

SOURCE: USGS MAPPING SYSTEM

**LOCATION MAP**

SCALE: 1" = 2,000'±

**SITE DEVELOPMENT PLANS**

FOR

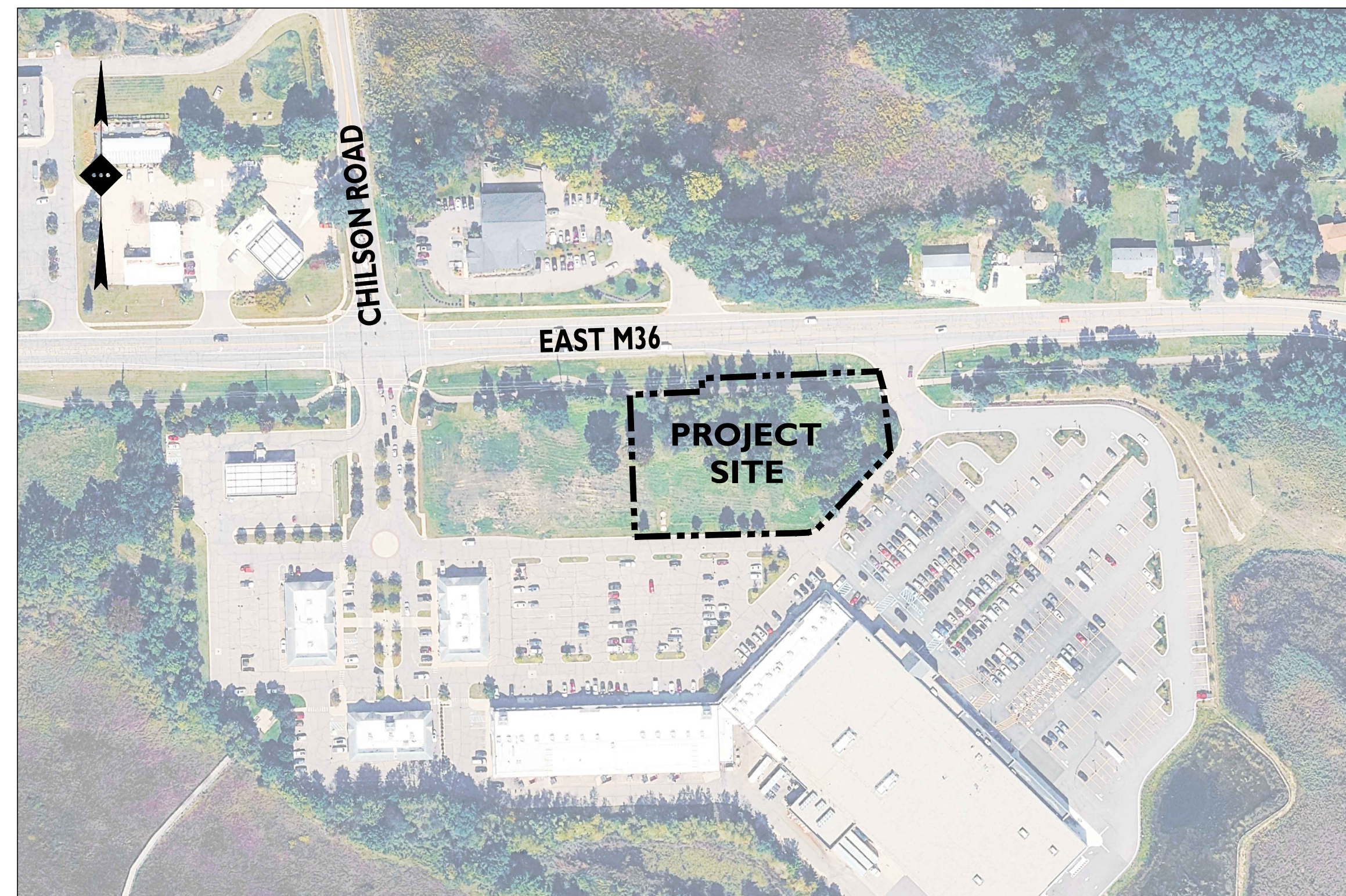


**PROPOSED CAR WASH**

PID: 4715-22-400-023 & 4725-22-402-900 (UNIT 10)

5580 E-M36

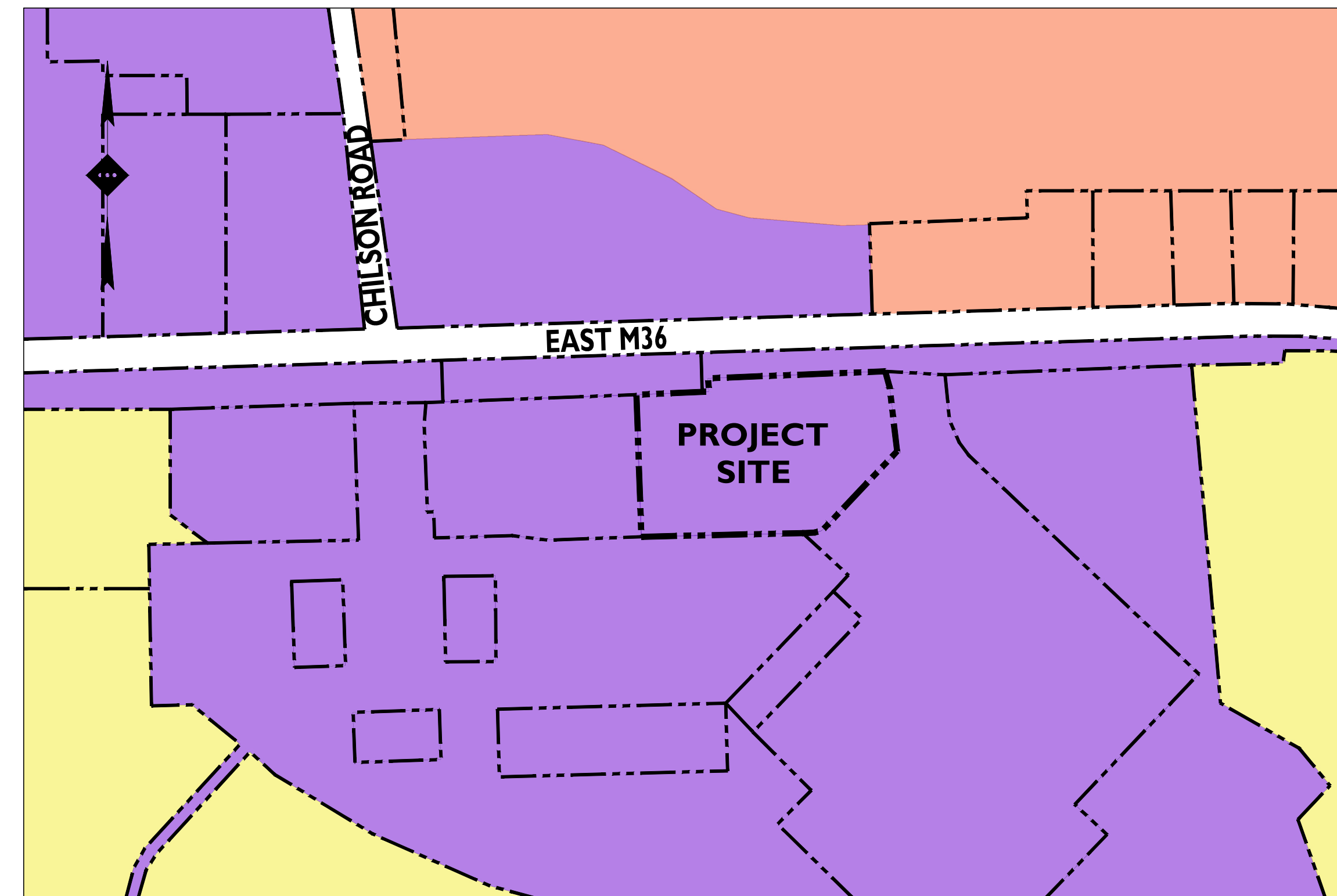
TOWNSHIP OF HAMBURG, LIVINGSTON COUNTY, MICHIGAN



SOURCE: GOOGLE EARTH PRO

**AERIAL MAP**

SCALE: 1" = 150'±



SOURCE: TOWNSHIP OF HAMBURG, LIVINGSTON COUNTY, MICHIGAN OFFICIAL ZONING MAP

**ZONING MAP**

SCALE: 1" = 150'±

**ZONING KEY**

- RA- SINGLE FAMILY MEDIUM DENSITY RESIDENTIAL
- WFR- WATERFRONT RESIDENTIAL
- CS COMMUNITY SERVICE

PLANS PREPARED BY:



Birmingham, MI · New York, NY · Salem, MA  
Princeton, NJ · Tampa, FL · Rutherford, NJ

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**PROPERTY DESCRIPTION:**

THE LAND SITUATED IN THE TOWNSHIP OF HAMBURG, COUNTY OF LIVINGSTON, STATE OF MICHIGAN, AND IS DESCRIBED AS FOLLOWS:

SECTION 22, TOWN 1 NORTH, RANGE 5 EAST, COMMENCING AT THE EAST 1/4 CORNER OF SAID SECTION, THENCE SOUTH 01 DEGREE 08 MINUTES 26 SECONDS EAST 95.25 FEET TO SOUTH LINE OF M-36, THENCE ALONG CHORD BEARING NORTH 73 DEGREES 10 MINUTES 10 SECONDS WEST 179.03 FEET THENCE SOUTH 06 DEGREES 08 MINUTES 27 SECONDS WEST 33.00 FEET THENCE ALONG CHORD BEARING NORTH 87 DEGREES 53 MINUTES 03 SECONDS WEST 63.11 FEET THENCE SOUTH 88 DEGREES 05 MINUTES 53 SECONDS WEST 489.73 FEET FOR POB, THENCE SOUTH 01 DEGREE 54 MINUTES 07 SECONDS EAST 118.50 FEET THENCE SOUTH 43 DEGREES 50 MINUTES 39 SECONDS WEST 116.73 FEET THENCE ALONG CHORD BEARING SOUTH 45 DEGREES 55 MINUTES 23 SECONDS WEST 18.79 FEET THENCE SOUTH 89 DEGREES 00 MINUTES 04 SECONDS WEST 16.28 FEET THENCE NORTH 02 DEGREES 15 MINUTES 15 SECONDS WEST 72.01 FEET THENCE SOUTH 88 DEGREES 04 MINUTES 04 SECONDS WEST 201.44 FEET THENCE NORTH 02 DEGREES 00 MINUTES 09 SECONDS WEST 111.55 FEET TO SOUTH LINE M-36 THENCE NORTH 87 DEGREES 40 MINUTES 10 SECONDS EAST 130.30 FEET THENCE NORTH 02 DEGREES 19 MINUTES 50 SECONDS WEST 22.89 FEET THENCE NORTH 88 DEGREES 05 MINUTES 53 SECONDS EAST 190.04 FEET TO POB, ENCLUMBERED BY CHILSON COMMONS SHOPPING CENTER CONDOMINIUM.

**PLAN REFERENCE MATERIALS:**

1. THIS PLAN SET REFERENCES THE FOLLOWING DOCUMENTS INCLUDING, BUT NOT LIMITED TO:
  - ALTA/NSPS LAND TITLE SURVEY PREPARED BY KEM-TEC, DATED 11/19/2025
  - ARCHITECTURAL BUILDING PERMIT PLANS PREPARED BY HARRISON FRENCH & ASSOCIATES, LTD
  - AERIAL MAP OBTAIN FROM GOOGLE EARTH PRO DATED 12/11/2025
  - LOCATION MAP OBTAINED FROM USGS NATIONAL MAPPER DATED 12/11/2025
  - WETLANDS DELINEATION REPORT PREPARED BY ASTI ENVIRONMENTAL DATED 10/24/2025
2. ALL REFERENCE MATERIAL LISTED ABOVE SHALL BE CONSIDERED A PART OF THIS PLAN SET AND ALL INFORMATION CONTAINED WITHIN THESE MATERIALS SHALL BE UTILIZED IN CONJUNCTION WITH THIS PLAN SET. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN A COPY OF EACH REFERENCE AND REVIEW IT THOROUGHLY PRIOR TO THE START OF CONSTRUCTION.

SHEET INDEX	
DRAWING TITLE	SHEET #
COVER SHEET	C-1
DEMOLITION & TREE REMOVAL PLAN	C-2
SITE PLAN	C-3
GRADING PLAN	C-4
STORMWATER MANAGEMENT PLAN	C-5
DRAINAGE AREA MAPS	C-6
UTILITY PLAN	C-7
LIGHTING PLAN	C-8
SOIL EROSION & SEDIMENT CONTROL PLAN	C-9
LANDSCAPING PLAN & DETAILS	C-10 TO C-11
CONSTRUCTION DETAILS	C-12 TO C-14

ADDITIONAL SHEETS	
DRAWING TITLE	SHEET #
ALTA / NSPS LAND TITLE SURVEY	1 OF 1

**APPLICANT**

EROP LLC  
3130 NORTH KANDY LANE  
DECATUR, ILLINOIS 62526  
217-972-4296  
JEFFJ@HYPERSHINECW.COM

**OWNER**

CHILLSON COMMONS LLC  
27600 NORTHWESTERN HWY STE 200  
SOUTHFIELD, MI, 48034

**ARCHITECT**

HARRISON FRENCH & ASSOCIATES, LTD  
1705 S. WALTON BLVD, SUITE 3  
BENTONVILLE, ARKANSAS 72712  
479-273-7780

REVISION	DATE	ISSUE	BY	DESCRIPTION
3	01/02/2026	EM		REVISED PER MDOT & LCDR RESC REVIEW
2	02/19/2026	EM		REVISED PER PLANNING COMMISSION RECOMMENDATION
1	01/23/2026	JSEH		FOR SITE PLAN & SPECIAL USE PERMIT APPROVAL

NOT APPROVED FOR CONSTRUCTION



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SITE DEVELOPMENT PLANS

**EROP LLC**



**PROPOSED CAR WASH**  
PARCEL ID: 4715-22-400-023 & 4725-22-402-900  
5580 E M36  
HAMBURG TOWNSHIP  
LIVINGSTON COUNTY, MICHIGAN 48169



SCALE: AS SHOWN PROJECT ID: DET-240177

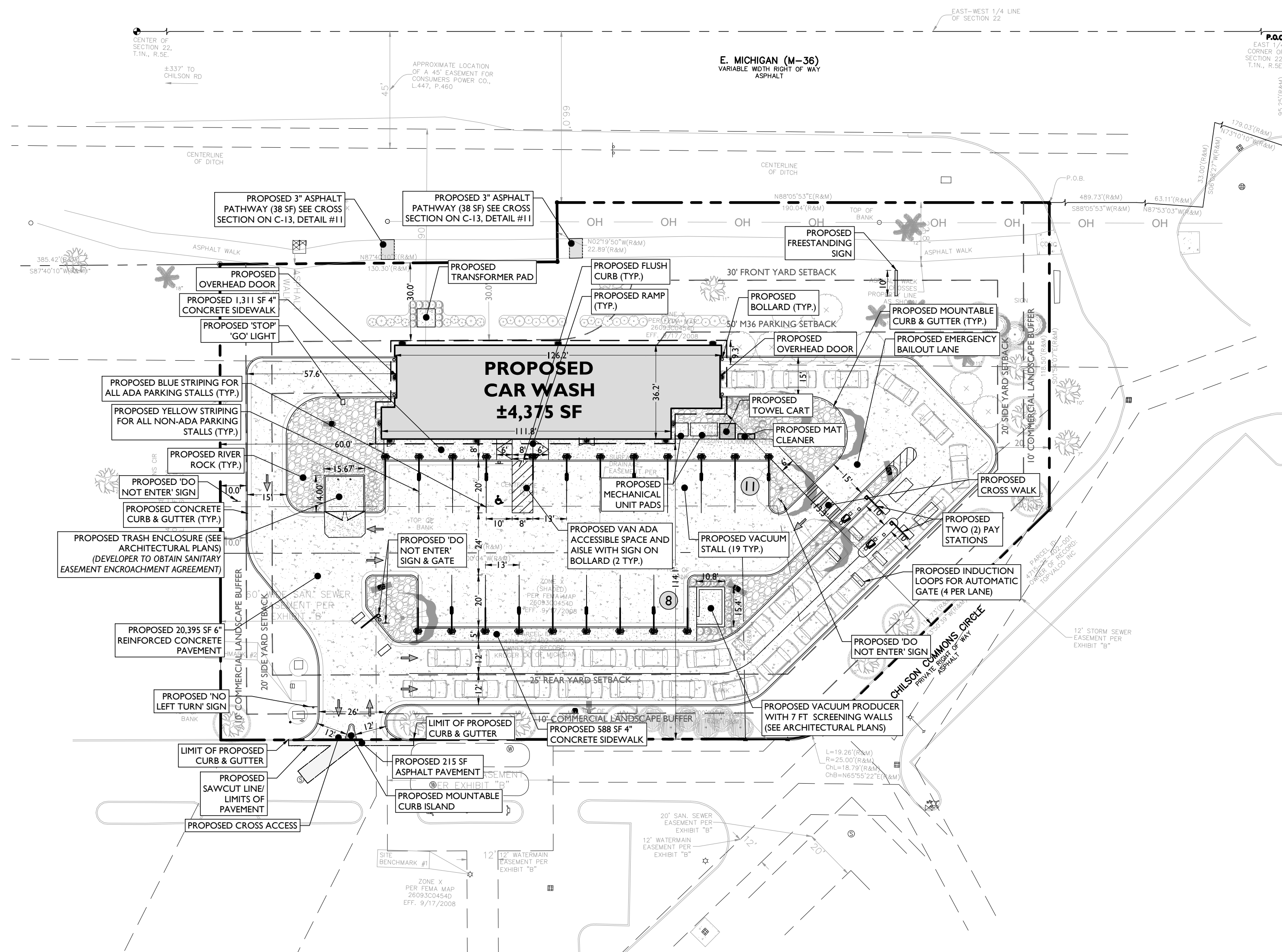
TITLE:  
**COVER SHEET**

DRAWING:  
**C-1**

NORTHWOODS-240177-001-LLC - 5580 E M36 - HAMBURG TOWNSHIP - MICHIGAN 48169 - COVERING



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LAND USE AND ZONING			
PARCEL ID: 4715-22-400-023 & 4725-22-402-900 (UNIT 10)			
COMMUNITY SERVICE DISTRICT (CS) & HARDSHIP PLANNED UNIT DEVELOPMENT (HPUD)			
PROPOSED USE		SPECIAL LAND USE	
CAR WASH		M-36 ACCESS	
ZONING REQUIREMENT	REQUIRED (CS)	REQUIRED (HPUD)	PROPOSED
MINIMUM LOT AREA	43,560 SF	N/A	1.36 AC (59,223 SF)
MINIMUM LOT WIDTH AT STREET	150 FT	N/A	320.2 FT
MINIMUM LOT COVERAGE (BUILDING)	40% (23,688 SF)	N/A	7.2% (4,375 SF)
MINIMUM LOT COVERAGE (PARKING)	75% (44,415 SF)	N/A	34.9% (20,354 SF)
MAXIMUM BUILDING HEIGHT	2.5 STORIES / 35 FT	N/A	1 STORY / 22 FT
MINIMUM FRONT YARD SETBACK	30 FT <sup>(1)</sup>	N/A	30.0 FT
MINIMUM SIDE YARD SETBACK	20 FT <sup>(2)</sup>	N/A	60.0 FT
MINIMUM REAR YARD SETBACK	25 FT	N/A	113.3 FT
MINIMUM COMMERCIAL LANDSCAPE BUFFER	10 FT	N/A	10.0 FT
MINIMUM PARKING SETBACK (M-36 ROW)	N/A	50 FT <sup>(3)</sup>	75.8 FT
M-36 ACCESS	N/A	NO NEW CURB CUTS ON M-36, SHARE WITH CHILSON COMMONS	COMPLIES

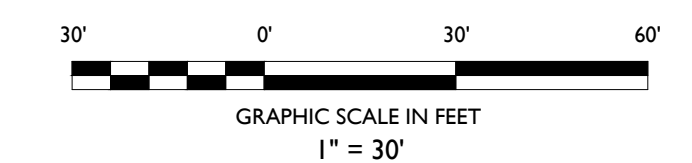
- (1) § 36-171.4 MINIMUM FRONT YARD SETBACKS ARE REQUIRED AS SHOWN EXCEPT WHERE ESTABLISHED BUILDINGS ON ADJACENT LOTS VARY FROM THIS MINIMUM. IN SUCH CASE, A NEW BUILDING SHALL BE CONSTRUCTED WITH A FRONT YARD NO LESS DEPTH THAN THE AVERAGE FRONT YARDS OF BUILDING LOCATED ON EACH SIDE OF THE PROPOSED BUILDING. IN NO CASE SHALL THIS PROVISION BE INTERPRETED TO ALLOW A FRONT YARD OF MORE THAN 40 FT OR LESS THAN 20 FT.
- (2) § 36-171.5 IN COMMUNITY SERVICE DISTRICT, A PRINCIPAL BUILDING MAY BE CONSTRUCTED ON OR NEAR THE PROPERTY LINE PROVIDED THAT THE COMBINATION OF THE TWO SIDE YARDS SHALL BE 20 FT AND THE BUILDINGS SIDE WALL BE FIREWALL MEETING BUILDING CODE.
- (3) OR MUST BE LOCATED SOUTH OF PROPOSED BUILDING

OFF-STREET PARKING REQUIREMENTS		
CODE SECTION	REQUIRED	PROPOSED
§36-330.c	MINIMUM VEHICLE PARKING SPACE: 200 SF	260 SF
§36-334.23	GASOLINE FILLING AND SERVICE STATIONS: 1 SPACE PER SERVICE STALL 1 WASH LANE = 1 SPACE PLUS 1 SPACE PER EMPLOYEE 5 EMP. = 5 SPACES <b>TOTAL: 1 + 5 = 6 SPACES</b>	19 VACUUMS +5 EMPLOYEE <sup>(1)</sup> 24 TOTAL SPACES
	STACKING: N/A	28 SPACES

(1) SHARED PARKING AGREEMENT WITH KROGER FOR 5 EMPLOYEE PARKING SPACES.

SYMBOL	DESCRIPTION
---	PROPERTY LINE
- - - - -	SETBACK LINE
- . - . - .	SAWCUT LINE
=====	PROPOSED CURB & GUTTER
===== ===== =====	PROPOSED FLUSH CURB
----- ----- -----	PROPOSED MOUNTABLE CURB
○ ○ ○	PROPOSED SIGNS / BOLLARDS
■	PROPOSED BUILDING
□	PROPOSED ASPHALT
▨	PROPOSED CONCRETE
∩	PROPOSED BUILDING DOORS

- GENERAL NOTES**
- THE CONTRACTOR SHALL VERIFY AND FAMILIARIZE THEMSELVES WITH THE EXISTING SITE CONDITIONS AND THE PROPOSED SCOPE OF WORK (INCLUDING DIMENSIONS, LAYOUT, ETC.) PRIOR TO INITIATING THE IMPROVEMENTS IDENTIFIED WITHIN THESE DOCUMENTS. SHOULD ANY DISCREPANCY BE FOUND BETWEEN THE EXISTING SITE CONDITIONS AND THE PROPOSED WORK, THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC PRIOR TO THE START OF CONSTRUCTION.
  - THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND ENSURE THAT ALL REQUIRED APPROVALS HAVE BEEN OBTAINED PRIOR TO THE START OF CONSTRUCTION. COPIES OF ALL REQUIRED PERMITS AND APPROVALS SHALL BE KEPT ON SITE AT ALL TIMES DURING CONSTRUCTION.
  - ALL CONTRACTORS WILL, TO THE FULLEST EXTENT PERMITTED BY LAW, INDEMNIFY AND HOLD HARMLESS STONEFIELD ENGINEERING & DESIGN, LLC, AND ITS SUB-CONSULTANTS FROM AND AGAINST ANY DAMAGES AND LIABILITIES INCLUDING ATTORNEY'S FEES ARISING OUT OF CLAIMS BY EMPLOYEES OF THE CONTRACTOR IN ADDITION TO CLAIMS CONNECTED TO THE PROJECT AS A RESULT OF NOT CARRYING THE PROPER INSURANCE FOR WORKERS COMPENSATION, LIABILITY INSURANCE, AND LIMITS OF COMMERCIAL GENERAL LIABILITY INSURANCE.
  - THE CONTRACTOR SHALL NOT DEVIATE FROM THE PROPOSED IMPROVEMENTS IDENTIFIED WITHIN THIS PLAN SET UNLESS APPROVAL IS PROVIDED IN WRITING BY STONEFIELD ENGINEERING & DESIGN, LLC.
  - THE CONTRACTOR IS RESPONSIBLE TO DETERMINE THE MEANS AND METHODS OF CONSTRUCTION.
  - THE CONTRACTOR SHALL NOT PERFORM ANY WORK OR CAUSE DISTURBANCE ON A PRIVATE PROPERTY NOT CONTROLLED BY THE PERSON OR ENTITY WHO HAS AUTHORIZED THE WORK WITHOUT PRIOR WRITTEN CONSENT FROM THE OWNER OF THE PRIVATE PROPERTY.
  - THE CONTRACTOR IS RESPONSIBLE TO RESTORE ANY DAMAGED OR UNDERMINED STRUCTURE OR SITE FEATURE THAT IS IDENTIFIED TO REMAIN ON THE PLAN SET. ALL REPAIRS SHALL USE NEW MATERIALS TO RESTORE THE FEATURE TO ITS EXISTING CONDITION AT THE CONTRACTOR'S EXPENSE.
  - THE CONTRACTOR IS RESPONSIBLE TO PROVIDE THE APPROPRIATE SHOP DRAWINGS, PRODUCT DATA, AND OTHER REQUIRED SUBMITTALS FOR REVIEW BY STONEFIELD ENGINEERING & DESIGN, LLC. THE CONTRACTOR SHALL REVIEW THE SUBMITTALS IN ACCORDANCE WITH THE DESIGN INTENT AS REFLECTED WITHIN THE PLAN SET.
  - THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL IN ACCORDANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
  - THE CONTRACTOR IS REQUIRED TO PERFORM ALL WORK IN THE PUBLIC RIGHT-OF-WAY IN ACCORDANCE WITH THE APPROPRIATE GOVERNING AUTHORITY AND SHALL BE RESPONSIBLE FOR THE PROCUREMENT OF STREET OPENING PERMITS.
  - THE CONTRACTOR IS REQUIRED TO RETAIN AN OSHA CERTIFIED SAFETY INSPECTOR TO BE PRESENT ON SITE AT ALL TIMES DURING CONSTRUCTION & DEMOLITION ACTIVITIES.
  - SHOULD AN EMPLOYEE OF STONEFIELD ENGINEERING & DESIGN, LLC, BE PRESENT ON SITE AT ANY TIME DURING CONSTRUCTION, IT DOES NOT RELIEVE THE CONTRACTOR OF ANY OF THE RESPONSIBILITIES AND REQUIREMENTS LISTED IN THE NOTES WITHIN THIS PLAN SET.



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2	02/19/2024	EM		REVISED PER PLANNING COMMISSION RECOMMENDATION
3	02/02/2024	JSEM		FOR SITE PLAN & SPECIAL USE PERMIT APPROVAL

**NOT APPROVED FOR CONSTRUCTION**

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engineering & design

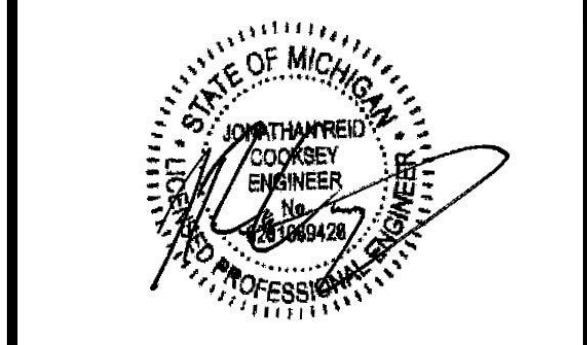
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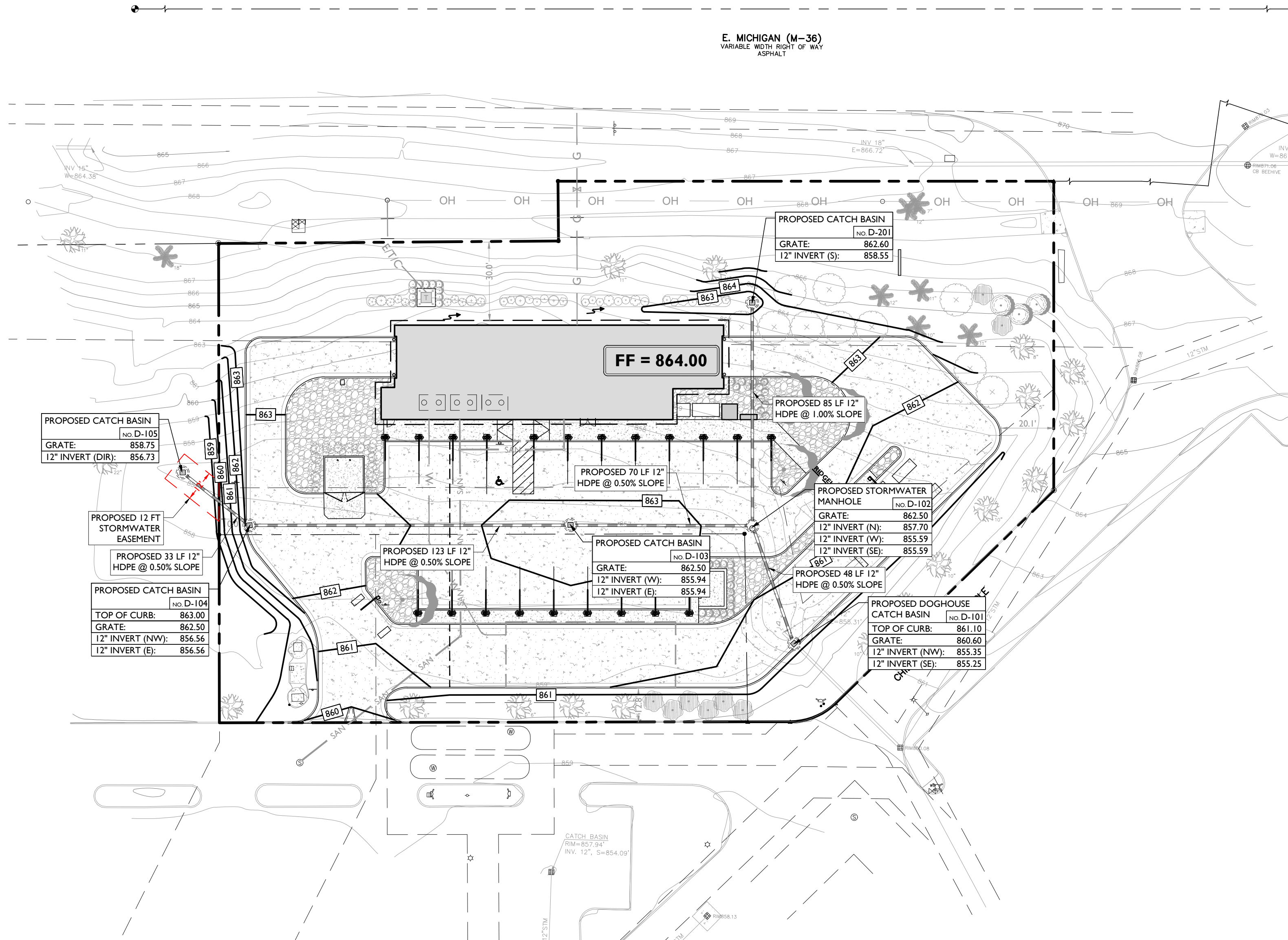
SCALE: 1" = 30' PROJECT ID: DET-240177

TITLE: **SITE PLAN**

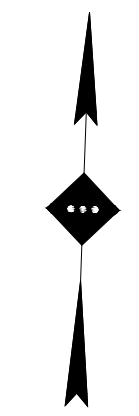
DRAWING: **C-3**



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SYMBOL	DESCRIPTION
	PROPERTY LINE
	PROPOSED GRADING CONTOUR
	PROPOSED GRADING RIDGELINE
	PROPOSED STORMWATER STRUCTURES
	PROPOSED STORMWATER PIPING



**NOT APPROVED FOR CONSTRUCTION**

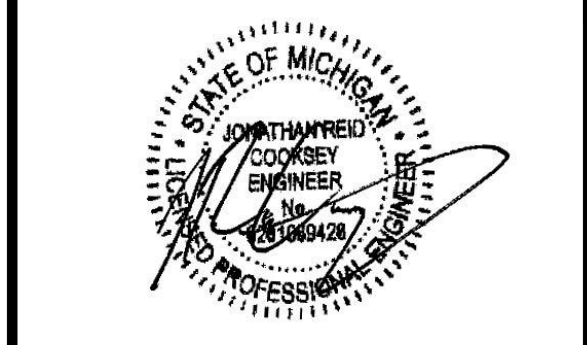
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HAMBURG TOWNSHIP  
LIVINGSTON COUNTY, MICHIGAN 48169



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SCALE: 1" = 30' PROJECT ID: DET-240177

TITLE:  
**STORMWATER  
MANAGEMENT PLAN**

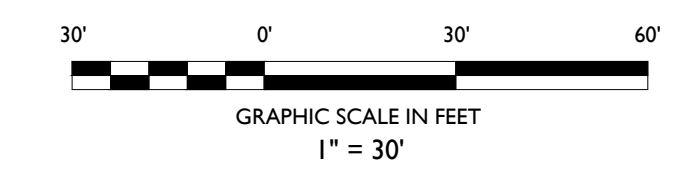
DRAWING:  
**C-5**

**DRAINAGE AND UTILITY NOTES**

1. THE CONTRACTOR TO PERFORM A TEST PIT PRIOR TO CONSTRUCTION (RECOMMEND 30 DAYS PRIOR) AT LOCATIONS OF EXISTING UTILITY CROSSINGS FOR STORMWATER IMPROVEMENTS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC IN WRITING.
2. CONTRACTOR SHALL START CONSTRUCTION OF STORM LINES AT THE LOWEST INVERT AND WORK UP-GRADE.
3. THE CONTRACTOR IS REQUIRED TO CALL THE APPROPRIATE AUTHORITY FOR NOTICE OF CONSTRUCTION/EXCAVATION AND UTILITY MARK OUT PRIOR TO THE START OF CONSTRUCTION IN ACCORDANCE WITH STATE LAW. CONTRACTOR IS REQUIRED TO CONFIRM THE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES IN THE FIELD. SHOULD A DISCREPANCY EXIST BETWEEN THE FIELD LOCATION OF A UTILITY AND THE LOCATION SHOWN ON THE PLAN SET OR SURVEY, THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC IMMEDIATELY IN WRITING.
4. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN A RECORD OF THE AS-BUILT LOCATIONS OF ALL PROPOSED UNDERGROUND INFRASTRUCTURE. THE CONTRACTOR SHALL NOTE ANY DISCREPANCIES BETWEEN THE AS-BUILT LOCATIONS AND THE LOCATIONS DEPICTED WITHIN THE PLAN SET. THIS RECORD SHALL BE PROVIDED TO THE OWNER FOLLOWING COMPLETION OF WORK.

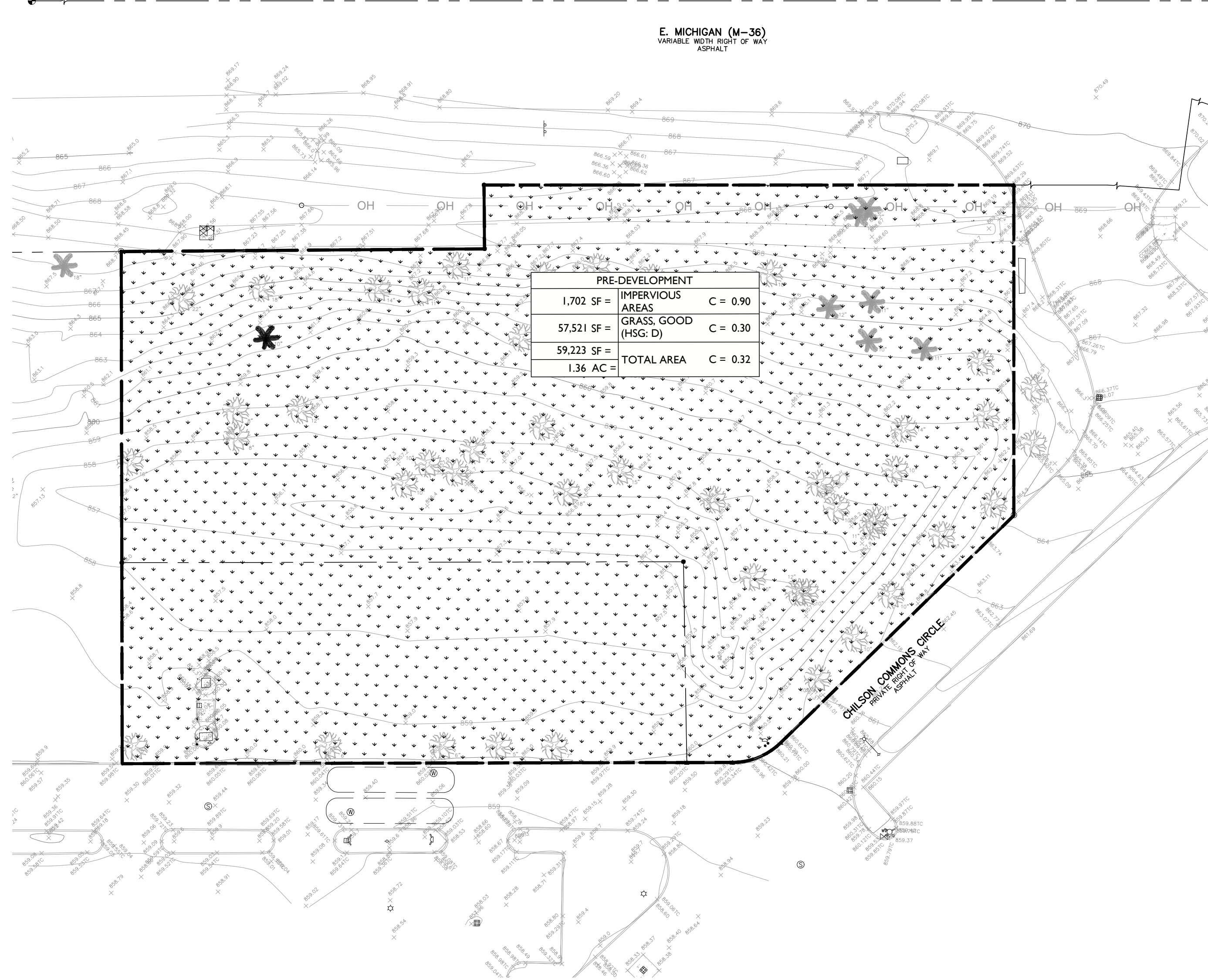
**EXCAVATION, SOIL PREPARATION, AND DEWATERING NOTES**

1. THE CONTRACTOR IS REQUIRED TO REVIEW THE REFERENCED GEOTECHNICAL DOCUMENTS PRIOR TO CONSTRUCTION. THESE DOCUMENTS SHALL BE CONSIDERED A PART OF THE PLAN SET.
2. THE CONTRACTOR IS REQUIRED TO PREPARE SUBGRADE SOILS BENEATH ALL PROPOSED IMPROVEMENTS AND BACKFILL ALL EXCAVATIONS IN ACCORDANCE WITH RECOMMENDATIONS BY THE GEOTECHNICAL ENGINEER OF RECORD.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING SHORING FOR ALL EXCAVATIONS AS REQUIRED. CONTRACTOR SHALL HAVE THE SHORING DESIGN PREPARED BY A QUALIFIED PROFESSIONAL SHORING DESIGNER. THESE DESIGNS SHALL BE SUBMITTED TO STONEFIELD ENGINEERING & DESIGN, LLC, AND THE OWNER PRIOR TO THE START OF CONSTRUCTION.
4. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL OPEN EXCAVATIONS ARE PERFORMED AND PROTECTED IN ACCORDANCE WITH THE LATEST OSHA REGULATIONS.
5. THE CONTRACTOR IS RESPONSIBLE FOR ANY DEWATERING DESIGN AND OPERATIONS, AS REQUIRED, TO CONSTRUCT THE PROPOSED IMPROVEMENTS. THE CONTRACTOR SHALL OBTAIN ANY REQUIRED PERMITS FOR DEWATERING OPERATIONS AND GROUNDWATER DISPOSAL.

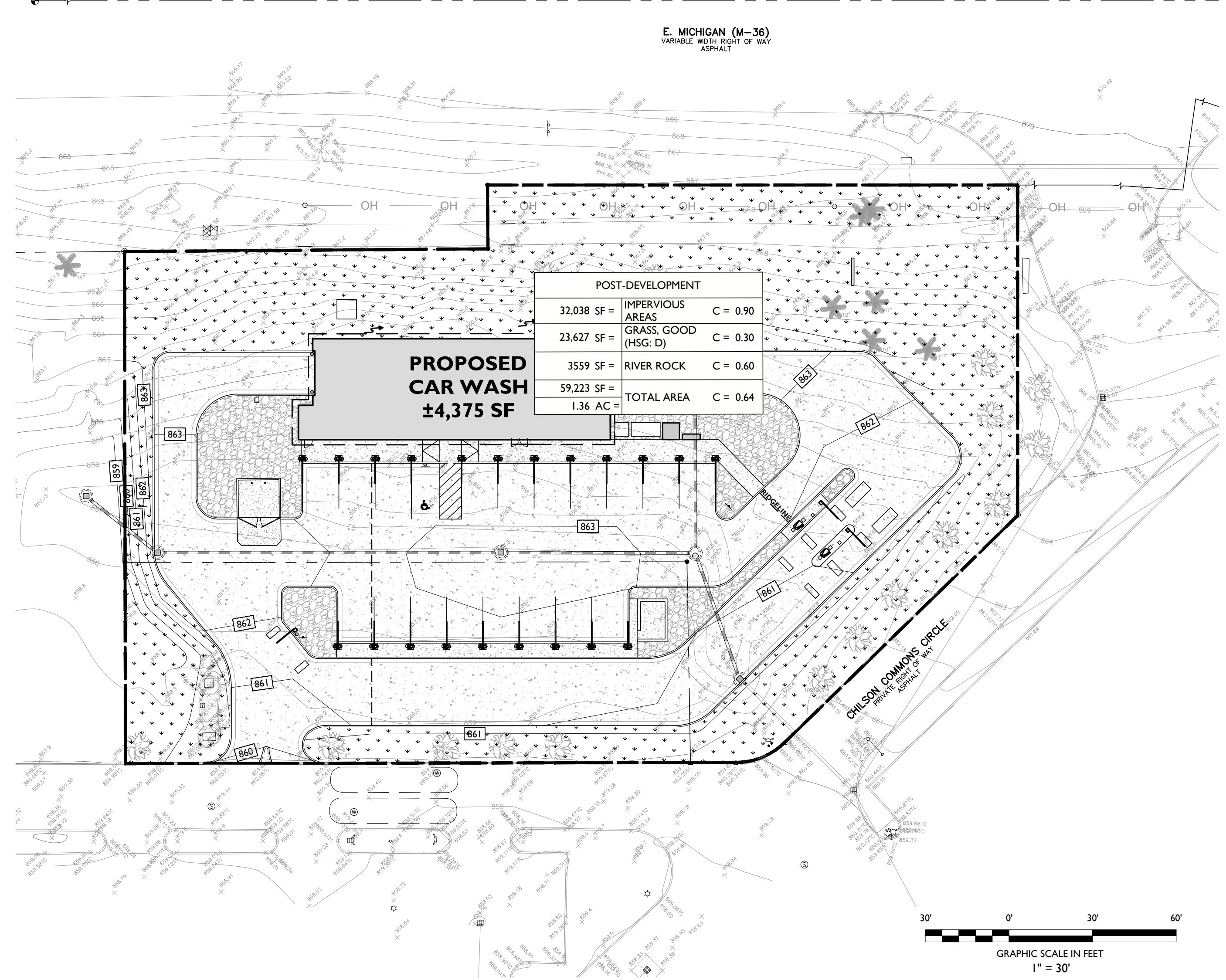


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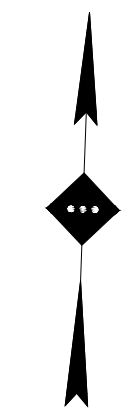
**PRE-DEVELOPMENT DRAINAGE AREA MAP**



**POST-DEVELOPMENT DRAINAGE AREA MAP**



SYMBOL	DESCRIPTION
	DRAINAGE AREA BOUNDARY
	PERVIOUS AREA



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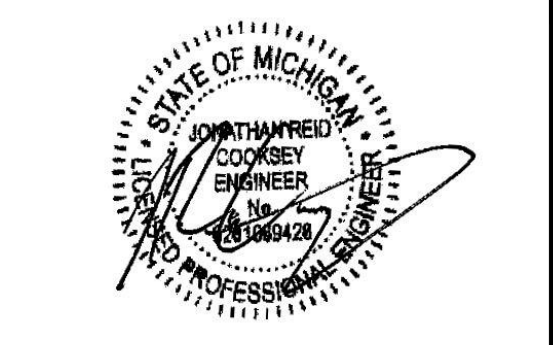
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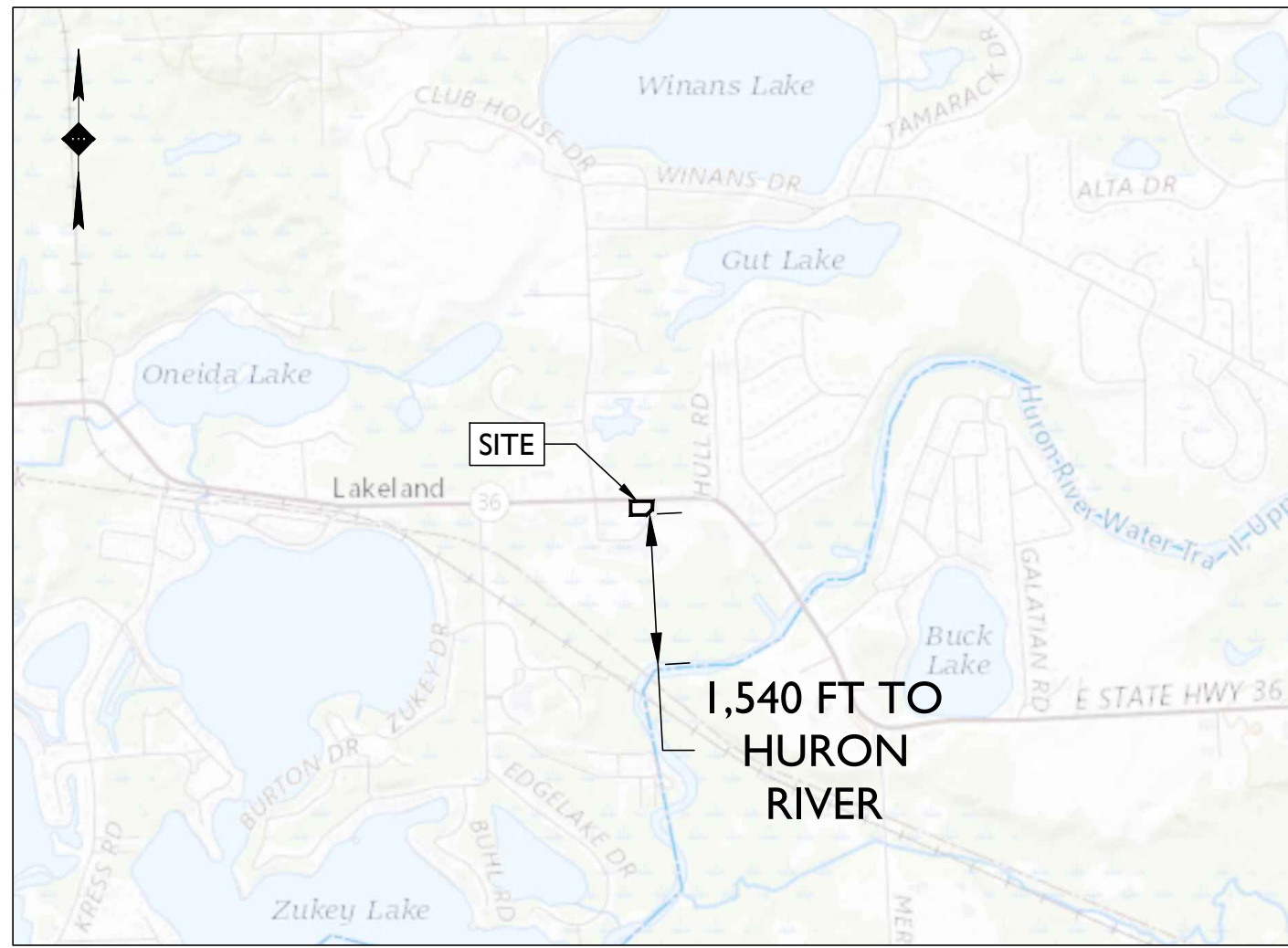
TITLE:  
**DRAINAGE AREA MAPS**

DRAWING:  
**C-6**

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## LOCATION MAP

SCALE: 1" = 2,000'

SOURCE: USGS MAPPING SYSTEM

### CONSTRUCTION SEQUENCE

- OBTAIN LIVINGSTON COUNTY SESC PERMIT AND CONDUCT PRE-CONSTRUCTION MEETING, IF REQUIRED.
- INSTALL STABILIZED CONSTRUCTION ENTRANCE PRIOR TO ANY EARTH DISTURBANCE.
- INSTALL PERIMETER SOIL EROSION AND SEDIMENTATION CONTROL MEASURES (SILT FENCE, SEDIMENT TRAPS, INLET PROTECTION, ETC.) PRIOR TO OR CONCURRENT WITH INITIAL EARTH CHANGE.
- INSTALL TEMPORARY SEDIMENT BASINS, IF APPLICABLE.
- BEGIN CLEARING AND GRUBBING WITHIN THE LIMITS OF DISTURBANCE.
- PERFORM ROUGH GRADING AND INSTALL UNDERGROUND UTILITIES (STORM SEWER, SANITARY SEWER, WATER MAIN). MAINTAIN AND ADJUST SESC MEASURES AS GRADING PROGRESSES.
- CONSTRUCT BUILDING FOUNDATIONS AND RELATED UNDERGROUND STRUCTURES.
- COMPLETE FINE GRADING.
- INSTALL PERMANENT STORMWATER MANAGEMENT FACILITIES.
- INSTALL CURB AND GUTTER AND COMPLETE AGGREGATE BASE.
- PLACE FINAL PAVEMENT AND CONCRETE FLATWORK.
- COMPLETE FINAL GRADING, TOPSOIL PLACEMENT, AND PERMANENT STABILIZATION (SEED, MULCH, SOD, OR OTHER APPROVED METHOD).
- MAINTAIN ALL TEMPORARY SESC MEASURES UNTIL PERMANENT VEGETATION IS ESTABLISHED.
- REMOVE TEMPORARY SESC MEASURES ONLY AFTER ALL DISTURBED AREAS ARE STABILIZED AND APPROVED BY THE COUNTY.
- REQUEST FINAL SESC INSPECTION AND CLOSE OUT PERMIT.

ACTIVITY	M1	M2	M3	M4	M5	M6	M7
MOBILIZATION & SESC INSTALLATION	X						
CLEARING & ROUGH GRADING	X	X					
UTILITIES INSTALLATION		X	X				
BUILDING CONSTRUCTION		X	X				
SITE PAVING & IMPROVEMENTS			X	X			
FINAL GRADING & STABILIZATION					X	X	
FINAL RESTORATION & CLOSEOUT						X	X

### MAINTENANCE SCHEDULE

THE RESPONSIBLE PERSON SHALL IMPLEMENT THE FOLLOWING INSPECTION AND MAINTENANCE SCHEDULE THROUGHOUT CONSTRUCTION:

- INSPECTION FREQUENCY**
- EVERY SEVEN (7) CALENDAR DAYS
  - WITHIN 24 HOURS FOLLOWING RAINFALL EVENTS OF 0.5 INCHES OR GREATER
  - DAILY OBSERVATION DURING ACTIVE EARTH CHANGE
- CORRECTIVE ACTION TIMEFRAME**
- IMMEDIATE STABILIZATION OF FAILURES
  - ALL CORRECTIVE ACTIONS COMPLETED WITHIN 24 HOURS OF IDENTIFICATION

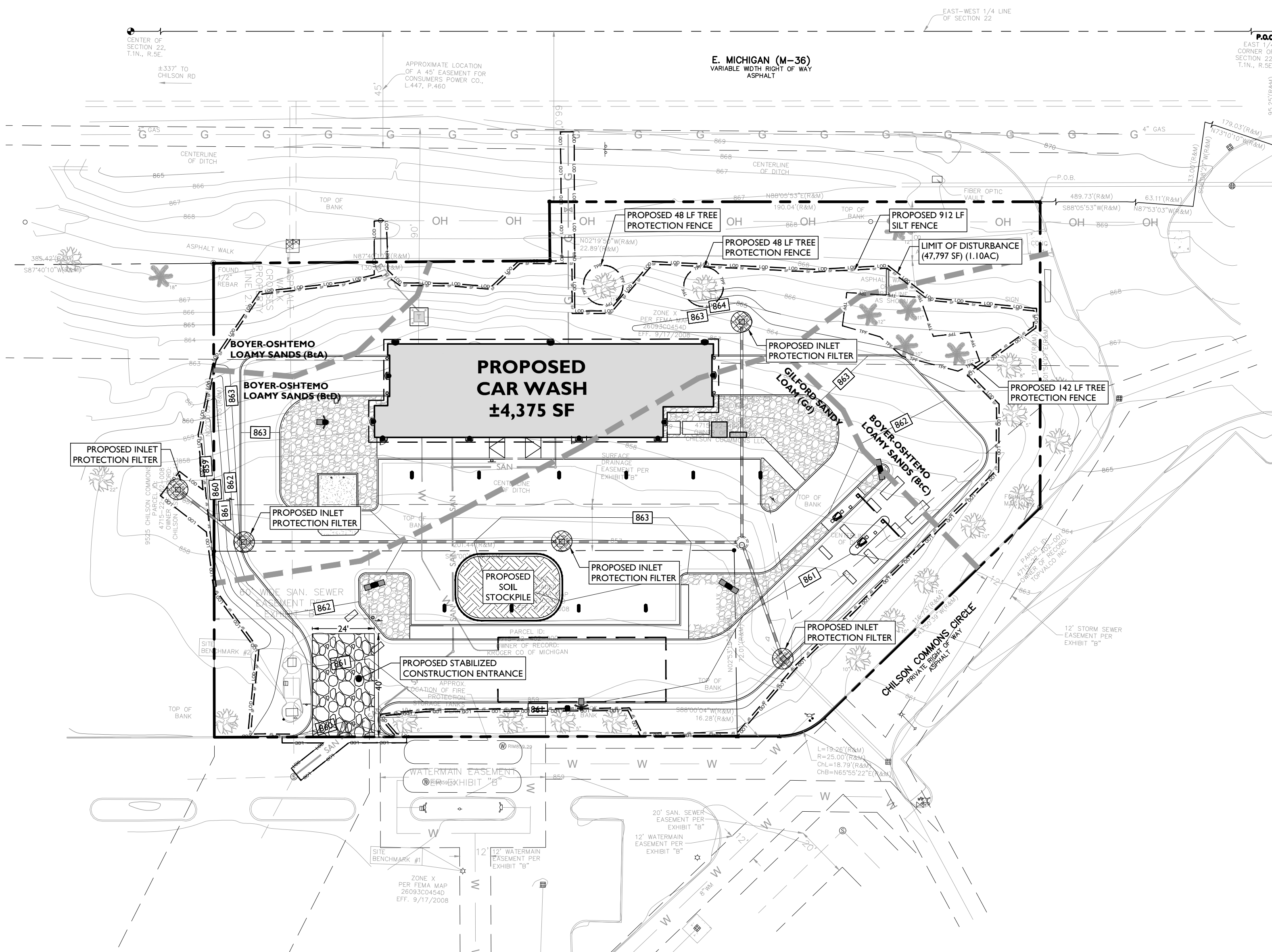
### MAINTENANCE THRESHOLDS & PRACTICES

CONTROL MEASURE	INSPECTION FREQUENCY	MAINTENANCE TRIGGER	REQUIRED ACTION
SILT FENCE	WEEKLY + POST-RAIN	SEDIMENT AT 1/2 HEIGHT	REMOVE SEDIMENT, REPAIR OR REPLACE
STRAW BALES	WEEKLY + POST-RAIN	DETERIORATION OR SEDIMENT AT 1/2 HEIGHT	REPLACE BALES, REMOVE SEDIMENT
CONSTRUCTION ENTRANCE	DAILY	STONE DISPLACEMENT OR ROADWAY TRACKING	ADD AGGREGATE, SWEEP ROADWAY
INLET PROTECTION	WEEKLY + POST-RAIN	SEDIMENT ACCUMULATION OR CLOGGING	CLEAN OR REPLACE DEVICE
TEMPORARY STABILIZATION	ONGOING	AREA INACTIVE >14 DAYS	APPLY SEED/MULCH
PERMANENT STABILIZATION	UPON FINAL GRADE	AFTER FINAL GRADING	APPLY TOPSOIL AND PERMANENT VEGETATION

INSPECTION LOGS SHALL BE MAINTAINED ON-SITE AND MADE AVAILABLE TO LIVINGSTON COUNTY UPON REQUEST.  
TEMPORARY SESC MEASURES SHALL NOT BE REMOVED UNTIL PERMANENT STABILIZATION IS ESTABLISHED AND APPROVED.

### SOIL EROSION & STABILIZATION NOTES

- ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH PART 91 OF THE NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT (NREPA), AS AMENDED, AND LIVINGSTON COUNTY REQUIREMENTS.
- TEMPORARY AND PERMANENT SOIL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO OR CONCURRENT WITH EARTH CHANGE ACTIVITIES AND SHALL BE MAINTAINED IN EFFECTIVE OPERATING CONDITION THROUGHOUT CONSTRUCTION.
- ALL DISTURBED AREAS SHALL RECEIVE PERMANENT STABILIZATION IMMEDIATELY UPON FINAL GRADING.
- PERMANENT STABILIZATION SHALL CONSIST OF THE FOLLOWING MINIMUM APPLICATIONS:
  - TOPSOIL: MINIMUM 3 INCHES IN DEPTH.
  - GRASS SEED: 210 POUNDS PER ACRE.
  - FERTILIZER: 150 POUNDS PER ACRE.
  - STRAW MULCH: MINIMUM 3 INCHES IN DEPTH, APPLIED AT A RATE OF 1.5 TO 2 TONS PER ACRE.
- ALL MULCH APPLICATIONS SHALL INCLUDE AN APPROVED TIE-DOWN METHOD SUCH AS TACKIFIER, NET BINDING, MULCH BLANKET, CRIMPING, OR EQUIVALENT TO PREVENT DISPLACEMENT BY WIND OR STORMWATER RUNOFF.
- TEMPORARY STABILIZATION SHALL BE APPLIED TO ANY DISTURBED AREA THAT WILL REMAIN INACTIVE FOR MORE THAN FOURTEEN (14) DAYS.
- ALL SEDIMENT TRACKED OR DEPOSITED ON PUBLIC ROADWAYS SHALL BE REMOVED DAILY.
- SOIL EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL ALL DISTURBED AREAS ARE PERMANENTLY STABILIZED AND APPROVED BY LIVINGSTON COUNTY.
- THE RESPONSIBLE PERSON SHALL CONDUCT INSPECTIONS AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN TWENTY-FOUR (24) HOURS FOLLOWING A RAINFALL EVENT OF 0.5 INCHES OR GREATER. INSPECTION RECORDS SHALL BE MAINTAINED ON-SITE.



SYMBOL	DESCRIPTION
---	PROPERTY BOUNDARY
---	PROPOSED LIMIT OF DISTURBANCE
---	PROPOSED SILT FENCE
---	PROPOSED TREE PROTECTION FENCE
---	PROPOSED STOCKPILE & EQUIPMENT STORAGE
---	PROPOSED STABILIZED CONSTRUCTION ENTRANCE
---	PROPOSED INLET PROTECTION FILTER

AREA TO BE DISTURBED:  
47,797 SF (1.10 AC)

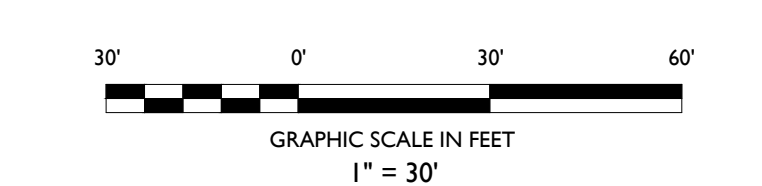
HYDRO-SEEDING IS NOT ACCEPTABLE FOR SLOPES EXCEEDING 1% ON SLOPES OVER 1%, STABILIZATION SHALL BE DONE WITH SEED AND STRAW MULCH WITH A TACKIFIER, OR STRAW BLANKETS PEGGED IN PLACE

ANY DEWATERING REQUIRED SHALL HAVE A DEWATERING PLAN SUBMITTED PRIOR TO STARTING THE ACTIVITY AND MAY REQUIRE EGLE APPROVAL



Know what's below  
Call before you dig.

- SOIL EROSION AND SEDIMENT CONTROL NOTES**
- THE CONTRACTOR IS RESPONSIBLE FOR SOIL EROSION AND SEDIMENT CONTROL IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS.
  - THE CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL IN COMPLIANCE WITH LOCAL, STATE, AND FEDERAL AIR QUALITY STANDARDS.
  - THE CONTRACTOR IS RESPONSIBLE TO INSPECT ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES WEEKLY AND AFTER A PRECIPITATION EVENT GREATER THAN 1 INCH. THE CONTRACTOR SHALL MAINTAIN AN INSPECTION LOG ON SITE AND DOCUMENT CORRECTIVE ACTION TAKEN THROUGHOUT THE COURSE OF CONSTRUCTION AS REQUIRED.



**SOIL CHARACTERISTICS CHART**

TYPE OF SOIL	BOYER-OSHTEMO LOAMY SANDS (B/A)
PERCENT OF SITE COVERAGE	7.6%
HYDROLOGIC SOIL GROUP	B
DEPTH TO RESTRICTIVE LAYER	> 80 INCHES
SOIL PERMEABILITY	0.60 TO 2.00 IN / HR
DEPTH TO WATER TABLE	> 80 INCHES

**SOIL CHARACTERISTICS CHART**

TYPE OF SOIL	BOYER-OSHTEMO LOAMY SANDS (B/C)
PERCENT OF SITE COVERAGE	16.1%
HYDROLOGIC SOIL GROUP	B
DEPTH TO RESTRICTIVE LAYER	> 80 INCHES
SOIL PERMEABILITY	0.60 TO 2.00 IN / HR
DEPTH TO WATER TABLE	> 80 INCHES

**SOIL CHARACTERISTICS CHART**

TYPE OF SOIL	BOYER-OSHTEMO LOAMY SANDS (B/D)
PERCENT OF SITE COVERAGE	32.5%
HYDROLOGIC SOIL GROUP	B
DEPTH TO RESTRICTIVE LAYER	> 80 INCHES
SOIL PERMEABILITY	0.60 TO 2.00 IN / HR
DEPTH TO WATER TABLE	> 80 INCHES

**SOIL CHARACTERISTICS CHART**

TYPE OF SOIL	GILFORD SANDY LOAM (G/d)
PERCENT OF SITE COVERAGE	43.8%
HYDROLOGIC SOIL GROUP	A/D
DEPTH TO RESTRICTIVE LAYER	> 80 INCHES
SOIL PERMEABILITY	0.14 TO 14.17 IN / HR
DEPTH TO WATER TABLE	0 INCHES

REVISION	DATE	DESCRIPTION
1	01/22/2024	FOR SITE PLAN & SPECIAL USE PERMIT APPROVAL
2	02/19/2024	REVISED PER PLANNING COMMISSION RECOMMENDATION
3	03/02/2024	REVISED PER MDOT & LCDC SESC REVIEW

**NOT APPROVED FOR CONSTRUCTION**

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**EROP LLC**

**PROPOSED CAR WASH**  
PARCEL ID: 4715-22-400-023 & 4725-22-402-900  
5580 E M36  
HAMBURG TOWNSHIP  
LIVINGSTON COUNTY, MICHIGAN 48169

**STATE OF MICHIGAN**  
JONATHAN R. COOPER  
REGISTERED PROFESSIONAL ENGINEER  
No. 136042

**STONEFIELD**  
engineering & design

SCALE: 1" = 30' PROJECT ID: DET-240177

TITLE:  
**SOIL EROSION & SEDIMENT CONTROL PLAN**

DRAWING:  
**C-9**

V:\072024\DET-240177\EROP-LLC-5580 E M36, HAMBURG TOWNSHIP, MICHIGAN\DET-240177-SEC.DWG

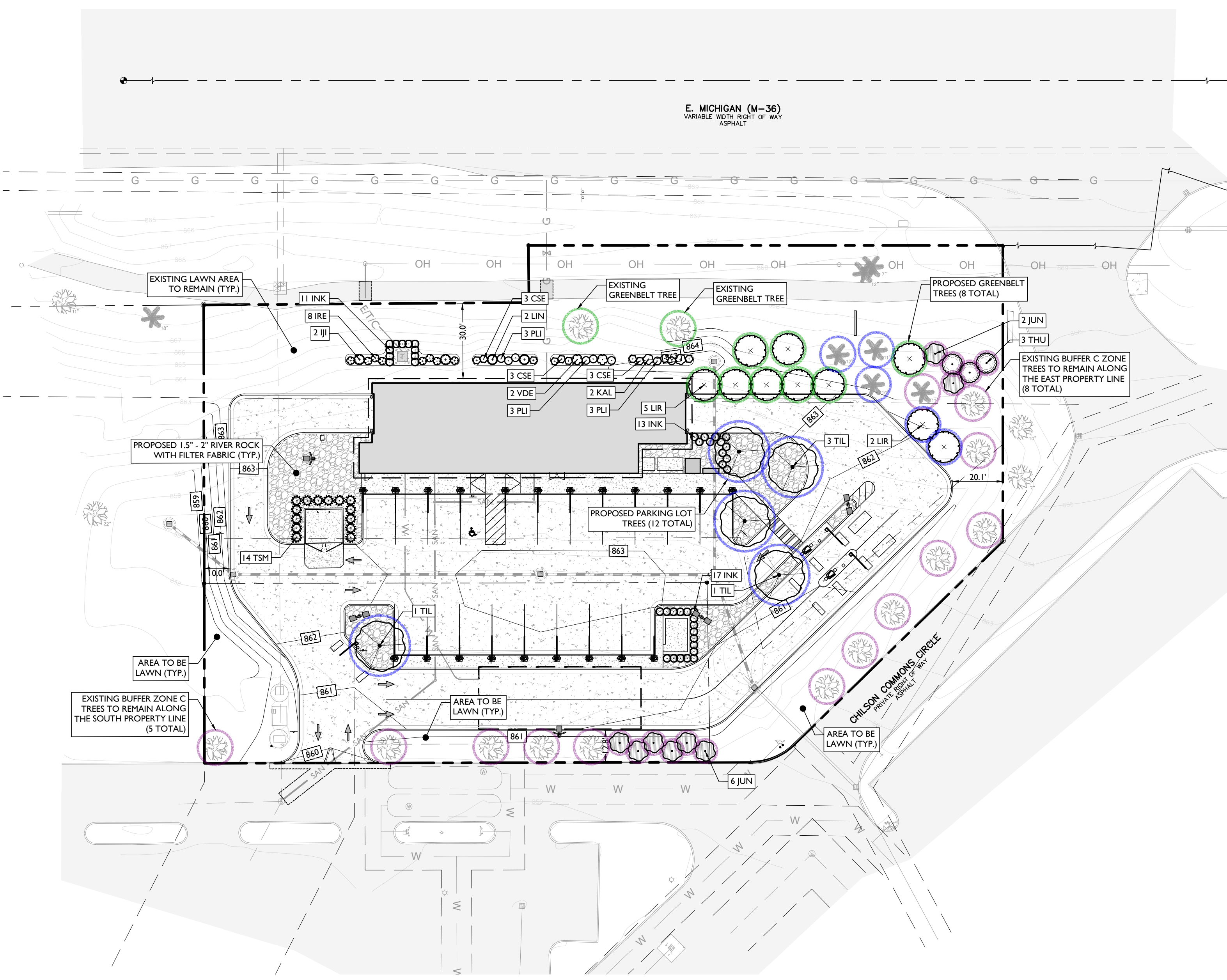
LANDSCAPING AND BUFFER REQUIREMENTS		
CODE SECTION	REQUIRED	PROPOSED
§ 36.281.(b)(1).	<b>GREENBELT REQUIREMENTS</b> MINIMUM 20 FT GREENBELT REQUIRED ALONG PUBLIC RIGHT-OF-WAY 1 TREE & 4 SHRUBS FOR EVERY 40 LF E. MICHIGAN (M-36): 320 FT (320 FT) * (1 TREE / 40 FT) = 8 TREES (320 FT) * (4 SHRUBS / 40 FT) = 32 SHRUBS	30.0 FT  8 TREES 32 SHRUBS
§ 36.281.(e).	<b>BUFFER REQUIREMENTS</b> COMMERCIAL ADJACENT TO COMMERCIAL: BUFFER ZONE C REQUIRED <b>BUFFER ZONE C STANDARDS</b> MINIMUM WIDTH: 10 FT  1 TREE FOR EVERY 20 LF EAST PROPERTY LINE: 254 FT (254 FT) * (1 TREE / 20 FT) = 13 TREES  SOUTH PROPERTY LINE: 219 FT (219 FT) * (1 TREE / 20 FT) = 11 TREES  WEST PROPERTY LINE: 184 FT (184 FT) * (1 TREE / 20 FT) = 9 TREES	COMPLIES  EAST: 10.0 FT SOUTH: 12.8 FT WEST: 20.1 FT  8 EXISTING TREES 5 PROPOSED TREES  5 EXISTING TREES 6 PROPOSED TREES  0 TREES <sup>(1)</sup> (EN)
§ 36.283.(a)(1).	<b>PARKING LOT LANDSCAPING</b> 1 TREE REQUIRED FOR EVERY 2,000 SF OF PAVEMENT PAVEMENT AREA: 23,256 SF (23,256 SF) * (1 TREE / 2,000 SF) = 12 TREES	5 EXISTING TREE 7 PROPOSED TREES
§ 36.283.(a)(2).	MINIMUM AREA FOR TREE PLANTING: 150 SF MINIMUM WIDTH FOR TREE PLANTING: 6 FT	COMPLIES

(EN) EXISTING NONCONFORMITY  
(1) EXISTING 60 FT WIDE SANITARY EASEMENT ALONG WEST PROPERTY LINE

PLANT SCHEDULE							
SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	REMARKS
DECIDUOUS TREES							
	LIR	10	LIRIODENDRON TULIPIFERA 'FASTIGIATA'	COLUMNAR TULIP POPLAR	2.5' - 3' CAL	B&B	NATIVE
	TIL	5	TILIA AMERICANA	AMERICAN LINDEN	2.5' - 3' CAL	B&B	NATIVE
EVERGREEN TREES							
	JUN	8	JUNIPERUS VIRGINIANA	EASTERN REDCEDAR	6' - 8' HT	B&B	NATIVE
	TSM	14	THUJA OCCIDENTALIS 'SMARAGD'	EMERALD GREEN ARBORVITAE	6' - 8' HT	B&B	NATIVE (VARIETY)
	THU	3	THUJA X 'GREEN GIANT'	GREEN GIANT ARBORVITAE	6' - 8' HT	B&B	HARDY
SHRUBS							
	CSE	9	CORNUS SERICEA 'FARROW'	ARCTIC FIRE RED TWIG DOGWOOD	24" - 30"	POT	NATIVE (VARIETY)
	IJI	2	ILEX VERTICILLATA 'JIM DANDY'	JIM DANDY WINTERBERRY	24" - 30"	POT	NATIVE (VARIETY)
	IRE	8	ILEX VERTICILLATA 'RED SPRITE'	RED SPRITE WINTERBERRY	24" - 30"	POT	NATIVE (VARIETY)
	KAL	2	KALMIA LATIFOLIA	MOUNTAIN LAUREL	24" - 30"	POT	HARDY
	LIN	2	LINDERA BENZOIN	SPICEBUSH	24" - 30"	POT	NATIVE
	PLI	9	PHYSCOCARPUS OPULIFOLIUS 'LITTLE DEVIL'	LITTLE DEVIL DWARF NINEBARK	24" - 30"	POT	NATIVE (VARIETY)
	VDE	2	VIBURNUM DENTATUM	VIBURNUM	24" - 30"	POT	NATIVE (VARIETY)
EVERGREEN SHRUBS							
	INK	41	ILEX GLABRA 'COMPACTA'	COMPACT INKBERRY	24" - 30"	POT	NATIVE (VARIETY)

NOTE: IF ANY DISCREPANCIES OCCUR BETWEEN AMOUNTS SHOWN ON THE LANDSCAPE PLAN AND WITHIN THE PLANT LIST, THE PLAN SHALL DICATE.

SYMBOL	DESCRIPTION
	PROPOSED GREENBELT TREES
	PROPOSED BUFFER ZONE C TREES
	PROPOSED PARKING LOT TREES

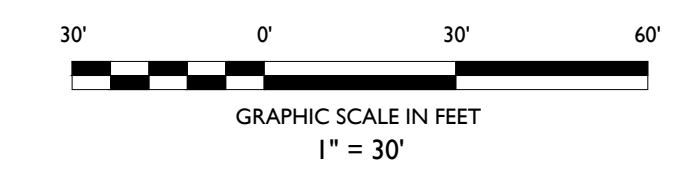


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**IRRIGATION NOTE:**  
IRRIGATION CONTRACTOR TO PROVIDE A DESIGN FOR AN IRRIGATION SYSTEM SEPARATING PLANTING BEDS FROM LAWN AREA. PRIOR TO CONSTRUCTION, DESIGN IS TO BE SUBMITTED TO THE PROJECT LANDSCAPE DESIGNER FOR REVIEW AND APPROVAL. WHERE POSSIBLE, DRIP IRRIGATION AND OTHER WATER CONSERVATION TECHNIQUES SUCH AS RAIN SENSORS SHALL BE IMPLEMENTED. CONTRACTOR TO VERIFY MAXIMUM ON SITE DYNAMIC WATER PRESSURE AVAILABLE MEASURED IN PSI. PRESSURE REDUCING DEVICES OR BOOSTER PUMPS SHALL BE PROVIDED TO MEET SYSTEM PRESSURE REQUIREMENTS. DESIGN TO SHOW ALL VALVES, PIPING, HEADS, BACKFLOW PREVENTION, METERS, CONTROLLERS, AND SLEEVES WITHIN HARDSCAPE AREAS.

**LANDSCAPING NOTES**

- THE CONTRACTOR SHALL RESTORE ALL DISTURBED GRASS AND LANDSCAPED AREAS TO MATCH EXISTING CONDITIONS UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
- THE CONTRACTOR SHALL RESTORE ALL DISTURBED LAWN AREAS WITH A MINIMUM 4 INCH LAYER OF TOPSOIL AND SEED.
- THE CONTRACTOR SHALL RESTORE MULCH AREAS WITH A MINIMUM 3 INCH LAYER OF MULCH.
- THE MAXIMUM SLOPE ALLOWABLE IN LANDSCAPE RESTORATION AREAS SHALL BE 3 FEET HORIZONTAL TO 1 FOOT VERTICAL (3:1 SLOPE) UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
- THE CONTRACTOR IS REQUIRED TO LOCATE ALL SPRINKLER HEADS IN AREA OF LANDSCAPE DISTURBANCE PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL RELOCATE SPRINKLER HEADS AND LINES IN ACCORDANCE WITH OWNER'S DIRECTION WITHIN AREAS OF DISTURBANCE.
- THE CONTRACTOR SHALL ENSURE THAT ALL DISTURBED LANDSCAPED AREAS ARE GRADED TO MEET FLUSH AT THE ELEVATION OF WALKWAYS AND TOP OF CURB ELEVATIONS EXCEPT UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET. NO ABRUPT CHANGES IN GRADE ARE PERMITTED IN DISTURBED LANDSCAPING AREAS.



REVISION	DATE	ISSUE	BY	DESCRIPTION
3	01/02/2024	EM	EM	REVISED PER MDOT & LDCDC RESC REVIEW
2	02/19/2024	EM	EM	REVISED PER PLANNING COMMISSION RECOMMENDATION
1	01/22/2024	JSEM	JSEM	FOR SITE PLAN & SPECIAL USE PERMIT APPROVAL

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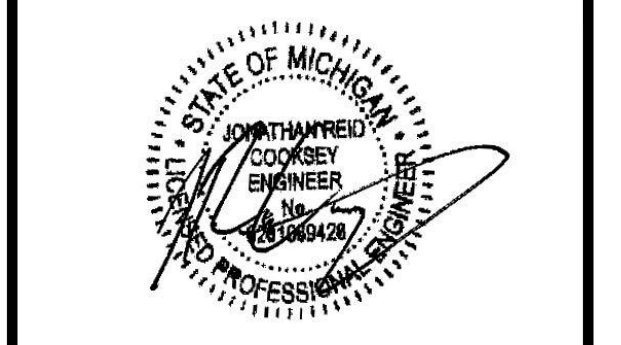
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**PROPOSED CAR WASH**  
PARCEL ID: 4715-22-400-023 & 4725-22-402-900  
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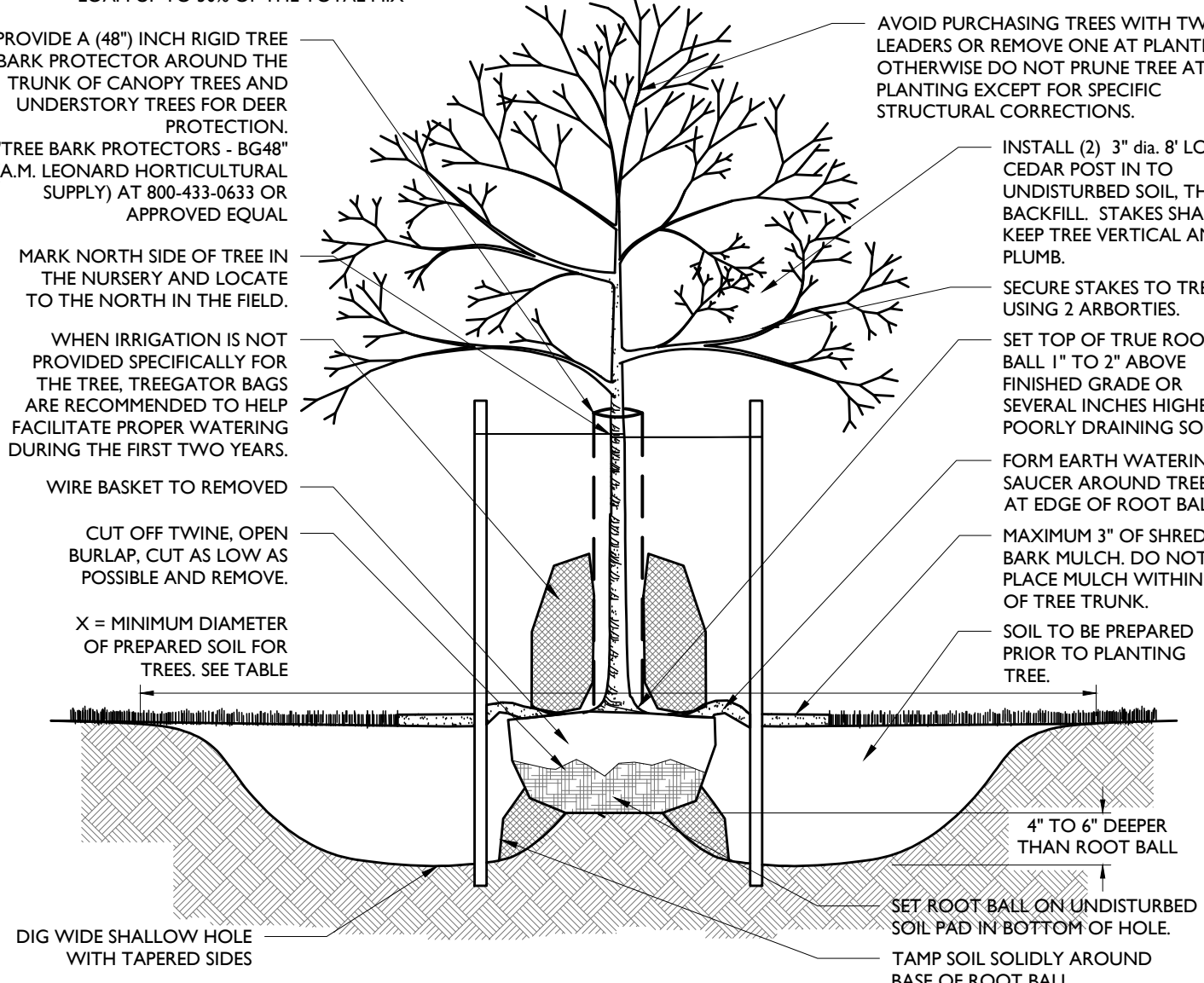
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SCALE: 1" = 30' PROJECT ID: DET-240177  
TITLE:  
**LANDSCAPING PLAN**  
DRAWING:  
**C-10**

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**NOTES:**

- FOR CONTAINER-GROWN TREES, USE FINGERS OR SMALL HAND TOOLS TO PULL THE ROOTS OUT OF THE OUTER LAYER OF POTTING SOIL THEN CUT OR PULL APART ANY ROOTS CIRCLING THE PERIMETER OF THE CONTAINER.
- THOROUGHLY SOAK THE TREE ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
- SOIL AMENDMENTS:
  - MODIFY HEAVY CLAY OR SILT SOILS (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) OR GYPSUM
  - MODIFY HEAVY CLAY OR SILT SOILS (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) OR GYPSUM
  - MODIFY EXTREMELY SANDY SOILS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX

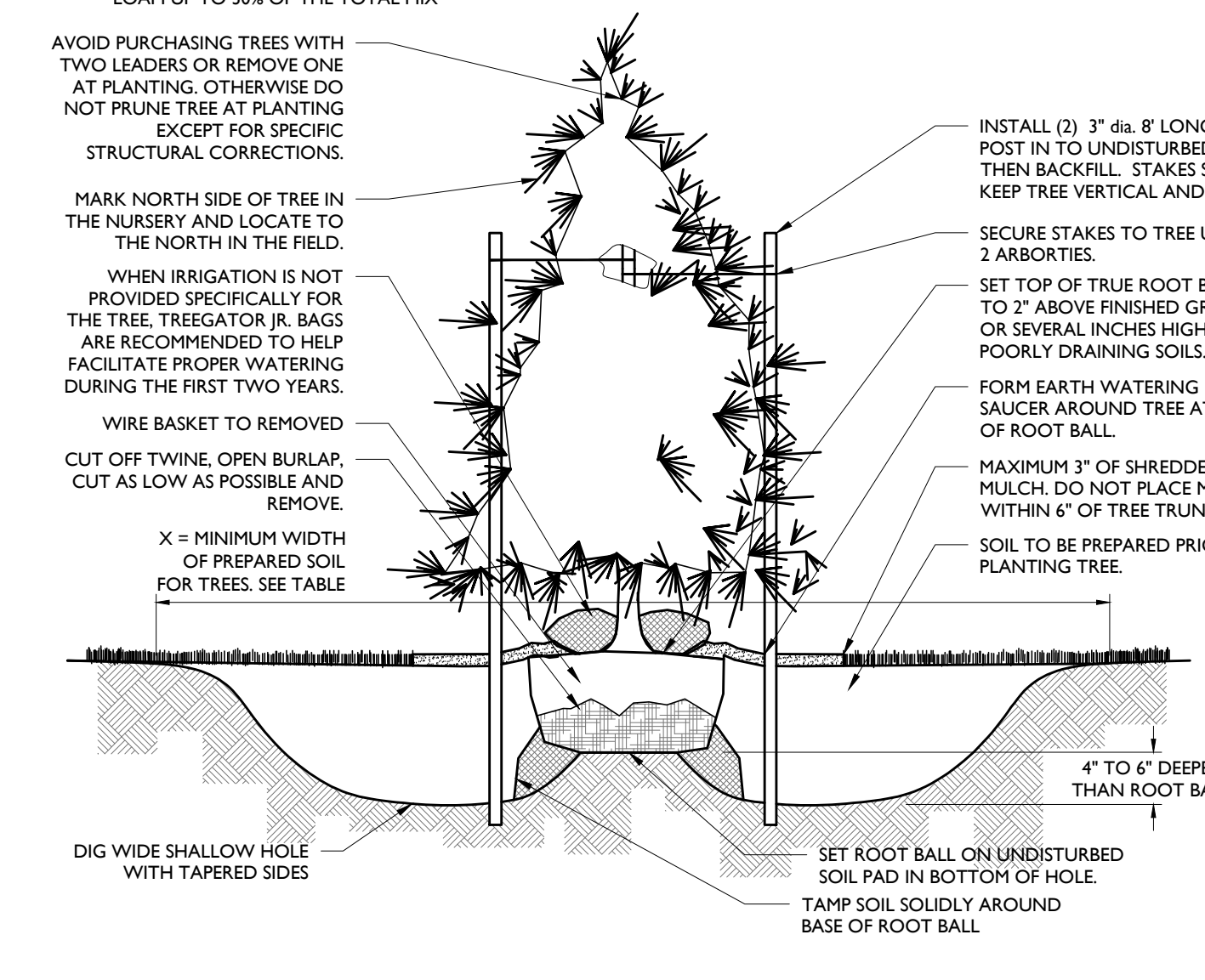


**DECIDUOUS TREE PLANTING DETAIL**

NOT TO SCALE

**NOTES:**

- FOR CONTAINER-GROWN TREES, USE FINGERS OR SMALL HAND TOOLS TO PULL THE ROOTS OUT OF THE OUTER LAYER OF POTTING SOIL THEN CUT OR PULL APART ANY ROOTS CIRCLING THE PERIMETER OF THE CONTAINER.
- THOROUGHLY SOAK THE TREE ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
- SOIL AMENDMENTS:
  - MODIFY HEAVY CLAY OR SILT SOILS (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) OR GYPSUM
  - MODIFY HEAVY CLAY OR SILT SOILS (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) OR GYPSUM
  - MODIFY EXTREMELY SANDY SOILS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX

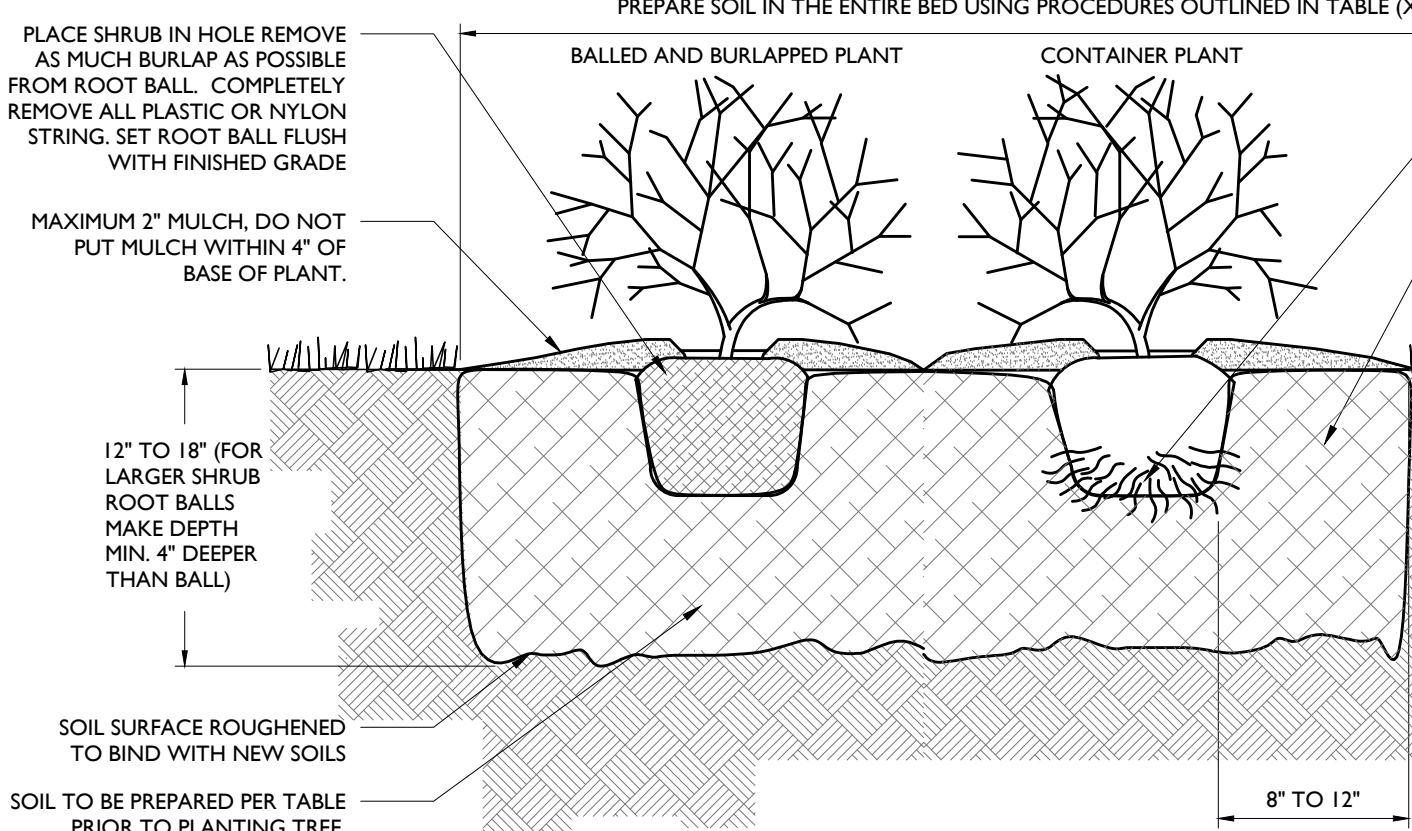


**CONIFEROUS TREE PLANTING DETAIL**

NOT TO SCALE

**NOTES:**

- FOR THE CONTAINER-GROWN SHRUBS, USE FINGERS OR SMALL HAND TOOL TO PULL THE ROOTS OUT OF THE OUTER LAYER OF POTTING SOIL THEN CUT OR PULL APART ANY ROOTS CIRCLING THE PERIMETER OF THE CONTAINER.
- THOROUGHLY SOAK THE SHRUB ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
- SOIL AMENDMENTS:
  - MODIFY HEAVY CLAY OR SILT SOILS (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) OR GYPSUM
  - MODIFY HEAVY CLAY OR SILT SOILS (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) OR GYPSUM
  - MODIFY EXTREMELY SANDY SOILS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX

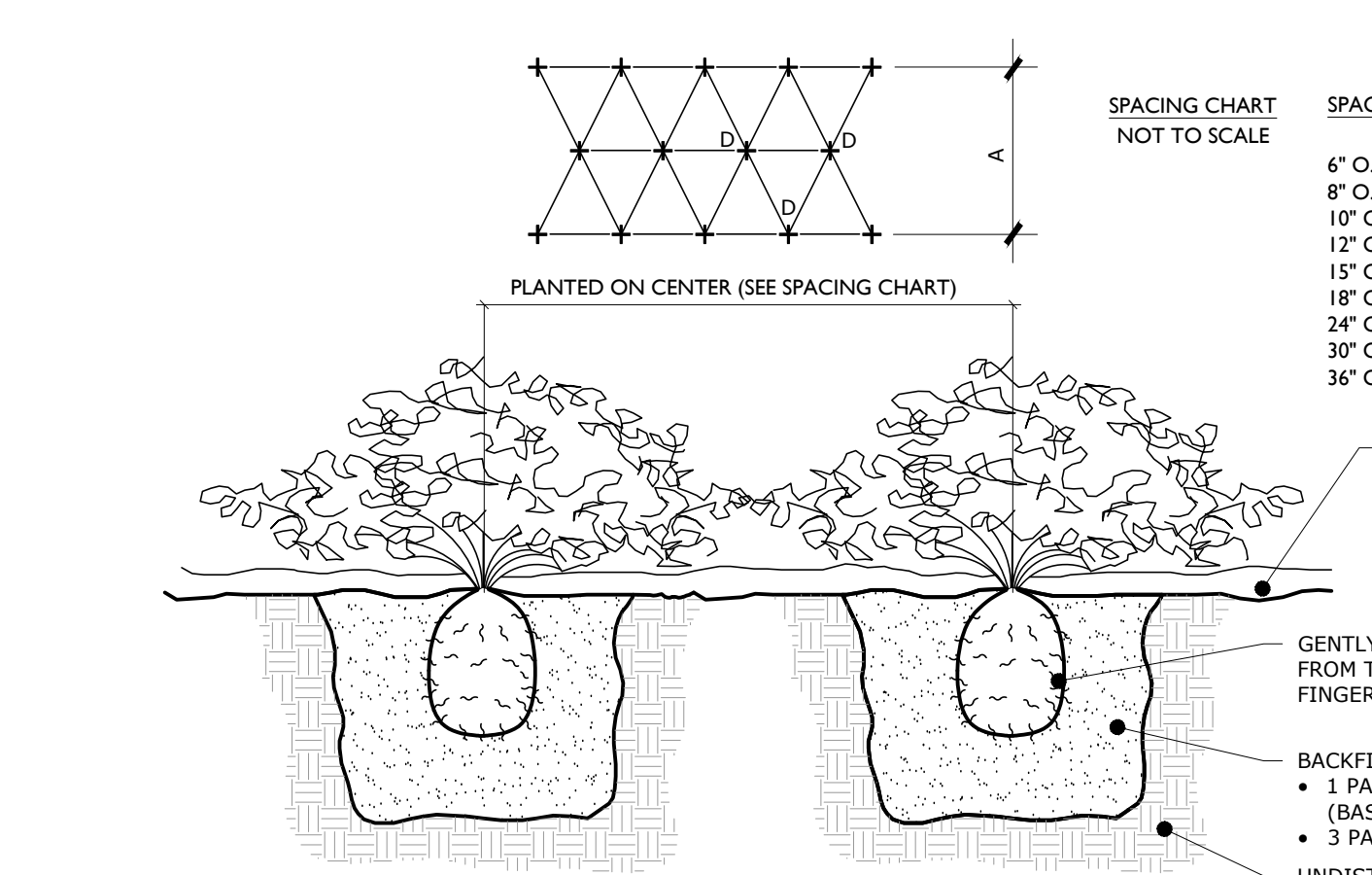


**DECIDUOUS AND EVERGREEN SHRUB PLANTING DETAIL**

NOT TO SCALE

**NOTES:**

- THOROUGHLY SOAK THE GROUND COVER ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
- SOIL AMENDMENTS:
  - MODIFY HEAVY CLAY OR SILT SOILS (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) OR GYPSUM
  - MODIFY HEAVY CLAY OR SILT SOILS (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) OR GYPSUM
  - MODIFY EXTREMELY SANDY SOILS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX
- ALL GROUND COVER AREAS SHALL BE TREATED WITH A PRE-EMERGENT PER MANUFACTURER'S SPECIFICATIONS

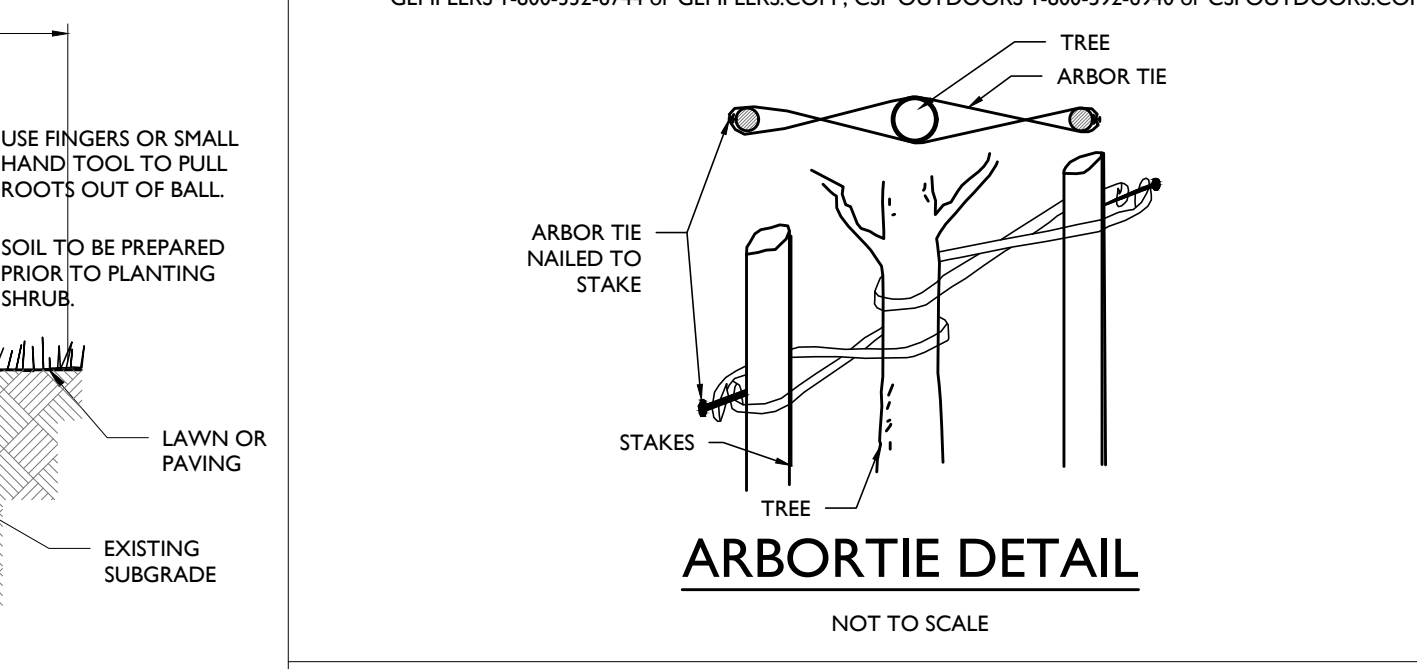


**GROUND COVER/PERENNIAL/ANNUAL PLANTING DETAIL**

NOT TO SCALE

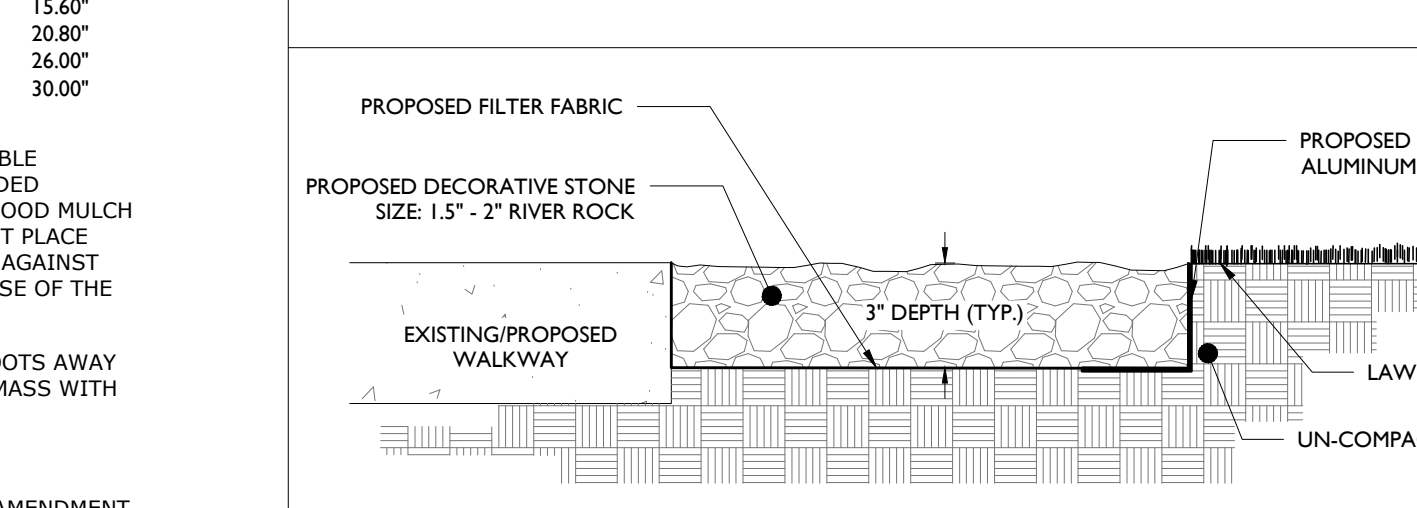
**INSTALLATION GUIDELINES:**

- LOOP TIE AROUND TREE AND NAIL TO CEDAR STAKE.
- REMOVE ALL STAKING AND TIES AT END OF FIRST GROWING SEASON.
- FOLD ENDS OF ARBORTIE BACK, SECURE TO STAKES WITH 1" GALVANIZED ROOFING NAIL OR USE A KNOT.
- CONSULT LANDSCAPE ARCHITECT FOR STAKING OF TREES LARGER THAN 6".
- SOURCES INCLUDE:
  - GEPLERS - 1-800-332-6744 OR GEPLERS.COM ; CSP OUTDOORS - 1-800-592-6940 OR CSPOUTDOORS.COM



**PROPOSED ANGULAR DECORATIVE STONE**

OR APPROVED EQUAL



**PROPOSED ANGULAR DECORATIVE STONE DETAIL**

NOT TO SCALE

**GENERAL LANDSCAPING NOTES:**

- THE LANDSCAPE CONTRACTOR SHALL FURNISH ALL MATERIALS AND PERFORM ALL WORK IN ACCORDANCE WITH THESE SPECIFICATIONS, APPROVED OR FINAL DRAWINGS, AND INSTRUCTIONS PROVIDED BY THE PROJECT LANDSCAPE DESIGNER, MUNICIPAL OFFICIALS, OR OWNER/OWNER'S REPRESENTATIVE. ALL WORK COMPLETED AND MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH THE INTENT OF THE SPECIFICATIONS, DRAWINGS, AND INSTRUCTIONS AND EXECUTED WITH THE STANDARD LEVEL OF CARE FOR THE LANDSCAPE INDUSTRY.
- WORK MUST BE CARRIED OUT ONLY DURING WEATHER CONDITIONS FAVORABLE TO LANDSCAPE CONSTRUCTION AND TO THE HEALTH AND WELFARE OF PLANTS. THE SUITABILITY OF SUCH WEATHER CONDITIONS SHALL BE DETERMINED BY THE PROJECT LANDSCAPE DESIGNER OR GOVERNING MUNICIPAL OFFICIAL.
- IT IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR, BEFORE ORDERING OR PURCHASING MATERIALS, TO PROVIDE SAMPLES OF THOSE MATERIALS TO THE PROJECT LANDSCAPE DESIGNER OR GOVERNING MUNICIPAL OFFICIAL FOR APPROVAL, IF SO REQUESTED.
- IF SAMPLES ARE REQUESTED, THE LANDSCAPE CONTRACTOR IS TO SUBMIT CERTIFICATION TAGS FROM TREES, SHRUBS, AND SEED VERIFYING TYPE AND PURITY.
- UNLESS OTHERWISE AUTHORIZED BY THE PROJECT LANDSCAPE DESIGNER OR GOVERNING MUNICIPAL OFFICIAL, THE LANDSCAPE CONTRACTOR SHALL PROVIDE NOTICE AT LEAST FORTY-EIGHT HOURS (48 HRS.) IN ADVANCE OF THE ANTICIPATED DELIVERY DATE TO THE PROJECT SITE. A LEGIBLE COPY OF THE INVOICE, SHOWING VARIETIES AND SIZES OF MATERIALS INCLUDED FOR EACH SHIPMENT SHALL BE FURNISHED TO THE PROJECT LANDSCAPE DESIGNER, OR GOVERNING MUNICIPAL OFFICIAL.
- THE PROJECT LANDSCAPE DESIGNER OR GOVERNING MUNICIPAL OFFICIAL RESERVES THE RIGHT TO INSPECT AND REJECT PLANTS AT ANY TIME AND AT ANY PLACE.

**PROTECTION OF EXISTING VEGETATION NOTES:**

- BEFORE COMMENCING WORK, ALL EXISTING VEGETATION WHICH COULD BE IMPACTED AS A RESULT OF THE PROPOSED CONSTRUCTION ACTIVITIES MUST BE PROTECTED FROM DAMAGE BY THE INSTALLATION OF TREE PROTECTION FENCING. FENCING SHALL BE LOCATED AT THE Drip-Line OR LIMIT OF DISTURBANCE AS DEPICTED WITHIN THE APPROVED OR FINAL PLAN SET, ESTABLISHING THE TREE PROTECTION ZONE. FENCE INSTALLATION SHALL BE IN ACCORDANCE WITH THE PROVIDED SPECIFICATIONS. NO WORK MAY BEGIN UNTIL THIS REQUIREMENT IS FULFILLED. THE FENCING SHALL BE INSPECTED REGULARLY BY THE LANDSCAPE CONTRACTOR AND MAINTAINED UNTIL ALL CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
- IN ORDER TO AVOID DAMAGE TO ROOTS, BARK OR LOWER BRANCHES, NO VEHICLE EQUIPMENT, DEBRIS, OR OTHER MATERIALS SHALL BE DRIVEN, PARKED OR PLACED WITHIN THE TREE PROTECTION ZONE. ALL ON-SITE CONTRACTORS SHALL USE ANY AND ALL PRECAUTIONARY MEASURES WHEN PERFORMING WORK AROUND TREES, WALKS, PAVEMENTS, UTILITIES, AND ANY OTHER FEATURES EITHER EXISTING OR PREVIOUSLY INSTALLED UNDER THIS CONTRACT.
- IN RARE INSTANCES WHERE EXCAVATING, FILL, OR GRADING IS REQUIRED WITHIN THE Drip-Line OF TREES TO REMAIN, THE WORK SHALL BE PERFORMED AS FOLLOWS:
  - TRENCHING WHEN TRENCHING OCCURS AROUND TREES TO REMAIN, THE TREE ROOTS SHALL NOT BE CUT, BUT THE TRENCH SHALL BE TUNNELED UNDER OR AROUND THE ROOTS BY CAREFUL HAND DIGGING AND WITHOUT INJURY TO THE ROOTS. NO ROOTS, LIMBS OR WOODS ARE TO HAVE ANY PAINT OR MATERIAL APPLIED TO ANY SURFACE.
  - RAISING GRADES: WHEN THE GRADE AT AN EXISTING TREE IS BELOW THE NEW FINISHED GRADE, AND FILL NOT EXCEEDING 6 INCHES (6") IS REQUIRED, CLEAN, WASHED GRAVEL FROM ONE TO TWO INCHES (1" - 2") IN SIZE SHALL BE PLACED DIRECTLY AROUND THE TREE TRUNK. THE GRAVEL SHALL EXTEND OUT FROM THE TRUNK ON ALL SIDES A MINIMUM OF 18 INCHES (18") TO APPROXIMATELY 2 INCHES (2") ABOVE THE FINISH GRADE AT TREE. INSTALLED GRAVEL BEFORE ANY EARTH FILL IS PLACED. NEW EARTH FILL SHALL NOT BE LEFT IN CONTACT WITH THE TRUNK OF ANY TREE REQUIRING FILL. WHERE FILL EXCEEDING 6 INCHES (6") IS REQUIRED, A DRY LAID TREE WELL SHALL BE CONSTRUCTED. IF APPLICABLE, TREE WELL INSTALLATION SHALL BE IN ACCORDANCE WITH THE PROVIDED "TREE WELL DETAIL."
  - LOWERING GRADES: EXISTING GRADES LOCATED IN AREAS WHERE THE NEW FINISHED GRADE IS TO BE LOWERED, SHALL HAVE RE-GRADING WORK DONE BY HAND TO THE INDICATED ELEVATION, NO GREATER THAN SIX INCHES (6"). ROOTS SHALL BE CUT CLEANLY THREE INCHES (3") BELOW FINISHED GRADE UNDER THE DIRECTION OF A LICENSED ARBORIST. WHERE CUT EXCEEDING 6 INCHES (6") IS REQUIRED, A DRY LAID RETAINING WALL SHALL BE CONSTRUCTED. IF APPLICABLE, THE RETAINING WALL INSTALLATION SHALL BE IN ACCORDANCE WITH THE PROVIDED "TREE RETAINING WALL DETAIL."

**SOIL PREPARATION AND MULCH NOTES:**

- LANDSCAPE CONTRACTOR SHALL OBTAIN A SOIL TEST OF THE IN-SITU TOPSOIL BY A CERTIFIED SOIL LABORATORY PRIOR TO PLANTING. LANDSCAPE CONTRACTOR SHALL ALLOW FOR A TWO WEEK TURNAROUND TIME FROM SUBMITTAL OF SAMPLE TO NOTIFICATION OF RESULTS.
- BASED ON SOIL TEST RESULTS, ADJUST THE RATES OF LIME AND FERTILIZER THAT SHALL BE MIXED INTO THE TOP SIX INCHES (6") OF TOPSOIL. THE LIME AND FERTILIZER RATES PROVIDED WITHIN THIS SPECIFICATION IS APPROXIMATE AND FOR BIDDING PURPOSES ONLY. IF ADDITIONAL AMENDMENTS ARE NECESSARY, ADJUST THE TOPSOIL AS FOLLOWS:
  - MODIFY HEAVY CLAY OR SILT SOILS (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) OR GYPSUM
  - MODIFY EXTREMELY SANDY SOILS (MORE THAN 85%) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX.
- TOPSOIL SHALL BE FERTILE, FRIABLE, NATURAL, TOPSOIL OF LOAMING CHARACTER, WITHOUT ADMIXTURE OF SUBSOIL MATERIAL OBTAINED FROM A WELLDRAINED ARABLE SITE, FREE FROM CLAY, LUMPS, COARSE SAND, STONES, PLANTS, ROOTS, STICKS, AND OTHER FOREIGN MATERIAL GREATER THAN ONE INCH (1").
- TOPSOIL SHALL HAVE A PH RANGE OF 5.0-7.0 AND SHALL NOT CONTAIN LESS THAN 6% ORGANIC MATTER BY WEIGHT.
- OBTAIN TOPSOIL ONLY FROM LOCAL SOURCES OR FROM AREAS HAVING SIMILAR SOIL CHARACTERISTICS TO THAT FOUND AT THE PROJECT SITE.
- CONTRACTOR SHALL PROVIDE A SIX INCH (6") DEEP LAYER OF TOPSOIL IN ALL PLANTING AREAS. TOPSOIL SHALL BE SPREAD OVER A PREPARED SURFACE IN A UNIFORM LAYER TO ACHIEVE THE DESIRED COMPACTED THICKNESS. THE SPREADING OF TOPSOIL SHALL NOT BE CONDUCTED UNDER MUDDY OR FROZEN SOIL CONDITIONS.
- UNLESS OTHERWISE NOTED IN THE CONTRACT, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF TOPSOIL AND THE ESTABLISHMENT OF FINE GRADING WITHIN THE DISTURBED AREA OF THE SITE.
- LANDSCAPE CONTRACTOR SHALL VERIFY THAT THE SUB-GRADE ELEVATION MEETS THE FINISHED GRADE ELEVATION (LESS THE REQUIRED TOPSOIL) IN ACCORDANCE WITH THE APPROVED OR FINAL GRADING PLAN.
- ALL LAWN AND PLANTING AREAS SHALL BE GRADED TO A SMOOTH, EVEN AND UNIFORM PLANE WITH NO ABRUPT CHANGE OF SURFACE AS DEPICTED WITHIN THE APPROVED OR FINAL CONSTRUCTION SET UNLESS OTHERWISE DIRECTED BY THE PROJECT LANDSCAPE DESIGNER OR MUNICIPAL OFFICIAL.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER SURFACE AND SUBSURFACE PLANT BED DRAINAGE PRIOR TO THE INSTALLATION OF PLANTINGS. IF POOR DRAINAGE CONDITIONS EXIST, CORRECTIVE ACTION SHALL BE TAKEN PRIOR TO INSTALLATION. ALL PLANTING AND LAWN AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW A FREE FLOW OF SURFACE WATER.
- DOUBLE SHREDDED HARDWOOD MULCH OR APPROVED EQUAL SHALL BE USED AS A THREE INCH (3") TOP DRESSING IN ALL SHRUB PLANTING BEDS AND AROUND ALL TREES PLANTED BY LANDSCAPE CONTRACTOR. PERENNIAL AND ANNUAL PLANTING BEDS SHALL BE MULCHED WITH A TWO INCH (2") TOP DRESSING. SINGLE TREES OR SHRUBS SHALL BE MULCHED TO AVOID CONTACT WITH TRUNK OR PLANT STEM. MULCH SHALL BE OF SUFFICIENT CHARACTER AS NOT TO BE EASILY DISPLACED BY WIND OR WATER RUNOFF.
- WHENEVER POSSIBLE, THE SOIL PREPARATION AREA SHALL BE CONNECTED FROM PLANTING TO PLANTING.
- SOIL SHALL BE LOOSENED WITH A BACKHOE OR OTHER LARGE COARSE-TILING EQUIPMENT UNLESS THE SOIL IS FROZEN OR EXCESSIVELY WET. TILING THAT PRODUCES LARGE, COARSE CHUNKS OF SOIL IS PREFERABLE TO TILING THAT RESULTS IN FINE GRAINS UNIFORM IN TEXTURE. AFTER THE AREA IS LOOSENED IT SHALL NOT BE DRIVEN OVER BY ANY VEHICLE.
- APPLY PRE-EMERGENT WEED CONTROL TO ALL PLANT BEDS PRIOR TO MULCHING. ENSURE COMPATIBILITY BETWEEN PRODUCT AND PLANT MATERIAL.
- ALL PLANTING SOIL SHALL BE AMENDED WITH THE FOLLOWING:
  - MYCORRHIZAL TREE SAVER - A DRY GRANULAR MYCORRHIZAL FUNGI INOCULANT THAT IS MIXED IN THE BACKFILL WHEN PLANTING TREES AND SHRUBS. IT CONTAINS SPORES OF BOTH ECTOMYCORRHIZAL AND VA MYCORRHIZAL FUNGI (VAM), BENEFICIAL RHIZOSPHERE BACTERIA, TERRA-SORB SUPERABSORBENT HYDROGEL TO REDUCE WATER LEACHING, AND SELECTED ORGANIC MICROBIAL NUTRIENTS.
  - DIRECTIONS FOR USE: USE 3-OZ PER EACH FOOT DIAMETER OF THE ROOT BALL OR 3-OZ PER INCH CALIPER. MIX INTO THE BACKFILL WHEN TRANSPLANTING TREES AND SHRUBS. MIX PRODUCT IN A RING-SHAPED VOLUME OF SOIL AROUND THE UPPER PORTION OF THE ROOT BALL, EXTENDING FROM THE SOIL SURFACE TO A DEPTH OF ABOUT 8 INCHES, AND EXTENDING OUT FROM THE ROOT BALL ABOUT 8 INCHES INTO THE BACKFILL. APPLY WATER TO SOIL SATURATION.
  - MYCORRHIZAL TREE SAVER IS EFFECTIVE FOR ALL TREE AND SHRUB SPECIES EXCEPT RHODODENDRONS, AZALEAS, AND MOUNTAIN LAUREL, WHICH REQUIRE ENCOID MYCORRHIZAE.
  - SOIL PH: THE FUNGI IN THIS PRODUCT WERE CHOSEN BASED ON THEIR ABILITY TO SURVIVE AND COLONIZE PLANT ROOTS IN A PH RANGE OF 3 TO 9.
  - FUNGICIDES: THE USE OF CERTAIN FUNGICIDES CAN HAVE A DETRIMENTAL EFFECT ON THE INOCULATION PROGRAM. SOIL APPLICATION OF ANY FUNGICIDE IS NOT RECOMMENDED FOR TWO WEEKS AFTER APPLICATION.
  - OTHER PESTICIDES: HERBICIDES AND INSECTICIDES DO NOT NORMALLY INTERFERE WITH MYCORRHIZAL FUNGAL DEVELOPMENT, BUT MAY INHIBIT THE GROWTH OF SOME TREE AND SHRUB SPECIES IF NOT USED PROPERLY.
  - HEALTHY START MACRO TABS 12-8-8
  - FERTILIZER TABLETS ARE PLACED IN THE UPPER 4 INCHES OF BACKFILL SOIL WHEN PLANTING TREES AND SHRUBS.
  - TABLETS ARE FORMULATED FOR LONG-TERM RELEASE BY SLOW BIODEGRADATION, AND LAST UP TO 2 YEARS AFTER PLANTING. TABLETS CONTAIN 12-8-8 NPK FERTILIZER, AS WELL AS A MINIMUM OF SEVEN PERCENT (7%) HUMIC ACID BY WEIGHT, MICROBIAL NUTRIENTS DERIVED FROM SEA KUDZU, PROTEIN BY-PRODUCTS, AND YUCCA SCHOTTERIANA, AND A COMPLEMENT OF BENEFICIAL RHIZOSPHERE BACTERIA. THE STANDARD 21 GRAM TABLET IS SPECIFIED HERE. DIRECTIONS FOR USE: FOR PLANTING BALLED & BURLAPPED (BB&B) TREES AND SHRUBS, MEASURE THE THICKNESS OF THE TRUNK, AND USE ABOUT 1 TABLET (21-G) PER HALF-INCH. PLACE THE TABLETS DIRECTLY NEXT TO THE ROOT BALL, EVENLY DISTRIBUTED AROUND ITS PERIMETER, AT A DEPTH OF ABOUT 4 INCHES.



Properties	Test Method	Unit	Minimum Average
Material			Polypropylene
Construction			Black with Green Stripe every 12"
Weight	ASTM D 5261	OZ/SY	15.3 (14.8 - 15.8)
Grab Tensile Strength	ASTM D 4832	LBS	600-1.5 Warp 12 Warp 12
Grab Elongation	ASTM D 4832	%	Warp 12 Warp 12
Tensile Tear	ASTM D 4833	LBS	Warp 12 Warp 12
Puncture	ASTM D 2421	LBS	325
Water Permeability	ASTM D 4891	CMH/30" SQ	0.0001
Ultraviolet Exposure	ASTM D 4355	% Strength Retained	>70% after 2500 hrs Carbon Arc Exposure

**LANDSCAPE FILTER FABRIC**

OR APPROVED EQUAL

**PLANT QUALITY AND HANDLING NOTES:**

- ALL PLANT MATERIAL SHALL CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1-2004) OR LATEST REVISION AS PUBLISHED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION.
- IN ALL CASES, BOTANICAL NAMES LISTED WITHIN THE APPROVED OR FINAL PLANT LIST SHALL TAKE PRECEDENCE OVER COMMON NAMES.
- ALL PLANTS SHALL BE OF SELECTED SPECIMEN QUALITY, EXCEPTIONALLY HEALTHY, TIGHTLY KNIT, SO TRAINED OR FAVORED IN THEIR DEVELOPMENT AND APPEARANCE AS TO BE SUPERIOR IN FORM, NUMBER OF BRANCHES, COMPACTNESS AND SYMMETRY. ALL PLANTS SHALL HAVE A NORMAL HABIT OR SOUND, HEALTHY, VIGOROUS PLANTS WITH WELL DEVELOPED ROOT SYSTEM.
- PLANTS SHALL NOT BE PRUNED BEFORE DELIVERY. TREES WITH ABRASION OF THE BARK, SUNSCALDS, DISFIGURING KNOTS OR FRESH CUTS OF LIMBS OVER ONE AND ONE-FOURTH INCHES (1-1/4") WHICH HAVE NOT COMPLETELY CALLOUSED SHALL BE REJECTED.
- ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL HABIT OF GROWTH AND BE LEGIBLY TAGGED WITH THE PROPER NAME AND SIZE.
- THE ROOT SYSTEM OF EACH PLANT SHALL BE WELL PROVIDED WITH FIBROUS ROOTS. ALL PARTS SHALL BE SOUND, HEALTHY, VIGOROUS, WELL-BRANCHED AND DENSELY FOLIATED WHEN IN LEAF.
- ALL PLANTS INCLUDING BALLED AND BURLAPPED (BB&B) MUST BE MOVED WITH THE ROOT SYSTEM AS SOLID UNITS WITH BALLS OF EARTH FIRMLY WRAPPED WITH BURLAP. THE DIAMETER AND DEPTH OF THE BALLS OF EARTH MUST BE SUFFICIENT TO ENCOMPASS THE FIBROUS ROOT FEEDING SYSTEMS NECESSARY FOR THE HEALTHY DEVELOPMENT OF THE PLANT. NO PLANT SHALL BE ACCEPTED WHEN THE BALL OF EARTH SURROUNDING ITS ROOTS HAS BEEN BADLY CRACKED OR BROKEN FRACTURE TO OR DURING THE PROCESS OF PLANTING. THE BALLS SHALL REMAIN INTACT DURING ALL OPERATIONS. PLANTS THAT CANNOT BE PLANTED AT ONCE MUST BE HEALED-IN BY SETTING IN THE GROUND AND COVERING THE BALLS WITH SOIL OR MULCH AND THEN WATERING. HEMP BURLAP AND TWINE IS PREFERABLE TO TREATED. IF TREATED BURLAP IS USED, ALL TWINE IS TO BE CUT FROM AROUND THE TRUNK AND ALL BURLAP IS TO BE REMOVED.
- PLANTS TRANSPORTED TO THE PROJECT IN OPEN VEHICLES SHALL BE COVERED WITH TARPS OR OTHER SUITABLE COVERS SECURELY FASTENED TO THE BODY OF THE VEHICLE TO PREVENT INJURY TO THE PLANTS. CLOSED VEHICLES SHALL BE ADEQUATELY VENTILATED TO PREVENT OVERHEATING OF THE PLANTS. EVIDENCE OF INADEQUATE PROTECTION FOLLOWING DELIVERY, CARELESS HANDLING OR STORAGE SHALL BE CAUSE FOR REJECTION OF PLANT MATERIAL. ALL PLANTS SHALL BE KEPT FRESH, MOIST, AND PROTECTED. SUCH PROTECTION SHALL ENCOMPASS THE ENTIRE PERIOD DURING WHICH THE PLANTS ARE IN TRANSIT, BEING HANDLED, OR ARE IN TEMPORARY STORAGE.
- ALL PLANT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE CORRESPONDING LANDSCAPE PLAN AND PLANTING SCHEDULE.
- LANDSCAPE CONTRACTOR SHALL MAKE BEST EFFORT TO INSTALL PLANTINGS ON THE SAME DAY AS DELIVERY. IF PLANTS ARE NOT PLANTED IMMEDIATELY ON SITE, PROPER CARE SHALL BE TAKEN TO PLACE THE PLANTINGS IN PARTIAL SHADE WHEN POSSIBLE. THE ROOT BALL SHALL BE KEPT MOIST AT ALL TIME AND COVERED WITH MOISTENED MULCH OR AGED WOODCHIPS. PROPER IRRIGATION SHALL BE PROVIDED TO PREVENT DRYING OF THE ROOT BALLS. PLANTS THAT SHALL BE UNTIED AND PROPER SPACING SHALL BE ALLOTTED FOR AIR CIRCULATION AND TO PREVENT DISEASE, WILTING, AND LEAF LOSS. PLANTS THAT REMAIN UNPLANTED FOR A PERIOD OF TIME GREATER THAN THREE (3) DAYS SHALL BE HEALED IN WITH TOPSOIL OR MULCH AND WATERED AS REQUIRED TO PRESERVE ROOT MOISTURE.
- NO PLANT MATERIAL SHALL BE PLANTED IN MUDDY OR FROZEN SOIL.
- PLANTS WITH INJURED ROOTS OR BRANCHES SHALL BE PRUNED PRIOR TO PLANTING UTILIZING CLEAN, SHARP TOOLS. ONLY DISEASED OR INJURED PLANTS SHALL BE REMOVED.
- IF ROCK OR OTHER UNDERGROUND OBSTRUCTION IS ENCOUNTERED, THE LANDSCAPE DESIGNER RESERVES THE RIGHT TO RELOCATE OR ENLARGE PLANTING AREAS. PLANTS SHALL BE PLANTED AT A DEPTH OF EIGHT FEET (8") ABOVE GRADE, AND SHRUBS, GROUND COVER, PERENNIALS, AND ANNUALS SHALL BE MAINTAINED TO A HEIGHT NOT TO EXCEED TWO FEET (2") ABOVE GRADE UNLESS OTHERWISE NOTED OR SPECIFIED BY THE GOVERNING MUNICIPALITY OR AGENCY.
- INSTALLATION SHALL OCCUR DURING THE FOLLOWING SEASONS:
  - LAWNS (MARCH 15 - JUNE 15 OR SEPTEMBER 1 - DECEMBER 1)
  - THE FOLLOWING TREES ARE SUSCEPTIBLE TO TRANSPLANT SHOCK AND SHALL NOT BE PLANTED DURING THE FALL SEASON (STARTING SEPTEMBER 15):
    - ABIES CONCOLOR
    - ACER BUEGERIANUM
    - ACER FRIELANDII
    - ACER RUBRUM
    - ACER SACCHARINUM
    - BETULA VARIETIES
    - CARPINUS VARIETIES
    - CERUS DEODARA
    - CELTIS VARIETIES
    - CERCIDIPHYLLUM VARIETIES
    - CERUS CANADENSIS
    - CORNUS VARIETIES
    - CRATAEGUS VARIETIES
    - CORNUS VARIETIES
    - CRATAEGUS VARIETIES
    - NYSSA SYLVATICA
    - OSTRYA VIRGINIANA
    - PLATANUS VARIETIES
    - QUERCUS VARIETIES
    - POPULUS VARIETIES
    - PRUNUS VARIETIES
    - PYRUS VARIETIES
    - QUERCUS VARIETIES (NOT Q. PALUSTRIS)
    - SALIX WEEPING VARIETIES
    - SORBUS VARIETIES
    - TAXODIUM VARIETIES
    - TAXUS VARIETIES
    - TILIA TOMENTOSA VARIETIES
    - ULMUS PARVIFOLIA VARIETIES
    - ZELKOVA VARIETIES
- IF A PROPOSED PLANT IS UNAVAILABLE OR ON THE LOCAL DIGGING HAZARD LIST, AN EQUIVALENT SPECIES OF THE SAME SIZE MAY BE REQUESTED FOR SUBSTITUTION OF THE ORIGINAL PLANT. ALL SUBSTITUTIONS SHALL BE APPROVED BY THE PROJECT LANDSCAPE DESIGNER OR MUNICIPAL OFFICIAL PRIOR TO ORDERING AND INSTALLATION.
- DURING THE COURSE OF CONSTRUCTION/PLANT INSTALLATION, EXCESS AND WASTE MATERIALS SHALL BE CONTINUOUSLY AND PROMPTLY REMOVED AT THE END OF EACH WORK DAY. ALL DEBRIS, MATERIALS, AND TOOLS SHALL BE PROPERLY STORED, STOCKPILED OR DISPOSED OF AND ALL PAVED AREAS SHALL BE CLEANED.
- THE LANDSCAPE CONTRACTOR SHALL DISPOSE OF ALL RUBBISH AND EXCESS SOIL AT HIS EXPENSE TO AN OFF-SITE LOCATION AS APPROVED BY THE LOCAL MUNICIPALITY.
- A 90-DAY MAINTENANCE PERIOD SHALL BEGIN IMMEDIATELY AFTER ALL PLANTS HAVE BEEN SATISFACTORILY INSTALLED. MAINTENANCE SHALL INCLUDE BUT NOT BE LIMITED TO: REPLACING MULCH THAT HAS BEEN DISPLACED BY EROSION OR OTHER MEANS, REPAIRING AND RESHAPING WATER RINGS OR SAUCERS, MAINTAINING STAKES AND GUY'S IF ORIGINALLY REQUIRED, WATERING WHEN NEEDED OR DIRECTED, WEEDING, PRUNING, SPRAYING, FERTILIZING, MOWING THE LAWN, AND PERFORMING ANY OTHER WORK REQUIRED TO KEEP THE PLANTS IN A HEALTHY CONDITION.
- SHOW ALL GRASS AREAS TO BE SEED. THE GRASS HEIGHT SHOULD BE MAINTAINED AT THREE INCHES (3"). MOWING SHALL BE PERFORMED ONLY WHEN GRASS IS DRY. MOWER BLADE SHALL BE SET TO REMOVE NO MORE THAN ONE THIRD (1/3) OF THE GRASS LENGTH. WHEN THE AMOUNT OF GRASS IS HEAVY, IT SHALL BE REMOVED TO PREVENT DESTRUCTION OF THE UNDERLYING TURF. MOW GRASS AREAS IN SUCH A MANNER AS TO PREVENT CLIPPINGS FROM BLOWING ON PAVED AREAS, AND SIDEWALKS. CLEAN MOWING SHALL INCLUDE SWEEPING OR BLOWING OF PAVED AREAS AND SIDEWALKS TO CLEAR THEM FROM MOWING DEBRIS.
- GRASSED AREAS DAMAGED DURING THE PROCESS OF THE WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, WHO SHALL RESTORE THE DISTURBED AREAS TO A CONDITION SATISFACTORY TO THE PROJECT LANDSCAPE DESIGNER, MUNICIPAL OFFICIAL, OR OWNER/OWNER'S REPRESENTATIVE. THIS MAY INCLUDE FILLING TO GRADE, FERTILIZING, SEEDING, AND MULCHING.
- SHOULD THE OWNER REQUIRE MAINTENANCE BEYOND THE STANDARD 90-DAY MAINTENANCE PERIOD, A SEPARATE CONTRACT SHALL BE ESTABLISHED.
- LANDSCAPE CONTRACTOR SHALL WATER NEW PLANTINGS FROM TIME OF INSTALL AND THROUGHOUT REQUIRED 90-DAY MAINTENANCE PERIOD UNTIL PLANTS ARE ESTABLISHED. IF ON-SITE WATER IS NOT AVAILABLE AT THE PROJECT LOCATION, THE LANDSCAPE CONTRACTOR SHALL FURNISH IT BY MEANS OF A WATERING TRUCK OR OTHER ACCEPTABLE MANNER.
- THE QUANTITY OF WATER APPLIED AT ONE TIME SHALL BE SUFFICIENT TO PENETRATE THE SOIL TO A MINIMUM OF EIGHT INCHES (8") IN SHRUB BEDS AND SIX INCHES (6") IN TURF AREAS AT A RATE WHICH WILL PREVENT SATURATION OF THE SOIL.
- IF AN AUTOMATIC IRRIGATION SYSTEM HAS BEEN INSTALLED, IT CAN BE USED FOR WATERING PLANT MATERIAL. HOWEVER, FAILURE OF THE SYSTEM DOES NOT ELIMINATE THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY OF PLANT HEALTH AND ESTABLISHMENT.

**PLANT MATERIAL GUARANTEE NOTES:**

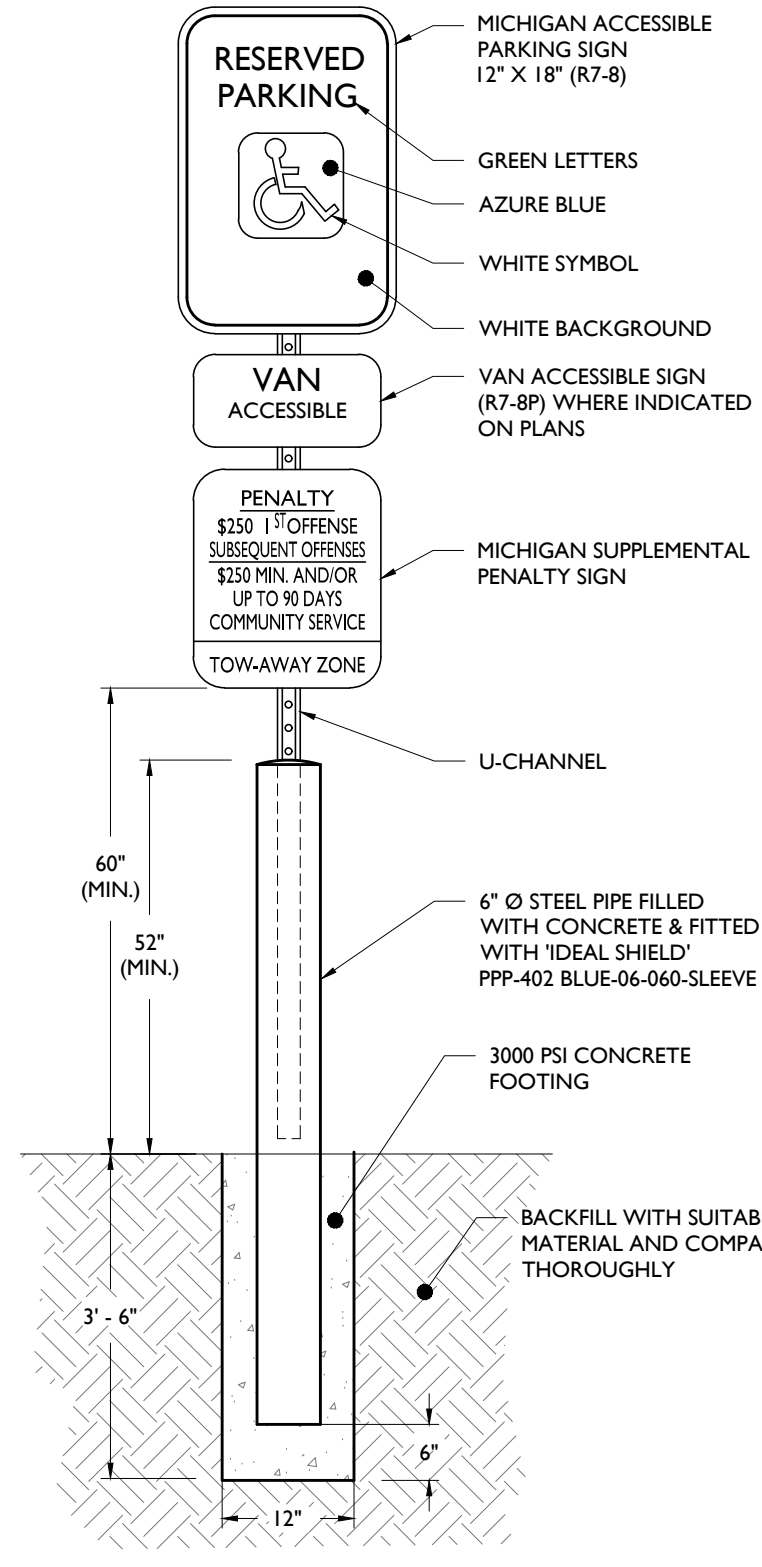
- THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE (1) YEAR (1 YR.) FROM APPROVAL OF THE LANDSCAPE INSTALLATION BY THE PROJECT LANDSCAPE DESIGNER, MUNICIPAL OFFICIAL, OR OWNER/OWNER'S REPRESENTATIVE.
- THE LANDSCAPE CONTRACTOR SHALL REMOVE AND REPLACE DYING, DEAD, OR DEFECTIVE PLANT MATERIAL AT HIS EXPENSE. THE LANDSCAPE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS COMPANY'S OPERATIONS.
- ALL REPLACEMENT PLANTS SHALL BE OF THE SAME SPECIES AND SIZE AS SPECIFIED ON THE APPROVED OR FINAL PLANT LIST. REPLACEMENT SHALL BE PERFORMED AT THE END OF EACH WORK DAY. ALL DEBRIS, MATERIALS, AND TOOLS SHALL BE PROPERLY STORED, STOCKPILED OR DISPOSED OF AND ALL PAVED AREAS SHALL BE CLEANED.
- THE CONTRACTOR SHALL INSTRUCT THE OWNER AS TO THE PROPER CARE AND MAINTENANCE OF ALL PLANTINGS.

**LAWN (SEED OR SOD) NOTES:**

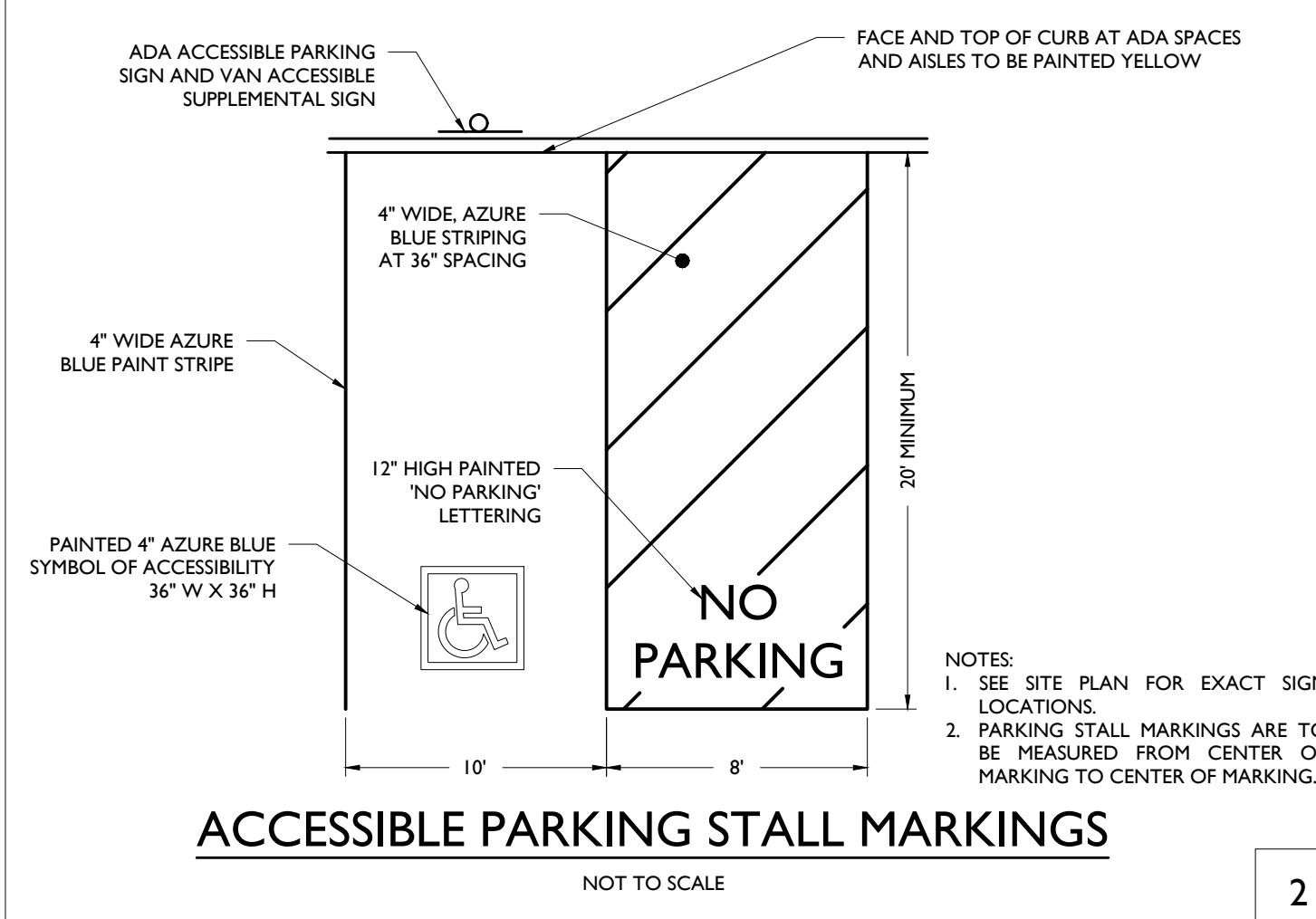
- SEED MIXTURE SHALL BE FRESH, CLEAN, NEW CROP SEED. SOD SHALL BE STRONGLY ROOTED, UNIFORM IN THICKNESS, AND FREE OF WEEDS, DISEASE, AND PESTS.
- SEED OR SOD SHALL BE PURCHASED FROM A RECOGNIZED DISTRIBUTOR AND SHALL BE COMPOSED OF THE MIX OR BLEND WITHIN THE PROVIDED "SEED SPECIFICATION" OR "SOD SPECIFICATION".
- REFERENCE LANDSCAPE PLAN FOR AREAS TO BE SEED OR LAID WITH SOD.
- SEEDING SHALL NOT BE PERFORMED IN WINDY WEATHER. IF THE SEASON OF THE PROJECT COMPLETION PROHIBITS PERMANENT STABILIZATION, TEMPORARY STABILIZATION SHALL BE PROVIDED IN ACCORDANCE WITH THE "TEMPORARY SEEDING SPECIFICATION".
- PROTECT NEW LAWN AREAS AGAINST TRESPASSING WHILE THE SEED IS GERMINATING. FURNISH AND INSTALL FENCES, SIGNS, BARRIERS OR ANY OTHER NECESSARY TEMPORARY PROTECTIVE DEVICES. DAMAGE RESULTING FROM TRESPASS, EROSION, WASHING, OR OTHER CAUSES SHALL BE REPAIRED BY THE LANDSCAPE CONTRACTOR AT HIS EXPENSE. REMOVE ALL FENCES, SIGNS, BARRIERS OR OTHER TEMPORARY PROTECTIVE DEVICES ONCE LAWN HAS BEEN ESTABLISHED.

**IRRIGATION DURING ESTABLISHMENT**

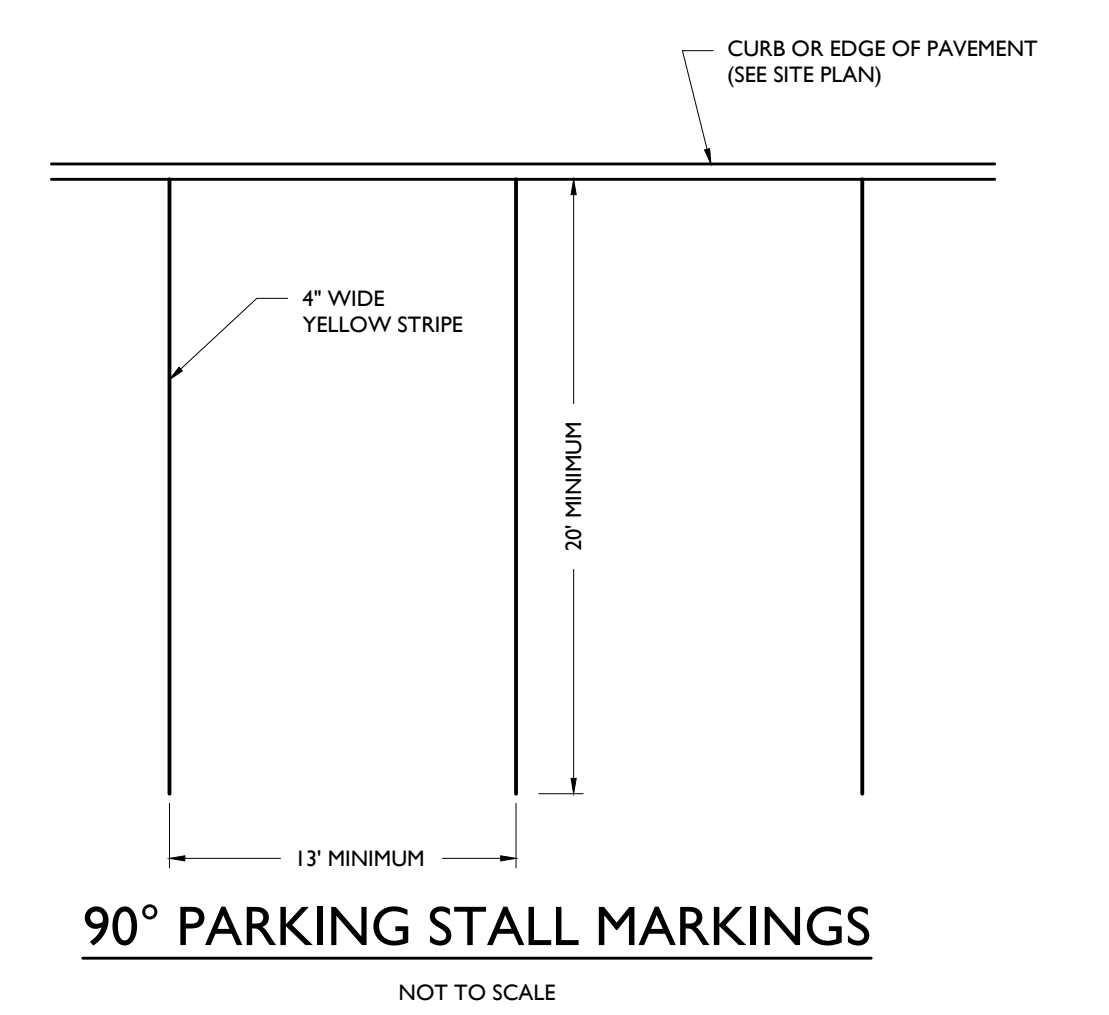
SIZE AT PLANTING	IRRIGATION FOR VITALITY	IRRIGATION FOR SURVIVAL
< 2" CALIPER	DAILY FOR TWO WEEKS, EVERY OTHER DAY FOR TWO MONTHS, WEEKLY UNTIL ESTABLISHED.	TWO TO THREE TIMES WEEKLY FOR TWO TO THREE MONTHS.
2"-4" CALIPER	DAILY FOR ONE MONTH, EVERY OTHER DAY FOR THREE MONTHS, WEEKLY UNTIL ESTABLISHED.	TWO TO THREE TIMES WEEKLY FOR THREE TO FOUR MONTHS.
4"-6" CALIPER		



**ACCESSIBLE PARKING SIGN WITH BOLLARD DETAIL**  
NOT TO SCALE

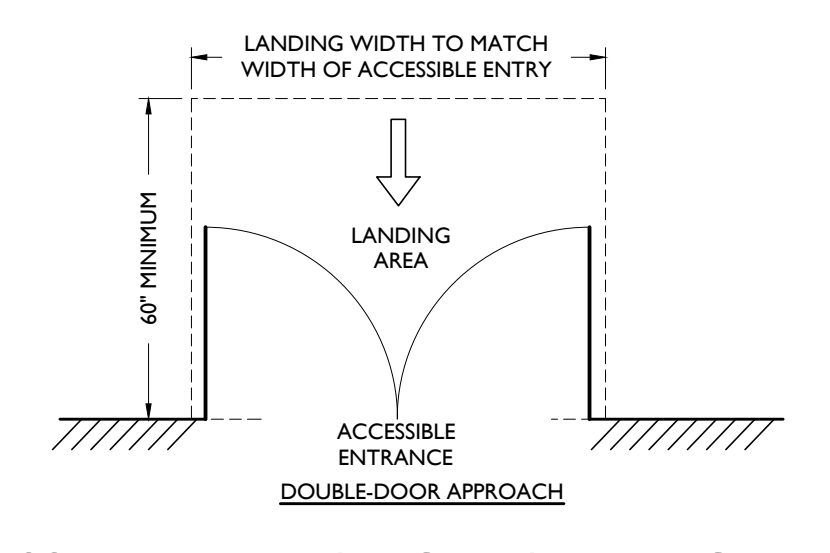


**ACCESSIBLE PARKING STALL MARKINGS**  
NOT TO SCALE

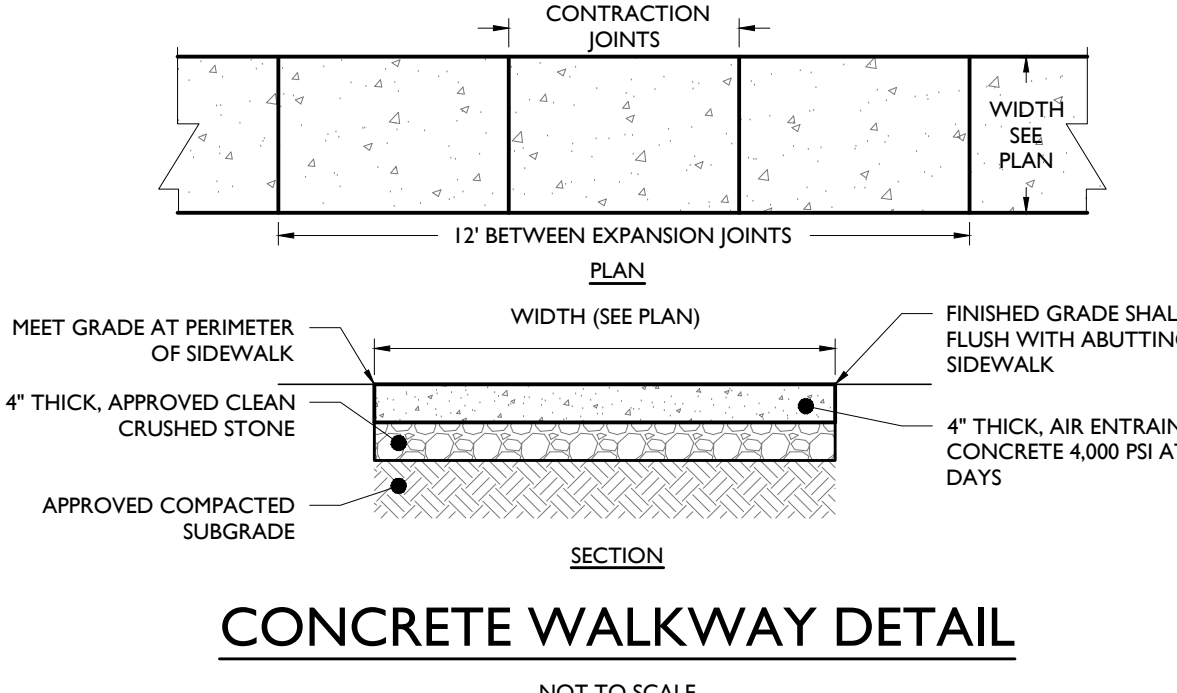


**90° PARKING STALL MARKINGS**  
NOT TO SCALE

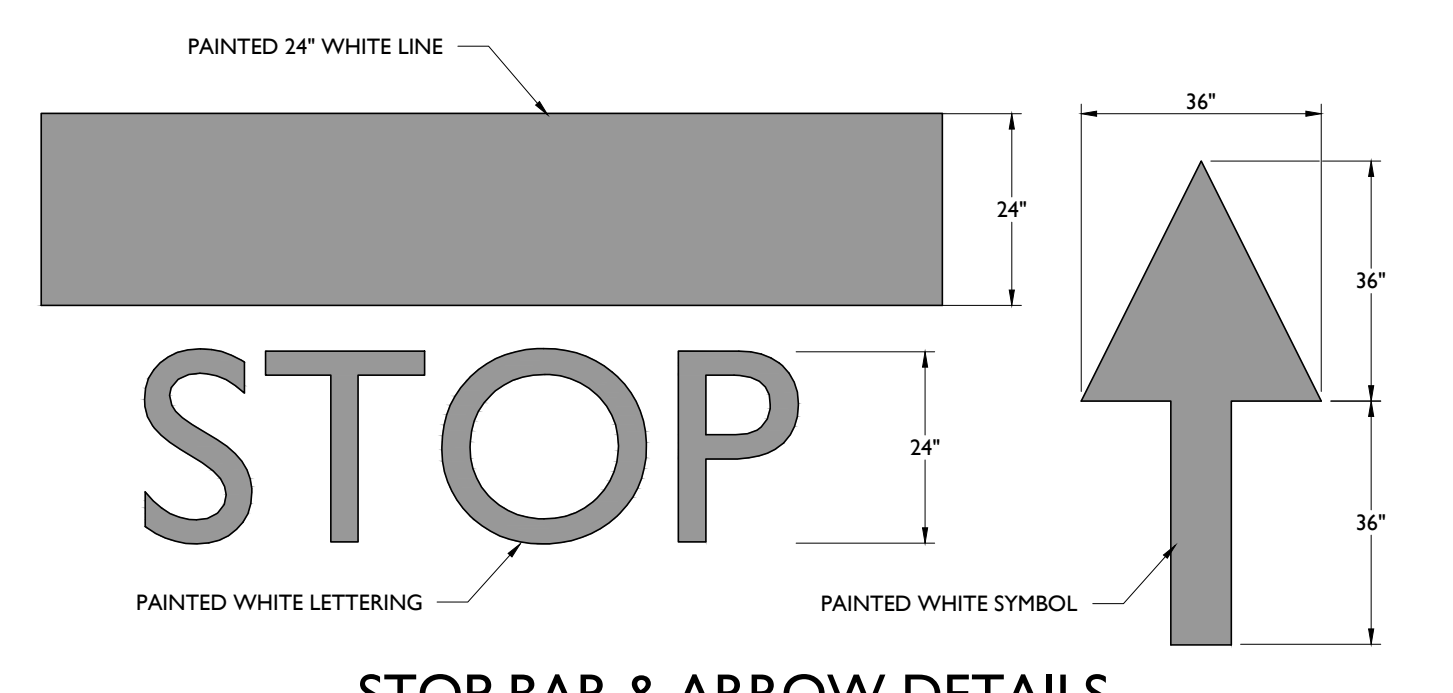
- PAVEMENT STRIPING & MARKINGS NOTES:**
1. ALL SIGNING AND STRIPING IN EXISTING CONDITION IN CONFLICT WITH THE PROPOSED DESIGN PLAN SHALL BE REMOVED.
  2. ALL PROPOSED SIGNING AND STRIPING SHALL CONFORM TO THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
  3. PAVEMENT STRIPING AND MARKINGS SHALL BE INSTALLED IN CONFORMANCE WITH ALL APPLICABLE LOCAL, COUNTY AND STATE REQUIREMENTS.
  4. UNLESS OTHERWISE SPECIFIED, ALL STRIPING AND MARKINGS IN THE PUBLIC RIGHT-OF-WAY SHALL BE OF THERMOPLASTIC PAINT OR PREFORMED THERMOPLASTIC MARKINGS.
  5. UNLESS OTHERWISE SPECIFIED, ON SITE PARKING STALL STRIPING, FIRE LANE STRIPING AND DIRECTIONAL ARROWS SHALL BE EPOXY PAINT. ON SITE STOP BARS, "DO NOT ENTER" BARS, AND ASSOCIATED LETTERING SHALL BE THERMOPLASTIC PAINT OR PREFORMED THERMOPLASTIC MARKINGS.



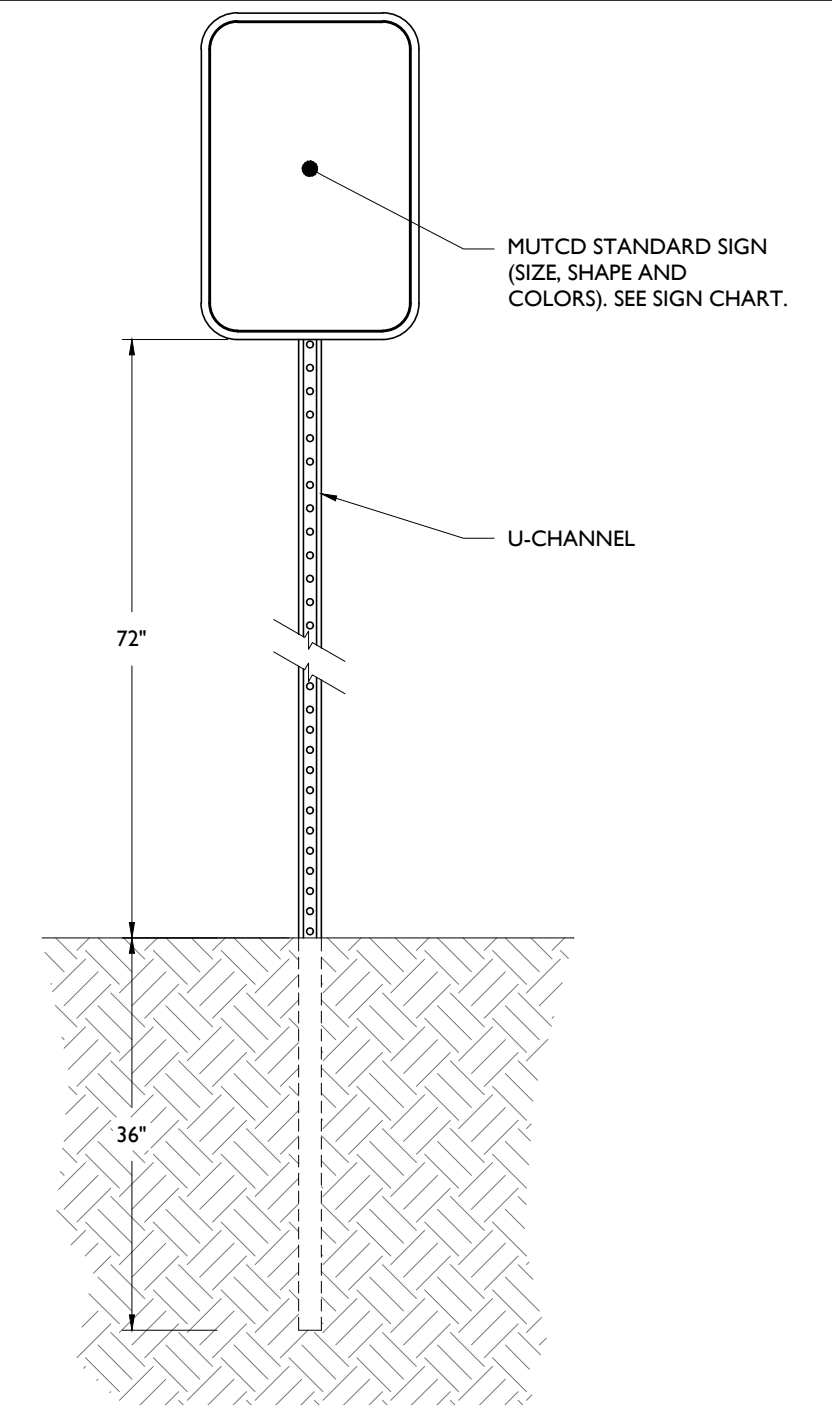
**ACCESSIBLE ENTRANCE LANDING DETAIL**  
NOT TO SCALE



**CONCRETE WALKWAY DETAIL**  
NOT TO SCALE

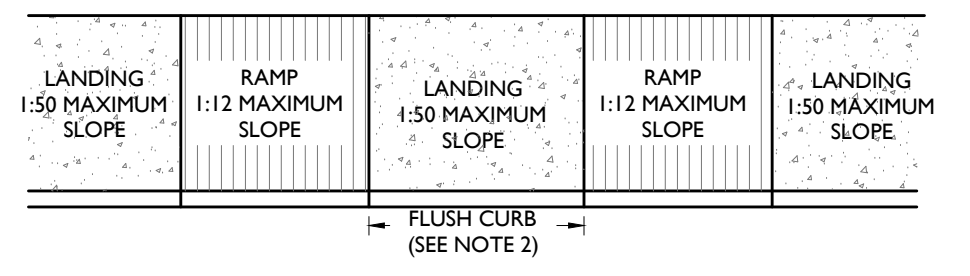


**STOP BAR & ARROW DETAILS**  
NOT TO SCALE



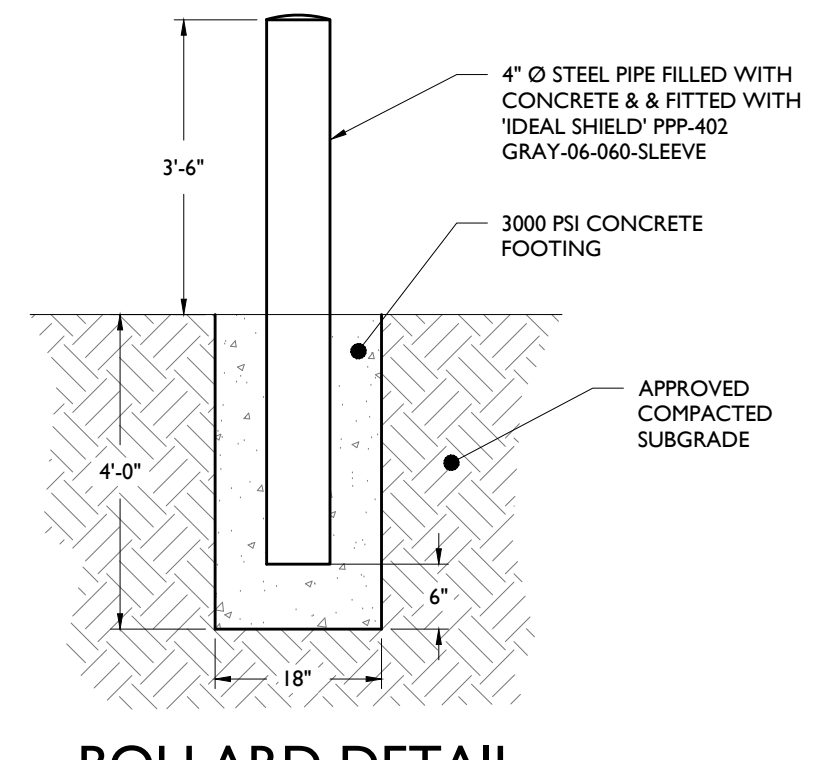
**SIGN DETAIL & DATA TABLE**  
NOT TO SCALE

M.U.T.C.D. NUMBER	TEXT	COLOR		SIZE OF SIGN (WIDTH X HEIGHT)	TYPE OF MOUNT
		LEGEND	BACKGROUND		
STOP SIGN (R1-1)	STOP	WHITE	RED	36"x36"	GROUND
DO NOT ENTER (R5-1)	DO NOT ENTER	RED	WHITE	30"x30"	GROUND

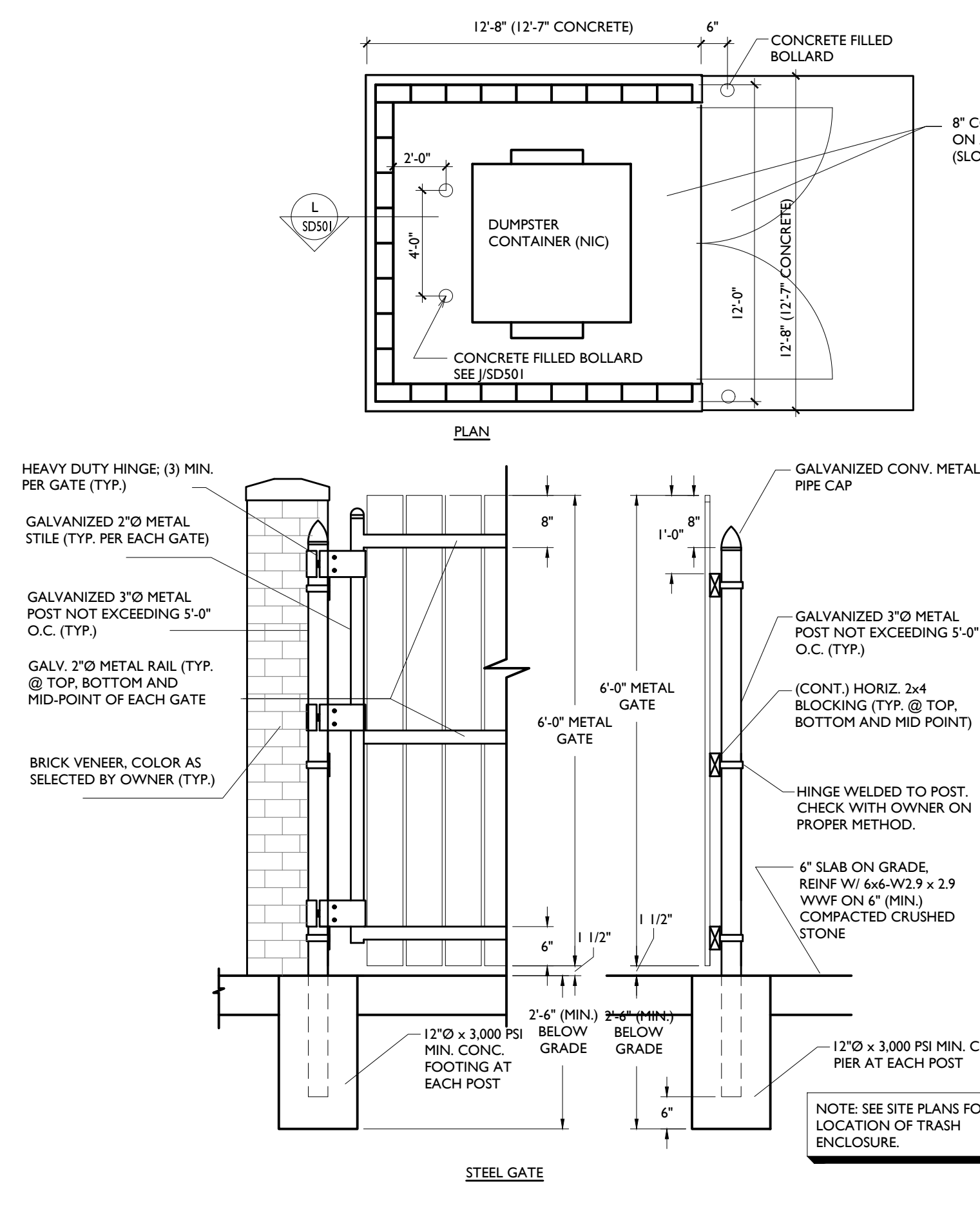


**TRANSITION RAMP DETAIL**  
NOT TO SCALE

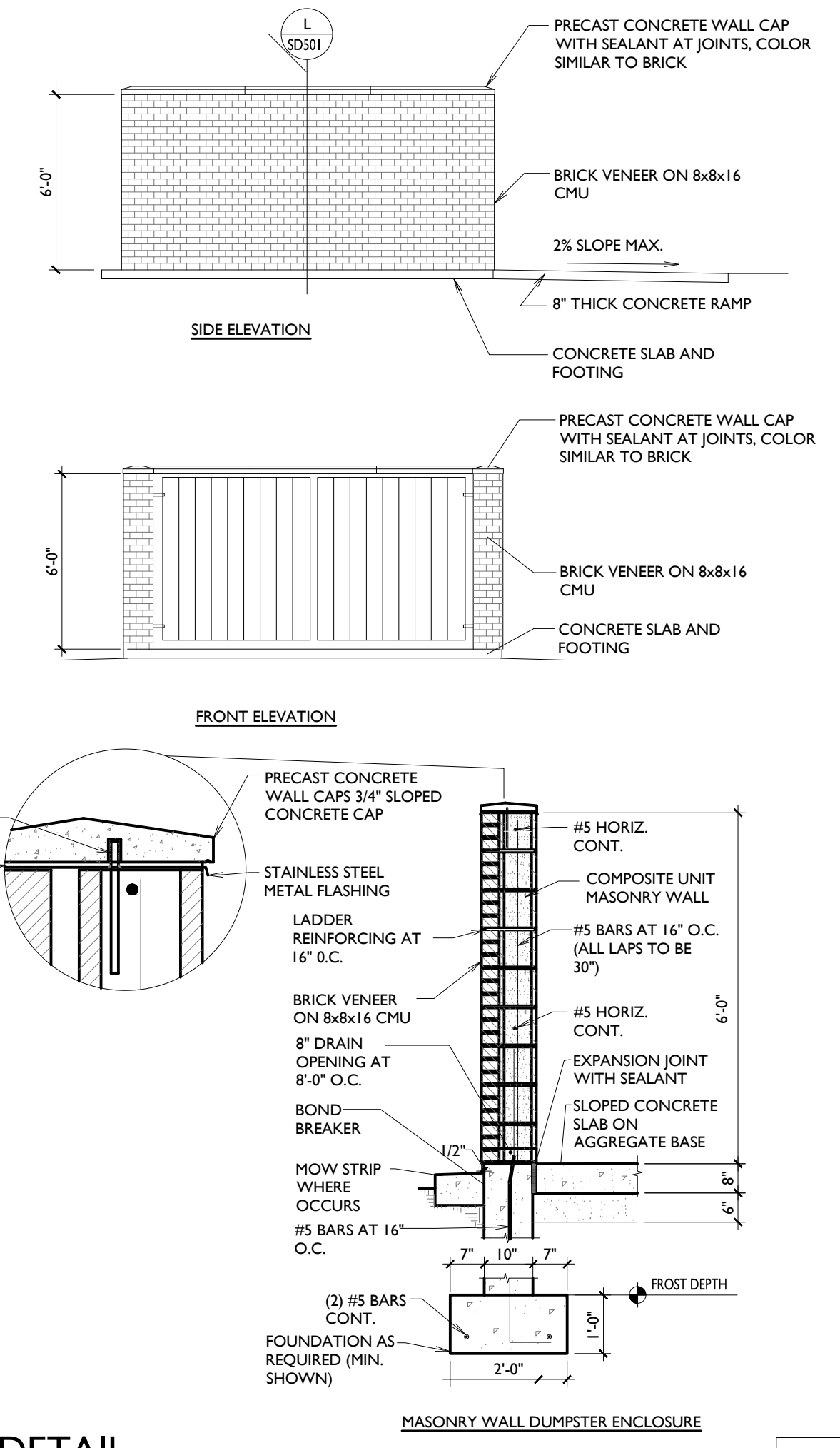
- NOTES:**
1. CROSS SLOPE ON RAMP SHALL NOT EXCEED 2%.
  2. A FLUSH CURB SHALL HAVE A MINIMUM WIDTH OF 36". SEE PLAN FOR EXACT WIDTH.
  3. RAMP SHALL HAVE A MAXIMUM RISE OF 6" WITHOUT A HANDRAIL.



**BOLLARD DETAIL**  
NOT TO SCALE



**TRASH / RECYCLE ENCLOSURE DETAIL**  
NOT TO SCALE



**MASONRY WALL DUMPSTER ENCLOSURE**

NOTES: 1. ALL SIGNS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION (FHWA) MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), EXCEPT AS NOTED. 2. ALL SIGNS SHALL BE MOUNTED AS TO NOT OBSTRUCT THE SHAPE OF "STOP" (R1-1) AND "YIELD" (R1-2) SIGNS.

**NOT APPROVED FOR CONSTRUCTION**

**STONEFIELD engineering & design**  
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**EROP LLC**  
PROPOSED CAR WASH  
PARCEL ID: 4715-22-400-033 & 4725-22-402-900  
5580 E M36  
HAMBURG TOWNSHIP  
LIVINGSTON COUNTY, MICHIGAN 48169

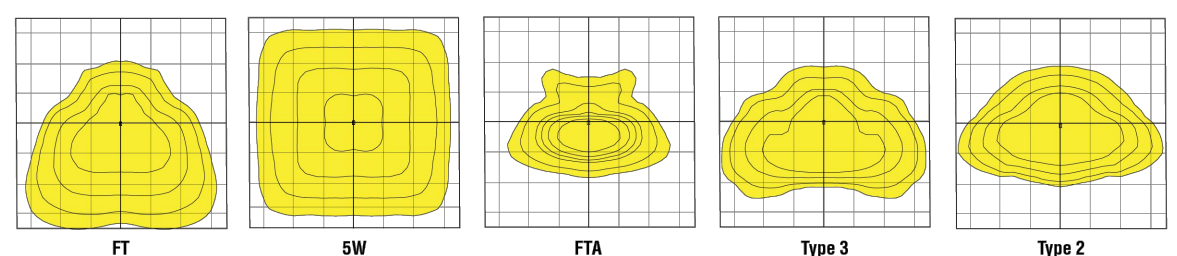
**STONEFIELD engineering & design**

SCALE: AS SHOWN PROJECT ID: DET-240177  
TITLE: CONSTRUCTION DETAILS  
DRAWING: C-12

REVISION	DATE	ISSUE	BY	DESCRIPTION
3	01/02/2024	EP		REVISED PER MDT & LDCO RESC REVIEW
2	02/19/2024	EP		REVISED PER PLANNING COMMISSION RECOMMENDATION
1	01/23/2024	JSE/EM		FOR SITE PLAN & SPECIAL USE PERMIT APPROVAL

# Mirada Medium - MRM Outdoor LED Area Light

Performance (Cont.)  
All published luminaire photometric testing performed to IESNA LM-79 standards. ISO footcandle plots below demonstrate the Mirada (MRM) light patterns only. Not for total fixture output. For complete specifications and IES files, see website.



## Ordering Guide

TYPICAL ORDER EXAMPLE: **MRM LED 36L SIL FTA UNV DIM 50 70CRI ALS6S04 BRZ IL**

Luminaire Profile	Light Source	Lumen Package	Light Output	Distribution	Orientation	Voltage	Driver
MRM Mirada	LED	36L - 3000ms 36L - 5000ms 36L - 8000ms 36L - 12000ms 36L - 18000ms 36L - 24000ms 36L - 30000ms 36L - 42000ms	36L - 3000ms 36L - 5000ms 36L - 8000ms 36L - 12000ms 36L - 18000ms 36L - 24000ms 36L - 30000ms 36L - 42000ms	2 - Type 2 3 - Type 3 FT - Forward Throw	(Blank) - standard L - Optics rotated left 90° R - Optics rotated right 90°	UNV - Universal Voltage (120-277V) HV - High Voltage (347-480V)	DM - 0-10V Dimming (0-10%) DM - 0-10V Dimming (0-10%)

Color Temp	Color Rendering	Controls (Choose One)	Finish	Options
40 - 5000 CCT 50 - 3000 CCT 27 - 2700 CCT	70 CRI 90 CRI	Blank - None WCS - Wireless Controls ALS6S - Art-Link System Control System Host / Satellite ALS6S1 - Art-Link System Control System Host / 12 Motion Sensor ALS6S2 - Art-Link System Control System Host / 12 Motion Sensor ALS6S3 - Art-Link System Control System Host / 12 Motion Sensor ALS6S4 - Art-Link System Control System Host / 12 Motion Sensor ALS6S5 - Art-Link System Control System Host / 12 Motion Sensor ALS6S6 - Art-Link System Control System Host / 12 Motion Sensor ALS6S7 - Art-Link System Control System Host / 12 Motion Sensor ALS6S8 - Art-Link System Control System Host / 12 Motion Sensor ALS6S9 - Art-Link System Control System Host / 12 Motion Sensor ALS6S10 - Art-Link System Control System Host / 12 Motion Sensor ALS6S11 - Art-Link System Control System Host / 12 Motion Sensor ALS6S12 - Art-Link System Control System Host / 12 Motion Sensor ALS6S13 - Art-Link System Control System Host / 12 Motion Sensor ALS6S14 - Art-Link System Control System Host / 12 Motion Sensor ALS6S15 - Art-Link System Control System Host / 12 Motion Sensor ALS6S16 - Art-Link System Control System Host / 12 Motion Sensor ALS6S17 - Art-Link System Control System Host / 12 Motion Sensor ALS6S18 - Art-Link System Control System Host / 12 Motion Sensor ALS6S19 - Art-Link System Control System Host / 12 Motion Sensor ALS6S20 - Art-Link System Control System Host / 12 Motion Sensor ALS6S21 - Art-Link System Control System Host / 12 Motion Sensor ALS6S22 - Art-Link System Control System Host / 12 Motion Sensor ALS6S23 - Art-Link System Control System Host / 12 Motion Sensor ALS6S24 - Art-Link System Control System Host / 12 Motion Sensor ALS6S25 - Art-Link System Control System Host / 12 Motion Sensor ALS6S26 - Art-Link System Control System Host / 12 Motion Sensor ALS6S27 - Art-Link System Control System Host / 12 Motion Sensor ALS6S28 - Art-Link System Control System Host / 12 Motion Sensor ALS6S29 - Art-Link System Control System Host / 12 Motion Sensor ALS6S30 - Art-Link System Control System Host / 12 Motion Sensor ALS6S31 - 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Art-Link System Control System Host / 12 Motion Sensor ALS6S96 - Art-Link System Control System Host / 12 Motion Sensor ALS6S97 - Art-Link System Control System Host / 12 Motion Sensor ALS6S98 - Art-Link System Control System Host / 12 Motion Sensor ALS6S99 - Art-Link System Control System Host / 12 Motion Sensor ALS6S100 - Art-Link System Control System Host / 12 Motion Sensor	BRZ - Bronze BLK - Black OPF - Opaline MSV - Metallic Silver WHT - White PLP - Platinum Plus SWS - Satin Verde Green	IL - Integral Lower LED

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## SPECIFICATIONS FOR FIXTURES 'A' & 'B'

NOT TO SCALE

### Mirada Small Wall Sconce Silicone (XWS SIL)

Have questions? Call us at (800) 436-7800

ORDERING GUIDE

TYPICAL ORDER EXAMPLE: **XWS LED 6L SIL FT UNV DIM 40 70CRI ALB3S1 BLK CWBB**

Prefix	Light Source	Lumen Package	Lens	Distribution	Voltage	Driver
XWS - Mirada Small Wall Sconce	LED	6L - 2000ms 6L - 3000ms 6L - 5000ms 6L - 8000ms 6L - 12000ms	BL - Silicone	2 - Type 2 3 - Type 3 FT - Forward Throw	UNV - Universal Voltage (120-277V) HV - High Voltage (347-480V)	DM - 0-10V Dimming (0-10%)

Color Temperature: 40-5000K, 50-3000K

Color Rendering: 70 CRI, 90 CRI

Controls: Blank - None, Wireless Controls, ALS6S - Art-Link System Control System Host / Satellite, ALS6S1 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S2 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S3 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S4 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S5 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S6 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S7 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S8 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S9 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S10 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S11 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S12 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S13 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S14 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S15 - 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Finish: BLK - Black, BRZ - Dark Bronze, CMG - Gun Metal Gray, OPF - Opaline, MSV - Metallic Silver, PLP - Platinum Plus, SWS - Satin Verde Green, WHT - White

Options: Blank - None, BL - Low Battery Back-up (10°C), CWBB - Low Cold Weather Battery Backup (-20°C), BRZ - 20W Battery Back-up (10°C), L - Extended Housing, SPI - 10KV Surge Protection Device

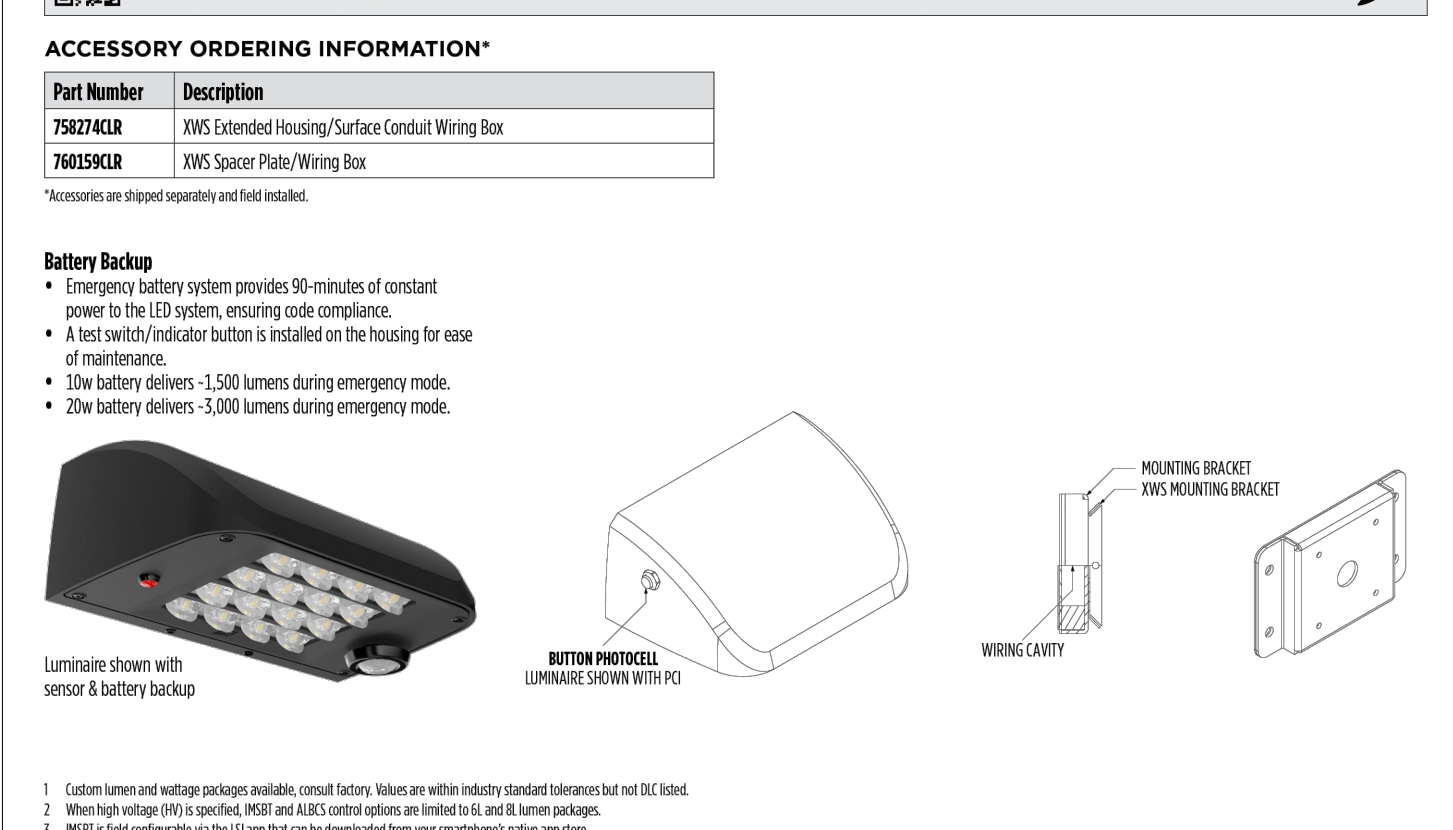
Bottom Type PhotoCells: PC120 - 120V, PC120B - 277-208-277V, PC120C - 347V

Need more information? Click here for our glossary. Have additional questions? Call us at (800) 436-7800

ACCESSORY ORDERING INFORMATION

Part Number	Description
75827ACR	XWS Extended Housing/Surface Conduit Wiring Box
76159CLR	XWS Spacer Plate/Wiring Box

Battery Backup: Emergency battery system provides 90 minutes of constant power to the LED system, ensuring code compliance. A test switch/indicator button is installed on the housing for ease of maintenance. 10W battery delivers ~1500 lumens during emergency mode. 20W battery delivers ~3000 lumens during emergency mode.



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## SPECIFICATIONS FOR FIXTURE 'C'

NOT TO SCALE

### Mirada Wall Sconce - XWM Outdoor LED Wall Sconce

ORDERING GUIDE

TYPICAL ORDER EXAMPLE: **XWM 2 LED Q3L 27 UE BRZ ALS6C**

Luminaire Profile	Light Source	Lumen Package	Light Output	Distribution	Voltage	Driver
XWM Mirada Wall Sconce	LED	2L - 2000ms 2L - 3000ms 2L - 5000ms 2L - 8000ms 2L - 12000ms	2L - 2000ms 2L - 3000ms 2L - 5000ms 2L - 8000ms 2L - 12000ms	Q3L - 30° Beam UE - 120° Beam	UNV - Universal Voltage (120-277V) HV - High Voltage (347-480V)	DM - 0-10V Dimming (0-10%)

Color Temperature: 27-2700K, 40-5000K, 50-3000K

Color Rendering: 70 CRI, 90 CRI

Controls: Blank - None, Wireless Controls, ALS6S - Art-Link System Control System Host / Satellite, ALS6S1 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S2 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S3 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S4 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S5 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S6 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S7 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S8 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S9 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S10 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S11 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S12 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S13 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S14 - Art-Link System Control System Host / 12 Motion Sensor, ALS6S15 - 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Finish: BRZ - Bronze, BLK - Black, CMG - Gun Metal Gray, OPF - Opaline, MSV - Metallic Silver, PLP - Platinum Plus, SWS - Satin Verde Green, WHT - White

Options: Blank - None, BL - Low Battery Back-up (10°C), CWBB - Low Cold Weather Battery Backup (-20°C), BRZ - 20W Battery Back-up (10°C), L - Extended Housing, SPI - 10KV Surge Protection Device

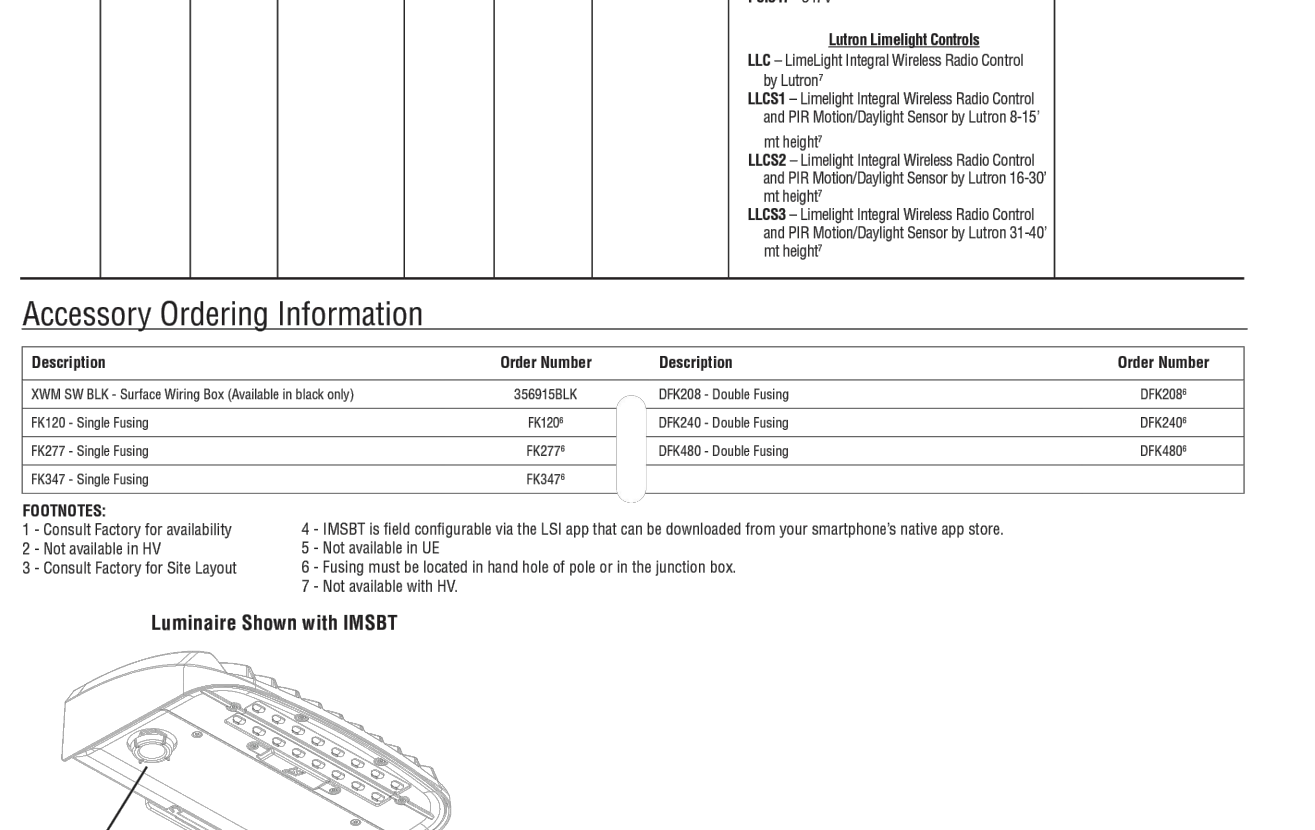
Bottom Type PhotoCells: PC120 - 120V, PC120B - 277-208-277V, PC120C - 347V

Need more information? Click here for our glossary. Have additional questions? Call us at (800) 436-7800

ACCESSORY ORDERING INFORMATION

Order Number	Description	Order Number
59858BLK	ONCR - Double Fusing	DF30P
FK20	DF30 - Single Fusing	DF30P
FK27	DF27 - Single Fusing	DF30P
FK27P	DF27P - Single Fusing	DF30P
FK34P	DF34P - Single Fusing	DF30P

FOOTNOTES: 1 - Consult factory for availability. 2 - Not available in HV. 3 - Consult factory for Site Layout. 4 - IMSBT is field configurable via the LSI app that can be downloaded from your smartphone's native app store. 5 - Not available in HV. 6 - Fusing must be located in hand hole or pole or in the junction box. 7 - Not available with HV.



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## SPECIFICATIONS FOR FIXTURE 'D'

NOT TO SCALE

### Low-Profile, Driverless Linkable IP67 LED Linear Luminaire

INDUSTRIAL LIGHTING  
www.ggled.net

DATE: \_\_\_\_\_  
PROJECT: \_\_\_\_\_

LISTED DIRECT AC DRIVERLESS

GPX DRIVERLESS LINEAR

Product Features: Maintenance-Free Driverless Design. Connects directly to AC line voltage without an LED driver or electrolytic capacitors, for extreme reliability and lifetime. Requires zero maintenance.

Performance Summary: Delivered Light Output: Up to 8,000 Lumens. Efficacy: 130 lm/W. CCT: Typical 5000K. Lifetime: Designed to last 100,000 hours at 25°C. Warranty: 5 Years (See ggl.net for Terms).

Easy to Install Quick-Connect Cabling: Convenient push-and-click connectors and cabling make GPX Series fixtures easy to install and disassemble.

Coextruded Copolyester/Aluminum Housing: Our patented process combines copolyester and aluminum together, with no seals or gaskets. The result is a single piece enclosure with excellent heat-sinking characteristics for long life.

Superior Chemical & UV Resistance: Seamless polymeric outer shell provides IP67 ingress protection and is specialized for superior chemical resistance. An additional protective coating is available which integrates a UV inhibitor and UV blocker for outdoor applications.

Ordering Information: Product Length, Lumen Output, Color Temp., Lens Diffusion, UV Protection, Through/Wired, Voltage.

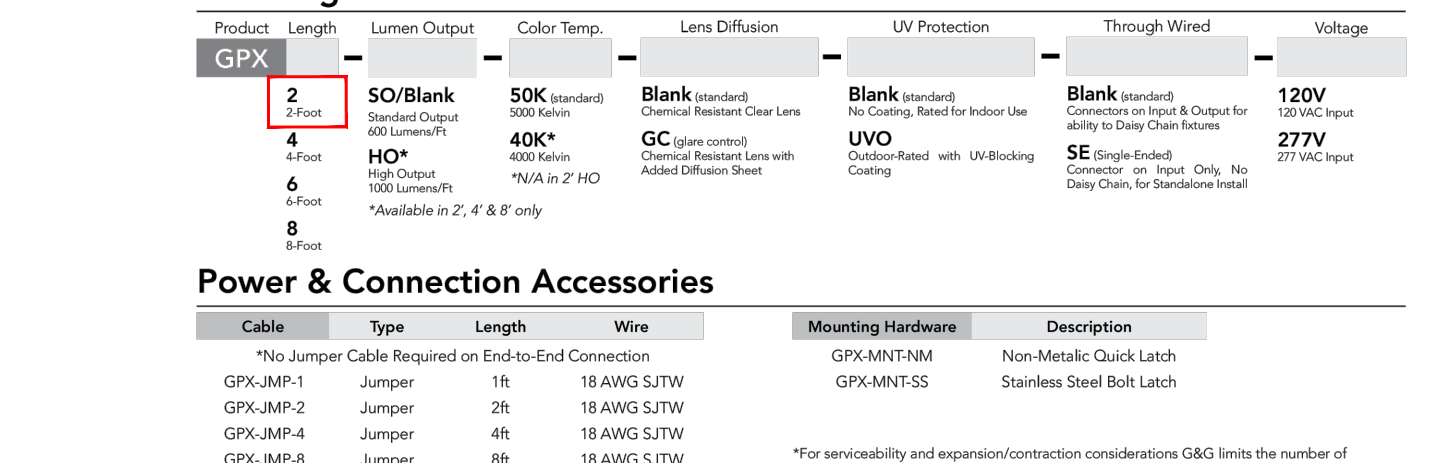
Product Length	Lumen Output	Color Temp.	Lens Diffusion	UV Protection	Through/Wired	Voltage
2' (609.6mm)	50K Standard 500K Standard 800K Standard	50K Standard 40K 40K	Blank Standard Blank Standard Blank Standard	Blank Standard Blank Standard Blank Standard	Blank Standard Blank Standard Blank Standard	120V 120V 277V

Power & Connection Accessories: Cable, Type, Length, Wire, Mounting Hardware, Description.

Cable	Type	Length	Wire	Mounting Hardware	Description
GPX-JMP-1	Jumper	1ft	18 AWG SJTW	GPX-MNT-1M	Non-Metallic Quick Latch
GPX-JMP-2	Jumper	2ft	18 AWG SJTW	GPX-MNT-2M	Stainless Steel Ball Latch
GPX-JMP-4	Jumper	4ft	18 AWG SJTW		
GPX-JMP-8	Jumper	8ft	18 AWG SJTW		
GPX-LDR-10	Leader Cable	10ft	18 AWG SJTW		
GPX-LDR-25	Leader Cable	25ft	18 AWG SJTW		

Ordering Information: Product Length, Lumen Output, Color Temp., Lens Diffusion, UV Protection, Through/Wired, Voltage.

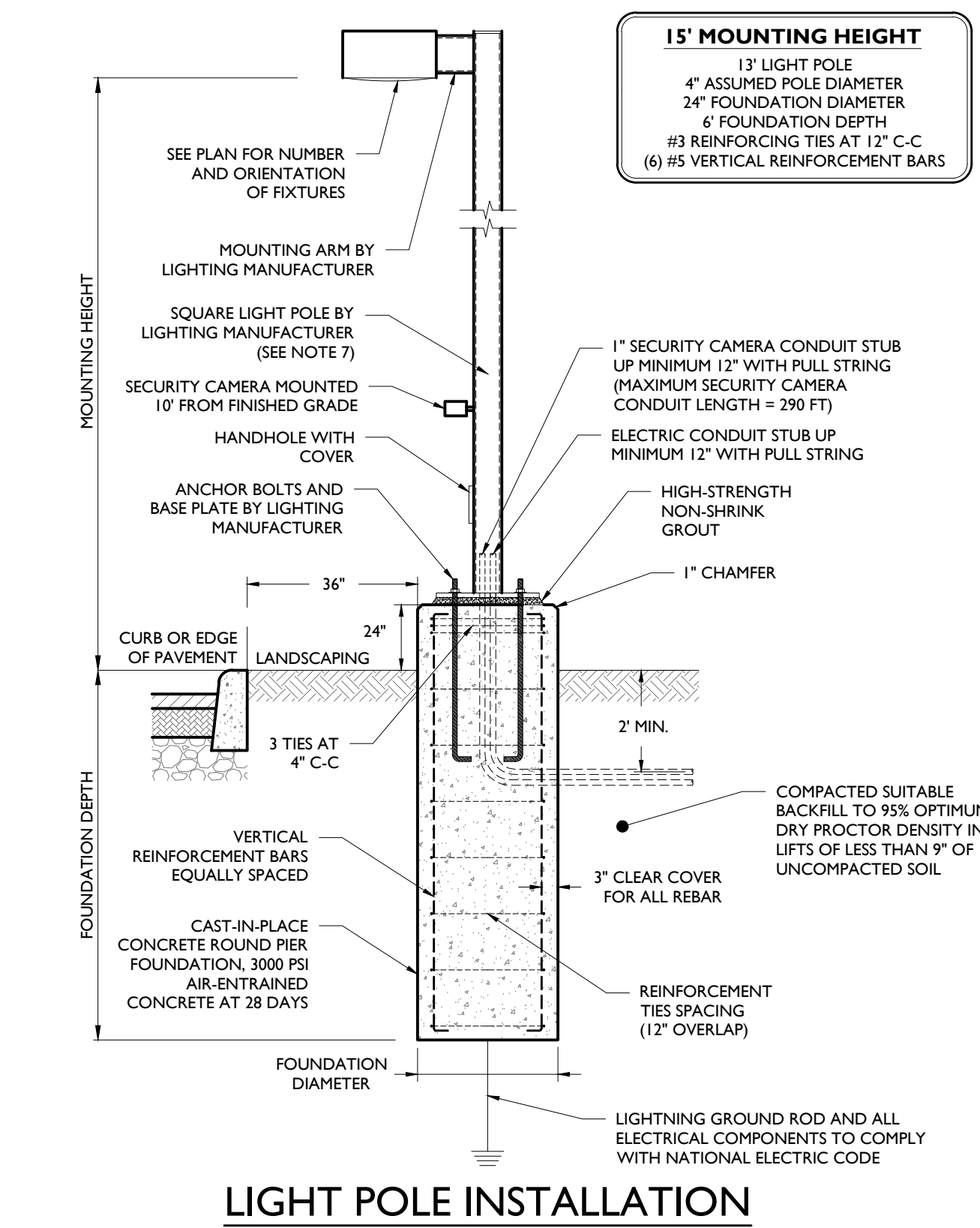
Power & Connection Accessories: Cable, Type, Length, Wire, Mounting Hardware, Description.



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## SPECIFICATIONS FOR FIXTURES 'A' & 'B'

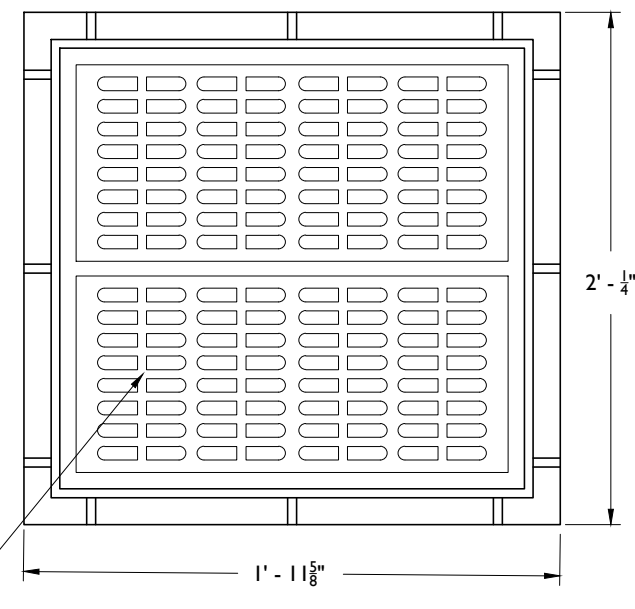
NOT TO SCALE



## LIGHT POLE INSTALLATION

- NOTES:
- MINIMUM SOIL BEARING PRESSURE OF 1

- NOTES:  
 1. STRUCTURE TO BE CONSTRUCTED OF REINFORCED PRECAST CONCRETE.  
 2. FRAME AND GRATE TO BE CAST-IRON AND SUPPORT MINIMUM H-25 LOADING.  
 3. ALL JOINTS TO BE WATER-TIGHT.  
 4. SUBGRADE BENEATH STRUCTURE SHALL BE LEVELED AND COMPACTED AS NECESSARY PRIOR TO INSTALLING STRUCTURE.



GRATE (TOP VIEW)

BICYCLE SAFE GRATE TO BE LABELED / DEFINED PER LOCAL COMMUNITY STANDARDS AND REGULATIONS

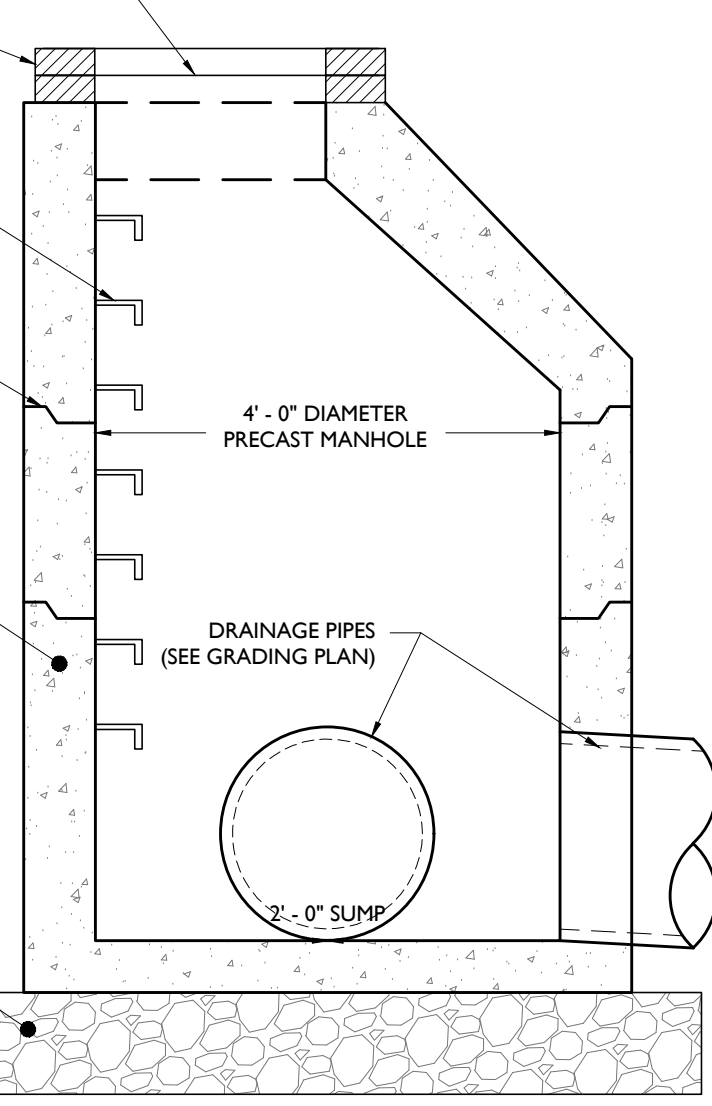
THE GRATE SHALL BE RAISED TO FINAL GRADE USING FROM 1 TO 3 PRECAST RINGS AND/OR BRICK

MANHOLE LADDER RUNGS (SEE DETAIL)

PRECAST SECTIONS SHALL BE JOINED USING A GASKET AND CEMENT GROUT TO PRODUCE A LEAK-FREE JOINT.

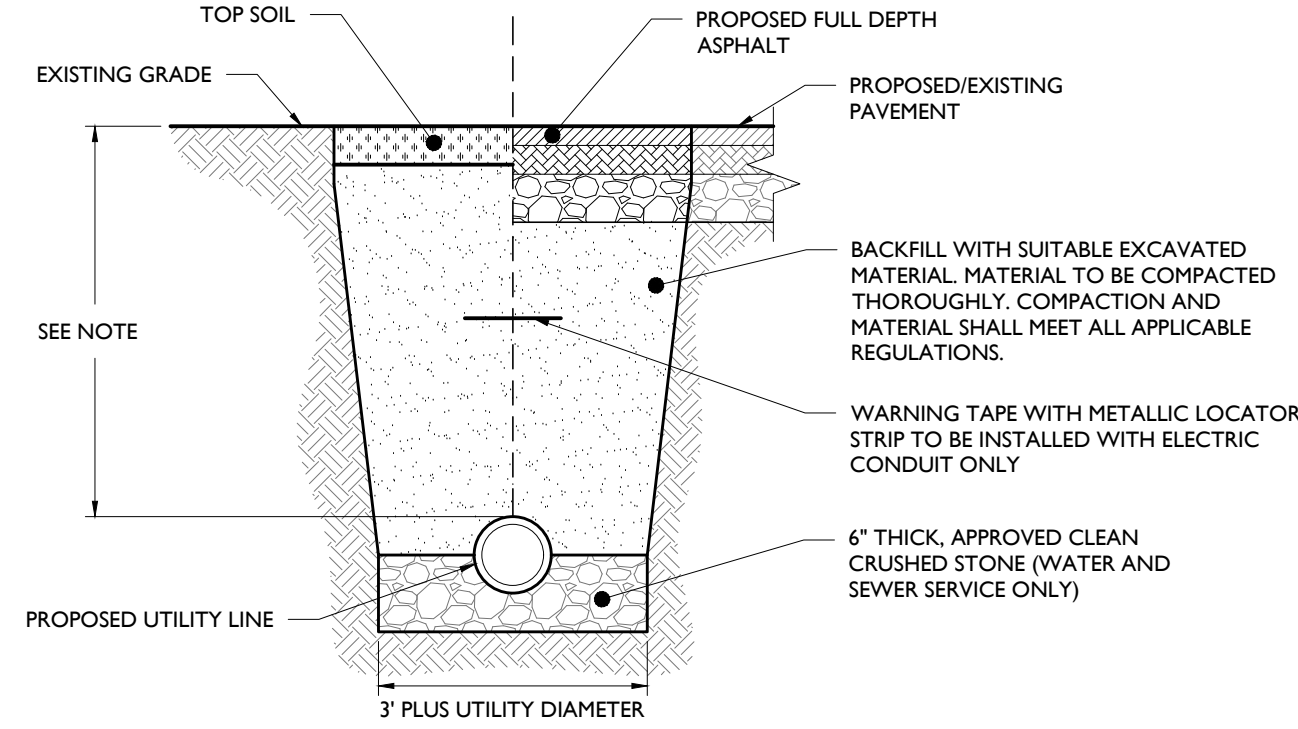
PRECAST REINFORCED CONCRETE STRUCTURE TO MEET MINIMUM H-25 LOADING

THE PRECAST STRUCTURE SHALL BE PLACED ON A MINIMUM OF 6" OF 3/4" CLEAN STONE



STORM INLET DETAIL

PER MDOT TYPE 'R' COVER  
NOT TO SCALE

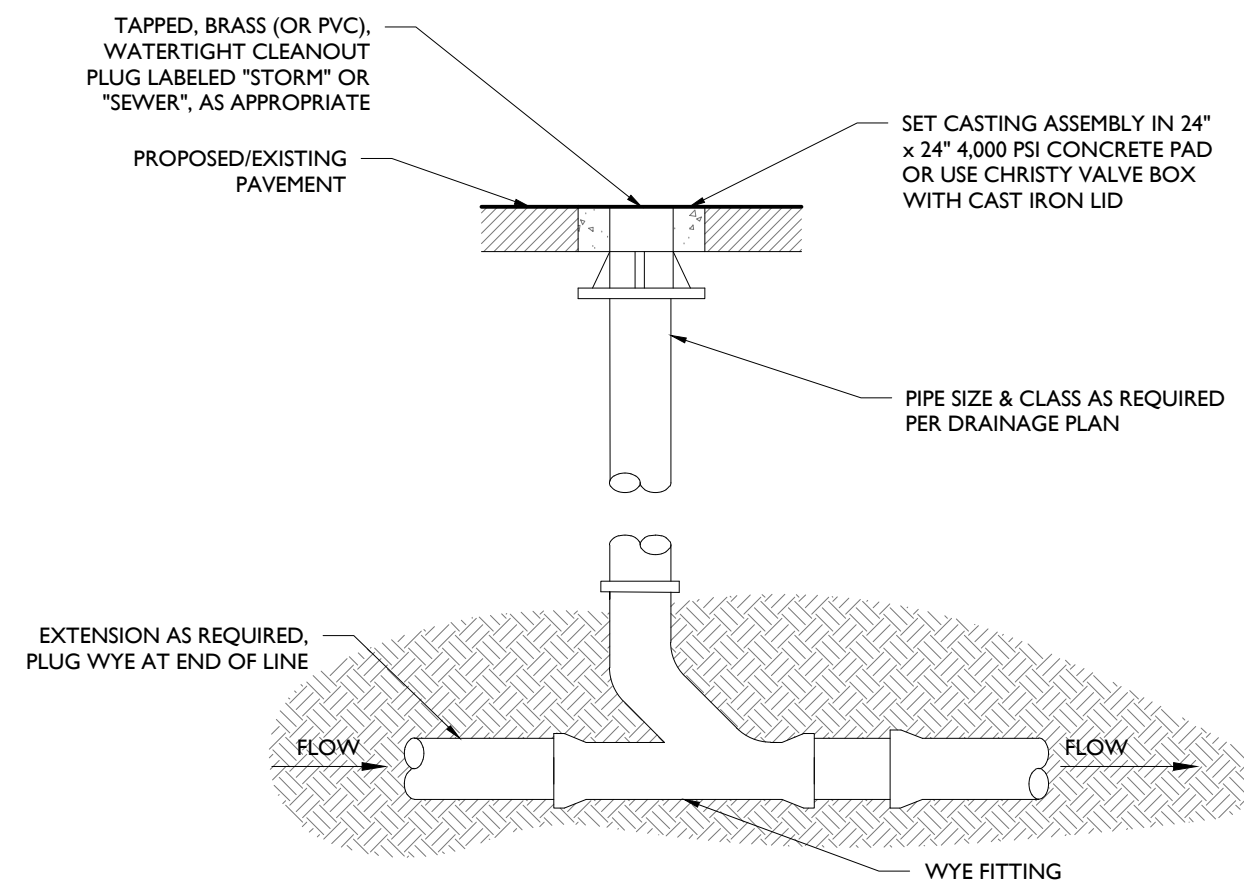


UTILITY TRENCH DETAIL

NOTE: NOT TO SCALE

- MINIMUM PIPE COVER SHALL BE AS FOLLOWS:  
 • ELECTRIC SERVICE - PER APPLICABLE UTILITY AUTHORITY  
 • GAS SERVICE - PER APPLICABLE UTILITY AUTHORITY  
 • SEWER SERVICE - 36" MINIMUM  
 • WATER SERVICE - 48" MINIMUM

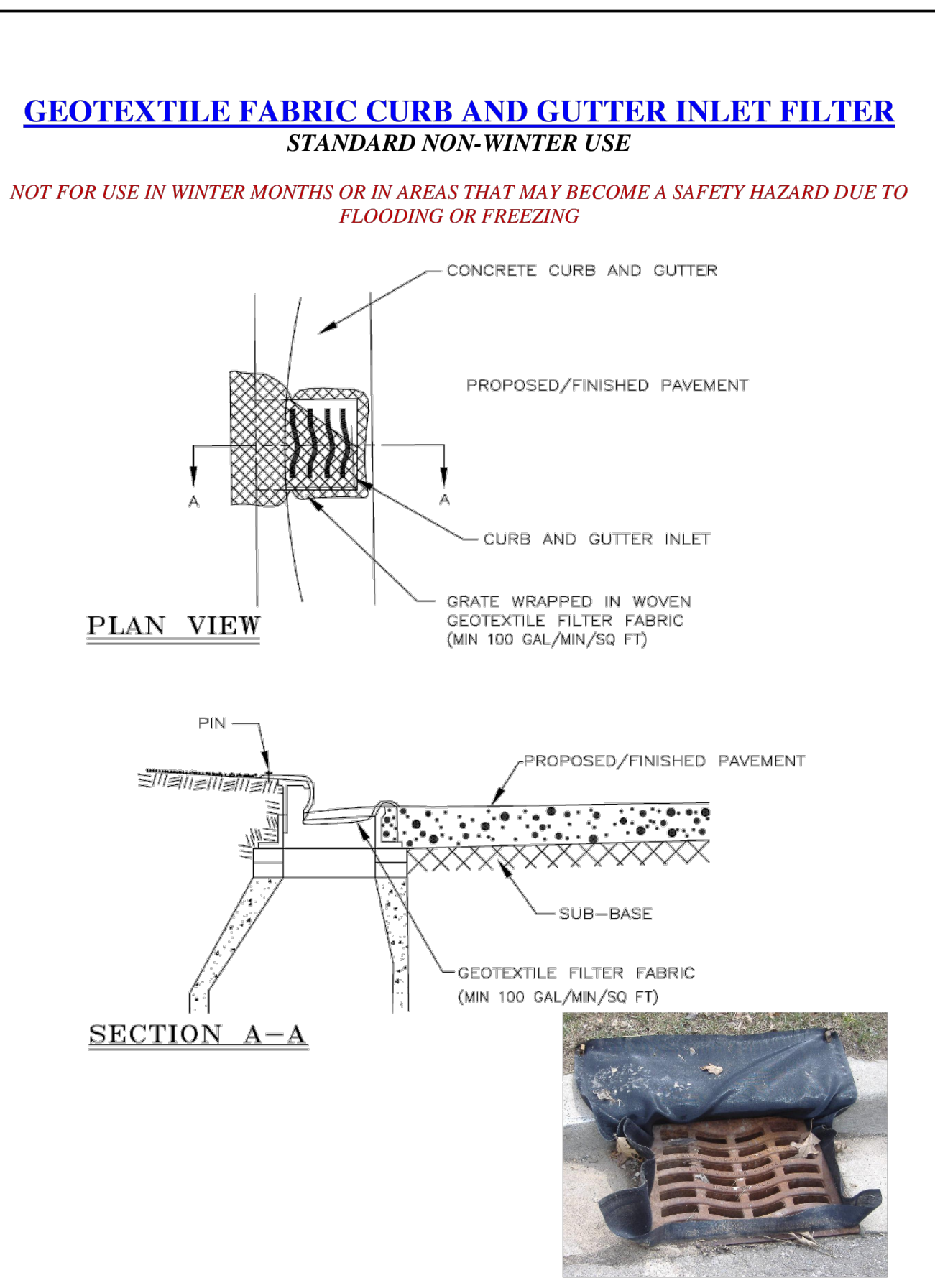
2



HARDSCAPE CLEAN-OUT

NOT TO SCALE

3

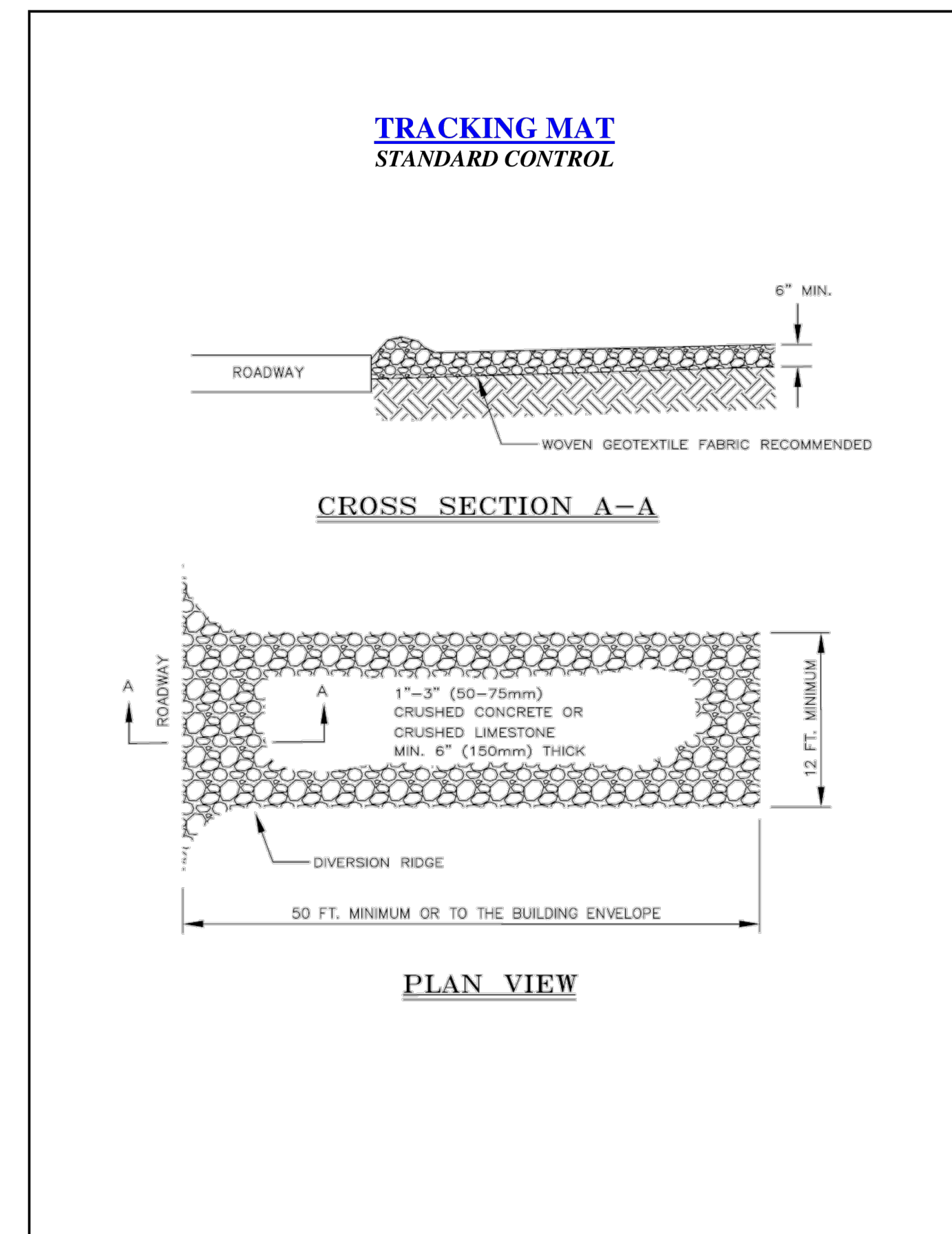


**GEOTEXTILE FABRIC CURB AND GUTTER INLET FILTER**  
STANDARD NON-WINTER USE

NOT FOR USE IN WINTER MONTHS OR IN AREAS THAT MAY BECOME A SAFETY HAZARD DUE TO FLOODING OR FREEZING

PLAN VIEW

SECTION A-A



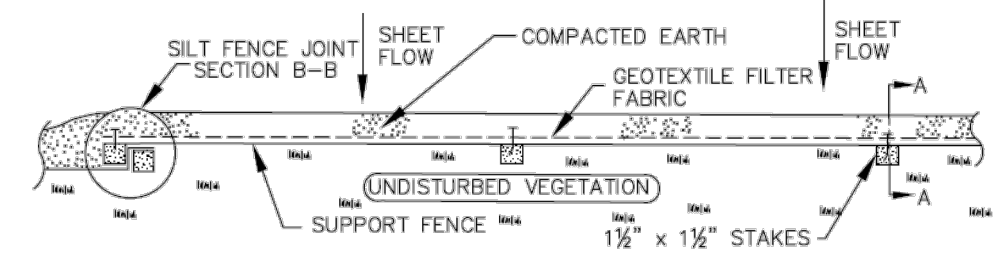
**TRACKING MAT**  
STANDARD CONTROL

CROSS SECTION A-A

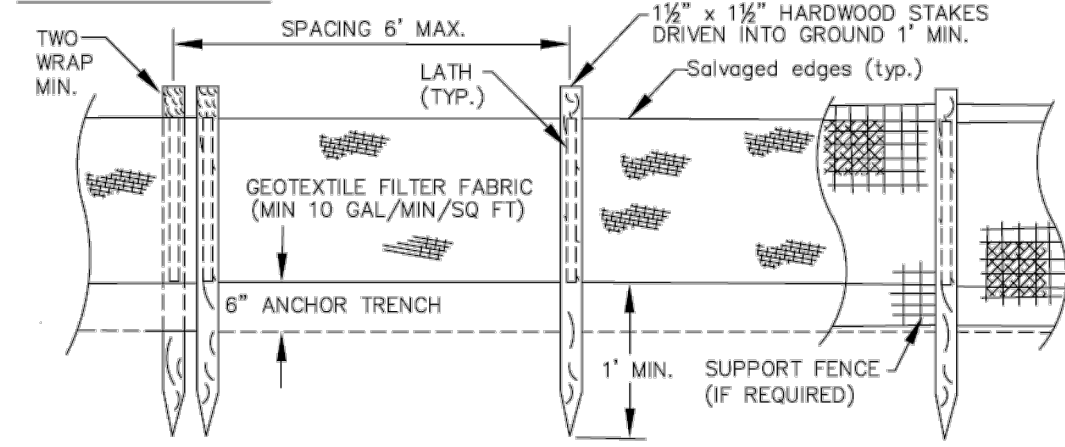
PLAN VIEW

5

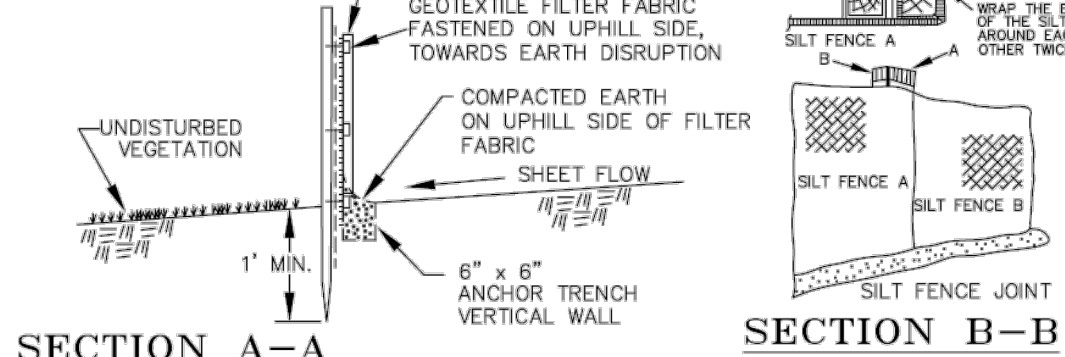
**36\"/>STANDARD CONTROL**



PLAN VIEW



FRONT VIEW



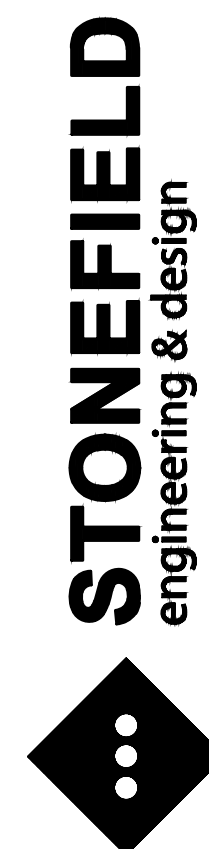
SECTION A-A

SECTION B-B

6

REVISION	DATE	ISSUE	BY	DESCRIPTION
1	01/22/2024	JSE/EM		FOR SITE PLAN & SPECIAL USE PERMIT APPROVAL
2	02/19/2024	EM		REVISED PER PLANNING COMMISSION RECOMMENDATION
3	02/02/2024	EM		REVISED PER MDOT & LCDR RESC REVIEW

NOT APPROVED FOR CONSTRUCTION

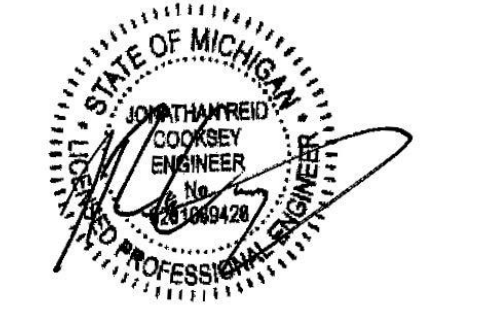


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SITE DEVELOPMENT PLANS



**PROPOSED CAR WASH**  
 PARCEL ID: 4715-22-400-023 & 4725-22-402-900  
 5580 E M36  
 HAMBURG TOWNSHIP  
 LIVINGSTON COUNTY, MICHIGAN 48169

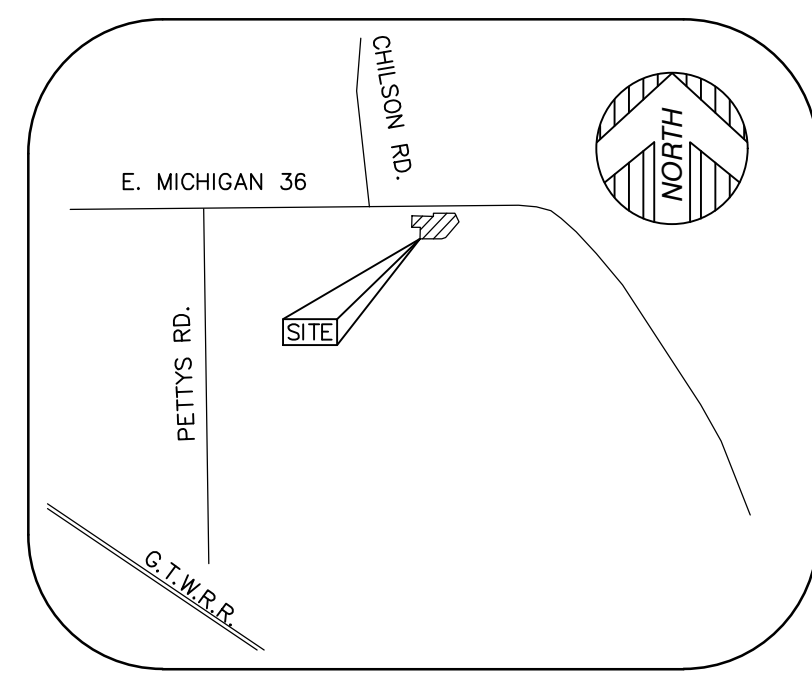


SCALE: AS SHOWN PROJECT ID: DET-240177

TITLE:  
**CONSTRUCTION DETAILS**

DRAWING:

**C-14**



VICINITY MAP  
(NOT TO SCALE)

**PARKING**

NO MARKED PARKING ON SITE.

**PARCEL AREA**

44,674± SQUARE FEET = 1.02± ACRES

**BASIS OF BEARING**

NORTH 88°05'53" EAST, BEING THE SOUTH LINE OF E. MICHIGAN AVE (M-36), AS DESCRIBED.

**BENCHMARK**

**SITE BENCHMARK #1**  
SQUARE ON NORTHEAST SIDE OF CONCRETE LIGHT POLE BASE 150' ± FROM NORTHEAST CORNER OF BLDG 9682 ELEVATION = 861.19' (NAVD 88)

**SITE BENCHMARK #2**  
SOUTHWEST CORNER OF RECTANGULAR CONCRETE PAD SOUTH OF SITE. ELEVATION = 860.07' (NAVD 88)

**FLOOD NOTE**

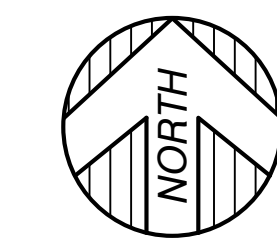
SUBJECT PARCEL LIES WITHIN:  
OTHER FLOOD AREA (ZONE X): AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD.  
OTHER AREA (ZONE X): AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN.  
AS SHOWN ON FLOOD INSURANCE RATE MAP: MAP NUMBER 26093C0454D, DATED 9/17/2008, PUBLISHED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.

**LEGEND**

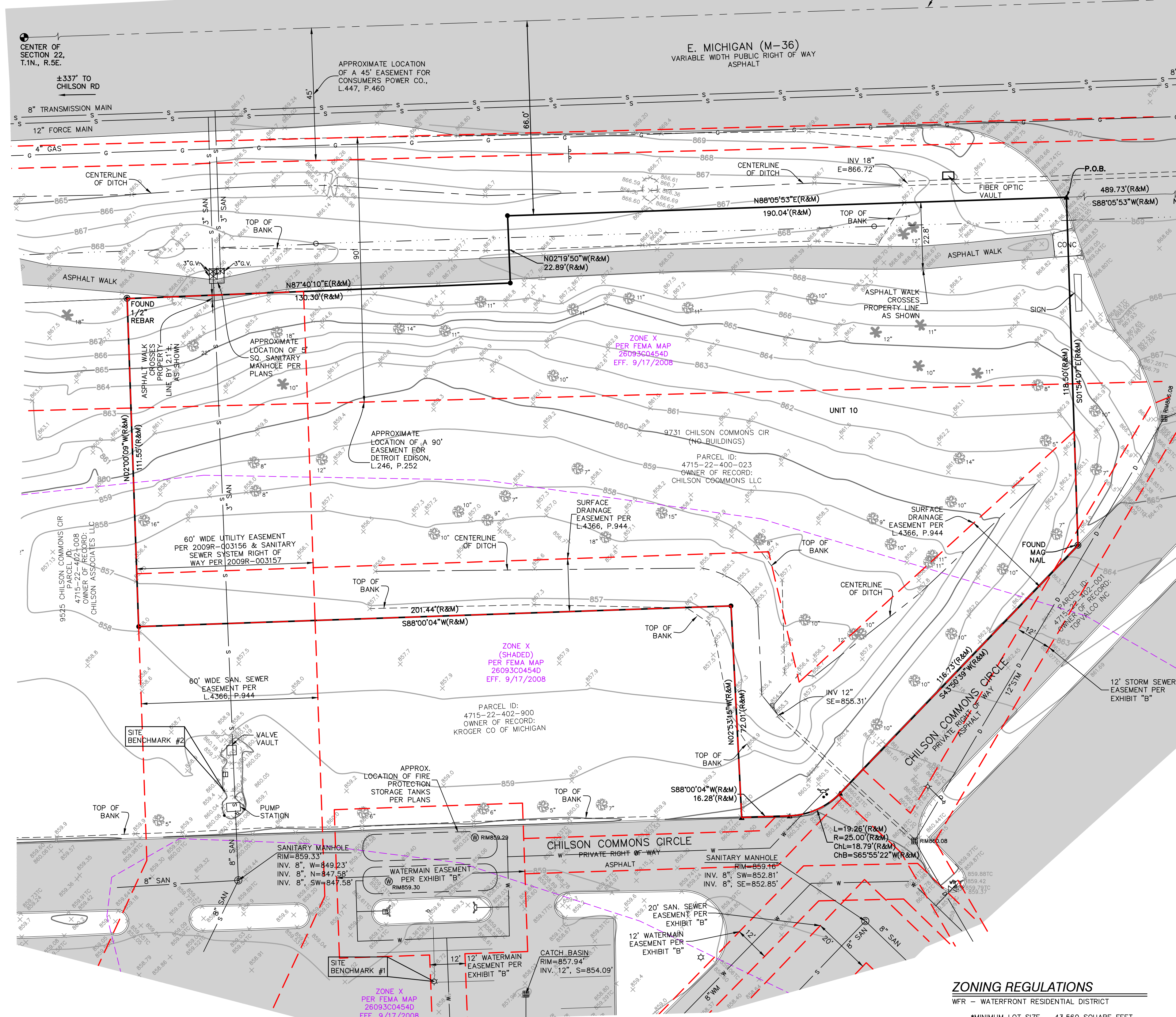
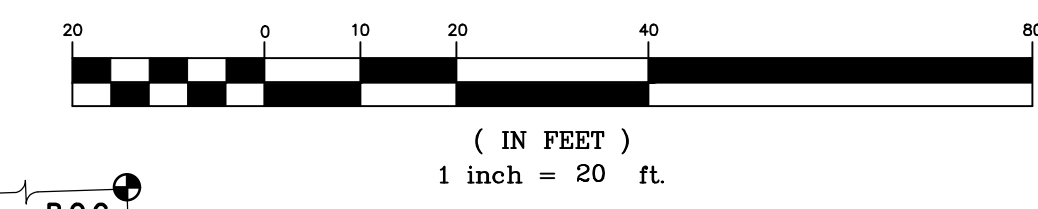
- SET 1/2" REBAR WITH CAP P.S. 47976
- ▲ SET MAG NAIL
- FOUND MONUMENT (AS NOTED)
- ⊙ FOUND SECTION CORNER (AS NOTED)
- (R&M) RECORD AND MEASURED DIMENSION
- (R) RECORD DIMENSION
- (M) MEASURED DIMENSION
- GROUND ELEVATION
- ELECTRIC PANEL
- UTILITY POLE
- VENT PIPE
- LIGHT POLE WITH STREET LAMP
- SANITARY MANHOLE
- ROUND CATCH BASIN
- SQUARE CATCH BASIN
- FIRE HYDRANT
- FIRE DEPARTMENT CONNECTION
- WATER GATE MANHOLE
- WATER VALVE
- UNKNOWN MANHOLE
- BOLLARD
- LIGHT POST/LAMP POST
- DOUBLE POST SIGN
- DECIDUOUS TREE (AS NOTED)
- CONIFEROUS TREE (AS NOTED)
- PARCEL BOUNDARY LINE
- PLATTED LOT LINE
- SECTION LINE
- EASEMENT (AS NOTED)
- CENTERLINE OF DITCH
- CONCRETE CURB
- RAISED CONCRETE
- PARKING
- EDGE OF CONCRETE (CONC.)
- EDGE OF ASPHALT (ASPH.)
- OVERHEAD UTILITY LINE
- GAS LINE
- SANITARY LINE
- UNDERGROUND PIPE (AS NOTED)
- MINOR CONTOUR LINE
- MAJOR CONTOUR LINE
- FLOOD LINE
- ASPHALT
- CONCRETE

**SURVEYOR'S NOTES**

1. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES OTHER THAN THE STRUCTURE INVENTORY SHOWN HEREON.
2. THERE IS NO OBSERVED EVIDENCE OF CURRENT EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS.
3. THE SURVEYOR IS UNAWARE OF ANY PROPOSED CHANGES IN STREET RIGHT OF WAY LINES. THERE IS NO OBSERVED EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS.
4. THERE ARE NO VISIBLE ENCROACHMENTS ON SAID DESCRIBED PROPERTY, EXCEPT AS SHOWN ON THE SURVEY.
5. THE BOUNDARY LINE DIMENSIONS FORM A MATHEMATICALLY CLOSED FIGURE WITH ±0.1 FT. THERE ARE NO GAPS AND/OR GORES WITHIN ANY PORTION OF THE SUBJECT PROPERTY.



GRAPHIC SCALE



**PROPERTY DESCRIPTION**

THE LAND SITUATED IN THE TOWNSHIP OF HAMBURG, COUNTY OF LIVINGSTON, STATE OF MICHIGAN, DESCRIBED AS: UNIT 10, CHILSON COMMONS SHOPPING CENTER, ACCORDING TO THE MASTER DEED RECORDED IN LIBER 4366, PAGE 944, AS AMENDED, FIRST AMENDMENT TO MASTER DEED RECORDED IN LIBER 4738, PAGE 533, SECOND AMENDMENT TO MASTER DEED RECORDED IN INSTRUMENT NO. 2011R-00063, THIRD AMENDMENT TO MASTER DEED RECORDED IN INSTRUMENT NO. 2022R-022074 AND FOURTH AMENDMENT TO MASTER DEED RECORDED IN INSTRUMENT NO. 2025R-004336, AND DESIGNATED AS LIVINGSTON COUNTY CONDOMINIUM SUBDIVISION PLAN NO. 303, TOGETHER WITH RIGHTS IN THE GENERAL COMMON ELEMENTS AND THE LIMITED COMMON ELEMENTS AS SHOWN ON THE MASTER DEED AND AS DESCRIBED IN ACT 59 OF THE PUBLIC ACTS OF 1978, AS AMENDED.

**TITLE REPORT NOTE**

- ONLY THOSE EXCEPTIONS CONTAINED WITHIN THE FIRST AMERICAN TITLE INSURANCE COMPANY COMMITMENT NO. 1040240, REVISION A, DATED DECEMBER 9, 2025, AND RELISTED BELOW WERE CONSIDERED FOR THIS SURVEY. NO OTHER RECORDS RESEARCH WAS PERFORMED BY THE CERTIFYING SURVEYOR.
8. POLE LINE PERMIT IN FAVOR OF THE DETROIT EDISON COMPANY AND THE COVENANTS, CONDITIONS AND RESTRICTIONS CONTAINED IN INSTRUMENT RECORDED IN LIBER 246, PAGE 252. (AS SHOWN)
  9. RIGHT OF WAY IN FAVOR OF THE CONSUMERS POWER COMPANY AND THE COVENANTS, CONDITIONS AND RESTRICTIONS CONTAINED IN INSTRUMENT RECORDED IN LIBER 447, PAGE 460. (AS SHOWN)
  10. TERMS AND CONDITIONS CONTAINED IN HARDSHIP PLANNED UNIT DEVELOPMENT AGREEMENT AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 4350, PAGE 643. (AFFECTS SUBJECT PROPERTY; NOT PLOTTABLE. SEE DOCUMENT FOR TERMS AND CONDITIONS)
  11. FIRST AMENDMENT TO HARDSHIP PLANNED UNIT DEVELOPMENT AGREEMENT RECORDED IN INSTRUMENT NO. 2011R-00092. (DOES NOT AFFECT SUBJECT PROPERTY)
  12. SECOND AMENDED AND FULLY RESTATED HARDSHIP PLANNED UNIT DEVELOPMENT AGREEMENT RECORDED IN INSTRUMENT NO. 2021R-01719. (DOES NOT AFFECT SUBJECT PROPERTY)
  13. FIRST AMENDMENT TO SECOND AMENDED AND FULLY RESTATED HARDSHIP PLANNED UNIT DEVELOPMENT AGREEMENT RECORDED IN INSTRUMENT NO. 2022R-022070. (DOES NOT AFFECT SUBJECT PROPERTY)
  14. SECOND AMENDMENT TO SECOND AMENDED AND FULLY RESTATED HARDSHIP PLANNED UNIT DEVELOPMENT AGREEMENT RECORDED IN INSTRUMENT NO. 2024R-018120. (DOES NOT AFFECT SUBJECT PROPERTY)
  15. THE RIGHTS OF CO-OWNERS AND THE ADMINISTERING BODY AS SET FORTH IN THE MASTER DEED AND ACT 59 OF THE PUBLIC ACTS OF 1978 AS AMENDED, THE RIGHTS OF CO-OWNERS AND THE ADMINISTERING BODY, EASEMENTS, RESTRICTIONS AND OTHER TERMS, COVENANTS AND CONDITIONS SET FORTH IN THE MASTER DEED AND EXHIBITS THERETO RECORDED IN LIBER 4366, PAGE 944, LIVINGSTON COUNTY RECORDS, AND ANY AMENDMENTS THERETO. (EASEMENTS ARE AS SHOWN; SEE DOCUMENT FOR TERMS AND CONDITIONS)
  16. FIRST AMENDMENT TO MASTER DEED RECORDED IN LIBER 4738, PAGE 533. (AFFECTS SUBJECT PROPERTY; NOT PLOTTABLE. SEE DOCUMENT FOR TERMS AND CONDITIONS)
  17. SECOND AMENDMENT TO MASTER DEED RECORDED IN INSTRUMENT NO. 2011R-00063. (DOES NOT AFFECT SUBJECT PROPERTY)
  18. THIRD AMENDMENT TO MASTER DEED RECORDED IN INSTRUMENT NO. 2022R-022074. (AFFECTS SUBJECT PROPERTY; NOT PLOTTABLE. SEE DOCUMENT FOR TERMS AND CONDITIONS)
  19. FOURTH AMENDMENT TO MASTER DEED RECORDED IN INSTRUMENT NO. 2025R-004336. (DOES NOT AFFECT SUBJECT PROPERTY)
  20. TERMS AND CONDITIONS CONTAINED IN AGREEMENT FOR SEWER CONNECTION AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 4570, PAGE 13. (AFFECTS SUBJECT PROPERTY; NOT PLOTTABLE. SEE DOCUMENT FOR TERMS AND CONDITIONS)
  21. TERMS AND CONDITIONS CONTAINED IN EASEMENT FOR GAS PIPELINE AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 4662, PAGE 582. (EXACT LOCATION OF 10' EASEMENT IS UNKNOWN)
  22. DETROIT EDISON UNDERGROUND RESIDENTIAL DISTRIBUTION EASEMENT (RIGHT OF WAY) IN FAVOR OF THE DETROIT EDISON COMPANY AND SBC COMMUNICATIONS, INC., FORMERLY AMERTECH, FORMERLY MICHIGAN BELL TELEPHONE COMPANY AND THE COVENANTS, CONDITIONS AND RESTRICTIONS CONTAINED IN INSTRUMENT RECORDED IN LIBER 4746, PAGE 876. (DRAWING NO. R491939-6 AS REFERENCED IN SUBJECT DOCUMENT IS ILLEGIBLE)
  23. UTILITY EASEMENT IN FAVOR OF THE TOWNSHIP OF HAMBURG AND THE COVENANTS, CONDITIONS AND RESTRICTIONS CONTAINED IN INSTRUMENT RECORDED IN INSTRUMENT NO. 2009R-003157. (AS SHOWN)
  24. TERMS AND CONDITIONS CONTAINED IN EASEMENT DEED BY COURT ORDER IN SETTLEMENT OF LANDOWNER ACTION AS DISCLOSED BY INSTRUMENT RECORDED IN INSTRUMENT NO. 2013R-008991. (UNKNOWN IF EASEMENT AFFECTS SUBJECT PROPERTY; EASEMENT APPEARS TO BE LOCATED IN THE RAILROAD SOUTH OF THE PROPERTY)
  25. AFFIDAVIT OF JOSEPH E. JONES RECORDED IN INSTRUMENT NO. 2013R-008992. (UNKNOWN IF EASEMENT AFFECTS SUBJECT PROPERTY; EASEMENT APPEARS TO BE LOCATED IN THE RAILROAD SOUTH OF THE PROPERTY)
  26. PARTIAL QUITCLAIM RELEASE RECORDED IN INSTRUMENT NO. 2015R-028186. (UNKNOWN IF EASEMENT AFFECTS SUBJECT PROPERTY; EASEMENT APPEARS TO BE LOCATED IN THE RAILROAD SOUTH OF THE PROPERTY)

**ZONING REGULATIONS**

- WFR - WATERFRONT RESIDENTIAL DISTRICT
- \*MINIMUM LOT SIZE - 43,560 SQUARE FEET
  - \*MINIMUM LOT WIDTH - 150 FEET
  - \*MAXIMUM LOT COVERAGE - 35/40%
  - \*REQUIRED MINIMUM SETBACK LINES - FRONT - 25 FEET, SIDE - 10 FEET, REAR - 30 FEET
  - \*MAXIMUM HEIGHT - 35 FEET/2.5 STORIES

NOTE: ALL ZONING INFORMATION IS TAKEN FROM THE TOWNSHIP OF HAMBURG WEBSITE. ALL ZONING INFORMATION MUST BE VERIFIED FOR COMPLETENESS WITH CURRENT ZONING REGULATIONS.

**SURVEYOR'S CERTIFICATION**

TO ERUP LLC, AN ILLINOIS LIMITED LIABILITY COMPANY; STONFIELD ENGINEERING AND DESIGN; AND FIRST AMERICAN TITLE INSURANCE COMPANY:  
THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 6A, 6B, 7A, 7B, 7C, 8, 9, 10, 11A, 13, 14, 16 AND 17 OF TABLE A, THEREOF. THE FIELD WORK WAS COMPLETED ON 10/30/25.  
DATE OF PLAT OR MAP: 11/19/25

ANTHONY T. SYCKO, JR., P.S.  
PROFESSIONAL SURVEYOR  
MICHIGAN LICENSE NO. 47976  
22556 GRATIOT AVE., EASTPOINT, MI 48021  
Tsycko@kemtec-survey.com

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**ALTA / NSPS LAND TITLE SURVEY**  
PREPARED FOR: STONFIELD ENGINEERING AND DESIGN  
9731 CHILSON COMMONS CIRCLE, HAMBURG TWP., MICHIGAN,  
PART OF SECTION 22,  
TOWN 1 NORTH, RANGE 5 EAST

NO.	DATE	REVISION	DESCRIPTION
1	11/19/25		RECEIVED TITLE WORK
2	01/08/26		ADD UTILITY EASEMENT
1	12/23/25		DATE
1	12/23/25		BY

**811** Know what's below.  
811 before you dig.