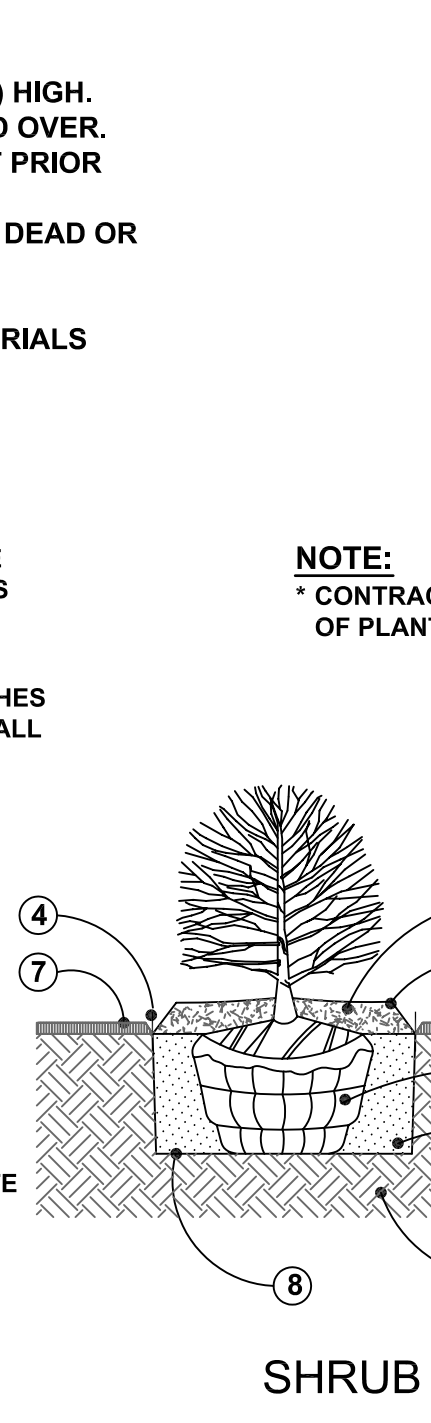
- Do not plant deciduous or evergreen trees directly over utility lines or under overhead wires. Maintain a six foot (6') distance from the centerline of utilities and twenty feet (20') from the centerline of overhead wires for planting holes. Call MISS DIG forty-eight (48) hours prior to landscape construction for field location of utility lines.
- The Contractor agrees to guarantee all plant material for a period of one (1) year. At that time, the Owner's representative reserves the right for a final inspection. Plant material with twenty-five percent (25%) die back, as determined by the Owner's representative shall be replaced. This guarantee includes the furnishing of new plants, labor, and materials. These new plants shall also be guaranteed for a period of one (1) year.
- The work shall consist of providing all necessary materials, labor, equipment, tools, and supervision required for the completion as indicated on the drawings.
- All landscape areas be irrigated by an automatic underground irrigation system. Lawns and shrub/landscape areas shall be watered by separate zones to minimize overwatering.
- All written dimensions override scale dimensions on the plans.
- Report all changes, substitutions, or deletions to the Owner's representative.
- All bidders must inspect the site and report any discrepancies to the Owner's representative.
- All specifications are subject to change due to existing conditions.
- The Owner's representative reserves the right to approve all plant material.
- All ground mounted mechanical units shall be screened on three (3) sides with living plant material.

### MAINTENANCE

- The Owner of the landscaping shall perpetually maintain such landscaping in good condition so as to present a healthy, neat, and orderly appearance, free from refuse and debris.
- The Owner shall conduct a seasonal landscape maintenance program including regular lawn cutting (at least once per week during the growing season), pruning at appropriate times, watering, and snow removal during winter.
- The Contractor is responsible for watering and maintenance of all seed areas until a minimum of ninety percent (90%) coverage, as determined by the Owner's representative.
- All diseased and/or dead material shall be removed within sixty (60) days following notification and shall be replaced within the next appropriate planting season or within one (1) year, whichever comes first.
- Any debris such as lawn clippings, fallen leaves, fallen limbs, and litter shall be removed from the site on a weekly basis at the appropriate season.
- All planting beds shall be maintained by removing weeds, fertilizing, and replenishing mulch as needed.
- Annual beds shall be kept free of weeds and mulched with sphagnum peat of a neutral pH as needed. Perennial beds shall be kept free of weeds and mulched with fine textured shredded bark as needed. Cut spent flower stalks from perennial plants at regular intervals.



EVERGREEN TREE



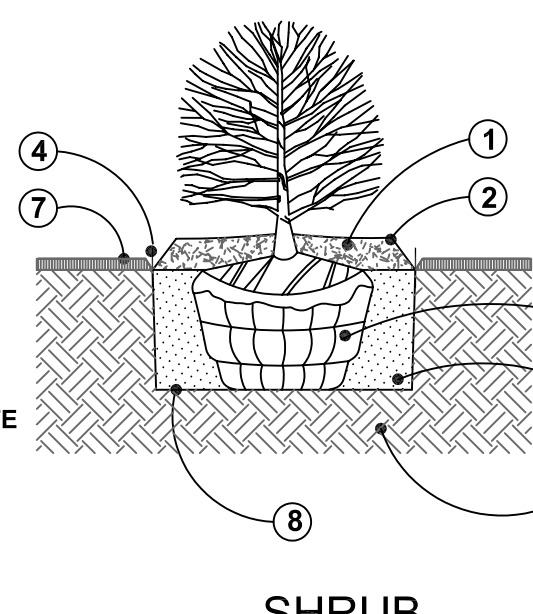
SHRUB

### GENERAL NOTES FOR ALL PLANTINGS:

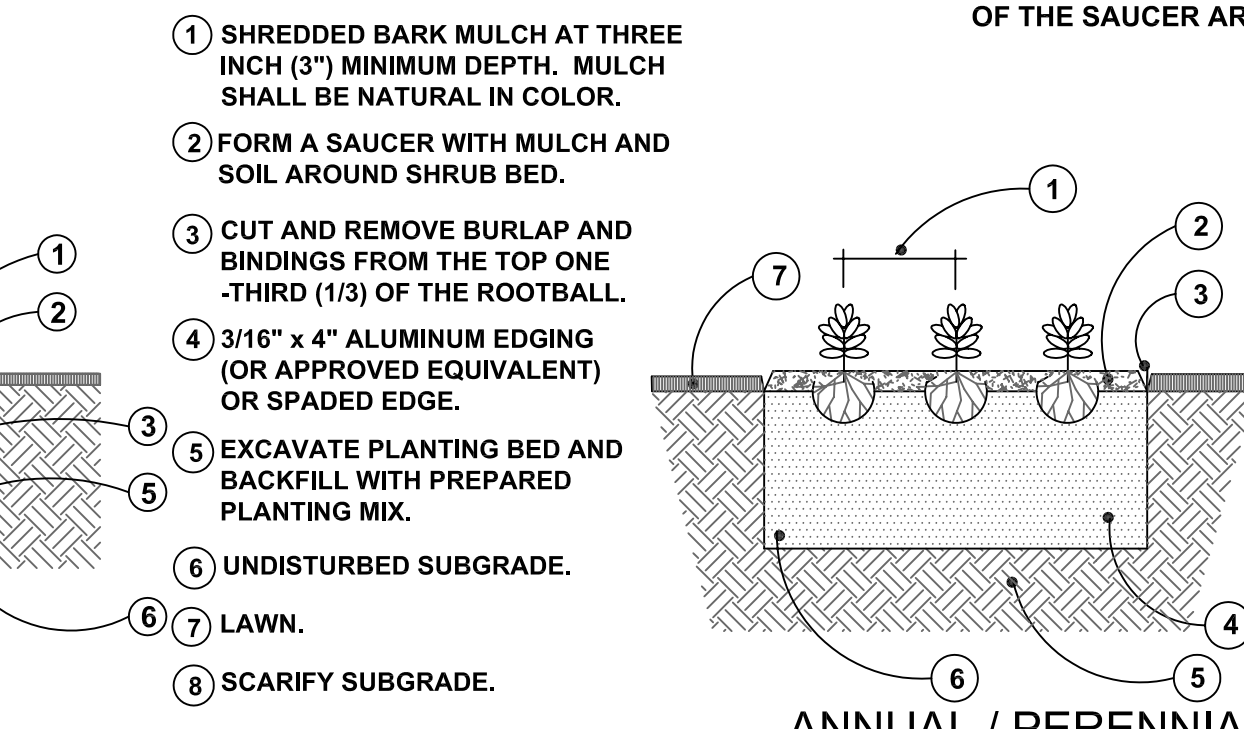
- DO NOT CUT CENTRAL LEADER.
- REMOVE ALL TAGS, STRINGS, PLASTICS, AND ANY OTHER NON-BIODEGRADABLE MATERIALS (EXCEPT LABEL FOR PLANT NAME) FROM PLANT STEMS OR CROWN WHICH ARE UNSIGHTLY OR COULD CAUSE GIRDLING.
- PLANTS SHALL BEAR THE SAME RELATION TO FINISH GRADE AS IT BORE TO THE PREVIOUS GRADE IN THE NURSERY. SET THE BASE OF THE PLANT SLIGHTLY HIGHER THAN EXISTING GRADE IF PLANTING IN CLAY SOILS.
- CENTER THE ROOTBALL IN THE PLANTING HOLE. LEAVE THE BOTTOM OF THE PLANTING HOLE FIRM. USE WATER TO SETTLE THE PLANTING MIX AND REMOVE ANY AIR POCKETS AND FIRMLY SET THE TREE OR SHRUB. GENTLY TAMP IF NEEDED.

### NOTE:

- CONTRACTOR TO VERIFY PERCOLATION OF PLANTING PIT PRIOR TO INSTALLATION.



SHRUB



ANNUAL / PERENNIAL / GROUNDCOVER

## RETENTION POND LANDSCAPE NOTES:

### PLANTING:

- Follow the Supplier's recommended procedures for bed preparation, installation, and soil erosion control measures of the proposed seeded areas. After the plants germinate and begin to grow follow the maintenance guidelines included on this sheet.
- Rototill four inches (4") of compost or topsoil into the top six inches (6") of the surface of the basin. (Compost may be obtained from the municipal facility at Six Mile and Ridge Roads. Call Onyx Environmental at 248 305-8377 or 248 349-7230 for hours of operation and general information.)
- Provide a cover crop of annual rye at a rate of ten pounds (10#) per acre and seed oats at a rate of thirty pounds (30#) per acre over the entire area to be seeded.
- All plant material and planting applications shall meet all guidelines and specifications set forth by the *American Standard of Nursery Stock*.

### MAINTENANCE OF THE RETENTION AREA

- ESTABLISHMENT: During the first growing season, the native seed areas should be mowed two (2) to four (4) times to a height of four inches to six inches (4"-6") when the plants reach a height of ten inches to twelve inches (10"-12"). Hand pulling may be needed to control unwanted weed populations. If a mower cannot be set high enough, a string trimmer can be used. During the second growing season, the native seed areas should be mowed a few times to a height of about eight inches (8"), when the plants reach a height of ten inches to eighteen inches (10"-18"). Hand pulling may be needed to control unwanted weed populations. By the second growing season it should be apparent if some areas need reseeded. Long term management includes mowing and hand pulling of weeds. The native planting may be mowed to a short height and the clippings removed in the early Spring before birds begin nesting.
- WATERING: Watering should be performed as needed. During the establishment period after the initial planting, watering is very important and should be conducted every two to three (2-3) days. The initial planting should be checked regularly for appropriate moisture availability. Two (2) methods for determining adequate moisture levels include the following: a.) if the plants wilt during the day when the temperature is at its highest, but revive during the night, then watering is not necessary, and b.) by testing the soil moisture at a depth of four inches (4") by inserting a small rod into the soil. If the rod is wet, then the soil is moist at a depth of four inches (4") and watering is not necessary.
- EROSION CONTROL: Provide an erosion control blanket on the side slopes of the seeded areas retention area. The erosion control blanket shall be pegged in place.
- EDGING: The edge of the retention area should be maintained to avoid grass growing into the detention area. The edge can be maintained with a V-notch cut edge. The channel should be maintained at four inches (4") or greater and renewed every six to eight (6-8) weeks.
- CUTTING BACK: Tall wildflowers should be cut back by one-third. Early flowering plants can be cut back in late June or early July and late flowering plants in late October.
- THINNING: After the retention area has become established and thriving, it may be necessary to thin perennials by dividing individual plants in Spring or Fall.
- REPLACEMENT: Any plants that die or become diseased should be replaced. Plant health should be checked regularly with replanted material occurring in the Spring or Fall.
- REMOVAL OF LITTER AND DEBRIS: Litter, trash, and debris should be removed on a regular basis to insure that inlets remain free flowing and to keep the area in a neat and attractive appearance.
- INORGANIC APPLICATIONS: In general, retention areas do not need fertilization as nutrients from surrounding areas is usually at an elevated level. If soil fertility appears to be an issue, the soil should be tested and appropriate actions taken based on the results. Insecticides, herbicides, fungicides, and rodenticides should not be used in the retention area. If a plant is diseased or infested with insects, it should simply be removed and replaced.

## SEED MIX COMPOSITIONS

### WETLAND SEED MIX

MICHIGAN WILDFLOWER FARM	
A composition of wildflowers, sedges, and grasses.	
Application rate: 3 oz. per 1000sq. ft. or 7 lbs. per acre	
BOTANICAL NAME	COMMON NAME
<b>Wildflowers</b>	
<i>Asclepias incarnata</i>	Swamp Milkweed
<i>Aster novae-anglae</i>	New England Aster
<i>Aster spicatus</i>	Swamp Aster
<i>Aster umbellatus</i>	Flat-Top Aster
<i>Eupatorium maculatum</i>	Joe-Pye Weed
<i>Eupatorium perfoliatum</i>	Boneset
<i>Euthamia graminifolia</i>	Grassleaved Goldenrod
<i>Liatris spicata</i>	Marsh Blazing Star
<i>Pedicularis lanceolata</i>	Swamp Betony
<i>Rudbeckia subtomentosa</i>	Sweet Black-Eyed Susan
<i>Sliphium serotatum</i>	Cupplant
<i>Sliphium terebinthinaceum</i>	Prairie Dock
<i>Solidago patula</i>	Swamp Goldenrod
<i>Solidago riddellii</i>	Ridell's Goldenrod
<i>Verbena hastata</i>	Blue Vervain
<i>Veronica missurica</i>	Ironweed
<i>Veronicastrum virginicum</i>	Culver's Root
<b>Sedges/Grasses</b>	
<i>Andropogon gerardii</i>	Big Bluestem
<i>Carex crinita</i>	Fringed Sedge
<i>Carex stricta</i>	Tussock Sedge
<i>Scirpus cyperinus</i>	Wool Grass
<i>Scirpus atrovirens</i>	Bulrush

### WETLAND SEED MIX



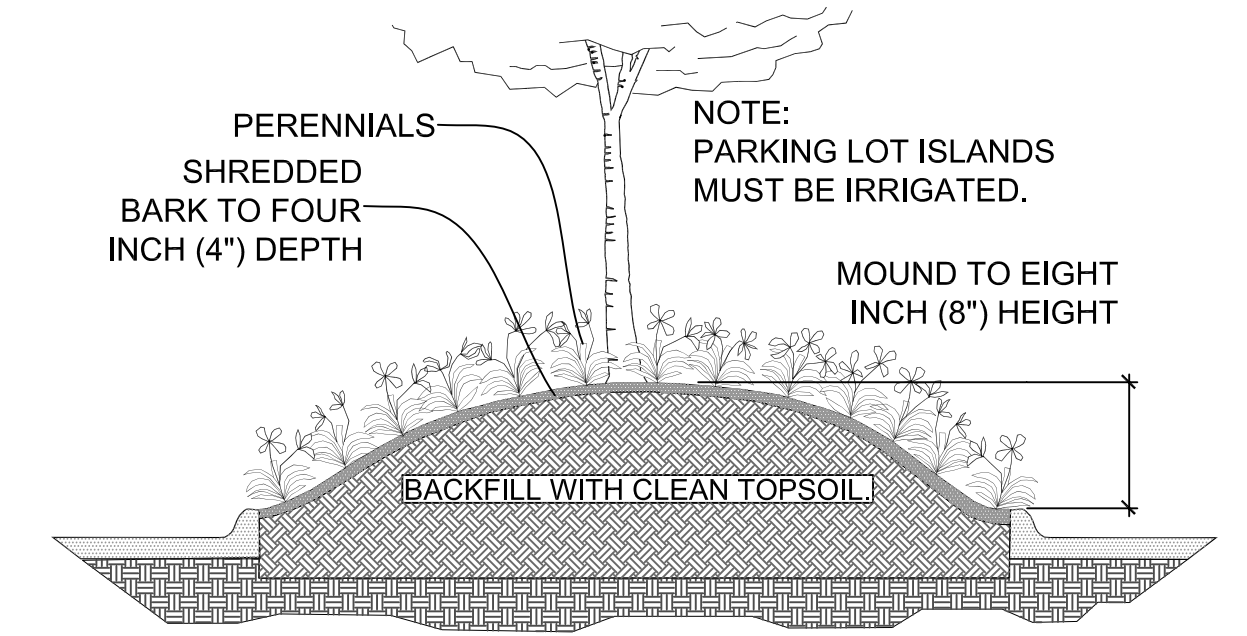
### CUSTOM SHORT GRASS SEED MIX

MICHIGAN WILDFLOWER FARM	
Fifty percent (50%) Forbs/Fifty percent (50%) Grass.	
Application rate: 5 oz. per 1000 sq. ft.	
BOTANICAL NAME	COMMON NAME
<b>Wildflowers</b>	
<i>Achillea millefolium</i>	Yarrow
<i>Achillea canadensis</i>	Wild Columbine
<i>Asclepias tuberosa</i>	Butterflyweed
<i>Aster laevis</i>	Smooth Aster
<i>Coreopsis lanceolata</i>	Sand Tickseed
<i>Echinacea purpurea</i>	Purple Coneflower
<i>Kuhnia eupatorioides</i>	False Boneset
<i>Monarda fistulosa</i>	Bergamot
<i>Penstemon digitalis</i>	Fokglove Beardstongue
<i>Rudbeckia hirta</i>	Black-Eyed Susan
<i>Solidago speciosa</i>	Showy Goldenrod
<b>Sedges/Grasses</b>	
<i>Andropogon scoparius</i>	Little Bluestem
<i>Bouteloua curtipendula</i>	Side Oats Grama
<i>Koeleria pyramidata</i>	June Grass*
<i>Sporobolus heterolepis</i>	Prairie Dropseed*

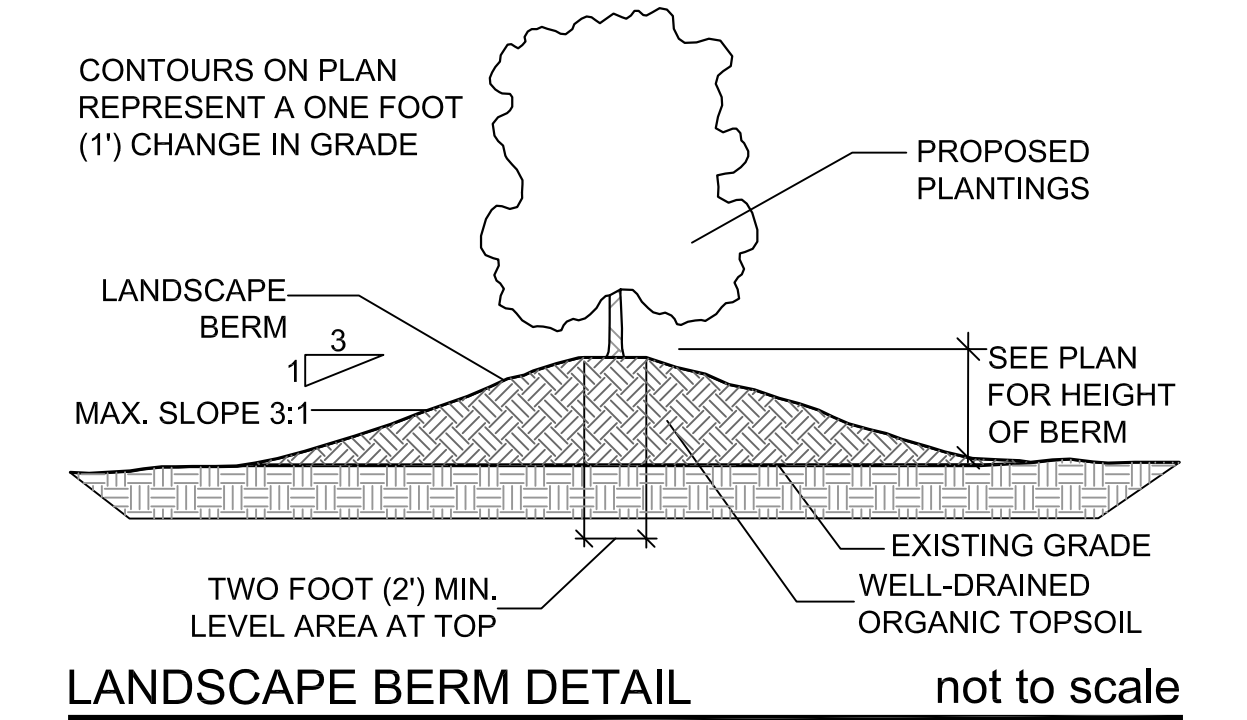
### CUSTOM SHORT GRASS SEED MIX



MICHIGAN WILDFLOWER FARM  
11770 Cutler Road  
Portland, Michigan 48875-9452  
Phone: (517) 647 6010 Fax: (517) 647 6072



PARKING LOT ISLAND DETAIL not to scale



LANDSCAPE BERM DETAIL not to scale

### NOTE:

- See Sheet LP-1: LANDSCAPE PLANTING PLAN for overall landscape planting plan, plant list, calculations for landscape requirements, and location map.

date: December 17, 2021

revised: 12-20-2021 Revise for Client review.

scale: as indicated

LANDSCAPE PLAN FOR:  
Guido Architects, Inc.  
23419 Ford Road  
Dearborn, Michigan  
48128  
(313) 274-7800

PROJECT LOCATION:  
Kinship Cannabis  
E. Side of Cherry Hill Road  
& South of Newburgh Road  
Westland, Michigan

LANDSCAPE PLAN BY:  
Nagy Devlin Land Design, L.L.C.  
31736 West Chicago Ave.  
Livonia, Michigan 48150  
(734) 634-9208



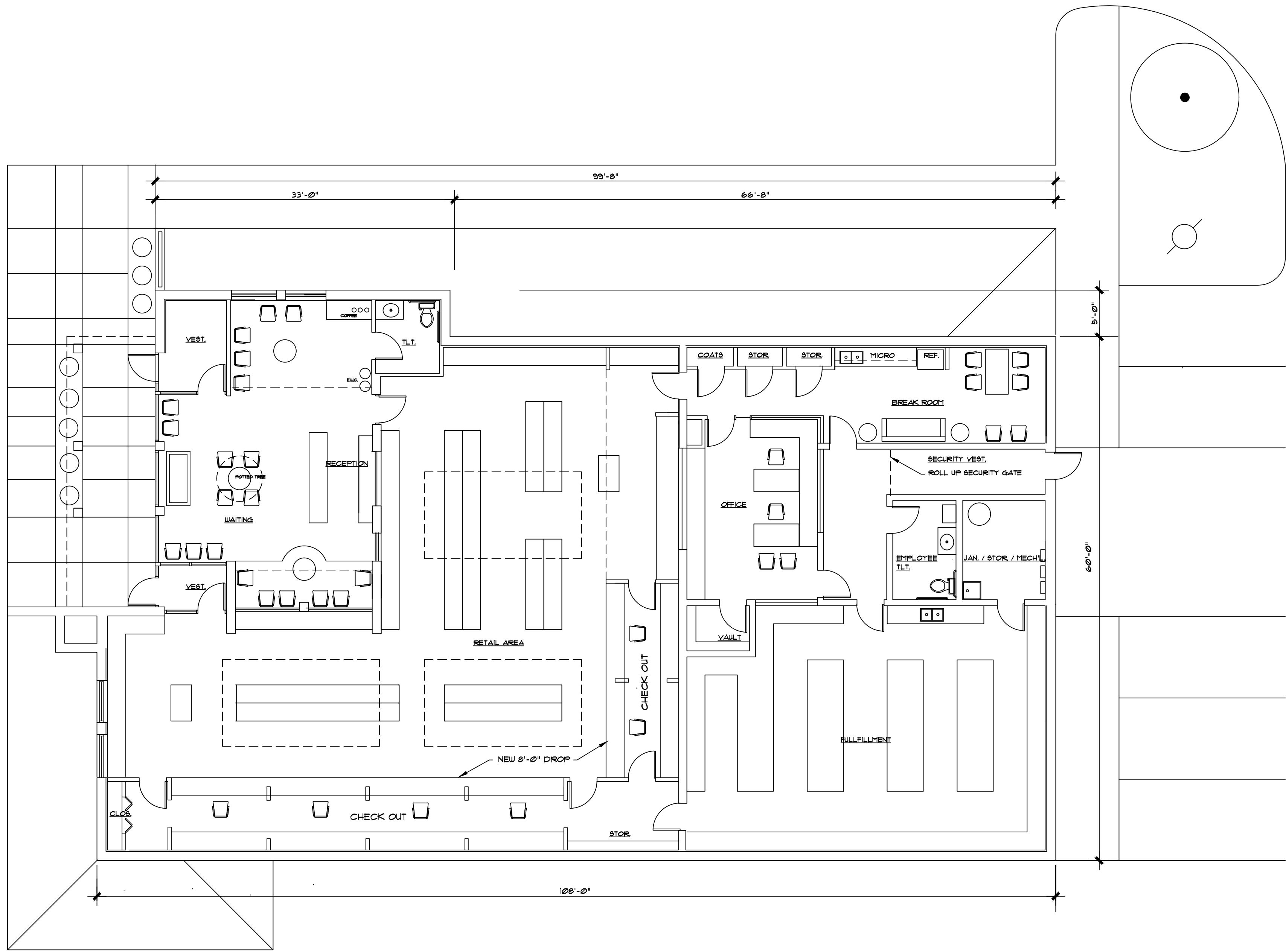
J. Brian Devlin  
AUTOCAD SIGNATURE  
ORIGINAL IN BLUE

## PLANTING DETAILS

not to scale

## LP - 2: LANDSCAPE NOTES & DETAILS





NOTE -  
1. STORE TO BE CONSTRUCTED AS SLAB ON GRADE



**PROPOSED PROVISION STORE FLOOR PLAN**

SCALE: 1/8" = 1'-0"

6.080 SF.

Dimensions are to rough framing unless noted otherwise.  
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revision: DWG. TITLE/DATE OR GR. NOTE | 2/22/22

date: 1/17/22

checked: DK



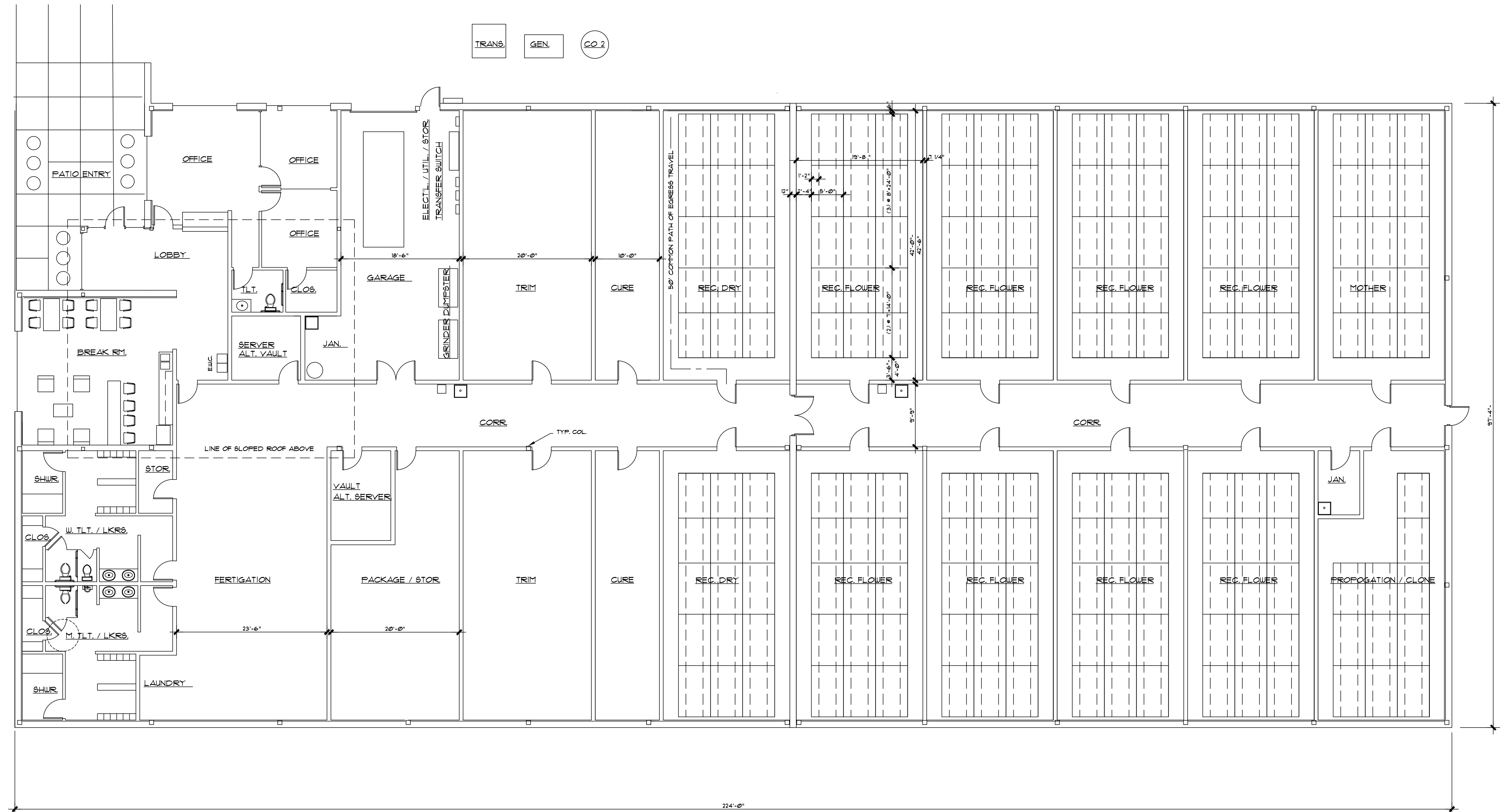
**Guido Architects Inc.**  
Architects / Planners  
2949 Ford Road Dearborn, MI 48128  
(313) 274-7800 Fax (313) 274-7808  
Email: [guido@guidoarchitects.com](mailto:guido@guidoarchitects.com)

PROJECT NAME: **KINSHIP PROVISIONING AND CULTIVATION**  
WESTLAND, MICHIGAN  
SHEET NAME: **PROVISION STORE FLOOR PLAN**

JOB NO.: **1821**

SHEET NO.: **A-1**





**PROPOSED CULTIVATION FACILITY FLOOR PLAN**  
 21313 SF.

SCALE: 1/8" = 1'-0"

NOTE-  
 1. FACILITY TO HAVE FULL AUTOMATIC FIRE SUPPRESSION SYSTEM  
 2. FACILITY CONSTRUCTED AS SLAB ON GRADE

PROJECT NAME: **KINSHIP PROVISIONING AND CULTIVATION**  
 WESTLAND, MICHIGAN  
**CULTIVATION FACILITY FLOOR PLAN**

SHEET NO.: **A-2**  
 1821

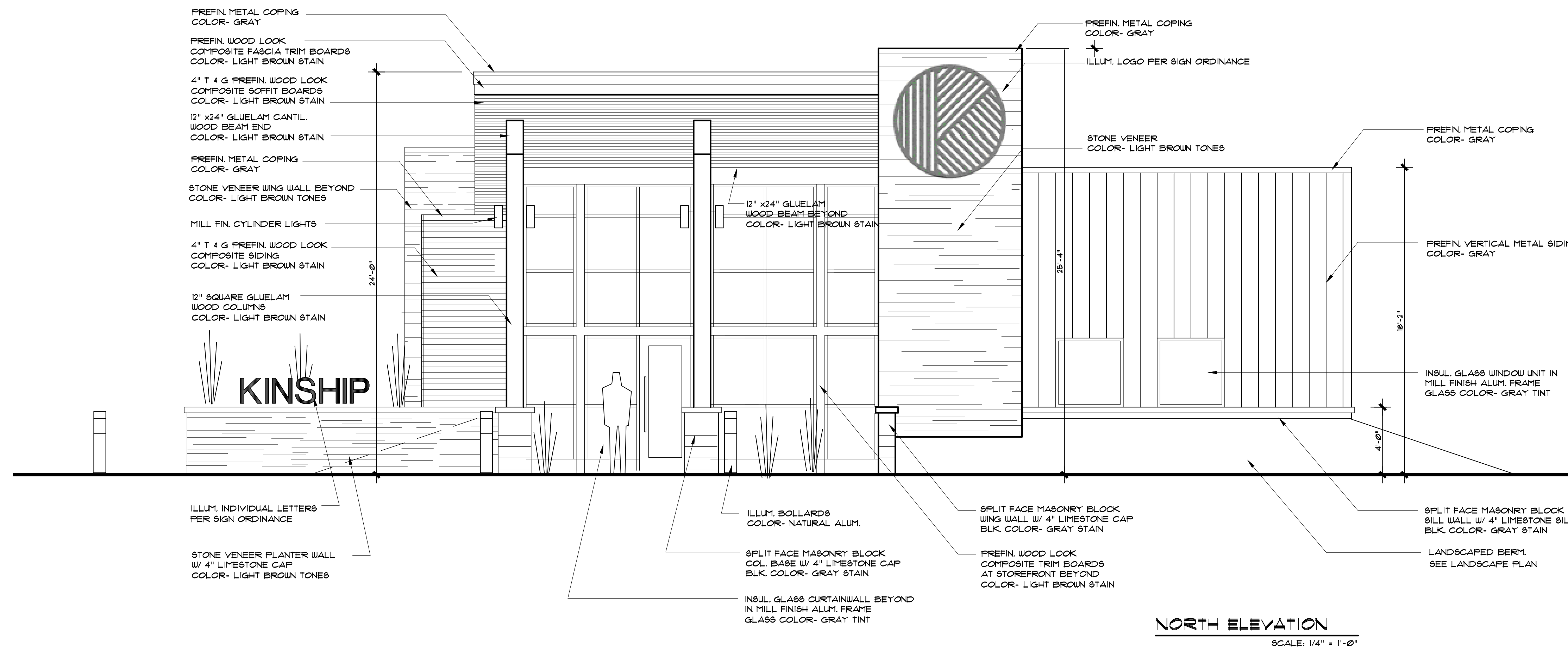
ARCHITECT: **Guido Architects Inc.**  
 Architects / Planners  
 23419 Ford Road Dearborn, MI 48128  
 (313) 274-7800 Fax (313) 274-7808  
 Email: jguido@guidoarchitects.com

DESIGNER: JAG  
 CHECKED: JAG  
 DATE: 1/1/22

REVISIONS:  
 01: REVIEW - OWNER  
 02: REVIEW - OWNER  
 03: REVIEW - OWNER

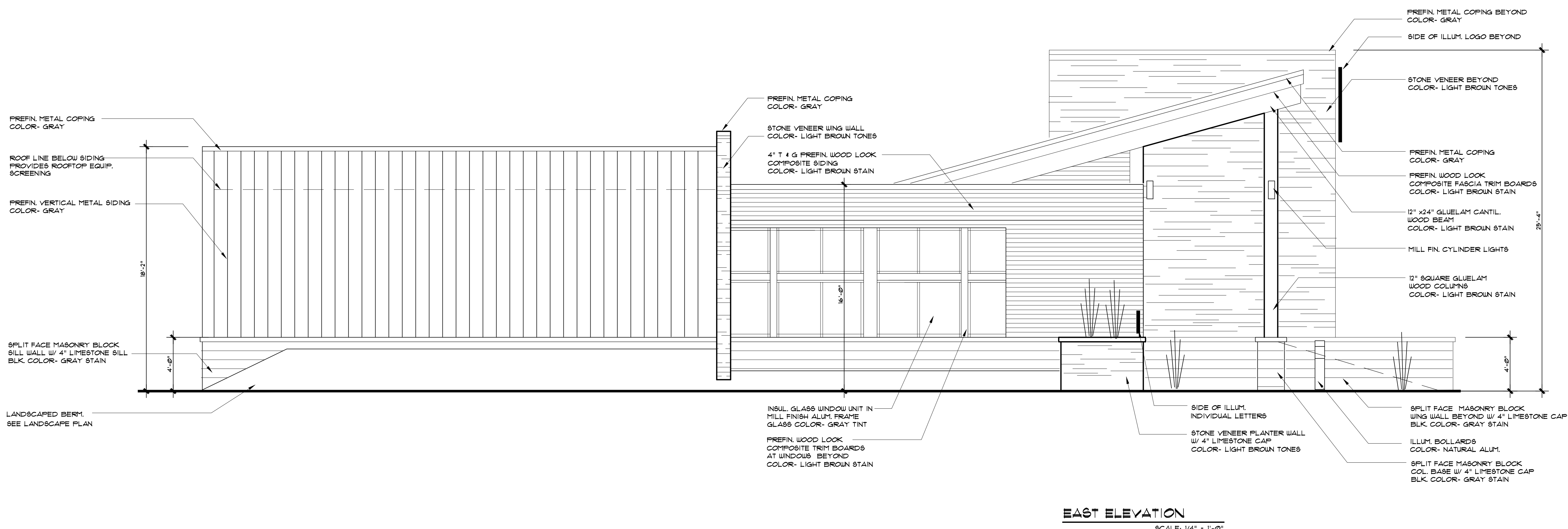
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- PREFIN. METAL COPING  
COLOR- GRAY
- PREFIN. WOOD LOOK  
COMPOSITE FASCIA TRIM BOARDS  
COLOR- LIGHT BROWN STAIN
- 4" T 4 G PREFIN. WOOD LOOK  
COMPOSITE SCOFFIT BOARDS  
COLOR- LIGHT BROWN STAIN
- 12" x24" GLUELAM CANTIL.  
WOOD BEAM END  
COLOR- LIGHT BROWN STAIN
- PREFIN. METAL COPING  
COLOR- GRAY
- STONE VENEER WING WALL BEYOND  
COLOR- LIGHT BROWN TONES
- MILL FIN. CYLINDER LIGHTS
- 4" T 4 G PREFIN. WOOD LOOK  
COMPOSITE SIDING  
COLOR- LIGHT BROWN STAIN
- 12" SQUARE GLUELAM  
WOOD COLUMNS  
COLOR- LIGHT BROWN STAIN
- ILLUM. INDIVIDUAL LETTERS  
PER SIGN ORDINANCE
- STONE VENEER PLANTER WALL  
W/ 4" LIMESTONE CAP  
COLOR- LIGHT BROWN TONES

- PREFIN. METAL COPING  
COLOR- GRAY
- ILLUM. LOGO PER SIGN ORDINANCE
- STONE VENEER  
COLOR- LIGHT BROWN TONES
- PREFIN. METAL COPING  
COLOR- GRAY
- PREFIN. VERTICAL METAL SIDING  
COLOR- GRAY
- INSUL. GLASS WINDOW UNIT IN  
MILL FINISH ALUM. FRAME  
GLASS COLOR- GRAY TINT
- LANDSCAPED BERM.  
SEE LANDSCAPE PLAN
- SPLIT FACE MASONRY BLOCK  
SILL WALL W/ 4" LIMESTONE SILL  
BLK. COLOR- GRAY STAIN
- LANDSCAPED BERM.  
SEE LANDSCAPE PLAN



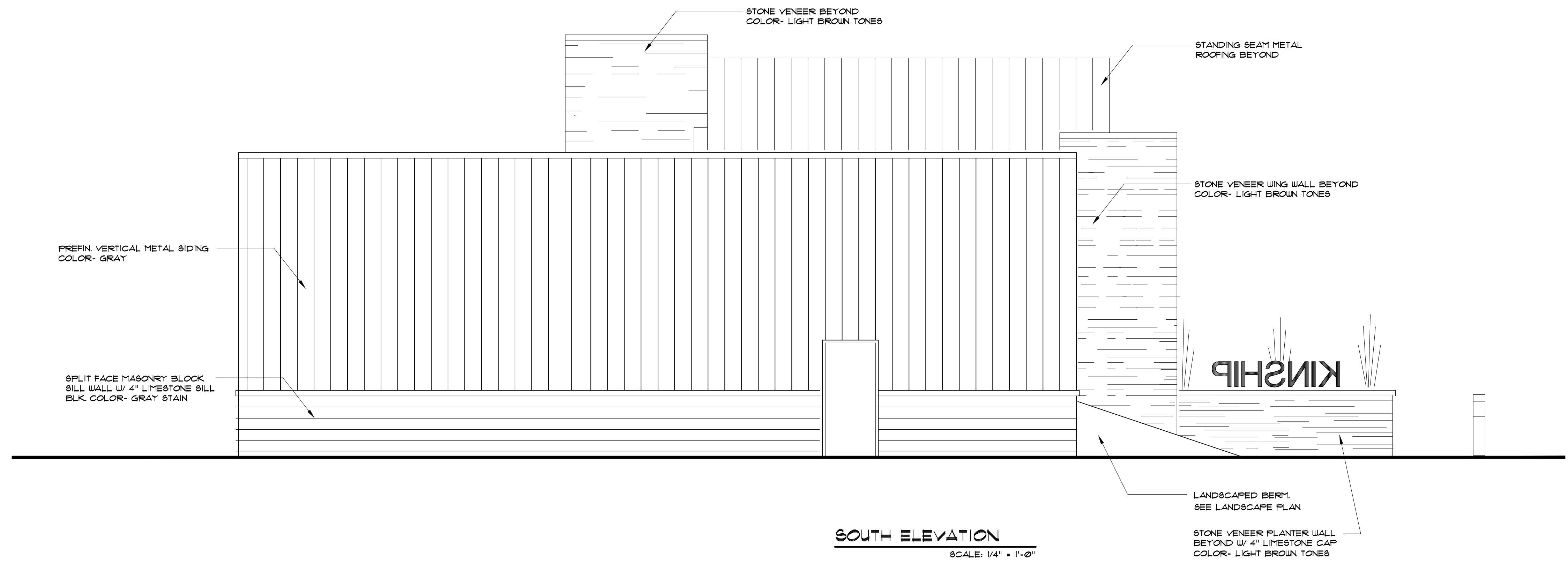
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COLOR- GRAY
- SPLIT FACE MASONRY BLOCK  
SILL WALL W/ 4" LIMESTONE SILL  
BLK. COLOR- GRAY STAIN
- LANDSCAPED BERM.  
SEE LANDSCAPE PLAN
- PREFIN. METAL COPING  
COLOR- GRAY
- STONE VENEER WING WALL  
COLOR- LIGHT BROWN TONES
- 4" T 4 G PREFIN. WOOD LOOK  
COMPOSITE SIDING  
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- INSUL. GLASS WINDOW UNIT IN  
MILL FINISH ALUM. FRAME  
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- PREFIN. WOOD LOOK  
COMPOSITE TRIM BOARDS  
AT WINDOWS BEYOND  
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- STONE VENEER BEYOND  
COLOR- LIGHT BROWN TONES
- PREFIN. METAL COPING  
COLOR- GRAY
- PREFIN. WOOD LOOK  
COMPOSITE FASCIA TRIM BOARDS  
COLOR- LIGHT BROWN STAIN
- 12" x24" GLUELAM CANTIL.  
WOOD BEAM  
COLOR- LIGHT BROWN STAIN
- MILL FIN. CYLINDER LIGHTS
- 12" SQUARE GLUELAM  
WOOD COLUMNS  
COLOR- LIGHT BROWN STAIN
- INSUL. GLASS WINDOW UNIT IN  
MILL FINISH ALUM. FRAME  
GLASS COLOR- GRAY TINT
- PREFIN. WOOD LOOK  
COMPOSITE TRIM BOARDS  
AT WINDOWS BEYOND  
COLOR- LIGHT BROWN STAIN
- SIDE OF ILLUM. INDIVIDUAL LETTERS
- STONE VENEER PLANTER WALL  
W/ 4" LIMESTONE CAP  
COLOR- LIGHT BROWN TONES
- SPLIT FACE MASONRY BLOCK  
SILL WALL W/ 4" LIMESTONE SILL  
BLK. COLOR- GRAY STAIN
- ILLUM. BOLLARDS  
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- SPLIT FACE MASONRY BLOCK  
COL. BASE W/ 4" LIMESTONE CAP  
BLK. COLOR- GRAY STAIN

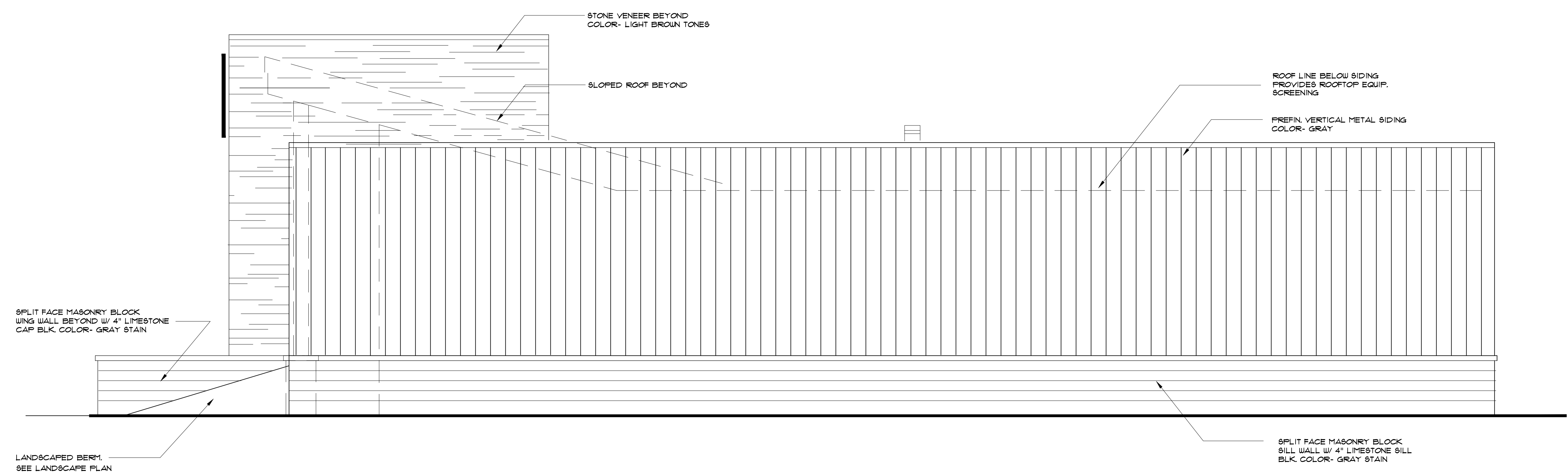
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 SHEET NO.: A-3  
 DRAWING NO.: 1821  
 DATE: 11/22/24  
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 CHECKED BY: [Signature]  
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 23419 Ford Road Dearborn, MI 48128  
 (313) 274-7800 Fax (313) 274-7808  
 Email: guido@guidoarchitects.com





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



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

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DATE: 11/22  
REVISION

DESIGNER: DK  
DRAWN BY: DK

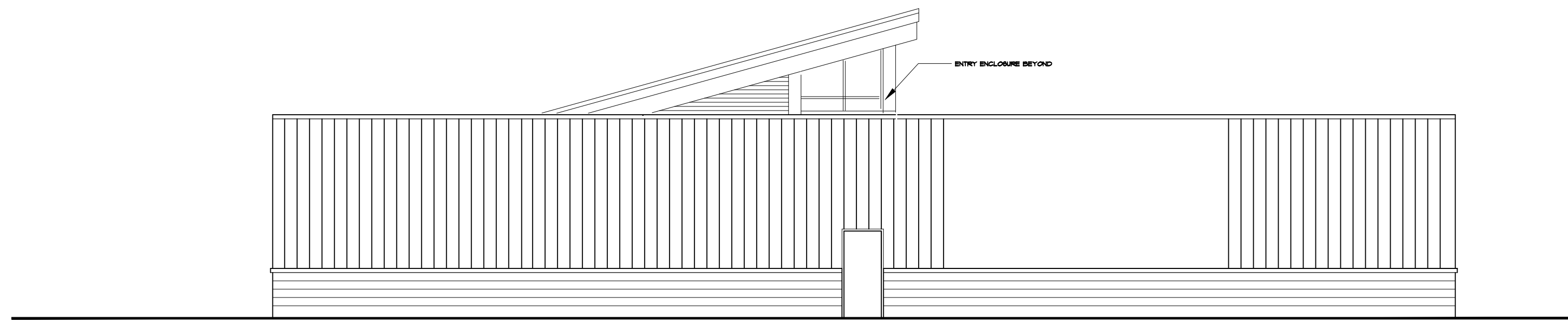


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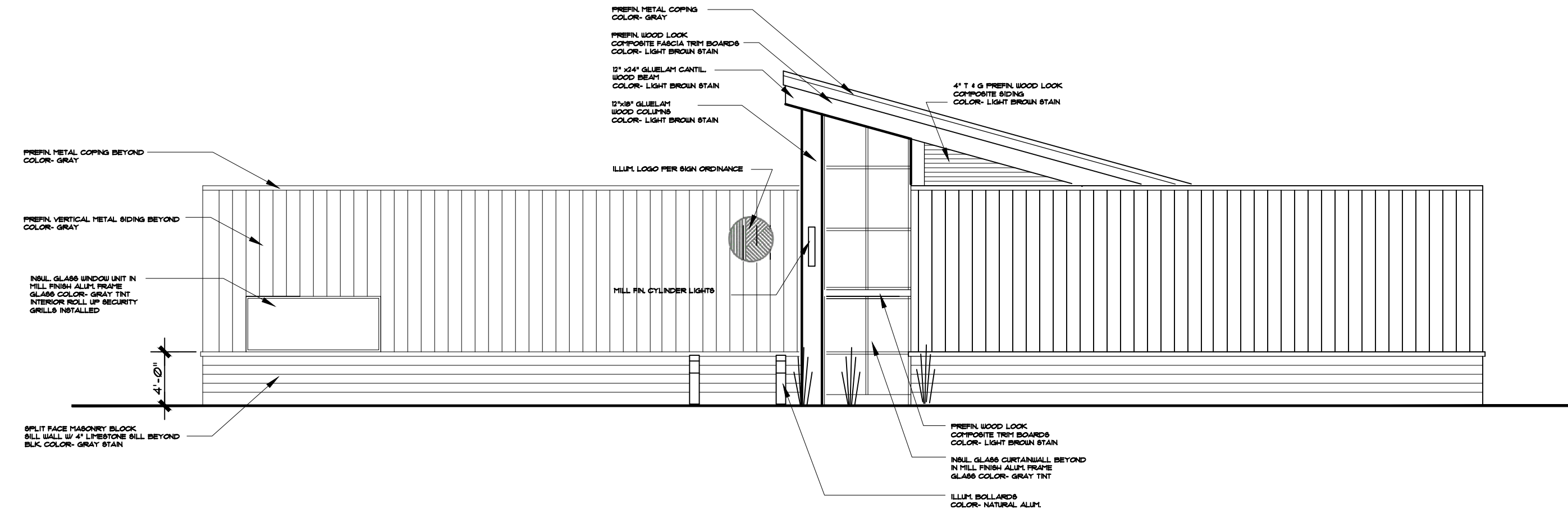
PROJECT NAME: **KINSHIP PROVISIONING AND CULTIVATION**  
WESTLAND, MICHIGAN  
PROVISIONING STORE ELEVATIONS

SHEET NO.: **A-4**  
PROJECT NO.: **1821**

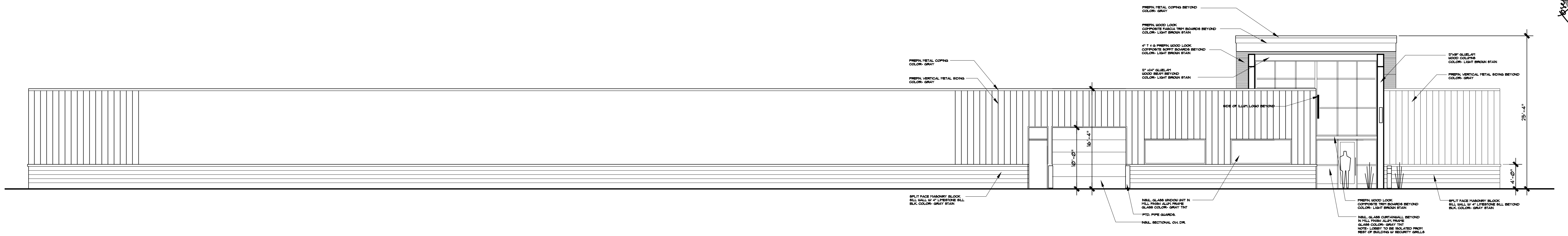




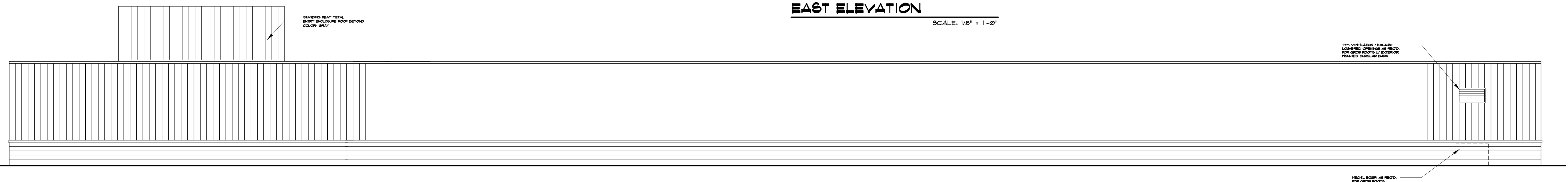
**SOUTH ELEVATION**  
SCALE: 1/8" = 1'-0"



**NORTH ELEVATION**  
SCALE: 1/8" = 1'-0"



**EAST ELEVATION**  
SCALE: 1/8" = 1'-0"



**WEST ELEVATION**  
SCALE: 1/8" = 1'-0"

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SCALE: 3/4"  
DRAWN: DK  
CHECKED: [Signature]

JOSEPH A. GUIDO  
ARCHITECT  
1301027944

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**KINSHIP PROVISIONING AND CULTIVATION**  
WESTLAND, MICHIGAN  
CULTIVATION FACILITY ELEVATIONS

sheet: A-5  
job no.: 1821