

# IMPROVEMENT PLANS

# TACO BELL

18880 TELEGRAPH RD  
BROWNSTOWN, MI 48174  
MARCH 01, 2022

### LEGAL DESCRIPTION

THE LAND SITUATED IN THE TOWNSHIP OF BROWNSTOWN, COUNTY OF WAYNE IN THE STATE OF MICHIGAN AND DESCRIBED AS FOLLOWS:

A PART OF THE SOUTHEAST 1/4 OF SECTION 5, TOWN 4 SOUTH, RANGE 10 EAST, BROWNSTOWN TOWNSHIP, WAYNE COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS COMMENCING AT THE SOUTHEAST CORNER OF SAID SECTION 5; THENCE NORTH 00 DEGREES 41 MINUTES 10 SECONDS EAST 435.65 FEET ALONG THE EAST LINE OF SAID SECTION 5 ALSO BEING THE CENTERLINE OF TELEGRAPH ROAD; THENCE NORTH 89 DEGREES 45 MINUTES 24 SECONDS WEST 100.00 FEET TO A POINT ON THE WESTERLY RIGHT OF WAY LINE OF TELEGRAPH ROAD; THENCE NORTH 00 DEGREES 41 MINUTES 10 SECONDS EAST 85.00 FEET ALONG SAID WESTERLY RIGHT OF WAY LINE TO THE POINT OF BEGINNING; THENCE NORTH 89 DEGREES 45 MINUTES 24 SECONDS WEST 140.21 FEET; THENCE ALONG A CURVE TO THE LEFT 91.00 FEET, SAID CURVE HAVING A RADIUS OF 795.82 FEET, A CENTRAL ANGLE OF 06 DEGREES 33 MINUTES 06 SECONDS AND A LONG CHORD BEARING OF SOUTH 86 DEGREES 58 MINUTES 30 SECONDS WEST 90.95 FEET; THENCE ALONG A CURVE TO THE RIGHT 339.22 FEET, SAID CURVE HAVING A RADIUS OF 740.82 FEET, A CENTRAL ANGLE OF 03 DEGREES 02 MINUTES 00 SECONDS AND A LONG CHORD BEARING OF SOUTH 85 DEGREES 12 MINUTES 30 SECONDS WEST 39.22 FEET; THENCE NORTH 00 DEGREES 41 MINUTES 10 SECONDS EAST 158.48 FEET; THENCE SOUTH 89 DEGREES 18 MINUTES 50 SECONDS EAST 270.00 FEET TO A POINT ON SAID WESTERLY RIGHT OF WAY LINE; THENCE SOUTH 00 DEGREES 41 MINUTES 10 SECONDS WEST 147.75 FEET ALONG SAID WESTERLY RIGHT OF WAY LINE TO THE POINT OF BEGINNING.

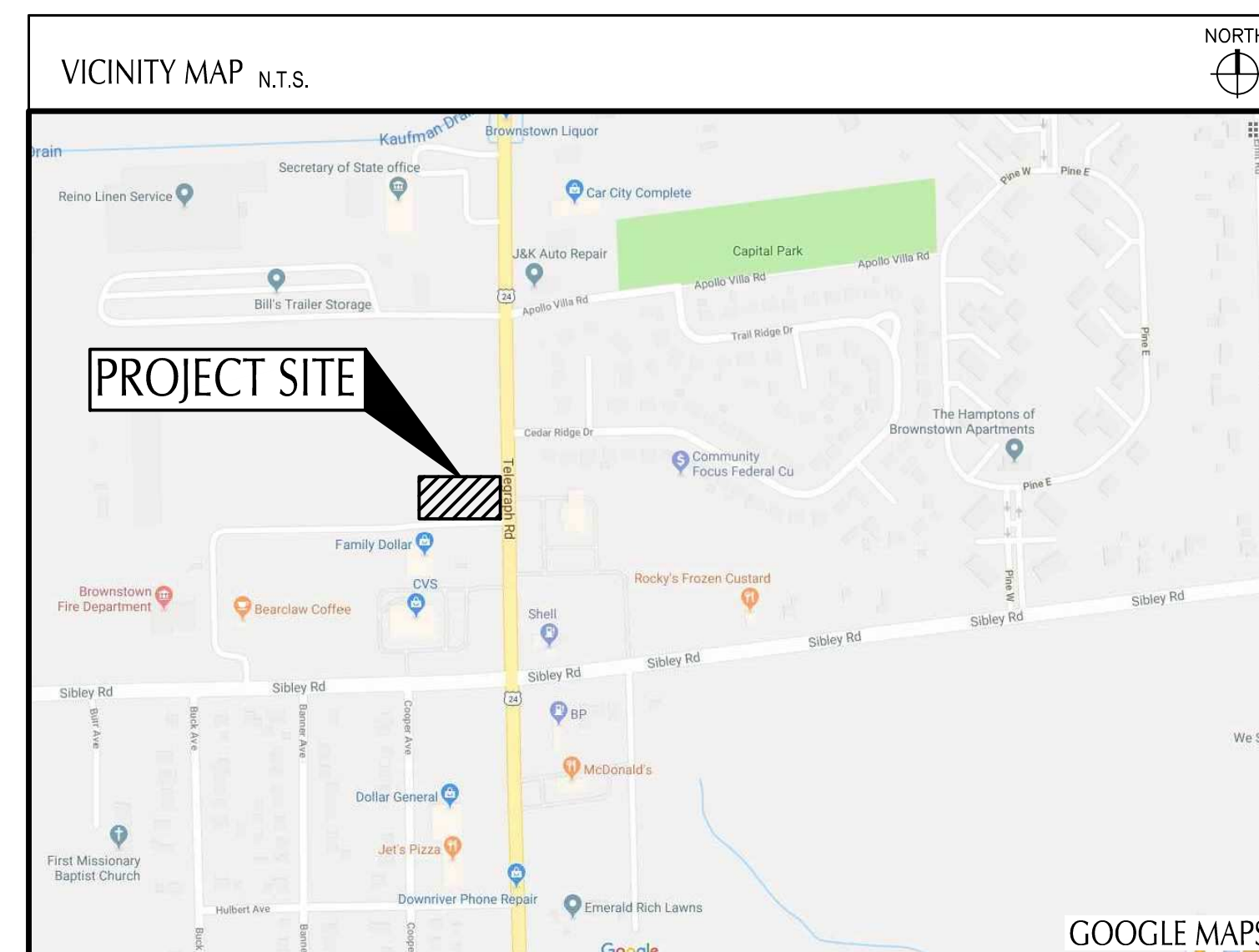
### PROJECT DESCRIPTION


THE SITE WAS HOME TO VACANT GRASS LOT.  
PROPOSED IMPROVEMENTS INCLUDE A NEW TACO BELL SITE ALONG WITH PARKING AREAS, SIDEWALKS, UTILITIES, AND AMENITY IMPROVEMENTS.

### MICHIGAN SPECIFICATION

THE STANDARD SPECIFICATIONS OF THE STATE OF MICHIGAN, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

**PLAN REPRODUCTION WARNING**  
THE PLANS HAVE BEEN PREPARED FOR PRINTING ON ANSI D (22"x34") SHEETS. PRINTING ON OTHER SIZE SHEETS MAY DISTORT SCALES. REFER TO GRAPHIC SCALES.



**REQUIRED PERMITS**   
PRIOR TO THE START OF CONSTRUCTION THE FOLLOWING PERMITS SHALL BE APPROVED AND IN HAND

- EGLE PART 399 WATER SYSTEMS PERMIT
- MDOT RIGHT-OF-WAY PERMIT



Project: Taco Bell  
Location: Brownstown (Redwood), MI  
Date: March 1st, 2022



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Item of Work	QUANTITY	UNITS	UNIT PRICE	TOTAL COST
6" SDR 35 Sanitary Sewer	273	LF	\$50.00	\$13,650.00
6" Sanitary Sewer connection into existing manhole	1	LS	\$800.00	\$800.00
Sanitary Clean Out	4	EA	\$225.00	\$900.00
Two-way Sanitary Clean Out	2	EA	\$450.00	\$900.00
1,000 Gallon Grease Interceptor	1	EA	\$8,000.00	\$8,000.00
3" PVC sewer vent pipe from grease interceptor	24	LF	\$30.00	\$720.00
1.5" Copper Type K Water Service Lateral	121	LF	\$15.00	\$1,815.00
8" Class 54 Ductile Iron Water Main	63	LF	\$65.00	\$4,095.00
8X2 Reducer	1	EA	\$600.00	\$600.00
45° Elbow	2	EA	\$300.00	\$600.00
90° Elbow	2	EA	\$805.00	\$1,610.00
Hydrant Assembly	1	EA	\$4,000.00	\$4,000.00
Shut off valve and box	1	EA	\$1,200.00	\$1,200.00
6" PVC Storm Sewer	120	LF	\$30.00	\$3,600.00
12" RCP Storm Sewer	472	LF	\$30.00	\$14,160.00
18" RCP Storm Sewer	3	LF	\$47.00	\$141.00
Storm Clean Out	1	EA	\$225.00	\$225.00
Standard Storm Manhole (Storm)	1	EA	\$2,500.00	\$2,500.00

6" - MDOT 21AA Aggregate Base	815	SY	\$11.70	\$9,535.50
8" - MDOT 21AA Aggregate Base	1,080	SY	\$15.35	\$16,578.00
3.5" Asphalt Pavement	780	SY	\$20.50	\$15,990.00
5" Asphalt Pavement	1,515	SY	\$25.65	\$38,859.75
6" Concrete Pavement	555	SY	\$33.00	\$18,315.00
8" Concrete Pavement	260	SY	\$44.00	\$11,440.00
<b>Total Cost</b>				<b>\$210,342.00</b>

The list of quantities and costs above shall not be used by the contractor for bidding purposes, the table above is intended for Brownstown Township to estimate Bond and inspection fees. In providing estimates of probable construction cost, the Client understands that the Consultant has no control over the cost or availability of labor, equipment or materials, or over market conditions or the Contractor's method of pricing, and that the Consultant's estimates of probable construction cost are made on the basis of the Consultant's professional judgment and experience. The Consultant makes no warranty, express or implied, that the bids or the negotiated cost of the Work will not vary from the Consultant's estimate of probable construction cost. Please note that the pricing, contingencies and opinion contained or referenced herein anticipates a standard economic environment, and does not account for any uncertainty related to COVID-19 or the current extreme market conditions. As such, Client and Consultant recognize the current market volatility due to such factors including but not limited to COVID-19 restrictions, material and equipment shortages, and rapid price fluctuations. The existence and contents of this document shall not be construed to create responsibility or liability of Client or Consultant for changes related to this estimate of probable cost.

### GPD GROUP ENGINEER

GPD GROUP PROFESSIONAL CORPORATION  
520 SOUTH MAIN STREET, SUITE 2531  
AKRON, OH 44311  
CONTACT: JIM NEIDLINGER  
PHONE 678.781.5070

### OWNER AND DEVELOPER

SAM YALDO  
TEL - SIB, LLC  
3100 NORTHWESTERN HWY, SUITE 110  
FARMINGTON HILLS, MI 48334

CITY AND COUNTY COMMENTS
TOWNSHIP/MDOT COMMENTS
01.20.22 ISSUED FOR BID
03.11.22 ISSUED FOR CONSTRUCTION

CONTRACT DATE: 01/01/19  
BUILDING TYPE: ENDEAVOR 2.0  
PLAN VERSION: MARCH 2022  
BRAND DESIGNER: DAN DICKSON  
SITE NUMBER: 315089  
STORE NUMBER: 40164

TACO BELL  
18708 TELEGRAPH RD  
BROWNSTOWN, MI 48183



### TITLE SHEET

# T-001



**DEMOLITION NOTES**

- 1. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS PRIOR TO ANY DEMOLITION PROCESS...
2. DEMOLITION INCLUDES THE FOLLOWING:
2.A. TRANSFER BENCHMARK CONTROL TO NEW LOCATIONS OUTSIDE THE DISTURBED AREA...
2.B. DEMOLITION AND REMOVAL OF SITE IMPROVEMENTS NECESSARY FOR THE PROPOSED CONSTRUCTION OF NEW IMPROVEMENTS.
2.C. REROUTING, RELOCATING, DISCONNECTING, CAPPING OR SEALING, AND ABANDONING/REMOVING SITE UTILITIES IN PLACE...
3. REMOVE AND LEGALLY DISPOSE OF ITEMS CALLED OUT TO BE REMOVED...
4. PROTECT ITEMS INDICATED TO REMAIN AGAINST DAMAGE AND SOILING THROUGHOUT CONSTRUCTION...
5. CONTRACTOR SHALL SCHEDULE DEMOLITION ACTIVITIES WITH THE CONSTRUCTION/PROJECT MANAGER INCLUDING THE FOLLOWING:
5.A. DETAILED SEQUENCE OF DEMOLITION AND REMOVAL WORK...
5.B. DATES FOR SHUTOFF, CAPPING, AND CONTINUATION OF UTILITY SERVICES.
5.C. IDENTIFY AND ACCURATELY LOCATE UTILITIES AND OTHER SUBSURFACE STRUCTURAL, ELECTRICAL, OR MECHANICAL CONDITIONS.
6. REGULATORY REQUIREMENTS: COMPLY WITH GOVERNING EPA NOTIFICATION REGULATIONS BEFORE STARTING DEMOLITION...
7. MAINTAIN EXISTING UTILITIES INDICATED TO REMAIN IN SERVICE AND PROTECT THEM AGAINST DAMAGE...
7.A. DO NOT INTERRUPT EXISTING UTILITIES SERVING OCCUPIED OR OPERATING FACILITIES...
8. LOCATE, IDENTIFY, DISCONNECT, AND SEAL OR CAP OFF INDICATED UTILITY SERVICES SERVING THE SITE...
9. CONDUCT DEMOLITION OPERATIONS TO PREVENT INJURY TO PEOPLE AND DAMAGE TO ADJACENT BUILDINGS AND FACILITIES TO REMAIN...
10. CLEAN ADJACENT BUILDINGS AND IMPROVEMENT OF DUST, DIRT, AND DEBRIS CAUSED BY DEMOLITION OPERATIONS...
11. PROMPTLY DISPOSE OF DEMOLISHED MATERIALS. DO NOT ALLOW DEMOLISHED MATERIALS TO ACCUMULATE ON-SITE...
12. IT IS NOT EXPECTED THAT ASBESTOS WILL BE ENCOUNTERED IN THE COURSE OF THIS CONTRACT...
13. SURVEY THE CONDITION OF THE STRUCTURE TO DETERMINE WHETHER REMOVING ANY ELEMENT MIGHT RESULT IN A STRUCTURAL DEFICIENCY OR UNPLANNED COLLAPSE...
14. DEMOLISH BUILDING AND STRUCTURAL PADS COMPLETELY AND REMOVE FROM THE SITE...
14.A. DISPOSE OF DEMOLISHED ITEMS AND MATERIALS PROMPTLY.
14.B. DEMOLISH CONCRETE AND MASONRY IN SMALL SECTIONS.
14.C. BREAK UP AND REMOVE CONCRETE SLABS ON GRADE.
15. BELOW-GRADE DEMOLITION: DEMOLISH FOUNDATION WALLS, PAVEMENTS, AND OTHER BELOW-GRADE DEMOLITION, AS FOLLOWS:
15.A. COMPLETELY REMOVE BELOW-GRADE DEMOLITION, INCLUDING FOUNDATION WALLS FOOTINGS, KNOWN AND UNKNOWN PAVEMENT SECTIONS INCLUDING UNDERLYING CONCRETE SLABS...
16. FILLING BELOW-GRADE AREAS: COMPLETELY FILL BELOW-GRADE AREAS AND VOIDS RESULTING FROM DEMOLITION OF BUILDINGS, PAVEMENTS, AND OTHER REMOVED ITEMS WITH SOIL MATERIALS...
17. CONDUCT DEMOLITION OPERATIONS AND REMOVE DEBRIS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS, AND OTHER ADJACENT OCCUPIED AND USED FACILITIES...
18. CONTRACTOR TO WET SAWCUT EXISTING PAVEMENT TO REMAIN AT NEXT NEAREST JOINT PRIOR TO REMOVALS OF CURB, GUTTER, PAVEMENT, ETC.
19. THE CONTRACTOR SHALL REMOVE EXISTING PAVEMENT MARKINGS WITH SMALL HANDHELD GRINDERS OR SCARIFIERS OR OTHER METHODS...
20. WHEN NOTED AND ALLOWED BY THE OWNER, THE CONTRACTOR MAY RE-USE EXISTING WHEELSTOPS FOR THE PROPOSED SITE...
21. IF UNDERGROUND TANKAGE IS CALLED FOR DEMOLITION, THE CONTRACTOR SHALL COORDINATE REMOVAL AND REPLACEMENT WITH THE STATE BUREAU OF UNDERGROUND STORAGE TANK REGULATIONS...
22. CONTRACTOR SHALL FULLY SECURE WORK AREA WITH THE APPROPRIATE SIGNAGE, FENCING, AND BARRICADES WHICH ACCOMMODATE VISUALLY IMPAIRED PERSONS AS AGREED UPON WITH THE SITE CONSTRUCTION/PROJECT MANAGER AND OWNER...

**GENERAL PLAN AND SURVEY NOTES**

- 1. PRIOR TO STARTING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED...
2. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE SECTION OF THESE NOTES ENTITLED "GRADING PLAN NOTES" FOR DEFINITIONS AS MAY BE NECESSARY FOR "GEOTECHNICAL ENGINEER" AND "SOILS REPORT".
3. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS AND THE REQUIREMENTS AND STANDARDS OF THE LOCAL GOVERNING AUTHORITY...
4. THE CONTRACTOR SHALL, UPON BECOMING AWARE OF SUBSURFACE OR LATENT PHYSICAL CONDITIONS DIFFERING FROM THOSE DISCLOSED BY THE ORIGINAL SOIL EXPLORATION WORK...
5. ALL WORK WITHIN THE RIGHTS OF WAY SHALL BE IN ACCORDANCE WITH THE GOVERNING JURISDICTION AND SPECIFICATIONS.
6. CONTRACTOR SHALL COORDINATE ANY MAINTENANCE OF TRAFFIC WITH THE OWNER'S REPRESENTATIVE AND THE LOCAL JURISDICTION PRIOR TO CONSTRUCTION.
7. CONTRACTOR SHALL AT ALL TIMES ENSURE THAT SWPP MEASURES PROTECTING EXISTING DRAINAGE FACILITIES BE IN PLACE PRIOR TO THE COMMENCEMENT OF ANY PHASE OF THE SITE CONSTRUCTION OR LAND ALTERATION...
8. UPON COMPLETION OF PROJECT, CONTRACTOR SHALL CLEAN THE PAVED AREAS PRIOR TO REMOVAL OF TEMPORARY SEDIMENT CONTROLS...
9. THESE PROJECT CONSTRUCTION DOCUMENTS SHALL NOT CONSTITUTE A CONTRACTUAL RELATIONSHIP BETWEEN THE ENGINEER AND THE CONTRACTOR OR THE ENGINEER AND THE SUBCONTRACTOR.
10. THE ENGINEER WILL NOT BE RESPONSIBLE FOR CONSTRUCTION OR SAFETY, MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES UTILIZED IN CONSTRUCTION BY THE CONTRACTOR OR SUBCONTRACTORS.
11. DETAILS, NOTES, AND OTHER REFERENCES CONTAIN HEREIN MAY HAVE BEEN ATTAINED FROM OUTSIDE REFERENCE SOURCE LOCATIONS SUCH AS, BUT NOT LIMITED TO, LOCAL AUTHORITY AGENCIES, DESIGN REFERENCE MANUALS, MANUFACTURER'S RECOMMENDED DOCUMENTATION, OR OTHER INDUSTRY SOURCES...
12. CONDUCT CONSTRUCTION OPERATIONS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS, AND OTHER ADJACENT OCCUPIED AND USED FACILITIES...
13. THE A.L.T.A. SURVEY BY KEM-TEC, DATED 10/04/19 SHALL BE CONSIDERED A PART OF THESE PLANS...
14. THE LOCATIONS OF UNDERGROUND FACILITIES SHOWN ON THE PLAN ARE BASED ON FIELD SURVEYS, SITE RECORDS, ETC. IT SHALL BE THE CONTRACTOR'S FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES TO LOCATE THEIR FACILITIES PRIOR TO STARTING CONSTRUCTION...
15. ALL DIMENSIONS, GRADES, AND UTILITY LOCATIONS SHOWN ON THESE PLANS WERE BASED ON THE SURVEY...
16. IN SOME CASES, THE DEVELOPER OR OWNER MAY HAVE PROVIDED THEIR OVERALL DEVELOPMENT PLANS FOR THE PROJECT DESIGN RATHER THAN A FIELD SURVEY...
17. THE CONTRACTOR SHALL RUN AN INDEPENDENT VERTICAL CONTROL TRAVERSE TO CHECK BENCHMARKS AND A HORIZONTAL CONTROL TRAVERSE THROUGH THE REFERENCED PROJECT CONTROL DATUM TO CONFIRM GEOMETRIC DATA...
18. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT STANDARDS, SPECIFICATIONS, AND GENERAL CONDITIONS OF THE CHARTER TOWNSHIP OF BROWNSTOWN.

**CONCRETE NOTES AND SPECIFICATIONS**

- 1. ALL EXTERIOR SITE SPECIFIC PORTLAND CEMENT CONCRETE (PCC) (I.E. SIDEWALK, PAVEMENT OR CURBING) SHALL MEET THE MINIMUM REQUIREMENTS OF THE LATEST EDITIONS OF THE STATE DEPARTMENT OF TRANSPORTATION (DOT) AND THE AMERICAN CONCRETE INSTITUTE (ACI) SPECIFICATIONS...
2. ALL EXTERIOR CONCRETE CURBS SHALL HAVE JOINTS PER ACI 330...
3. ALL JOINTS, INCLUDING SAWED JOINTS, SHALL BE SEALED...
4. ALL CONCRETE PANELS SHALL BE SQUARE WITH A LENGTH TO WIDTH RATIO NO GREATER THAN 1.25 TO 1...
5. ALL JOINTING (IF) SHOWN HEREIN IS ONLY A GENERAL GUIDELINE OF DESIGN INTENT...
6. DESIGN INTENT CONCRETE AND SHALL CONFORM TO THE FOLLOWING MINIMUM AND MAXIMUM VALUES:
a. STRENGTH PER MIX DESIGN, MINIMUM 4000 PSI
b. PORTLAND CEMENT CONTENT 550 LB / CY (ASTM C150 TYPE III)
c. POZZOLAN MATERIALS SILICA FUME MAY REPLACE MAX. 7% CEMENT FLY ASH OR SLAG CEMENT MAY REPLACE MAX. 20% CEMENT
d. MAX W/C RATIO PER MIX DESIGN, MAXIMUM 0.45
e. ENTRAINED AIR 6.5% AVG ± 1.5% (7.0% TARGET) ASTM C260
f. SLUMP 4" MAX WITHOUT WATER REDUCER
g. SLUMP WITH HRWR OR MID RANGE WR 6" TO 8"
h. WATER REDUCER NORMAL TYPE A (ASTM C494)
i. RETARDER NORMAL TYPE B OR D AS NEEDED (REQUIRED IF CONCRETE TEMPERATURE EXCEEDS 85F)
j. CONCRETE TEMPERATURE AT PLACEMENT 50F-90F
k. ACCELERATOR NON-CHLORIDE TYPE ONLY - CALCIUM CHLORIDE IS PROHIBITED
l. FIBERS TO BE USED FOR SHRINKAGE CRACK CONTROL - (CURBS, WALKS, STEPS, RAMPS) POLYPROPYLENE OR POLYETHYLENE MICRO SYNTHETIC FIBERS @ 1.5 LBS / CY (FIBERMESH 300 OR APPROVED EQUAL)
- FOR USE AS W.W.F. REPLACEMENT MACRO SYNTHETIC FIBERS @ 4 LBS / CY (TUF-STRAND SF OR APPROVED EQUAL)
7. ALL SYNTHETIC FIBERS SHALL BE TYPE II PER ASTM C1116 AND ASTM D7508...
8. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615, ASTM A1064, ASTM A307, AND ASTM A775...
9. CONCRETE SHALL ARRIVE AT JOB SITE WITH APPROPRIATE W/C RATIO...
10. CONTRACTOR SHALL HAVE A MIN. 5 YEARS EXPERIENCE WITH SUCCESSFUL PLACEMENT OF CONCRETE UTILIZING POZZOLAN MATERIALS...
11. AGGREGATES SHALL BE LOW-SHRINKAGE / WELL GRADED PER ASTM C33 AND THE LOCAL DOT SPECIFICATIONS...
12. LIQUID MEMBRANE FORMING CURING COMPOUNDS SHALL BE PER ASTM C1315...
13. CONCRETE SEALER SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS...
14. REFER TO ACI INDUSTRY STANDARDS FOR CONCRETE PLACEMENT AND INSTALLATION...

Table with 2 columns: SLAB THICKNESS - "T" and MAXIMUM JOINT SPACING. Rows include: LESS THAN 4 INCHES (8 FEET), 4 < 5 INCHES (10 FEET), 5 < 6 INCHES (12.5 FEET), 6 INCHES < 8 INCHES (15 FEET), 8 INCHES - 10 INCHES (15 FEET).

**GRADING PLAN NOTES**

- 1. A SOILS REPORT HAS BEEN PREPARED BY PSI, DATED NOVEMBER 15, 2019 AND SHALL BE CONSIDERED TO BE A PART OF THIS PLAN SET.
2. BEFORE STARTING GRADING OPERATIONS, SEE STORMWATER POLLUTION PREVENTION PLAN, NOTES AND DETAILS (SWPP), LANDSCAPE PLAN AND SOILS REPORT...
3. PRIOR TO SITE CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL INSTALL ALL SWPP MEASURES TO PROTECT EXISTING DRAINAGE FACILITIES...
4. STRIP BUILDING AND PAVEMENT AREAS OF ALL ORGANIC TOPSOILS...
5. OBTAIN APPROVED BORROW SOIL MATERIALS OFF-SITE WHEN SUFFICIENT SATISFACTORY SOIL MATERIALS ARE NOT AVAILABLE ON-SITE.
6. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS...
7. AT A MINIMUM ALL EXCAVATED OR FILLED AREAS SHALL BE COMPACTED TO 95% OF STANDARD PROCTOR MAXIMUM DRY DENSITY...
8. FOLLOWING GRADING OF SUBSOIL TO SUBGRADE ELEVATIONS THE CONTRACTOR SHALL PLACE TOPSOIL TO A 6" DEPTH...
9. ELEVATIONS GIVEN ARE AT BOTTOM FACE OF CURB AND/OR FINISHED PAVEMENT GRADE...
10. SLOPE BUILDING SIDEWALK AWAY FROM THE BUILDING AT A MAXIMUM OF 1.5%...
11. WHEN CONSTRUCTING ASPHALTIC CONCRETE PAVEMENTS, CONTRACTOR SHALL PROVIDE BUTT END JOINT TO MEET EXISTING PAVEMENT IN ELEVATION...
12. CONTRACTOR SHALL COMPACT AND PROOFROLL EXISTING SUBGRADE PER RECOMMENDATIONS SET FORTH IN THE SOILS REPORT.
GENERAL UTILITY NOTES
1. CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES IMMEDIATELY AFTER BID IS AWARDED...
2. CONTRACTOR SHALL VERIFY THE SIZE, LOCATION, INVERT ELEVATION, AND CONDITION OF EXISTING UTILITIES...
3. WHERE PLANS PROVIDE FOR PROPOSED WORK TO BE CONNECTED TO, OR CROSS OVER AN EXISTING SEWER OR UNDERGROUND UTILITY...
4. UTILITY SERVICE PROVIDERS RULES AND REQUIREMENTS TAKE PRECEDENCE OVER INFORMATION HEREIN...
STORM SEWER NOTES
1. ALL STORM SEWER PIPE 12" OR GREATER IN DIAMETER SHALL BE CORRUGATED HIGH DENSITY POLYETHYLENE (HDPE) SMOOTH INTERIOR PIPE...
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRENCHING, BACKFILLING AND PIPE INSTALLATION...
3. ALL DRAINAGE STRUCTURES AT PAVEMENT SUMPS SHALL HAVE FINGER DRAINS PER DETAILS IN PLANS.
4. THE DEVELOPER IS RESPONSIBLE FOR RESOLVING ANY DRAINAGE PROBLEMS ON ADJACENT PROPERTIES...
SANITARY SEWER NOTES
1. SANITARY SEWER LATERAL INVERT AT BUILDING SHALL BE A MINIMUM OF 5' BELOW FINISH FLOOR.
2. CLEAN-OUTS TO BE INSTALLED AT ALL PIPE BENDS AND ANGLES...
3. THE CONTRACTOR SHALL HIRE A LOCAL PLUMBER LICENSED WITH THE LOCAL SANITARY JURISDICTION...
4. ALL SANITARY PIPE MATERIAL SHALL BE 6" PVC, SDR 35 CONFORMING TO ASTM D 3034...

**WATER NOTES**

- 1. WATER SERVICE MATERIALS SHALL BE COPPER TYPE "K" UNLESS OTHERWISE NOTED ON PLANS...
2. WATER MAIN MATERIAL SHALL CONFORM WITH CITY REQUIREMENTS.
3. CONSTRUCTION AND MATERIALS PROVIDED BY THE WATER COMPANY:
a. TAP MAIN
b. COORDINATE ALL WORK WITH WILLIAM TURNER WITH CHARTER TOWNSHIP OF BROWNSTOWN @ 734.675.4000.
4. CONSTRUCTION AND MATERIALS PROVIDED BY THE CONTRACTOR:
a. FURNISH AND INSTALL COPPER SERVICE LINE FROM METER TO BUILDING.
b. ALL TRENCHING AND BACKFILLING.
c. FURNISH AND INSTALL PVC WATER MAIN
d. FURNISH AND INSTALL FIRE HYDRANT
e. ALL COORDINATION REQUIRED WITH THE CHARTER TOWNSHIP OF BROWNSTOWN.
ELECTRICAL NOTES
1. SEE ELECTRICAL DRAWINGS FOR SITE LIGHTING AND LUMINAIRE DESCRIPTION.
2. SEE ELECTRICAL SHEETS FOR ALL DEDICATED EXTERIOR BUILDING AND SIGN LIGHTING SCHEDULES...
3. CONSTRUCTION AND MATERIALS PROVIDED BY THE ELECTRIC COMPANY:
a. FURNISH AND INSTALL PRIMARY WIRING.
b. FURNISH AND INSTALL PAD MOUNTED TRANSFORMER.
c. MAKE APPROPRIATE PRIMARY AND SECONDARY CONNECTIONS AT TRANSFORMER.
d. FURNISH AND INSTALL METER.
e. RUN CONDUIT UP POLE.
f. COORDINATE ALL WORK WITH JACQUELINE YOUNG AND BRENDA THURMAN-BRADFORD WITH DTE ENERGY @ 313.235.8314.
5. CONSTRUCTION AND MATERIALS PROVIDED BY THE CONTRACTOR:
a. FURNISH AND INSTALL PRIMARY WIRING DUCTS...
b. FURNISH AND INSTALL PAD FOR TRANSFORMER.
c. FURNISH AND INSTALL 4" PVC SCHEDULE 40 DUCTS...
d. FURNISH AND INSTALL SECONDARY WIRE FROM THE BUILDING TO THE TRANSFORMER.
e. FURNISH AND INSTALL METER BASE AND CT CABINET.
f. INCLUDE ALL FEES REQUIRED BY ELECTRIC COMPANY TO PROVIDE A COMPLETE WORKING SERVICE.
TELEPHONE NOTES
1. CONSTRUCTION AND MATERIALS PROVIDED BY THE TELEPHONE COMPANY:
a. COORDINATE ALL WORK WITH BRIAN GRIFFIN WITH AT&T @ 316.240.5486.
b. PROVIDE AND INSTALL WIRING TO EXISTING SERVICE.
2. CONSTRUCTION AND MATERIALS PROVIDED BY THE CONTRACTOR:
a. FURNISH AND INSTALL DUCTS FROM THE BUILDING TO EXISTING SERVICE.
b. ALL TRENCHING AND BACKFILLING.
c. INCLUDE ALL FEES REQUIRED BY TELEPHONE COMPANY TO PROVIDE A COMPLETE WORKING SERVICE.
3. CONTRACTOR SHALL COORDINATE THE NUMBER OF LINES REQUIRED WITH THE CONSTRUCTION/ PROJECT MANAGER.
NATURAL GAS NOTES
1. CONSTRUCTION AND MATERIALS PROVIDED BY THE GAS COMPANY:
a. TAP MAIN, GAS CONNECTION WORK DONE BY GAS COMPANY.
b. FURNISH AND INSTALL SERVICE FROM TAP TO BUILDING.
c. ALL TRENCHING AND BACKFILLING.
d. FURNISH AND INSTALL METER.
e. COORDINATE ALL WORK WITH SAMANTHA COOK WITH DTE ENERGY @ 313.570.4133.
2. CONSTRUCTION AND MATERIALS PROVIDED BY THE CONTRACTOR:
a. FURNISH AND INSTALL SERVICE FROM METER TO BUILDING AND THROUGHOUT THE BUILDING.
b. CONTRACTOR SHALL INCLUDE ALL FEES REQUIRED BY THE GAS COMPANY TO PROVIDE A COMPLETE WORKING SERVICE.
GENERAL LEGEND
EXISTING PROPOSED
P/L EXISTING PROPERTY LINE
RW EXISTING RIGHT OF WAY LINE
CL EXISTING CENTER LINE
OH EXISTING OVERHEAD UTILITY LINES
GAS EXISTING UNDERGROUND GAS LINES
ST EXISTING UNDERGROUND STORM LINES
SAN EXISTING UNDERGROUND SANITARY LINES
W EXISTING UNDERGROUND WATER LINES
E EXISTING UNDERGROUND ELECTRIC LINES
T EXISTING UNDERGROUND TELEPHONE LINES
===== EXISTING CURB
- - - - -000- - - - - EXISTING CONTOUR
BM# BENCHMARK LOCATION
PROPOSED CATCH BASIN
PROPOSED STORM MANHOLE
PROPOSED CLEAN OUT
PROPOSED EXTERIOR GREASE INTERCEPTOR
PROPOSED ELECTRIC TRANSFORMER
PROPOSED LIGHT POLE
PROPOSED CURB
PROPOSED TRAFFIC SIGN
PROPOSED PAINTED ADA SYMBOL
PROPOSED DIRECTIONAL PAVEMENT MARKINGS
PROPOSED TRANSVERSE STRIPING
PROPOSED CROSSWALK STRIPING
PROPOSED CONCRETE
PROPOSED STANDARD DUTY ASPHALT
PROPOSED HEAVY DUTY ASPHALT

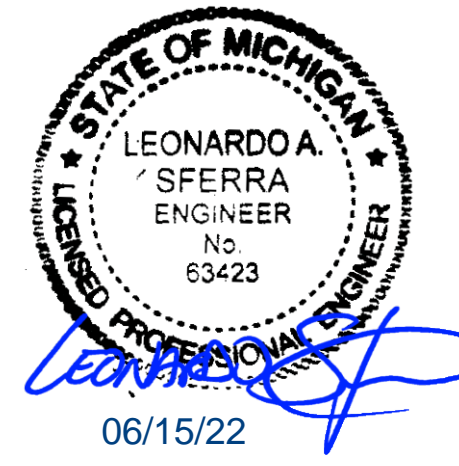


Table with 2 columns: Comment icon and text. Includes: CITY AND COUNTY COMMENTS, TOWNSHIP/MDOT COMMENTS, 01.20.22 ISSUED FOR BID, 03.11.22 ISSUED FOR CONSTRUCTION

Table with 2 columns: Field and Value. Includes: CONTRACT DATE: 01/01/19, BUILDING TYPE: ENDEAVOR 2.0, PLAN VERSION: MARCH 2022, BRAND DESIGNER: DAN DICKSON, SITE NUMBER: 315089, STORE NUMBER: 40164

TACO BELL
18708 TELEGRAPH RD
BROWNSTOWN, MI 48183

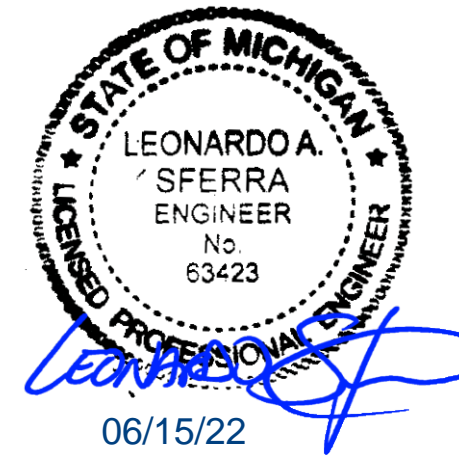


ENDEAVOR 2.0

**GENERAL NOTES**

**C-001**





- ▲ CITY AND COUNTY COMMENTS
- ▲ TOWNSHIP/MDOT COMMENTS
- ▲ 01.20.22 ISSUED FOR BID
- ▲ 03.11.22 ISSUED FOR CONSTRUCTION
- ▲
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CONTRACT DATE: 01/01/19  
BUILDING TYPE: ENDEAVOR 2.0  
PLAN VERSION: MARCH 2022  
BRAND DESIGNER: DAN DICKSON  
SITE NUMBER: 315089  
STORE NUMBER: 40164

**TACO BELL**  
18708 TELEGRAPH RD  
BROWNSTOWN, MI 48183



ENDEAVOR 2.0

**DEMOLITION PLAN**

**C-101**

**GENERAL SHEET NOTES**

1. LIMITS OF WORK SHALL BE LIMITED TO WITHIN THE PROPERTY LINES AND INCLUSIVE OF ALL SITE IMPROVEMENTS OUTSIDE OR PROPERTY LINES DEPICTED IN THIS PLAN SET.
2. EXISTING SIGN AND ASSOCIATED TO BE REMOVED. DISCONNECT, CUT AND CAP ELECTRICAL SERVICE.
3. EXISTING CURB TO BE SAWCUT AND REMOVED. PER DETAIL, 1" CURB DROP.
4. EXISTING PAVEMENT TO BE REMOVED AND REPAIRED UPON DRIVE APRON INSTALLATION.
5. EXISTING LANDSCAPING (INCLUDING BUSHES, TREES, ETC.) TO BE REMOVED.
6. EXISTING CURB TO REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION.
7. EXISTING PAVEMENT TO REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION.
8. EXISTING SIGNAGE TO REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION.
9. EXISTING UTILITIES TO REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION.
10. EXISTING LANDSCAPING (INCLUDING BUSHES, TREES, ETC.) TO REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION.
11. EXISTING CURB CUT TO BE MODIFIED FOR PROPOSED IMPROVEMENTS.

**DEMOLITION NOTE:**

ALL EXISTING SITE AND SURROUNDING FEATURES SUCH AS UTILITIES, PAVEMENT, CURB, LANDSCAPING, ETC. SHALL REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION UNLESS NOTED OTHERWISE, OR ARE REQUIRED TO BE MODIFIED OR REMOVED FOR THE INSTALLATION OF PROPOSED IMPROVEMENTS. ALL DISTURBED FEATURES SHALL BE RESTORED OR RELOCATED AS REQUIRED TO THE SATISFACTION OF THE OWNER. CONTRACTOR SHALL REPAIR/REPLACE ANY SURROUNDING FEATURES DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST AND TO THE SATISFACTION OF THE OWNER.

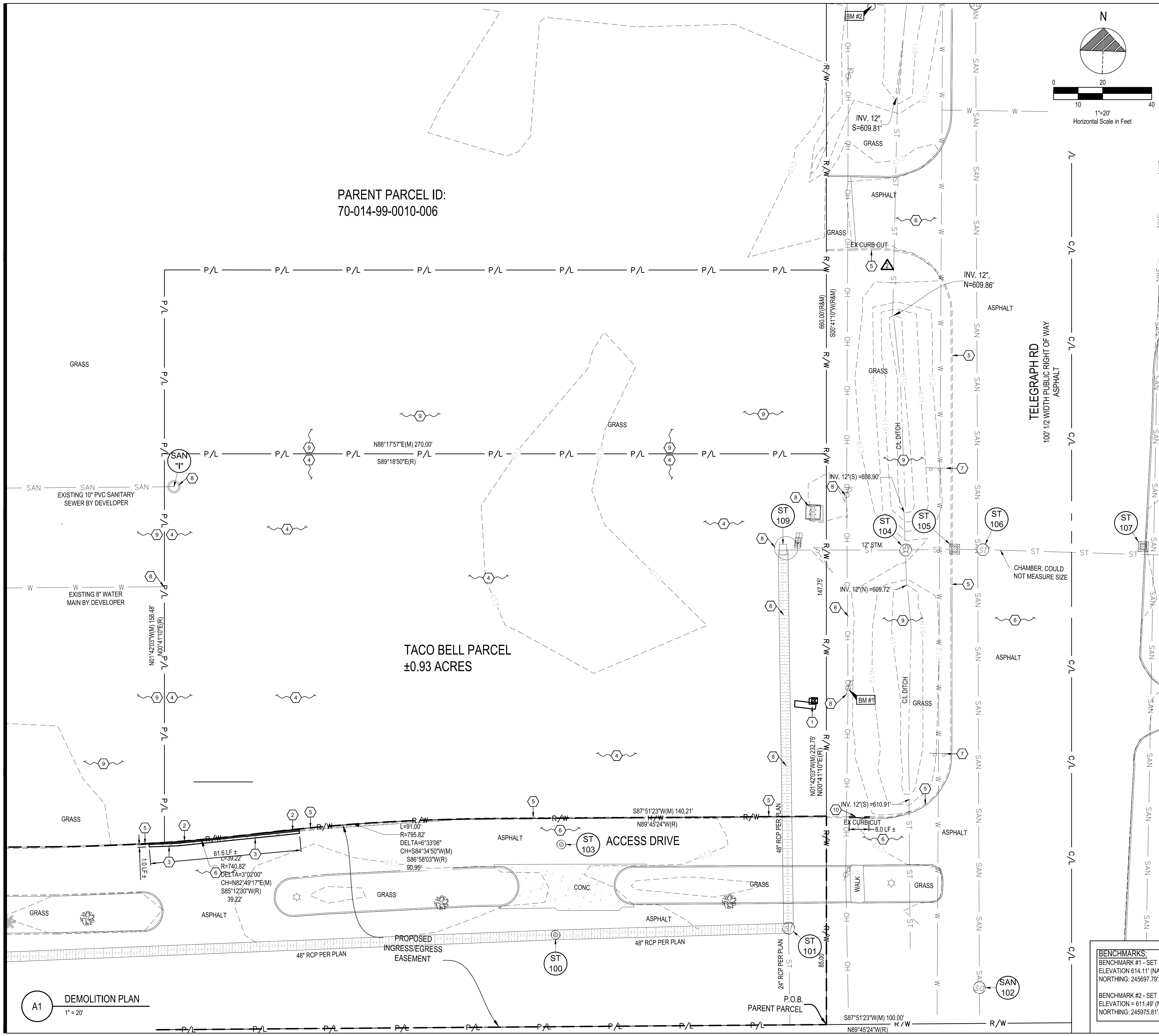
**LEGEND**

- (SEE SHEET C-001 FOR GENERAL LEGEND)
- EXISTING ASPHALT TO BE REMOVED
  - DENOTES LIMITS OF SAWCUT
  - DEMOLITION KEYNOTE

**EXISTING STRUCTURES**

STRUCT. ID	STRUCTURE DETAILS
ST 100	EXISTING CATCH BASIN RIM=612.46 NO VISIBLE PIPES T/SEDIMENT=600.01
ST 101	EXISTING STORM MANHOLE RIM=613.07 NO VISIBLE PIPES T/SEDIMENT=600.17
SAN 102	EXISTING SANITARY MANHOLE RIM=612.96 INV. 12", N=594.85 INV. 12", S=594.81
ST 103	EXISTING CATCH BASIN RIM=612.55 NO VISIBLE PIPES T/SEDIMENT=606.26
ST 104	EXISTING STORM MANHOLE RIM=613.73 INV. 12", S=610.73 INV. 12", N= (COULDN'T MEASURE) INV. 12", E, W=610.73
ST 105	EXISTING CATCH BASIN RIM=612.12 B/STRUCTURE=608.11
ST 106	EXISTING STORM MANHOLE RIM=612.64 B/STRUCTURE=609.01
ST 107	EXISTING CATCH BASIN RIM=612.59 INV=UNKNOWN
ST 109	EXISTING STORM LIFT STATION RIM=613.71 (EXISTING INVERTS SHOWN ARE PER TEL-SIBLEY PLAZA RECORD INFORMATION) INV. 15" RCP, E=610.65 INV. 6" EFFLUENT, E=609.15 INV. 48" RCP, S=599.85 SUMP=598.20
SAN T	EXISTING SANITARY MANHOLE "T" PER DEVELOPER PLANS RIM=612.35 INV. 10", W=605.28

**BENCHMARKS:**  
BENCHMARK #1 - SET MAC NAIL IN WEST FACE OF UTILITY POLE.  
ELEVATION 614.11' (NAVD 88)  
NORTHING: 245697.79 / EASTING: 13421439.82  
BENCHMARK #2 - SET 1/2" IRON WITH TRAVERSE CAP.  
ELEVATION = 611.49' (NAVD 88)  
NORTHING: 245975.81 / EASTING: 13421443.06'



PARENT PARCEL ID:  
70-014-99-0010-006

TACO BELL PARCEL  
±0.93 ACRES

**A1 DEMOLITION PLAN**  
1" = 20'



**PLAN KEYNOTES (#)**

- PROPOSED CURB PER DETAIL, SHEET C-501.
- PROPOSED CURB AT DRIVE THRU PER DETAIL, SHEET C-501.
- PROPOSED P.C.C. WALK / P.C.C. CURBED WALK PER DETAIL, SHEET C-501.
- PROPOSED DRIVE APRON PER WAYNE COUNTY STANDARDS AND SPECIFICATIONS. SEE DETAILS, SHEET C-502.
- PROPOSED 6" P.C.C. PAVEMENT W/ W.W.F. 6" x 6" W2.9 x W2.9 (CONTROL JTS. 12'-0" O.C.) OVER 6" CRUSHED AGGREGATE MDOT 21AA. APPLY LIQUID ASPHALT AT ALL JOINTS BETWEEN CONCRETE AND ASPHALT.
- PROPOSED BOLLARD IN CURB PER DETAIL, SHEET C-501.
- PROPOSED HANDICAPPED PARKING SIGN AND BOLLARD PER ADA SIGN DETAIL, SHEET C-501.
- PROPOSED LANDSCAPING AREA. SOD ALL DISTURBED AREAS EXCEPT WHERE PLANTING BEDS ARE INDICATED. SEE LANDSCAPE PLANS.
- PROPOSED PAINTED TRANSVERSE STRIPING PER DETAIL, SHEET C-501.
- PROPOSED PAINTED 4" WIDE SOLID STRIPE - WHITE ON ASPHALT, YELLOW ON CONCRETE, BLUE IN ADA AREAS.
- PROPOSED DIRECTIONAL PAVEMENT MARKINGS PER DETAIL, SHEET C-501. WHITE ON ASPHALT, YELLOW ON CONCRETE.
- PROPOSED PAINTED ADA PAVEMENT SYMBOL PER ADA SPECIFICATIONS AND DETAIL, SHEET C-501.
- PROPOSED PAINTED CROSSWALK STRIPING PER DETAIL, SHEET C-501.
- PROPOSED CONCRETE COLLAR PER DETAIL, SHEET C-503.
- PROPOSED 8'-0" O.A.H., 40 S.F. MONUMENT SIGN PER SIGN SUPPLIER SPECIFICATIONS.
- PROPOSED FROST SLAB AT DOOR. PER STRUCTURAL PLANS FOR DETAILS DRAWINGS.
- PROPOSED MASONRY DUMPSTER ENCLOSURE ON 8" P.C.C. PAD OVER 6" MDOT 21AA AGGREGATE BASE. REFER TO DETAIL, SHEET G-002.
- PROPOSED BIKE RACK PER DETAIL, SHEET C-501.
- PROPOSED OUTDOOR SEATING PATIO WITH PATIO CANOPY. SEE ARCHITECTURAL PLANS.
- PROPOSED DETERRENT BOLLARD PER DETAILS, SHEET C-501. BOLLARDS INTENDED TO PROTECT FIRE HYDRANT SHALL BE SPACED PER LOCAL FIRE DEPARTMENT REGULATIONS.
- PROPOSED EVOLUTION PORTAL CLEARANCE BAR. SEE EVOLUTION FOUNDATION DETAIL, SHEET C-503.
- PROPOSED MENU BOARD AND ORDER CONFIRMATION BOARD AND ASSOCIATED FOOTINGS PER SIGN SUPPLIER SPECIFICATIONS. SEE SHEET C-503.
- PROPOSED ADA ACCESSIBLE RAMP PER DETAIL, SHEET C-501. REFER TO PLAN VIEW FOR RAMP TYPE.
- PROPOSED STANDARD DUTY ASPHALT BIKE PATH PER BROWNSTOWN TOWNSHIP STANDARDS AND SPECIFICATIONS.
- PROPOSED 125 L.F. OF DECORATIVE FENCE W/ BRICK BASE PER BROWNSTOWN TOWNSHIP STANDARDS AND SPECIFICATIONS. FINAL LOCATION, LENGTHS, ETC. SHALL BE PER CITY OFFICIAL AND IN COMPLIANCE WITH ELECTRIC UTILITY CLEAR DISTANCE REQUIREMENTS. REFER TO DETAIL ON SHEET C-503
- PROPOSED DUAL SIDED DRIVE THRU SIGN PER SIGN SUPPLIER SPECIFICATIONS.
- TEMPORARY BARRIER TO BE LEFT IN PLACE AND TO BE COORDINATED WITH ADJACENT OWNER.
- PROPOSED "DO NOT ENTER" SIGN.
- PROPOSED PAVEMENT REPLACEMENT. CONTRACTOR SHALL MATCH EXISTING PAVEMENT IN TYPE AND DEPTH. APPLY LIQUID ASPHALT AT ALL JOINTS WHERE PROPOSED ASPHALT MEETS EXISTING ASPHALT INCLUDING SAW CUT JOINTS.
- PROPOSED "MOBILE PICK UP" PARKING SIGNS IN BOLLARD. SIGN TO BE PROVIDED BY SIGN VENDOR.
- EXISTING CURB CUT TO BE MODIFIED SEE CURB TAPER DETAIL ON C-501, PROPOSED CURB OPENING SHALL FOLLOW CITY STANDARDS, AND COMPLY WITH CURRENT ACCESSIBILITY GUIDELINES.

**LEGEND**

- PROPOSED STANDARD DUTY ASPHALT PER ASPHALT PER DETAIL, SHEET C-503
- PROPOSED HEAVY DUTY ASPHALT PER ASPHALT PAVEMENT PER DETAIL, SHEET C-503
- PROPOSED CONCRETE PER DETAIL, SHEET C-501 AND SHEET C-502 (FOR DRIVEWAY APPROACH ONLY, KEYNOTE #4)
- PROPOSED PARKING SPACE NUMBER
- PROPOSED DRIVE THRU STACK CAR AND NUMBER
- PROPOSED ADA ACCESSIBLE RAMP PER DETAIL, SHEET C-501 REFER TO PLAN VIEW FOR RAMP TYPE
- PROPOSED UTILITY STRUCTURES, REFER TO UTILITY PLANS

**BUILDING SETBACKS**

	REQUIRED	PROVIDED
FRONT: EAST	30'	32.9'
REAR: WEST	10'	150.8'
SIDE: NORTH	10'	81.3'
SIDE: SOUTH	30'	38.4'

**PARKING SETBACKS**

	REQUIRED	PROVIDED
FRONT: EAST	10'	10'
REAR: WEST	10'	10'
SIDE: NORTH	10'	10.7'
SIDE: SOUTH	10'	10.0'

**LANDSCAPE SETBACKS**

	REQUIRED	PROVIDED
FRONT: EAST	20'	10'
REAR: WEST	10'	10'
SIDE: NORTH	10'	10.7'
SIDE: SOUTH	20'	10'

**PARKING SPACES**

	REQUIRED	PROVIDED
NUMBER OF SPACES	30	30
NUMBER OF SHORT TERM SPACES	3	3

**PARKING REQUIREMENTS**  
1 SPACE PER 70 SF OF USABLE FLOOR AREA OR  
0.5 SPACES PER SEAT WHICH EVER IS GREATER  
PLUS  
3 SHORT TERM PARKING STALLS  
THEREFORE: 2000 SF / 70 SF = 30 SPACES AND 3 SHORT TERM PARKING SPACES REQUIRED.

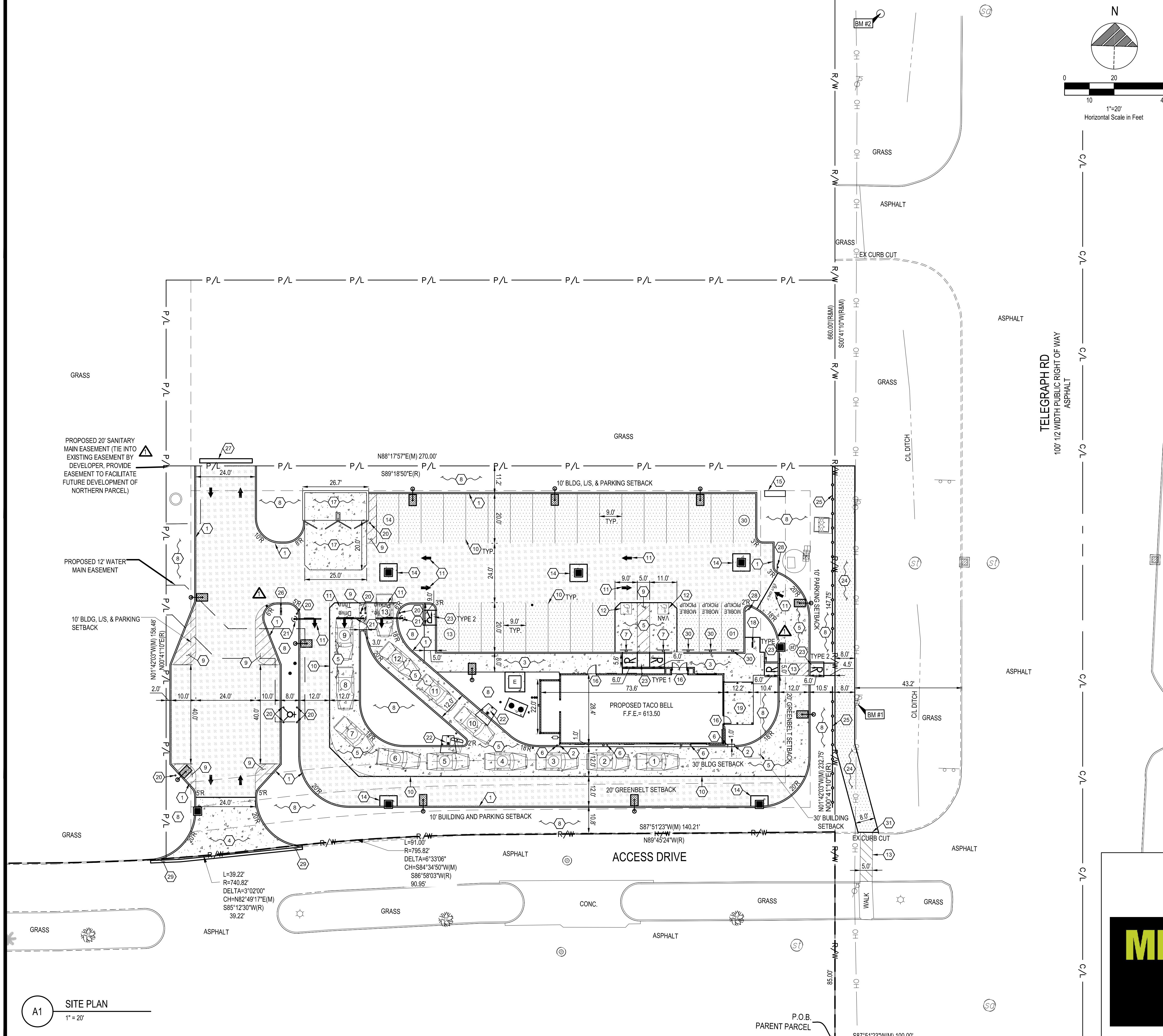
**LAND USE DATA**

	% OF SITE AREA	AREA PROVIDED
BUILDING PAVEMENT/IMPERVIOUS LANDSCAPING	5.2%	0.05 AC.
LANDSCAPING	71.5%	0.67 AC.
TOTAL	100%	0.93 AC.

CURRENT ZONING: B-2 COMMUNITY BUSINESS

**MISSDIG 811**

**BENCHMARKS:**  
BENCHMARK #1 - SET MAC NAIL IN WEST FACE OF UTILITY POLE. ELEVATION 614.11' (NAVD 88)  
NORTHING: 245697.79' / EASTING: 13421439.82'  
BENCHMARK #2 - SET 1/2" IRON WITH TRAVERSE CAP. ELEVATION = 611.49' (NAVD 88)  
NORTHING: 245975.81' / EASTING: 13421443.06'

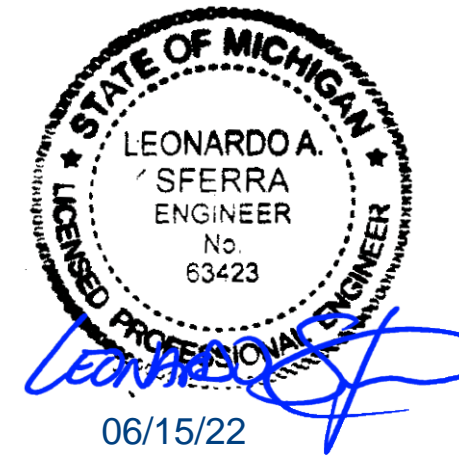
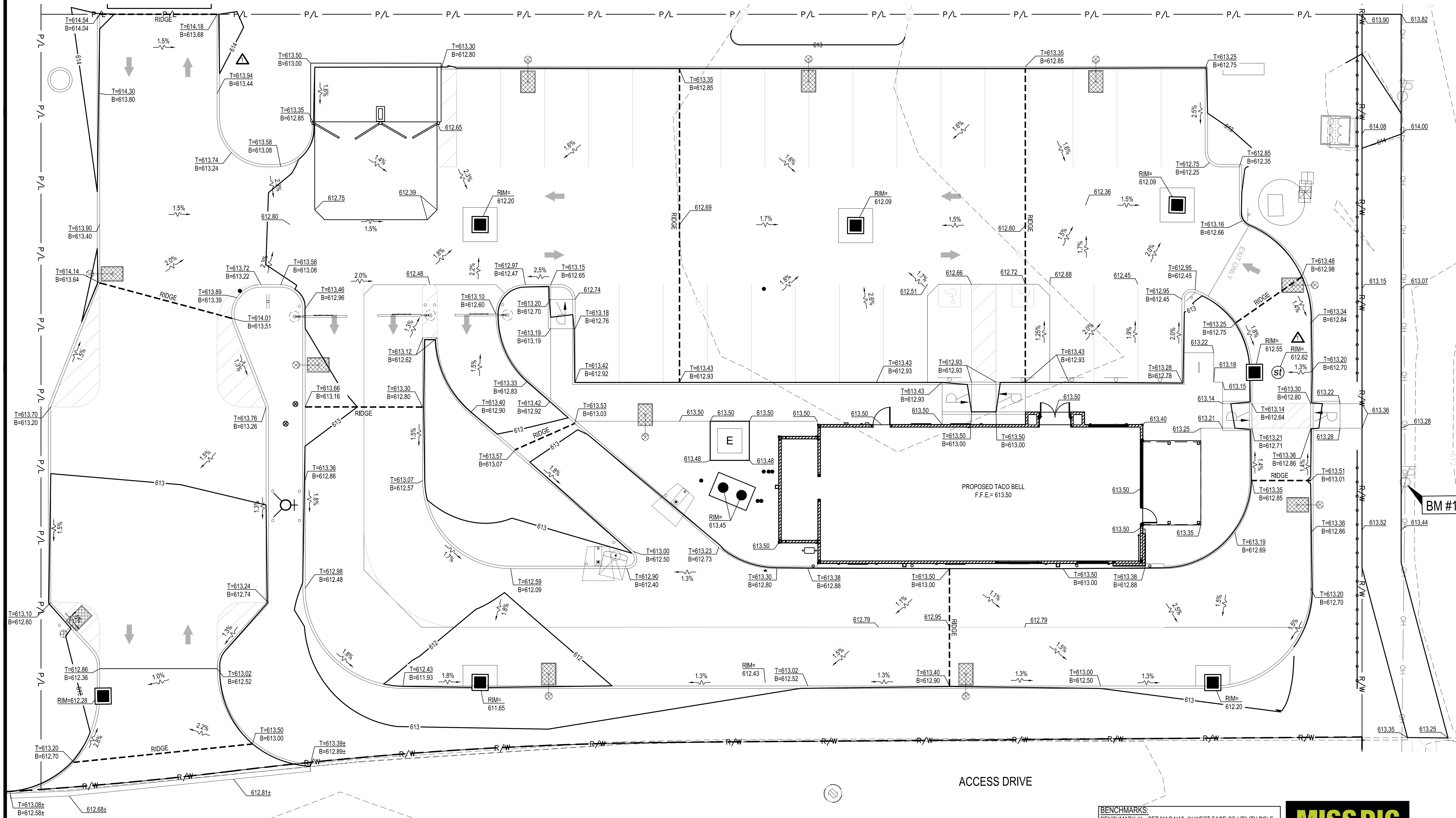
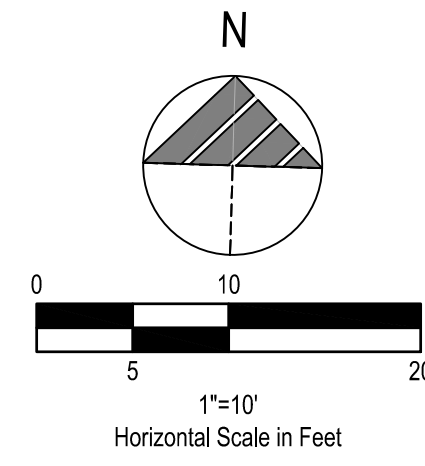


**A1 SITE PLAN**  
1" = 20'



**LEGEND**  
(SEE SHEET C-001 FOR GENERAL LEGEND)

000	PROPOSED CONTOUR
000.00±	EXISTING SPOT ELEVATION
000.00	PROPOSED ELEVATION @ FINISHED GROUND ELEVATION
T=000.00	TOP OF CURB ELEVATION
B=000.00	BOTTOM OF CURB/FINISHED PAVEMENT ELEVATION
000.0±	MATCH EXISTING ELEVATION
0.0%	PROPOSED DRAINAGE SLOPE & DIRECTION



- ▲ CITY AND COUNTY COMMENTS
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CONTRACT DATE: 01/01/19  
BUILDING TYPE: ENDEAVOR 2.0  
PLAN VERSION: MARCH 2022  
BRAND DESIGNER: DAN DICKSON  
SITE NUMBER: 315089  
STORE NUMBER: 40164

**TACO BELL**  
18708 TELEGRAPH RD  
BROWNSTOWN, MI 48183



**GRADING PLAN**

**C-121**

**BENCHMARKS:**  
BENCHMARK #1 - SET MAC NAIL IN WEST FACE OF UTILITY POLE.  
ELEVATION 614.11' (NAVD 88)  
NORTHING: 245697.79' / EASTING: 13421439.82'  
BENCHMARK #2 - SET 1/2" IRON WITH TRAVERSE CAP.  
ELEVATION = 611.49' (NAVD 88)  
NORTHING: 245975.81' / EASTING: 13421443.06'



A1 GRADING PLAN  
1" = 10'



**GENERAL NOTES**

- 1. ALL WORK SPECIFIED AS A DEPARTMENT OF TRANSPORTATION ITEM SHALL BE GOVERNED BY THE CURRENT STATE DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS AS WELL AS THE CURRENT EDITION OF THE LOCAL JURISDICTION STORM WATER MANAGEMENT MANUAL. IT IS THE CONTRACTOR'S RESPONSIBILITY TO POSSESS AND TO BE FAMILIAR WITH APPLICABLE SECTIONS.
- 2. THESE CONTRACT DRAWINGS SHALL BE MADE AVAILABLE ON SITE AT ALL TIMES AND PRESENTED UPON REQUEST. IF UNFORESEEN STORM WATER POLLUTION IS ENCOUNTERED, ADDITIONAL STORM WATER POLLUTION PREVENTION (SWPP) MEASURES SHALL BE IMPLEMENTED TO MANAGE THE CURRENT SITE CONDITIONS WHICH MAY BE REQUESTED BY THE OWNER, COUNTY ENGINEER, PROJECT ENGINEER OR SOIL AND WATER CONSERVATION SERVICE REPRESENTATIVE AT ANYTIME. SUCH REQUESTS AND CHANGE IN SITE CONDITIONS SHALL BE IMPLEMENTED IMMEDIATELY AT CONTRACTOR'S EXPENSE.
- 3. ALL STORM WATER POLLUTION PREVENTION PRACTICES SHALL BE INSTALLED BEFORE ANY OTHER EARTH MOVING OCCURS.
- 4. SEDIMENT BARRIERS SHALL BE INSTALLED DOWNSLOPE OF DISTURBED AREAS. SEDIMENT BARRIERS SHALL BE INSTALLED ALONG LEVEL CONTOURS. MAXIMUM CONTRIBUTING DRAINAGE AREA TO SEDIMENT BARRIERS SHALL BE PER THE CURRENT STATE'S EPA OR THE LOCAL AUTHORITY REQUIREMENTS. COMPOSITE FILTER SOCKS USED IN LIEU OF SILT FENCE SHALL BE A MINIMUM OF 12 INCHES IN DIAMETER.
- 5. SILT BARRIERS SHALL BE INSTALLED AROUND ALL EXISTING AND NEW STORM INLETS, CATCH BASINS AND YARD DRAINS. INSTALL ROCK CHECK DAMS FOR HEADWALL INLETS FOR STORM WATER POLLUTION PREVENTION.
- 6. STORM WATER POLLUTION PREVENTION MEASURES SHALL BE INSTALLED AROUND ALL DIRT OR TOPSOIL STOCKPILES AND OTHER TEMPORARILY DISTURBED AREAS AS MAY BE SHOWN ON THESE PLANS AND/OR AS DIRECTED BY THE ENGINEER OR THE LOCAL AUTHORITY HAVING JURISDICTION.
- 7. SILT BARRIERS, CONSTRUCTION ENTRANCES, AND SILT PERIMETER CONTROLS SHALL REMAIN IN PLACE UNTIL A GOOD STAND OF GRASS HAS BEEN OBTAINED AND/OR PAVING OPERATIONS ARE COMPLETE. CONTRACTOR SHALL KEEP SILT FROM ENTERING ANY STORM DRAINAGE SYSTEM. ONCE SITE HAS BEEN COMPLETELY STABILIZED, ANY SILT IN PIPES AND DRAINAGE SWALES SHALL BE REMOVED WITHIN 10 DAYS.
- 8. ALL EXISTING WATER COURSES WITHIN THE PROJECT LIMITS SHALL BE TEMPORARILY PROTECTED DURING LAND CLEARING AND GRADING OPERATIONS. SOILS WITHIN 50 FEET OF SAID WATER COURSES SHALL BE STABILIZED WITHIN 2 DAYS OF THE INITIAL CLEARING / GRADING OPERATION.
- 9. CONSTRUCTION ENTRANCE SHALL BE UTILIZED. IF CONDITIONS ARE SUCH THAT MUD IS COLLECTING ON VEHICLE TIRES, THE TIRES MUST BE CLEANED BEFORE THE VEHICLES ENTER THE PUBLIC ROADWAY. THE SITE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT THE TRACKING OR FLOW OF MUD ONTO THE PUBLIC RIGHT-OF-WAY. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO THE ROADWAY MUST BE REMOVED PROMPTLY.
- 10. IF FOR ANY REASON, THE PROJECT IS SUSPENDED, THE CONTRACTOR SHALL INSURE THAT ALL INSTALLED EROSION MEASURES ARE FUNCTIONING AND PROPERLY MAINTAINED DURING THIS PERIOD, AND THAT ALL BARE SOILS ARE SEEDED AND MULCHED WITH TEMPORARY SEED MIXTURE.
- 11. CONCRETE WASHOUT FACILITY (IF APPLICABLE) SHALL BE CONSTRUCTED IN ACCORDANCE WITH PLAN DETAILS AND LOCAL GOVERNING AUTHORITY REGULATIONS AND INSTRUCTIONS.
- 12. IMPLEMENTATION OF EROSION AND SEDIMENT CONTROLS SHALL CONFORM TO STATE OF MICHIGAN CONSTRUCTION GENERAL PERMIT AND BROWNSTOWN TOWNSHIP CODIFIED ORDINANCES. IF A CONFLICT EXISTS BETWEEN THE TWO REGARDING EROSION AND SEDIMENT CONTROL IMPLEMENTATION, THE MORE RESTRICTIVE SHALL APPLY.

**INSPECTION NOTES**

- 1. CONTRACTOR SHALL INSPECT ALL SWPP MEASURES DAILY AND LOGGED BY THE CONTRACTOR FOR INSPECTION. LOGGING SHALL BE WEEKLY AND AFTER EVERY 1/2" RAINFALL EVENT. REPAIR AS NECESSARY TO PREVENT EROSION. SILTATION SHALL BE REMOVED FROM AREAS WHERE FAILURES HAVE OCCURRED AND CORRECTIVE ACTION TAKEN WITHIN 24 HOURS TO MAINTAIN ALL SWPP.
- 2. CONTRACTORS INSPECTOR SHALL BE A QUALIFIED INDIVIDUAL. ONLY A QUALIFIED INSPECTION PERSONNEL IS TO PERFORM THE INSPECTIONS. SITE INSPECTIONS SHALL BE DONE WEEKLY AND WITHIN 24 HRS AFTER EVERY RAINFALL EVENT EXCEEDING 1/2" OF RAINFALL. ALL NECESSARY REPAIRS SHOULD BE IMPLEMENTED IMMEDIATELY AFTER SUCH INSPECTIONS.
- 3. CONTRACTOR'S INSPECTOR SHALL BE RESPONSIBLE FOR PREPARING AND SIGNING WEEKLY AND ALL INTERMEDIATE EROSION CONTROL INSPECTION REPORTS AFTER EVERY INSPECTION, WHICH INCLUDE BUT NOT LIMITED TO (DISTURBED AREAS, MATERIAL STORAGE AREAS, EROSION AND SEDIMENT CONTROLS, DISCHARGE LOCATIONS AND VEHICLE ENTRANCE/EXIT LOCATIONS). SUCH REPORTS SHALL BE MADE AVAILABLE TO OWNER, ENGINEER AND CITY / STATE OFFICIALS UPON THEIR REQUEST.
- 4. REPORTS SHALL BE KEPT FOR 3 YEARS AFTER TERMINATION OF THE CONSTRUCTION ACTIVITIES.
- 5. CONTRACTOR MAY SUBMIT A WAIVER REQUEST TO THE LOCAL AND STATE GOVERNING AUTHORITIES FOR A REDUCTION TO MONTHLY INSPECTIONS IF THE SITE WILL BE STABILIZED AND DORMANT FOR A LONG PERIOD, AND/OR THE RUNOFF IS UNLIKELY DUE TO WEATHER CONDITIONS FOR AN EXTENDED PERIOD OF TIME (FROZEN GROUND).
- 6. FOR BMPS THAT REQUIRE REPAIR OR MAINTENANCE - NON SEDIMENT POND BMPS ARE TO BE REPAIRED WITHIN 3 DAYS OF INSPECTION AND SEDIMENT PONDS ARE TO BE REPAIRED OR CLEANED OUT WITHIN 10 DAYS OF INSPECTION.
- 7. FOR BMPS THAT DO NOT MEET THE INTENDED FUNCTION, A NEW BMP SHALL BE INSTALLED WITHIN 10 DAYS OF THE INSPECTION.
- 8. FOR MISSING BMPS REQUIRED, THE MISSING BMPS SHALL BE INSTALLED WITHIN 10 DAYS OF THE INSPECTION.

**SPILLS AND CONTAMINATION**

- 1. CONSTRUCTION PERSONNEL, INCLUDING SUBCONTRACTORS WHO MAY USE OR HANDLE HAZARDOUS OR TOXIC MATERIALS, SHALL BE MADE AWARE OF THE FOLLOWING GENERAL GUIDELINES REGARDING DISPOSAL AND HANDLING OF HAZARDOUS AND CONSTRUCTION WASTES:
  - a. PREVENT SPILLS
  - a. USE PRODUCTS UP
  - b. FOLLOW LABEL DIRECTIONS FOR DISPOSAL
  - b. REMOVE LIDS FROM EMPTY BOTTLES AND CANS WHEN DISPOSING IN TRASH
  - c. RECYCLE WASTES WHENEVER POSSIBLE
  - c. DONT POUR INTO WATERWAYS, STORM DRAINS OR ONTO THE GROUND
  - d. DONT POUR DOWN THE SINK, DOOR DRAIN OR SEPTIC TANKS
  - e. DONT BURY CHEMICALS OR CONTAINERS
  - f. DONT BURN CHEMICALS OR CONTAINERS
  - g. DONT MIX CHEMICALS TOGETHER
- 2. ANY DISCHARGE OF PETROLEUM OR PETROLEUM PRODUCTS OF LESS THAN 25 GALLONS ONTO A PVIOUS SURFACE SHALL BE LEGALLY REMOVED AND PROPERLY TREATED OR PROPERLY DISPOSED OF, OR OTHERWISE REMEDIATED, SO THAT NO CONTAMINATION FROM THE DISCHARGE REMAINS ON-SITE. SPILLS OF 25 GALLONS OR MORE OF PETROLEUM PRODUCTS SHALL BE REPORTED TO THE CURRENT STATE'S EPA, THE LOCAL FIRE DEPARTMENT, AND THE LOCAL EMERGENCY PLANNING COMMITTEE WITHIN 30 MINUTES OF THE DISCOVERY OF THE RELEASE. ALL SPILLS WHICH CONTACT WATERS OF THE STATE MUST BE REPORTED TO THE CURRENT STATE'S EPA.
- 3. SPILL REPORTING REQUIREMENTS: SPILLS ON PAVEMENT SHALL BE ABSORBED WITH SAWDUST OR KITTY LITTER AND DISPOSED OF WITH THE TRASH AT A LICENSED SANITARY LAND FILL. HAZARDOUS OR INDUSTRIAL WASTES SUCH AS MOST SOLVENTS, GASOLINE, OIL-BASED PAINTS, AND CEMENT CURING COMPOUNDS REQUIRE SPECIAL HANDLING. SPILLS SHALL BE REPORTED TO THE CURRENT STATE'S EPA.
- 4. CONTAINERS SHALL BE PROVIDED FOR THE PROPER COLLECTION OF ALL WASTE MATERIAL INCLUDING CONSTRUCTION DEBRIS, TRASH, PETROLEUM PRODUCTS AND ANY HAZARDOUS MATERIALS USED ON-SITE. CONTAINERS SHALL BE COVERED AND NOT LEAKING. ALL WASTE MATERIAL SHALL BE DISPOSED OF AT FACILITIES APPROVED FOR THAT MATERIAL. CONSTRUCTION DEMOLITION AND DEBRIS (CD&D) WASTE MUST BE DISPOSED OF AT THE CURRENT STATE'S EPA APPROVED CD&D LAND FILL.
- 5. PROCESS WASTE WATER/LEACHATE MANAGEMENT: EPA'S CONSTRUCTION GENERAL PERMIT ONLY ALLOWS THE DISCHARGE OF STORM WATER AND DOES NOT INCLUDE OTHER WASTE STREAMS/DISCHARGES SUCH AS VEHICLE AND/OR EQUIPMENT WASHING, ON-SITE SEPTIC LEACHATE CONCRETE WASH OUTS, WHICH ARE CONSIDERED PROCESS WASTEWATERS. ALL PROCESS WASTEWATERS MUST BE COLLECTED AND PROPERLY DISPOSED AT AN APPROVED DISPOSAL FACILITY. IN THE EVENT, LEACHATE OR SEPTAGE IS DISCHARGED, IT MUST BE ISOLATED FOR COLLECTION AND PROPER DISPOSAL AND CORRECTIVE ACTIONS TAKEN TO ELIMINATE THE SOURCE OF WASTE WATER.
- 6. WASTES GENERATED BY CONSTRUCTION ACTIVITIES (I.E. CONSTRUCTION MATERIALS SUCH AS PAINTS, SOLVENTS, FUELS, CONCRETE, WOOD, ETC) MUST BE DISPOSED OF IN ACCORDANCE WITH LOCAL REGULATIONS. HAZARDOUS AND TOXIC SUBSTANCES ARE USED ON VIRTUALLY ALL CONSTRUCTION SITES. GOOD MANAGEMENT OF THESE SUBSTANCES IS ALWAYS NEEDED.
- 7. NO CONSTRUCTION RELATED WASTE MATERIALS ARE TO BE BURIED OR BURNED ON-SITE.
- 8. HANDLING CONSTRUCTION CHEMICALS: MIXING, PUMPING, TRANSFERRING OR OTHER HANDLING OF CONSTRUCTION CHEMICALS SUCH AS FERTILIZER, LIME, ASPHALT, CONCRETE DRYING COMPOUNDS, AND ALL OTHER POTENTIALLY HAZARDOUS MATERIALS SHALL BE PERFORMED IN AN AREA AWAY FROM ANY WATERCOURSE, DITCH OR STORM DRAIN.
- 9. EQUIPMENT FUELING AND MAINTENANCE, OIL CHANGING, ETC., SHALL BE PERFORMED AWAY FROM WATERCOURSES, DITCHES OR STORM DRAINS, IN AN AREA DESIGNATED FOR THAT PURPOSE. THE DESIGNATED AREA SHALL BE EQUIPPED FOR RECYCLING OIL AND CATCHING SPILLS. SECONDARY CONTAINMENT SHALL BE PROVIDED FOR ALL FUEL OIL STORAGE TANKS. THESE AREAS MUST BE INSPECTED EVERY SEVEN DAYS AND WITHIN 24 HRS. OF A 0.5 INCH OR GREATER RAIN EVENT TO ENSURE THERE ARE NO EXPOSED MATERIALS WHICH WOULD CONTAMINATE STORM WATER. SITE OPERATORS MUST BE AWARE THAT SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) REQUIREMENTS MAY APPLY. AN SPCC PLAN IS REQUIRED FOR SITES WITH ONE SINGLE ABOVE GROUND TANK OF 660 GALLONS OR MORE, ACCUMULATIVE ABOVE GROUND STORAGE OF 1330 GALLONS OR MORE, OR 42,000 GALLONS OF UNDERGROUND STORAGE. CONTAMINATED SOILS MUST BE PROPERLY DISPOSED OF IN ACCORDANCE WITH LOCAL GOVERNING AUTHORITY REGULATIONS. SPCC PLAN AND APPROVALS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- 10. CONTAMINATED SOILS: IF SUBSTANCES SUCH AS OIL, DIESEL FUEL, HYDRAULIC FLUID, ANTIFREEZE, ETC. ARE SPILLED, LEAKED, OR RELEASED ONTO THE SOIL, THE SOIL SHOULD BE DUG UP AND DISPOSED OF AT LICENSED SANITARY LAND FILL OR OTHER APPROVED PETROLEUM CONTAMINATED SOIL REMEDIATION FACILITY (NOT A CONSTRUCTION / DEMOLITION DEBRIS LAND FILL). NOTE THOSE STORM WATER RUNOFFS ASSOCIATED WITH CONTAMINATED SOILS ARE NOT BE AUTHORIZED UNDER CURRENT REGULATIONS OF CONSTRUCTION ACTIVITIES.
- 11. CONTRACTOR SHALL TAKE PREVENTIVE MEASURES FOR WATER DISCHARGES FROM CONTAMINATED SOILS BY ANY MEANS POSSIBLE, INCLUDING THE FOLLOWING:
  - 11.1. THE USE OF BERMS, TRENCHES, AND PITS TO COLLECT CONTAMINATED RUNOFF AND PREVENT DISCHARGES.
  - 11.2. PUMPING RUNOFF INTO A SANITARY SEWER (WITH PRIOR WRITTEN APPROVAL OF THE SANITARY SEWER SERVICE OPERATOR) OR INTO A CONTAINER FOR TRANSPORT TO AN APPROPRIATE TREATMENT/DISPOSAL FACILITY.
  - 11.3. COVERING AREAS OF CONTAMINATION WITH TARPS OR OTHER METHODS THAT PREVENT STORMWATER FROM COMING INTO CONTACT WITH CONTAMINATED MATERIALS.

**DEWATERING**

DEWATERING REFERS TO THE ACT OF REMOVING AND DISCHARGING WATER FROM EXCAVATED AREAS ON CONSTRUCTION SITES. UTILITY LINE CONSTRUCTION OR FROM SEDIMENT TRAPS OR BASINS ON CONSTRUCTION SITES. GIVEN THE UNIQUE CONDITIONS AT ANY PARTICULAR CONSTRUCTION SITE, ANY OR ALL OF THE PRACTICES MAY APPLY. IN ALL CASES, EVERY EFFORT SHALL BE MADE TO ELIMINATE SEDIMENT POLLUTION ASSOCIATED WITH DEWATERING.

PRACTICES FOR DEWATERING EXCAVATED AREAS

- 1. PUMPING OF WATER TO AN EXISTING SEDIMENT BASIN OR TRAP IN WHICH THE ENTIRE VOLUME OF WATER FROM THE AREA TO BE DEWATERED CAN BE CONTAINED WITHOUT DISCHARGE TO RECEIVING WATERS.
- 2. PUMPING OF WATER TO AN EXISTING SEDIMENT BASIN OR TRAP SUCH THAT THE ENTIRE VOLUME OF WATER FROM THE AREA TO BE DEWATERED CAN BE MANAGED WITHOUT EXCEEDING THE DESIGN OUTFLOW FROM THE SEDIMENT CONTROL STRUCTURE.
- 3. USE OF A STRAW BALE/SILT FENCE PIT OR TRAP AS DESCRIBED HEREIN AND APPROVED BY THE LOCAL GOVERNING AUTHORITY.
- 4. PUMPING WATER THROUGH A GEOTEXTILE BAG MADE SPECIFICALLY FOR THIS PURPOSE.
- 5. A WELL-VEGETATIVE FILTER STRIP, CAPABLE OF WITHSTANDING THE VELOCITY OF DISCHARGED WATER WITHOUT ERODING, INCLUDING THE INSTALLATION OF ENERGY DISSIPATION (HAYBALES, RIPRAP OR SHEET OF PLYWOOD) AT THE PUMP DISCHARGE.
- 6. USE A SUMP PIT TO REDUCE THE PUMPING OF MUD.


DEWATERING OF SEDIMENT TRAPS AND BASINS. IN ALL CASES, WATER REMOVED FROM TRAPS AND BASINS SHALL BE DISCHARGED SO THAT IT PASSES THROUGH A SEDIMENT CONTROL DEVICE APPROVED BY THE LOCAL GOVERNING AUTHORITY PRIOR TO ENTERING RECEIVING WATERS. PRACTICES FOR DEWATERING OF TRAPS AND BASINS MAY INCLUDE SOME OR ALL OF THE FOLLOWING AS MAY BE APPROVED AND APPLICABLE. IN ALL CASES, THE DEWAERING OPERATIONS UTILIZED MUST BE CONTINUOUSLY MONITORED BY THE CONTRACTOR.

- 1. USE OF A STRAW BALE/SILT FENCE PIT OR TRAP.
  - 1.1. AN EXCAVATED BASIN (APPLICABLE TO "STRAW BALE/SILT FENCE PIT") MAY BE LINED WITH FILTER FABRIC TO HELP REDUCE SCOUR AND TO PREVENT EROSION OF SOIL FROM WITHIN THE STRUCTURE. IT MAY ALSO BE HELPFUL TO DIRECT THE DISCHARGE ONTO A HAY OR STRAW BALE OR RIPRAP.
  - 1.2. MEASURES SHALL CONSIST OF STRAW BALES, SILT FENCE AND A STONE OUTLET CONSISTING OF A COMBINATION OF 4-8 INCH RIPRAP AND 1/2 TO 2 INCH AGGREGATE AND A WET STORAGE PIT ORIENTED AS SHOWN IN DRAWING.
  - 1.3. THE EXCAVATED AREA SHOULD BE A MINIMUM OF 3 FEET BELOW THE BASE OF THE PERIMETER MEASURES (STRAW BALES OR SILT FENCE).
  - 1.4. ONCE THE WATER LEVEL NEARS THE CREST OF THE STONE WEIR (EMERGENCY OVEFLOW), THE PUMP MUST BE STOPPED WHILE THE STRUCTURE DRAINS DOWN TO THE ELEVATION OF THE WET STORAGE.
  - 1.5. THE WET STORAGE PIT MAY BE DEWATERED ONLY AFTER A MINIMUM OF 6 HOURS OF SEDIMENT SETTLING TIME. THIS EFFLUENT SHOULD BE PUMPED ACROSS A WELL-VEGETATED AREA OR THROUGH A SILT FENCE PRIOR TO ENTERING A WATERCOURSE.
  - 1.6. ONCE THE DEVICE HAS BEEN REMOVED, GROUND CONTOURS SHALL BE RETURNED TO ORIGINAL CONDITION.
- 2. PUMPING WATER THROUGH A GEOTEXTILE BAG MADE SPECIFICALLY FOR THIS PURPOSE.
  - 2.1. THE BAG SHALL BE INSTALLED ON A VERY SLIGHT SLOPE SO INCOMING WATER FLOWS DOWNHILL THROUGH THE BAG WITHOUT CREATING MORE EROSION.
  - 2.2. THE INLET OPENING OF THE DEWATERING DEVICE SHALL HAVE A FILL SPOUT LARGE ENOUGH TO ACCOMMODATE THE DISCHARGE HOSE AND SHALL USE TWO STAINLESS STEEL STRAPS TO SECURE THE HOSE AND PREVENT PUMPED WATER FROM ESCAPING WITHOUT BEING FILTERED.
  - 2.3. THE BAG SHOULD BE PLACED ON AN AGGREGATE OR HAY BALE BED TO MAXIMIZE WATER FLOW THROUGH THE ENTIRE SURFACE AREA OF THE BAG.
  - 2.4. THE FILTER BAG IS FULL WHEN IT NO LONGER CAN EFFICIENTLY FILTER SEDIMENT OR PASS WATER AT A REASONABLE RATE.
  - 2.5. FLOW RATES VARY DEPENDING ON THE SIZE OF THE DEWATERING DEVICE, AMOUNT OF SEDIMENT DISCHARGED INTO THE DEWATERING DEVICE, THE TYPE OF GROUND, ROCK, OR OTHER SUBSTANCE UNDER THE BAG AND THE DEGREE OF THE SLOPE ON WHICH THE BAG LIES. THE FILTER BAG SHOULD BE SIZED TO ACCOMMODATE THE ANTICIPATED FLOW RATES FROM THE TYPE OF PUMP USED. IN ALL CASES FOLLOW THE MANUFACTURERS RECOMMENDATIONS FOR PUMPING FLOW RATES.
  - 2.6. THE FILTER BAG CAN BE LEFT IN PLACE AFTER CUTTING THE TOP OFF AND SEEDING AND MULCHING THE ACCUMULATED SEDIMENT OR REMOVED AND DISPOSED OF OFFSITE IN AN APPROVED LANDFILL.
- 3. A WELL-VEGETATIVE FILTER STRIP, CAPABLE OF WITHSTANDING THE VELOCITY OF DISCHARGED WATER WITHOUT ERODING, INCLUDING THE INSTALLATION OF ENERGY DISSIPATION (HAYBALES, RIPRAP OR SHEET OF PLYWOOD) AT THE PUMP DISCHARGE. SUCH OTHER METHODS AS MAY BE APPROVED BY THE LOCAL GOVERNING AUTHORITY.
- 4. REGARDLESS OF THE TYPE OF TREATMENT, ALWAYS USE A FLOATING SUCTION HOSE TO PUMP THE CLEANER WATER FROM THE TOP OF THE POND. AS THE CLEANER WATER IS PUMPED, THE SUCTION HOSE WILL LOWER AND EVENTUALLY ENCOUNTER SEDIMENT-LADEN WATER. AT THIS POINT CEASE PUMPING OPERATIONS AND REMOVE THE REMAINDER OF THE TRAPPED SEDIMENT WITH MACHINERY. EVEN WHEN PUMPING FROM THE TOP OF THE WATER COLUMN, PROVISIONS MUST STILL BE MADE TO FILTER WATER AS REQUIRED IN THIS SECTION PRIOR TO DISCHARGING TO A STREAM. DURING THE DEWATERING, PERSONNEL SHOULD BE ASSIGNED TO MONITOR PUMPING OPERATIONS AT ALL TIMES TO ENSURE THAT SEDIMENT POLLUTION IS ABATED. PUMPING SEDIMENT-LADEN WATER INTO THE WATERS OF THE STATE WITHOUT FILTRATION IS PROHIBITED.
- 5. THE DEWATERING DEVICE MUST BE SIZED (AND OPERATED) TO ALLOW PUMPED WATER TO FLOW THROUGH THE FILTERING APPARATUS WITHOUT EXCEEDING THE CAPACITY OF THE STRUCTURE.

**SESC NOTES**

- 1. CONTRACTOR IS TO CONTACT AUTHORITY HAVING JURISDICTION AT LEAST THREE (3) DAYS PRIOR TO THE START OF CONSTRUCTION.
- 2. CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING ALL SOIL EROSION CONTROL MEASURES DURING CONSTRUCTION. SESC MEASURES SHOULD BE CHECKED DAILY AND AFTER STORM EVENTS FOR EFFECTIVENESS. OWNER SHALL MAINTAIN ALL PERMANENT SESC MEASURES AFTER CONSTRUCTION IS COMPLETE. ALL SESC MEASURES SHALL BE CHECKED MONTHLY FOR ONE YEAR FOR EFFECTIVENESS. ANY MEASURES THAT HAVE FAILED SHALL BE REPAIRED AND/OR REPLACED.
- 3. ALL TEMPORARY S.E.C. MEASURES SHALL BE MAINTAINED 30 DAYS AFTER CONSTRUCTION IS COMPLETE OR UNTIL GRADED AREAS ARE STABILIZED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING TEMPORARY SESC MEASURES.
- 4. ALL GRADED AREAS EXPOSED FOR MORE THAN 20 DAYS SHALL HAVE STRAW MULCH APPLIED AT THE RATE OF 3 TONS / ACRE. AREAS NOT AT FINISHED GRADE AND WHICH WILL BE DISTURBED AGAIN WITHIN ONE YEAR MUST BE SEEDED AND MULCHED WITH QUICK GROWING TEMPORARY SEEDING MIXTURE AND MULCH. AREAS WHICH ARE AT FINISHED GRADE AND WILL NOT BE DISTURBED FOR A YEAR MUST BE SEEDED AND MULCHED WITH A PERMANENT SEED MIXTURE.
- 5. ONLY LIMITED DISTURBANCE WILL BE PERMITTED TO PROVIDE ACCESS TO THE SITE FOR GRADING AND TO CONSTRUCT SEDIMENT BASINS, SEDIMENT TRAPS, DIVERSION TERRACES, INTERCEPTOR CHANNELS, AND/OR CHANNELS OF CONVEYANCE AS APPROPRIATE.
- 6. EROSION AND SEDIMENTATION CONTROLS MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE WITH THE TRIBUTARY AREAS OF THOSE CONTROLS.
- 7. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF AL EROSION AND SEDIMENTATION CONTROL ON A DAILY BASIS AND AFTER EACH STORM EVENT. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRAIDING, RESEEDING, REMULCHING, AND RENETTING, MUST BE PERFORMED IMMEDIATELY.
- 8. CONTACT INFORMATION FOR THE ON-SITE EXCAVATING CONTRACTORS, HAULING CONTRACTORS, ETC., PERSON AND COMPANY, INCLUDING OFFICE, MOBILE AND FAX PHONE NUMBERS, SHALL BE SUBMITTED TO AUTHORITY HAVING JURISDICTION PRIOR TO COMMENCEMENT OF EARTH DISTURBANCE.
- 9. NO WETLANDS OR FLOORPLAINS ARE ON SITE.

**PERMANENT SEEDING**

- 1. REFER TO LANDSCAPE PLANS FOR PERMANENT SEEDING SPECIFICATIONS.
- 2. ALL WORK WITHIN THE TELEGRAPH ROAD RIGHT-OF-WAY SHALL BE RESTORED WITH A MINIMUM OF FOUR INCHES TOPSOIL, SEED, AND MULCH. 

**SWPPP AMENDMENT LOG**

PROJECT NAME: \_\_\_\_\_

SWPPP CONTACT: \_\_\_\_\_

AMENDMENT No.	DATE OF AMENDMENT	AMENDMENT PREPARED BY (NAME(S) AND TITLE)	DESCRIPTION OF THE AMENDMENT
1			
2			
3			
4			
5			
6			

**GRADING AND STABILIZATION LOG**

PROJECT NAME: \_\_\_\_\_

SWPPP CONTACT: \_\_\_\_\_

DATE GRADING ACTIVITY INITIATED	TEMPORARY OR PERMANENT ACTIVITY	LOCATION AND DESCRIPTION OF THE GRADING ACTIVITY	DATE GRADING ACTIVITY CEASED	DATE OF STABILIZATION MEASURES INITIATED	DESCRIPTION OF THE STABILIZATION MEASURE AND LOCATION



- CITY AND COUNTY COMMENTS
- TOWNSHIP/MDOT COMMENTS
- 01.20.22 ISSUED FOR BID
- 03.11.22 ISSUED FOR CONSTRUCTION
- 
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CONTRACT DATE: 01/01/19  
BUILDING TYPE: ENDEAVOR 2.0  
PLAN VERSION: MARCH 2022  
BRAND DESIGNER: DAN DICKSON  
SITE NUMBER: 315089  
STORE NUMBER: 40164

TACO BELL  
18708 TELEGRAPH RD  
BROWNSTOWN, MI 48183



ENDEAVOR 2.0

**SWPP NOTES**

**C-131**





**BENCHMARKS:**  
 BENCHMARK #1 - SET MAC NAIL IN WEST FACE OF UTILITY POLE.  
 ELEVATION 614.11' (NAVD 88)  
 NORTHING: 245697.79' / EASTING: 13421439.82'  
 BENCHMARK #2 - SET 1/2" IRON WITH TRAVERSE CAP.  
 ELEVATION = 611.49' (NAVD 88)  
 NORTHING: 245975.81' / EASTING: 13421443.06'

**LEGEND**  
 (SEE SHEET C-001 FOR GENERAL LEGEND)

PROPOSED SILT BARRIER REFER TO SWPP DETAILS

PROPOSED SILT FENCE REFER TO SWPP DETAILS

PROPOSED CONSTRUCTION ENTRANCE REFER TO SWPP DETAILS

PROPOSED CONCRETE WASHOUT FACILITY REFER TO SWPP DETAILS

**SWPP KEYNOTES**

CONSTRUCTION STAGING AREA

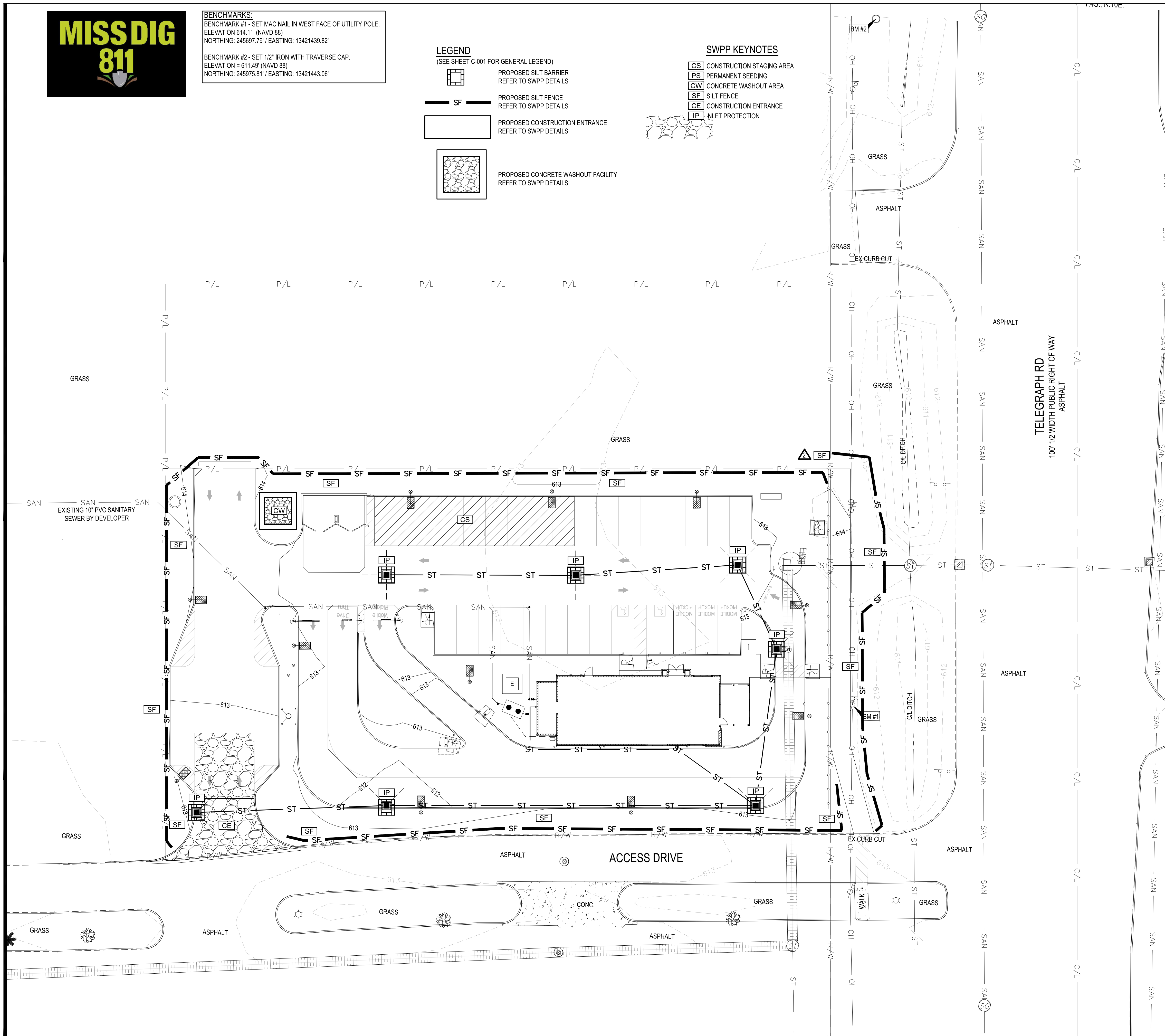
PERMANENT SEEDING

CONCRETE WASHOUT AREA

SILT FENCE

CONSTRUCTION ENTRANCE

INLET PROTECTION



- CONSTRUCTION SEQUENCE**
- DURING PRE-CONSTRUCTION MEETING ALL EROSION & SEDIMENT CONTROL FACILITIES & PROCEDURES SHALL BE DISCUSSED. A GENERAL CONSTRUCTION SEQUENCE FOLLOWS AND MAY NEED TO BE UPDATED BY THE CONTRACTOR TO SUIT THE SPECIFICS OF THE SITE AND INTENDED CONTRACTOR SPECIFIC SEQUENCING.
  - INSTALL CONSTRUCTION ENTRANCE AS DETAILED ON PLANS. TEMPORARY CONSTRUCTION FENCING SHALL BE INSTALLED AROUND PERIMETER OF CONSTRUCTION SITE. WHERE THERE IS EXISTING FENCE ALONG THE PERIMETER OF THE SITE, IT CAN BE UTILIZED. FENCING SHALL BE USED TO RESTRICT OUTSIDE TRAFFIC TO SITE.
  - DELIVER CONSTRUCTION TRAILER TO SITE AND INSTALL TEMPORARY POWER AND TELEPHONE, IF REQUIRED. TEMPORARY UTILITY SERVICES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
  - STAKE AND/OR FLAG LIMITS OF CLEARING.
  - CLEAR & GRUB, AS NECESSARY, FOR INSTALLATION OF PERIMETER CONTROLS. INSTALL SILT PERIMETER CONTROLS AS SHOWN ON PLANS. SILT PERIMETER CONTROLS SHALL BE INSTALLED LEVEL, ALONG THE CONTOURS, WITH ENDS TURNED UPSLOPE TO PREVENT CONCENTRATED FLOW AT THE SILT PERIMETER CONTROLS.
  - INSTALL TEMPORARY SILT INLET PROTECTION ON ALL EXISTING CATCH BASINS AND INLETS, AS DESIGNATED IN THE PLANS. REMOVAL OF SILT INLET PROTECTION FROM DESIGNATED INLETS CAN ONLY OCCUR WHEN A STRUCTURE IS REMOVED, AND AS REQUIRED BY THE PROGRESSION OF THE DEMOLITION AND CONSTRUCTION.
  - CLEAR & GRUB THE REMAINING SITE AS NECESSARY. TOPSOIL SHALL BE STRIPPED AND STOCKPILED ON SITE FOR REUSE, OR REMOVED TO AN APPROVED OFFSITE SPOIL AREA.
  - UTILIZE DUST CONTROL MEASURES AS REQUIRED TO MINIMIZE AIR-BORNE POLLUTION BY METHODS APPROVED BY THE AUTHORIZING EPA OFFICE.
  - BEGIN FILLING & GRADING AS REQUIRED TO REACH SUBGRADE.
  - ONCE PAVEMENT GRADES HAVE BEEN ESTABLISHED, AS DESIGNATED ON THE PLANS, THE CONTRACTOR SHALL UTILIZE THESE AREAS FOR STRUCTURE CONSTRUCTION.
  - CONSTRUCT UNDERGROUND UTILITY WORK INCLUDING STORM DRAINAGE FACILITIES. UPON INSTALLATION OF STORM DRAINAGE CATCH BASINS, YARD DRAINS AND INLETS, INSTALL REQUIRED INLET PROTECTION.
  - DO NOT REPLACE ANY TOPSOIL. SEED OR INSTALL FINAL PAVEMENT PRIOR TO COMPLETION OF BUILDING SHELL. SHOULD SITEWORK BE COMPLETED PRIOR TO THIS DATE, MULCH DISTURBED AREAS TO BE PLANTED AND INSTALL STONE SUBBASE IN DISTURBED AREAS TO BE PAVED.
  - FOLLOWING COMPLETION OF BUILDING SHELL AND PAVEMENT INSTALLATION, BEGIN LANDSCAPE INSTALLATION.
  - COMPLETE SITEWORK, PAVEMENT MARKINGS AND FINAL CLEAN-UP. RESEED ANY AREAS THAT MAY REQUIRE ATTENTION IMMEDIATELY. NOTE THAT LAWN AREAS WILL NOT BE DEEMED STABLE UNTIL A MINIMUM 80% VEGETATIVE DENSITY HAS BEEN ACHIEVED.
  - MAINTAIN EROSION & SEDIMENTATION CONTROL MEASURES UNTIL THE SITE HAS BEEN COMPLETELY STABILIZED. ALL AREAS OF VEGETATIVE SURFACE, WHETHER PERMANENT OR TEMPORARY, SHALL BE CONSIDERED TO BE IN PLACE AND FUNCTIONAL WHEN THE REQUIRED UNIFORM RATE OF COVERAGE (80%) IS OBTAINED.
  - REMOVE SEDIMENT CONTROLS.

**PROJECT DESCRIPTION**  
 THIS SITE WAS HOME TO AN EMPTY FIELD. PROPOSED IMPROVEMENTS INCLUDE A NEW TACO BELL SITE ALONG WITH PARKING AREAS, SIDEWALKS, UTILITIES, AND AMENITY IMPROVEMENTS. WATER QUALITY AND DETENTION WILL BE DONE BY THE DEVELOPER AND ARE NOT PART OF THESE PLANS.

**PROJECT COMPLETION STATISTICS**

PARCEL SIZE:	0.93 ACRES
TOTAL DISTURBED AREA:	1.00± ACRES
EXISTING LAND USE FOR THE SITE IS VACANT LAND.	
ESTIMATED PRE-CONSTRUCTION IMPERVIOUS AREA:	0.00 ACRES
ESTIMATED PRE-CONSTRUCTION IMPERVIOUS PERCENT:	0%
PRE-CONSTRUCTION RUN-OFF COEFFICIENT:	0.40
PROPOSED LAND USE WILL BE TACO BELL DEVELOPMENT.	
ESTIMATED POST-CONSTRUCTION IMPERVIOUS AREA:	0.67 ACRES
ESTIMATED POST-CONSTRUCTION IMPERVIOUS PERCENT:	72%
POST-CONSTRUCTION RUN-OFF COEFFICIENT:	0.76

**PROJECT LOCATION:**  
 LATITUDE: 42.168948° LONGITUDE: -83.267422°  
 CU: CUT AND FILL LAND  
 REFERENCE: USDA NATIONAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY.

**EXISTING SITE SOIL TYPES:**  
 CU: CUT AND FILL LAND  
 REFERENCE: USDA NATIONAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY.

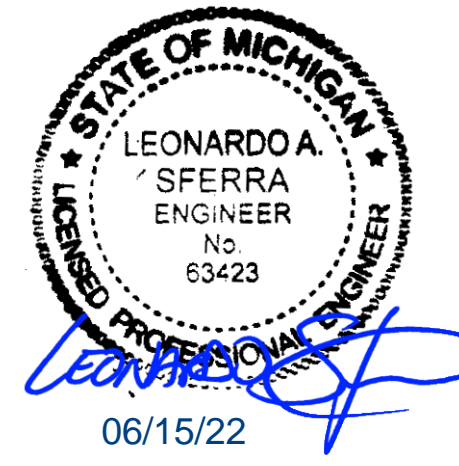
**WETLAND INFORMATION:**  
 THERE ARE NO WETLANDS ON THIS SITE.

**OWNER CONTACT:**  
 SAM YALDO  
 TEL - SIB, LLC  
 31000 NORTHWESTERN HWY, SUITE 110  
 FARMINGTON HILLS, MI 48334

**ANTICIPATED TIMING:**  
 CONSTRUCTION BEGIN: NOVEMBER, 2021  
 CONSTRUCTION COMPLETE: FEBRUARY, 2022

**CONTRACTOR:** T.B.D.  
 CONTACT: \_\_\_\_\_  
 PHONE NUMBER: \_\_\_\_\_

CONTRACTOR SHALL MAINTAIN A CONSTRUCTION LOG DOCUMENTING ALL GRADING AND STABILIZATION ACTIVITIES.



- CITY AND COUNTY COMMENTS**
- TOWNSHIP/MDOT COMMENTS**
- 01.20.22 ISSUED FOR BID
  - 03.11.22 ISSUED FOR CONSTRUCTION

CONTRACT DATE: 01/01/19  
 BUILDING TYPE: ENDEAVOR 2.0  
 PLAN VERSION: MARCH 2022  
 BRAND DESIGNER: DAN DICKSON  
 SITE NUMBER: 315089  
 STORE NUMBER: 40164

**TACO BELL**  
 18708 TELEGRAPH RD  
 BROWNSTOWN, MI 48183



**SWPP PLAN**

**C-132**



**E5 DUST CONTROL SPECIFICATIONS**

**When**

- On construction sites during periods of low precipitation, low humidity, and high temperature or high winds.

**Why**

- To reduce dust and sedimentation from wind and construction activities.

**Where**

- Use on unpaved roadways, construction sites with vehicle traffic, soil stockpile areas, and general areas with unstabilized, or fine soils.

**How**

- Dust control applications can include watering, chemical dust suppression, gravel or asphalt surfacing, temporary aggregate cover, and haul truck covers.
- Minimize length of time vulnerable areas are exposed on construction site.
- Identify and stabilize key access points prior to initiating construction.
- Quickly stabilize exposed soil by vegetation, mulch, soil erosion control blankets, spray-on adhesives, sprinkling, or stone layering to minimize areas in need of dust control.
- Follow manufacturers instructions regarding application of any dust palliative. Pay particular attention to mixing details.
- Apply dust suppressant to surfaces using a pressure type water distributor truck equipped with a spray system.
- The number of applications to be determined by site engineer.
- Immediately clean-up sediment tracked onto paved roads.
- Limit vehicle traffic to 15 miles per hour.
- Utilize aggregate cover on access, parking, and paved roads.
- Keep construction traffic directed to stabilized site roadways when possible.

STANDARD SYMBOL

**E5 DUST CONTROL SPECIFICATIONS**

**Maintenance**

- Frequent, even daily application may be required to increase effectiveness.
- Do not overwater, as overwatering may cause erosion.
- Oil should not be used for dust control, as it may enter a drainage way through runoff or seeping into the soil.

**Limitations**

- To continue its effectiveness, dust control application needs to be applied on a regular schedule.
- Applying too much water to surface may cause erosion.
- Some types of dust suppressants may make soil water repellent, increasing runoff.

STANDARD SYMBOL

**E6 MULCHING SPECIFICATIONS**

**When**

- When areas are subject to erosive surface sheet flows or severe wind.

**Why**

- Temporarily protects seeded areas and slopes against erosion from rain or wind. Holds soil moisture to allow for seed germination and reduces wind desiccation of germinated seeds. Inhibits seed consumption by birds.

**Where**

- Use on exposed slopes, newly seeded areas, new ditch bottoms (without perennial flow), and other areas subject to erosion.

**How**

- Other surface runoff control measures should be installed prior to mulching.
- Prepare surface to proper grade and compaction requirements.
- If treatment area is to be revegetated immediately, spread or drill seed, or install vegetative sprigs into planting surface.
- Select mulch material appropriate for site characteristics, including grade, level of traffic, installation method, and accessibility.
  - Straw** - Most common and widely used material. Provides organic matter as it breaks down. Effectiveness of sediment reduction high for at least 3 months. Subject to windblow and washout. For straw, apply a minimum of 2 tons/acre or approx. 50 lbs./1000 sq.ft. to cover the surface. Increase application rates 50% for dormant seeding.
  - Rock** - Crushed stone and gravel maintain effectiveness indefinitely if maintained to repair compaction. Cover 2-3" in depth (approx. 2.27 tons/1000 sq. ft.).
  - Wood chips/bark** - Chips decompose slowly but may require nitrogen fertilizer application to avoid nutrient deficiency. Tend to wash down slopes over 6% and may clog inlet grates. Cover 2-3" in depth.
- Mulches should not be applied if free surface water is present but may be applied to wet soil.

STANDARD SYMBOL

**E6 MULCHING SPECIFICATIONS**

**How (cont.)**

- Mulches (particularly straw) may need anchoring. Common methods include crimping, disk, or punching into soil; covering with netting; spraying with a binder/tackifier, or keeping moist.
- If using a tackifier to anchor mulch in place, apply immediately after mulch has been placed. Tackifiers include:
  - Latex-Base**. Mix 37 gallons of adhesive or the manufacturer's recommended rate with a minimum of 620 lbs. of recycled newsprint as a tracer with 3225 gallons of water.
  - Recycled Newsprint**. Mix 1850 lbs. of newsprint with 3700 gallons of water.
  - Wood Fiber**. Mix 1850 lbs. of wood fiber with 3700 gallons of water.
  - Guar Gum**. Mix 120 lbs. of dry adhesive and a minimum of 620 lbs. recycled newsprint as a tracer with 3225 gallons of water.
  - Other Tackifiers**. Mix 240 lbs. of dry adhesive or the manufacturer's recommended rate and a minimum of 620 lbs. of recycled newsprint as a tracer with 3225 gallons of water.

**Maintenance**

- Inspect mulched areas periodically and after any storm event. Repair damaged areas, reseed or replace vegetation (if necessary), and replace lost mulch immediately.
- Keep eroded soil, vehicular and pedestrian traffic, and concentrated runoff away from the mulched area.

**Limitations**

- Mulch can be blown or washed away if not secured.
- Organic mulches, particularly thick applications of wood chips, can reduce nitrogen availability to desired plants, may inhibit good surface coverage by vegetation, and should be supplemented with fertilizer.
- Tackifiers are slippery when wet. Equipment must be kept clean to prevent accidents.
- Tackifiers can mark vehicles, signs, or other objects if these items are not protected.
- Hay mulch should not be used, as it can contain noxious weeds.

STANDARD SYMBOL

**E7 TEMPORARY SEEDING SPECIFICATIONS**

**When**

- When an area needs stabilization during a break in construction.

**Why**

- Stabilizes soil.
- Prevents erosion/sedimentation problems from developing.
- Allows runoff to infiltrate soil.

**Where**

- Used on construction and earth change sites where earth change has been initiated but will not be completed within two normal work weeks.
- A temporary measure when an area needs stabilization during a break in construction.

**How**

- Review construction phasing and soil erosion control plan to identify areas requiring temporary seeding.
- Select annual grass seed for temporary cover areas.
- Seed mixes may vary, should only contain annual, non-aggressive species, and generally include rye, wheat, or oat species. Seed mixes should be obtained from a seed supplier as seed mixes are dependent on soil type, light, moisture, and use application.
- Prepare seedbed by removal of construction/woody debris. Then scarify or rake seedbed.
- Slopes steeper than 1:3 should be roughened.
- Apply seed as soon as possible after seedbed preparation. Mulch immediately after seeding all slopes, unstable soils, heavy clay soils, and all areas adjacent to wetlands, watercourses, or sensitive areas.
- The time to seed is dependent on the climate of the area. Michigan has three climatic zones.
- Protect seeded areas from pedestrian/vehicular traffic.
- Divert concentrated flows away from seeded area until vegetation is established.

STANDARD SYMBOL

**TEMPORARY SEEDING DATES**

**How (cont.)**

- Inspect temporary seeded areas weekly and following each rain event until final grading and stabilization activities are completed.
- Must be followed by permanent seeding.

**Limitations**

- Seeds need adequate time to establish.
- May not be appropriate in areas with frequent traffic.
- Seeded area may require irrigation in dry periods.

Seed Type	Zone			Amount	
	Zone 1 Lower Peninsula (South of U.S. 10)	Zone 2 Lower Peninsula (North of U.S. 10)	Zone 3 Upper Peninsula	per 1000 sq.ft.	per acre
Oats, barley	4/1 - 9/15	4/15 - 8/1	5/1 - 8/1	2 lbs.	96 lbs.
Annual Rye	8/1 - 10/15	8/1 - 10/10	8/1 - 11/1	3 lbs.	120 lbs.
Wheat	9/20 - 10/15	9/10 - 10/10	9/10 - 10/1	3 lbs.	120 lbs.
Buckwheat	6/1 - 7/15	6/1 - 7/15	6/15 - 7/15	2 lbs.	75 lbs.
Perennial Ryegrass	8/1 - 10/15	6/1 - 8/1	8/1 - 10/1	0.5 lbs.	20 lbs.

Source: Adapted from USDA NRCS Technical Guide #342 (1999)

STANDARD SYMBOL

**GPD GROUP**  
Professional Corporation

520 South Main Street, Suite 2531  
Akron, OH 44311  
530.572.2100 Fax 530.572.2101

**S51 SILT FENCE**

**When**

- A temporary measure for preventing sediment movement.

**Why**

- Used to prevent sediment suspended in runoff from leaving an earth change area.

**Where**

- Use adjacent to critical areas, wetlands, base of slopes, and watercourses.

**How**

- Install parallel to a contour.
- The silt fence should be made of woven geotextile fabric.
- Silt fence should accommodate no more than 1/2 to 1 acre of drainage per 100' of fence.
- Dig a 6" trench along the area where the fence is to be installed.
- Place 6" of the silt fence bottom flap into the trench.
- Backfill the trench with soil and compact the soil on both sides. Create a small ridge on the up-slope side of the fence.
- Install wooden stakes 6 - 10' apart and drive into the ground a minimum of 12".
- Staple the geotextile fabric to the wooden stakes.
- Join sections of silt fence by wrapping ends together (See drawing).

**Maintenance**

- Inspect frequently and immediately after each storm event. Check several times during prolonged storm events. If necessary, repair immediately.
- If the sediment has reached 1/3 the height of the fence, the soil should be removed and disposed of in a stable upland site.
- The fence should be re-installed if water is seeping underneath it or if the fence has become ineffective.
- Silt fence should be removed once vegetation is established and up-slope area has stabilized.

STANDARD SYMBOL

**S51 SILT FENCE SPECIFICATIONS**

**When**

- A temporary measure for preventing sediment movement.

**Why**

- Used to prevent sediment suspended in runoff from leaving an earth change area.

**Where**

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- Silt fence should be removed once vegetation is established and up-slope area has stabilized.

STANDARD SYMBOL

**S51 SILT FENCE SPECIFICATIONS**

**Limitations**

- Silt fence may cause temporary ponding and could fail if too much water flows through the area.
- Do not use in areas with concentrated flows.
- Chance of failure increases if fence is installed incorrectly or if sediment accumulation is not removed.

STANDARD SYMBOL

**S59 INLET PROTECTION - FABRIC FENCE**

**When**

- When sediment-laden stormwater requires treatment before entering a stormwater drainage system.

**Why**

- To prevent sediment from entering stormwater systems.

**Where**

- Use in or at stormwater inlets, especially at construction sites.

**How**

- Stake filter fence around inlet, making sure it is trenched in well around perimeter of inlet.
- Backfill trench.
- On high side of inlet, create opening in fence between 2 stakes (typically at least 4 to 6" from ground to top of fence).
- Place pea gravel at exterior of silt fence opening to a height of at least 1" above opening.
- A filter fabric bag may be hung inside the inlet, beneath the grate (See Inlet Protection-Fabric Drop).

**Maintenance**

- Reconfigure pea stone as needed.
- Filter fence may cause temporary ponding and could fail if too much water flows through the area.
- Do not use in areas with concentrated flows.
- Chance of failure increases if fence is installed incorrectly or if sediment accumulation is not removed.

**Limitations**

- Significant flow quantities from large drainage areas may inhibit use.
- May impede flows, ponding may occur if not maintained.
- Requires frequent maintenance.

STANDARD SYMBOL

**S59 INLET PROTECTION - FABRIC FENCE**

**When**

- When sediment-laden stormwater requires treatment before entering a stormwater drainage system.

**Why**

- To prevent sediment from entering stormwater systems.

**Where**

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**How**

- Stake filter fence around inlet, making sure it is trenched in well around perimeter of inlet.
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**Maintenance**

- Reconfigure pea stone as needed.
- Filter fence may cause temporary ponding and could fail if too much water flows through the area.
- Do not use in areas with concentrated flows.
- Chance of failure increases if fence is installed incorrectly or if sediment accumulation is not removed.

**Limitations**

- Significant flow quantities from large drainage areas may inhibit use.
- May impede flows, ponding may occur if not maintained.
- Requires frequent maintenance.

STANDARD SYMBOL

The State of Michigan Department of Technology Management and Budget State Facilities Administration details on this sheet has not been reviewed by the stamping party. Therefore, the stamping party makes no representation(s) with respect to its contents, and shall not be liable for such. Any reliance on this stamp shall be at the relying party(ies)'s own risk and hereby waives any and all claim(s) related to the existence of the stamp or otherwise.

STATE OF MICHIGAN  
LEONARDO A. SFERRA  
ENGINEER  
No. 63423  
06/15/22

**S58 INLET PROTECTION - FABRIC DROP**

**When**

- When sediment laden stormwater requires treatment before entering a stormwater drainage system.

**Why**

- To prevent sediment from entering stormwater systems.

**Where**

- Use in or at stormwater inlets, especially at construction sites or in streets.

**How**

- A filter fabric bag is hung inside the inlet, beneath the grate.
- Replace grate, which will hold bag in place.
- Anchor filter bag with 1" rebar for removal from inlet.
- Flaps of bag that extend beyond the bag can be buried in soil in earth areas.

**Maintenance**

- Drop inlet filters should be inspected routinely and after each major rain event.
- Damaged filter bags should be replaced.
- Clean and/or replace filter bag when 1/2 full.
- Replace clogged fabric immediately.
- If needed, initiate repairs immediately upon inspection.
- Remove entire protective mechanism when upgradient areas are stabilized and streets have been swept.

**Limitations**

- Can only accommodate small flow quantities.
- Requires frequent maintenance.
- Ponding may occur around storm drains if filter is clogged.

STANDARD SYMBOL

**S58 INLET PROTECTION - FABRIC DROP SPECIFICATIONS**

**When**

- When sediment laden stormwater requires treatment before entering a stormwater drainage system.

**Why**

- To prevent sediment from entering stormwater systems.

**Where**

- Use in or at stormwater inlets, especially at construction sites or in streets.

**How**

- A filter fabric bag is hung inside the inlet, beneath the grate.
- Replace grate, which will hold bag in place.
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- Remove entire protective mechanism when upgradient areas are stabilized and streets have been swept.

**Limitations**

- Can only accommodate small flow quantities.
- Requires frequent maintenance.
- Ponding may occur around storm drains if filter is clogged.

STANDARD SYMBOL

**A1 CONCRETE WASHOUT AREA**  
N.T.S.

**PLAN**

- 10' MIN.
- 18"
- ALL CONCRETE TRUCKS SHALL WASHOUT HERE
- BLACK LETTERS ON WHITE BACKGROUND
- GALVANIZED "U" CHANNEL POST
- FINISH GRADE
- SIGN SHALL BE PLACED IN A PROMINENT LOCATION AT WASHOUT AREA
- ANCHOR BALES WITH (2) 2"x2"x4" STAKES PER BALE
- BALES TO BUTT 3'-0" MIN SOIL EMBEDMENT
- 7'-0" TO BOTTOM OF SIGN
- 10 MIL POLYETHYLENE SHEETING
- BINDING WIRE
- 30"±
- 12" MAX
- 12" MIN
- WOOD STAKE (TYPICAL)
- EXISTING GRADE
- 6" MIN DEPTH AGGREGATE ALL AROUND
- SEASONAL HIGH GROUNDWATER TABLE

**TYPICAL SECTION**

**NOTES:**

- CONTAINMENT MUST BE STRUCTURALLY SOUND AND LEAK FREE AND CONTAIN ALL LIQUID WASTES.
- CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTES GENERATED.
- WASHOUT MUST BE CLEANED OR NEW FACILITIES CONSTRUCTED AND READY TO USE ONCE WASHOUT IS 75% FULL.
- WASHOUT AREA(S) SHALL BE INSTALLED IN A LOCATION EASILY ACCESSIBLE BY CONCRETE TRUCKS.
- ONE OR MORE AREAS MAY BE INSTALLED ON THE CONSTRUCTION SITE AND MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
- AT LEAST WEEKLY REMOVE ACCUMULATION OF SAND AND AGGREGATE AND DISPOSE OF PROPERLY.

STANDARD SYMBOL

**A1 CONCRETE WASHOUT AREA**  
N.T.S.

**When**

- When sediment laden stormwater requires treatment before entering a stormwater drainage system.

**Why**

- To prevent sediment from entering stormwater systems.

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**Limitations**

- Can only accommodate small flow quantities.
- Requires frequent maintenance.
- Ponding may occur around storm drains if filter is clogged.

STANDARD SYMBOL

- ▲ CITY AND COUNTY COMMENTS
- ▲ TOWNSHIP/MDOT COMMENTS
- ▲ 01.20.22 ISSUED FOR BID
- ▲ 03.11.22 ISSUED FOR CONSTRUCTION
- ▲
- ▲
- ▲
- ▲
- ▲
- ▲
- ▲
- ▲

CONTRACT DATE: 01/01/19  
BUILDING TYPE: ENDEAVOR 2.0  
PLAN VERSION: MARCH 2022  
BRAND DESIGNER: DAN DICKSON  
SITE NUMBER: 315089  
STORE NUMBER: 40164

TACO BELL  
18708 TELEGRAPH RD  
BROWNSTOWN, MI 48183



ENDEAVOR 2.0

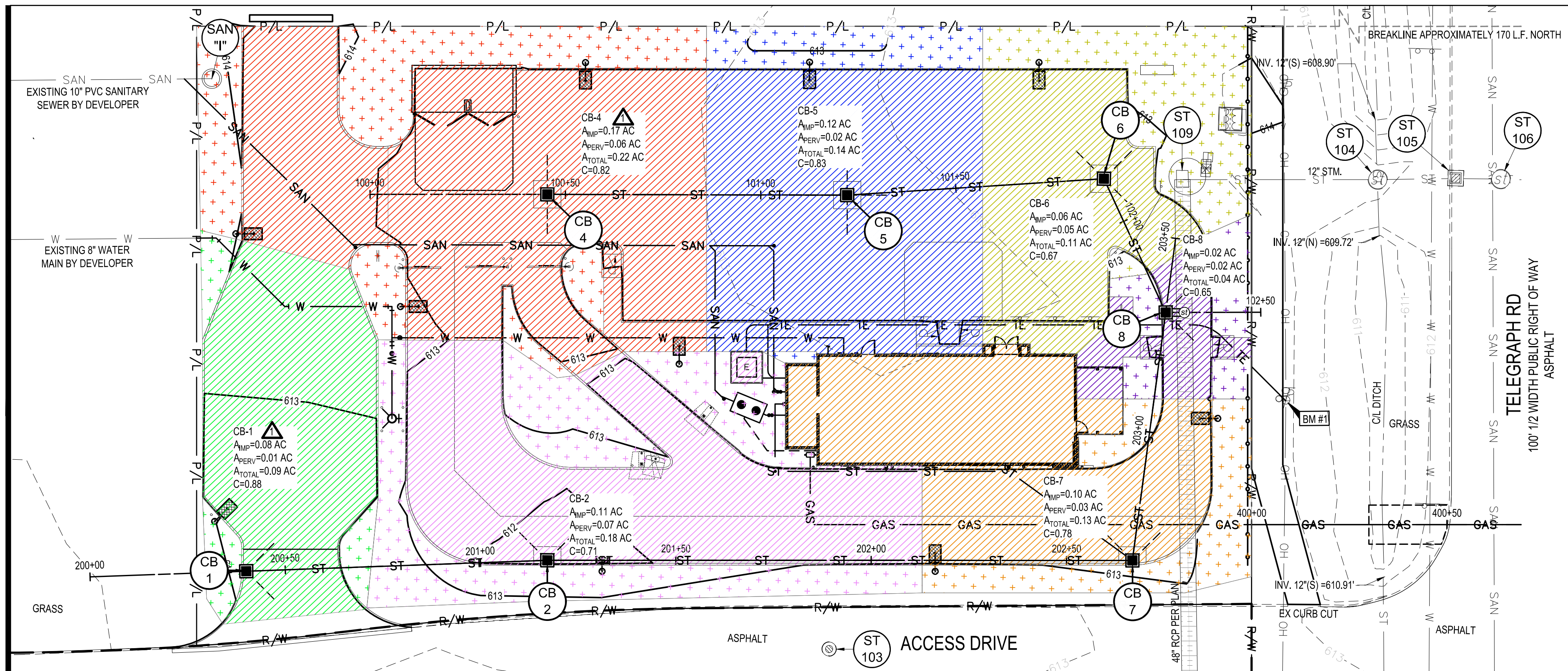
SWPP  
NOTES AND DETAILS

C-133

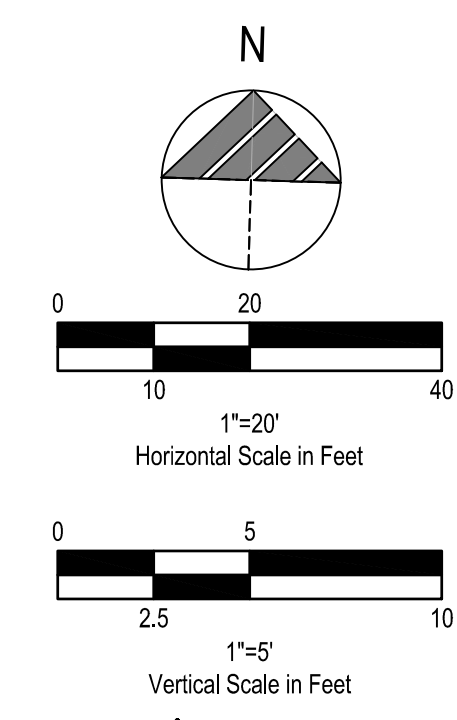








PROPOSED STRUCTURES	
STRUCT. ID	STRUCTURE DETAILS
CB 1	PROPOSED CATCH BASIN (48" MIN DIAMETER, SEE DETAIL SHEET C-504) RIM=612.28 INV. 4" (NE,SE)=610.78 INV. 12" (E)=608.49
CB 2	PROPOSED CATCH BASIN (48" MIN DIAMETER, SEE DETAIL SHEET C-504) RIM=611.65 INV. 4" (NW,NE)=610.15 INV. 12" (NW)=605.79
CB 3	NOT USED
CB 4	PROPOSED CATCH BASIN (48" MIN DIAMETER, SEE DETAIL SHEET C-504) RIM=612.20 INV. 4" (N,S,E,W)=610.70 INV. 12" (W)=607.52
CB 5	PROPOSED CATCH BASIN (48" MIN DIAMETER, SEE DETAIL SHEET C-504) RIM=612.09 INV. 4" (N,S,E,W)=610.59 INV. 12" (E,W)=605.21
CB 6	PROPOSED CATCH BASIN (48" MIN DIAMETER, SEE DETAIL SHEET C-504) RIM=612.09 INV. 4" (NE,NW,SE,SW)=610.59 INV. 12" (W,SE)=604.22
CB 7	PROPOSED CATCH BASIN (48" MIN DIAMETER, SEE DETAIL SHEET C-504) RIM=612.20 INV. 4" (NE,NW)=610.70 INV. 6" (SE)=607.53 INV. 12" (N)=604.29
CB 8	PROPOSED CATCH BASIN (48" MIN DIAMETER, SEE DETAIL SHEET C-504) RIM=612.55 INV. 4" (NE, SE)=611.05 INV. 12" (NW, S)=603.65 INV. 18" (W)=602.01
MH 1	PROPOSED 5' DIAMETER DOGHOUSE MANHOLE (SEE DETAIL SHEET C-504) RIM=612.62 INV. 18" (E)=602.00 EXISTING INV. 48" RCP (N, S)=599.95±

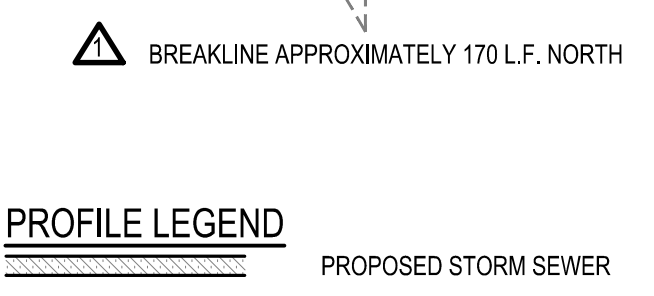
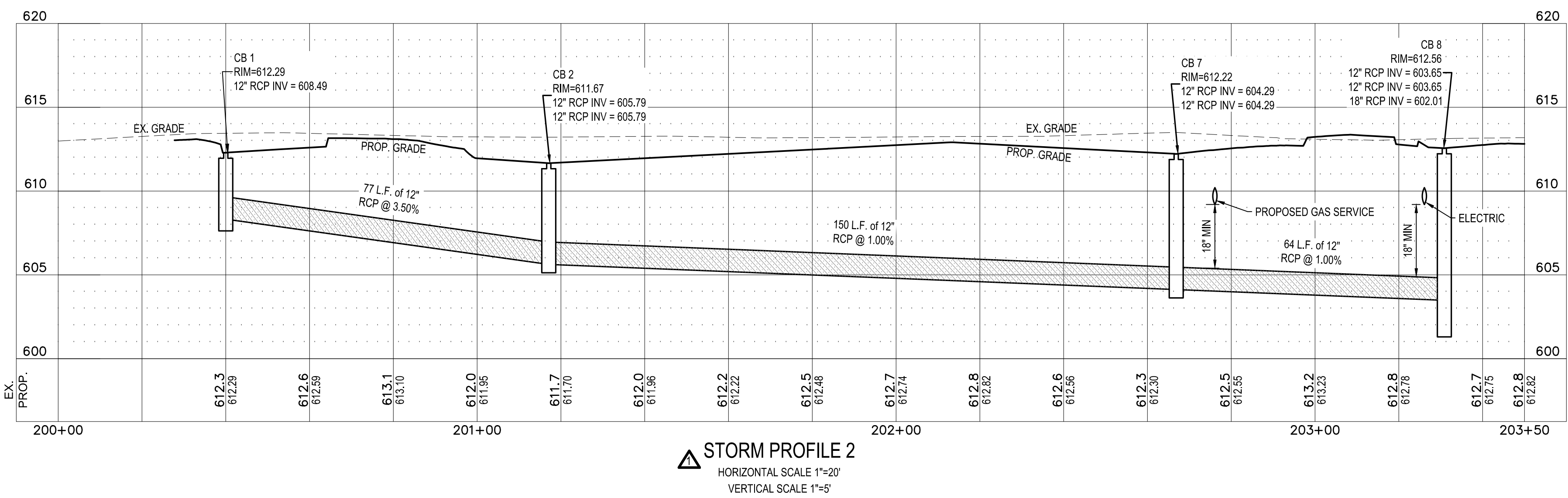
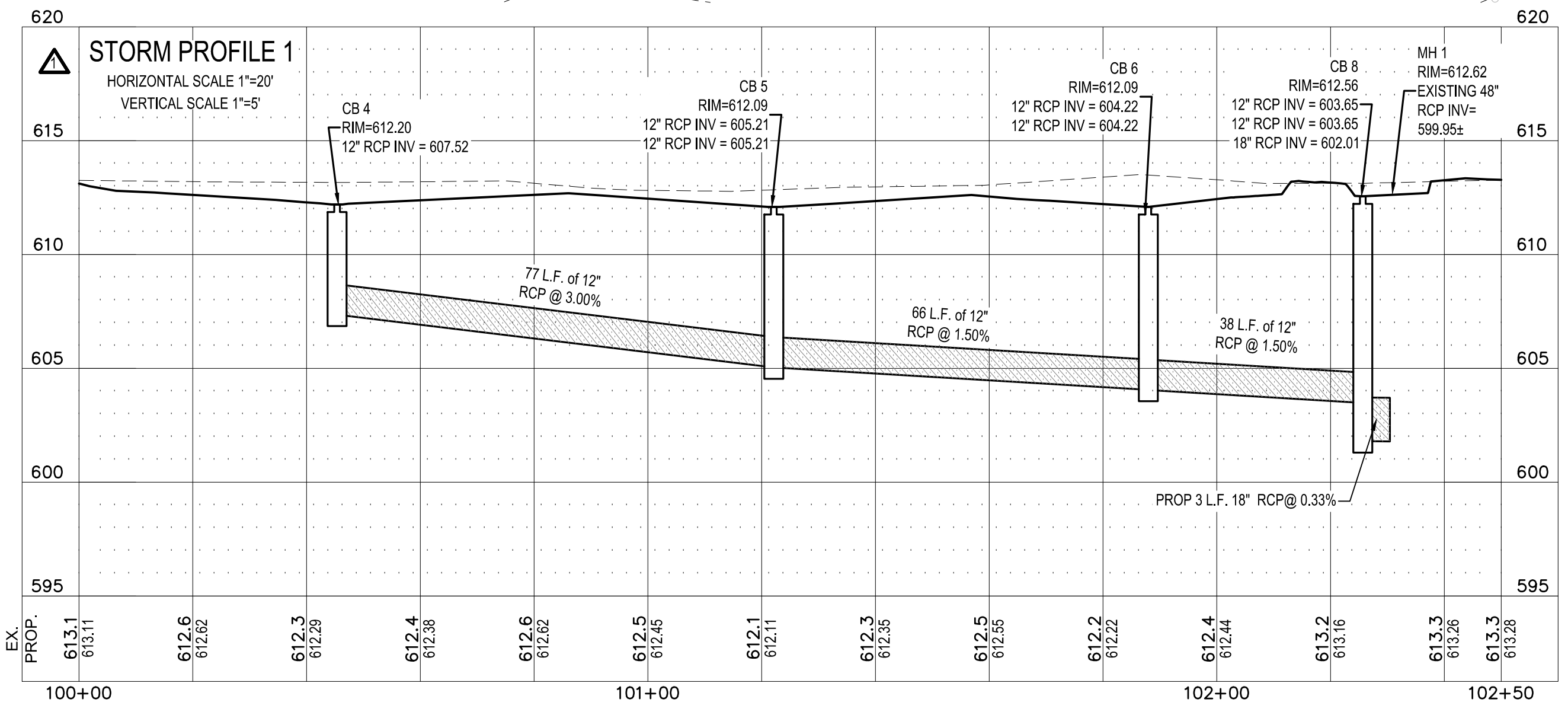


- GENERAL SHEET NOTES**
- CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES WITHIN WORK AREA PRIOR TO DEMOLITION OR CONSTRUCTION ACTIVITIES.
  - WATER QUALITY AND DETENTION IS PROVIDED OFF-SITE BY DEVELOPER.



**LEGEND**

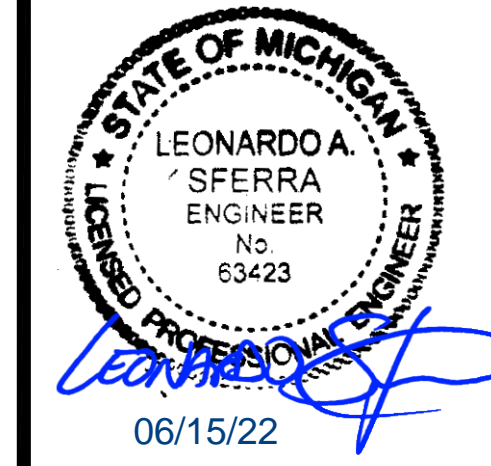
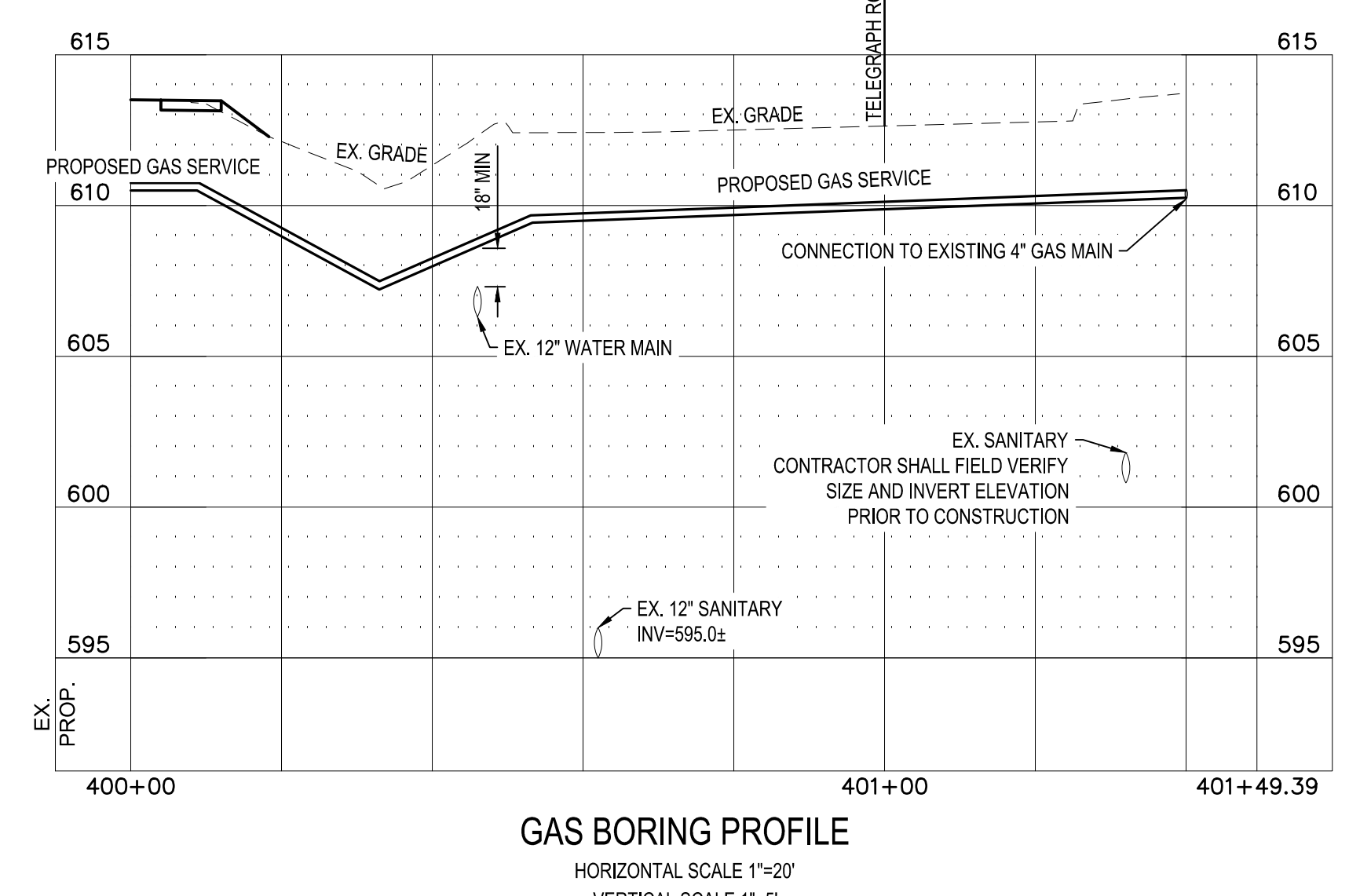
- ST PROPOSED STORM SEWER
- ST PROPOSED STORM SEWER 15" OR LARGER
- ST EXISTING STORM SEWER 48" OR LARGER
- SAN PROPOSED FINGER DRAIN
- W PROPOSED SANITARY SEWER
- GAS PROPOSED WATER SERVICE
- TE PROPOSED GAS SERVICE
- T PROPOSED UNDERGROUND ELECTRIC/TELEPHONE/CABLE SERVICE
- T PROPOSED UNDERGROUND TELEPHONE & CABLE SERVICE
- D.S. PROPOSED DOWNSPOUT
- X APPURTENANCES
- O
- PROPOSED IMPERVIOUS DRAINAGE AREA C=0.90
- PROPOSED PERVIOUS DRAINAGE AREA C=0.40



**Storm Sewer Tabulation 100-YEAR EVENT**

Line	To Line	Len (ft)	Dmg Area		Rnoff coeff (C)	Area x C		To Inlet (min)	Rain (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID	
			Incr (ac)	Total (ac)		Incr	Total						Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)		
1	End	3,000	0.04	0.91	0.65	0.03	0.70	10.0	13.6	6.3	4.44	6.07	2.51	18	0.33	602.00	602.01	603.95	603.96	613.15	612.55	CB 8 TO MH 1
2	1	38,000	0.11	0.47	0.67	0.07	0.37	10.0	11.2	6.7	2.49	4.36	5.07	12	1.50	603.65	604.22	604.19	604.90	612.55	612.09	CB 6 TO CB 8
3	2	66,000	0.14	0.36	0.83	0.12	0.30	10.0	10.8	8.8	2.02	4.36	3.82	12	1.50	604.22	605.21	604.90	606.82	612.09	612.09	CB 5 TO CB 6
4	3	77,000	0.22	0.22	0.82	0.18	0.18	10.0	10.0	7.0	1.26	6.17	2.98	12	3.00	605.21	607.52	605.82	607.99	612.09	612.20	CB 4 TO CB 5
5	1	64,000	0.13	0.40	0.78	0.10	0.31	10.0	13.2	6.4	1.96	3.56	4.33	12	1.00	603.65	604.29	604.18	604.89	612.55	612.20	CB 7 TO CB 8
6	5	150,000	0.18	0.27	0.71	0.13	0.21	10.0	11.8	6.6	1.37	3.56	3.17	12	1.00	604.29	605.79	604.89	606.28	612.20	611.65	CB 2 TO CB 7
7	6	77,000	0.09	0.09	0.88	0.08	0.08	10.0	10.0	7.0	0.55	6.67	2.05	12	3.51	605.79	608.49	606.28	608.80	611.65	612.28	CB 1 TO CB 2

Project File: 2019088.31 Storm Sewers.stm  
 Number of lines: 7  
 Run Date: 8/31/2021  
 NOTES: Intensity = 233.70 / (Inlet time + 23.50) ^ 1.00; Return period = Yrs. 100 ; c = cir e = ellip b = box



- ▲ CITY AND COUNTY COMMENTS
- ▲ TOWNSHIP/MDOT COMMENTS
- ▲ 01.20.22 ISSUED FOR BID
- ▲ 03.11.22 ISSUED FOR CONSTRUCTION
- ▲
- ▲
- ▲
- ▲
- ▲
- ▲

CONTRACT DATE: 01/01/19  
 BUILDING TYPE: ENDEAVOR 2.0  
 PLAN VERSION: MARCH 2022  
 BRAND DESIGNER: DAN DICKSON  
 SITE NUMBER: 315089  
 STORE NUMBER: 40164

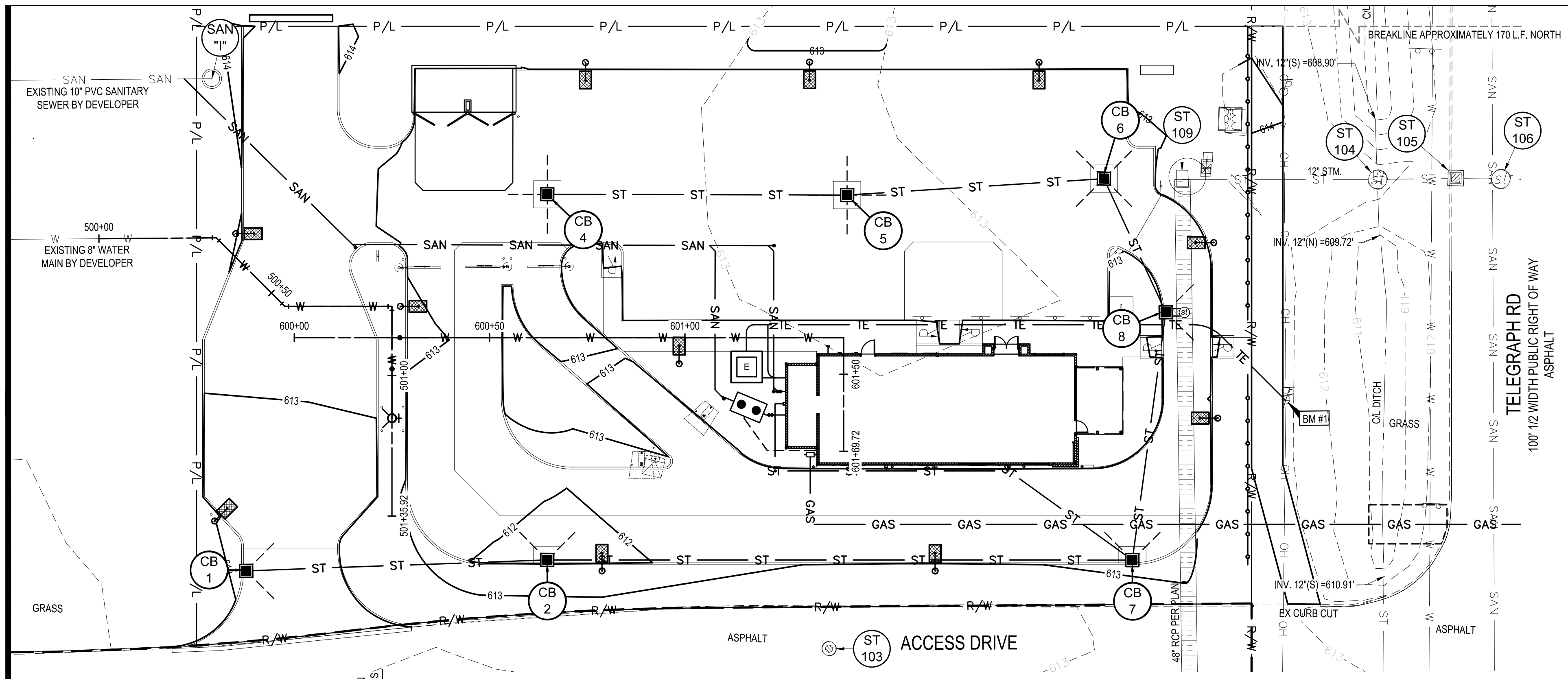
**TACO BELL**  
 18708 TELEGRAPH RD  
 BROWNSTOWN, MI 48183



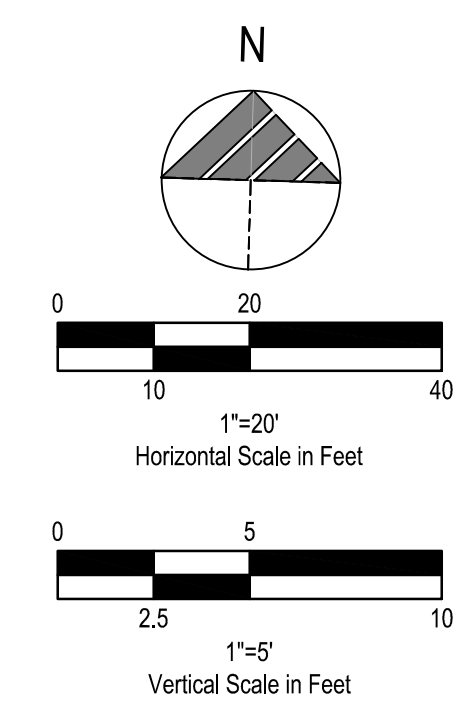
**STORM CALCS AND UTILITY PROFILES**

**C-142**





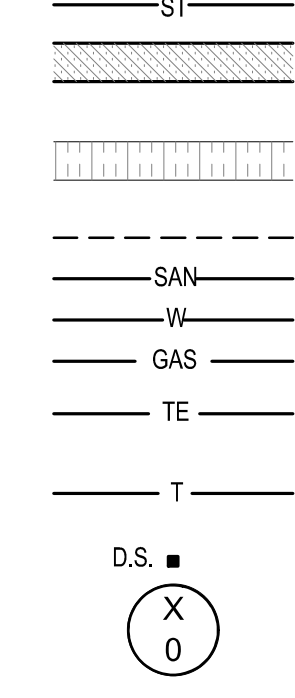
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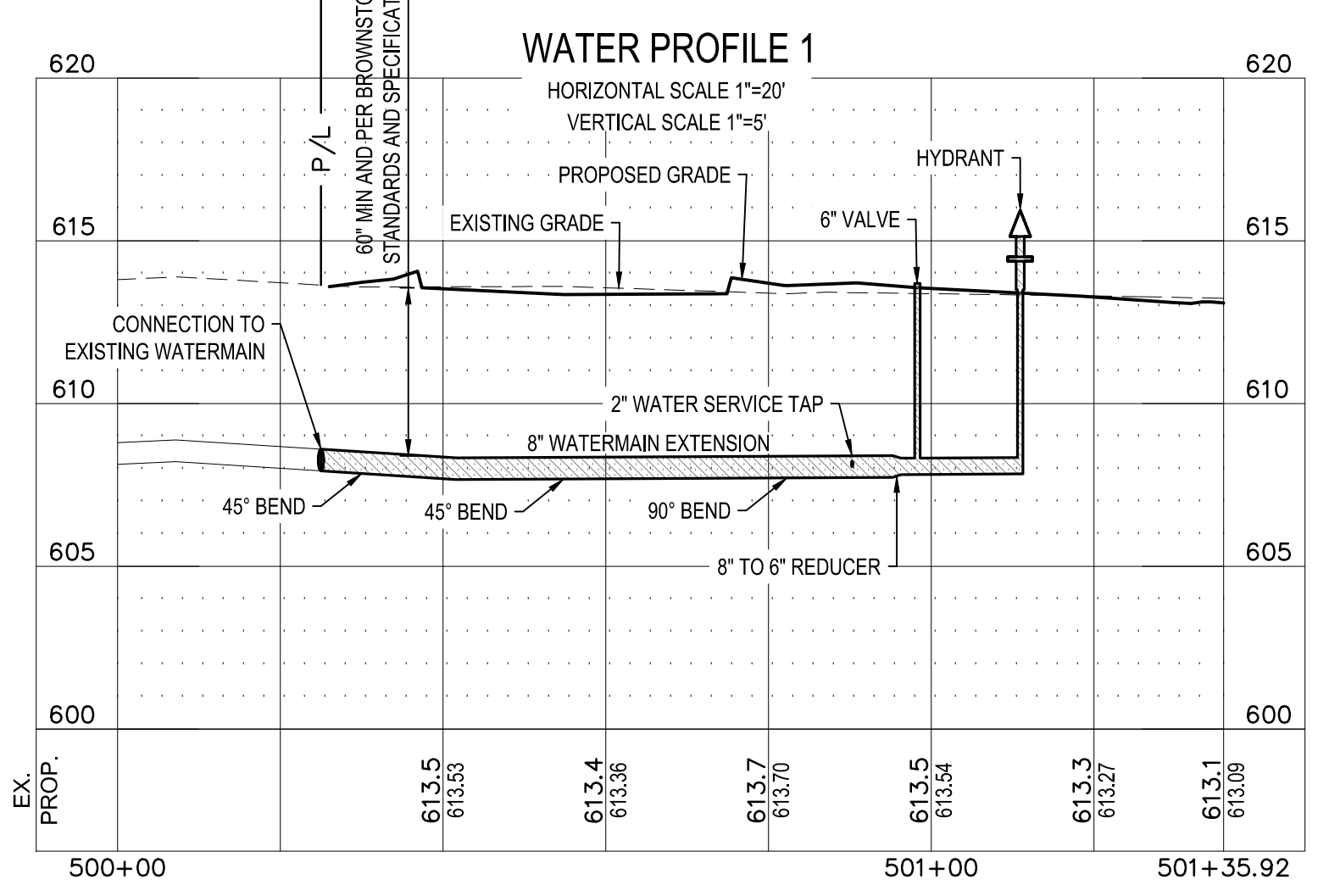
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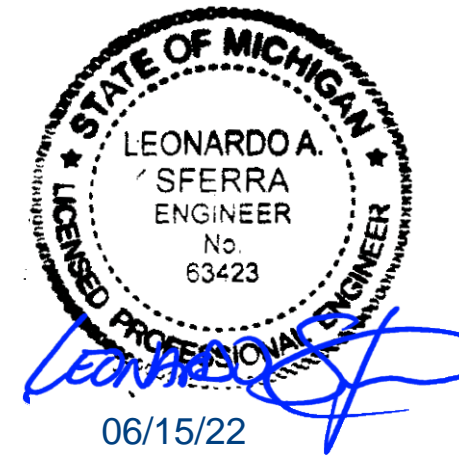
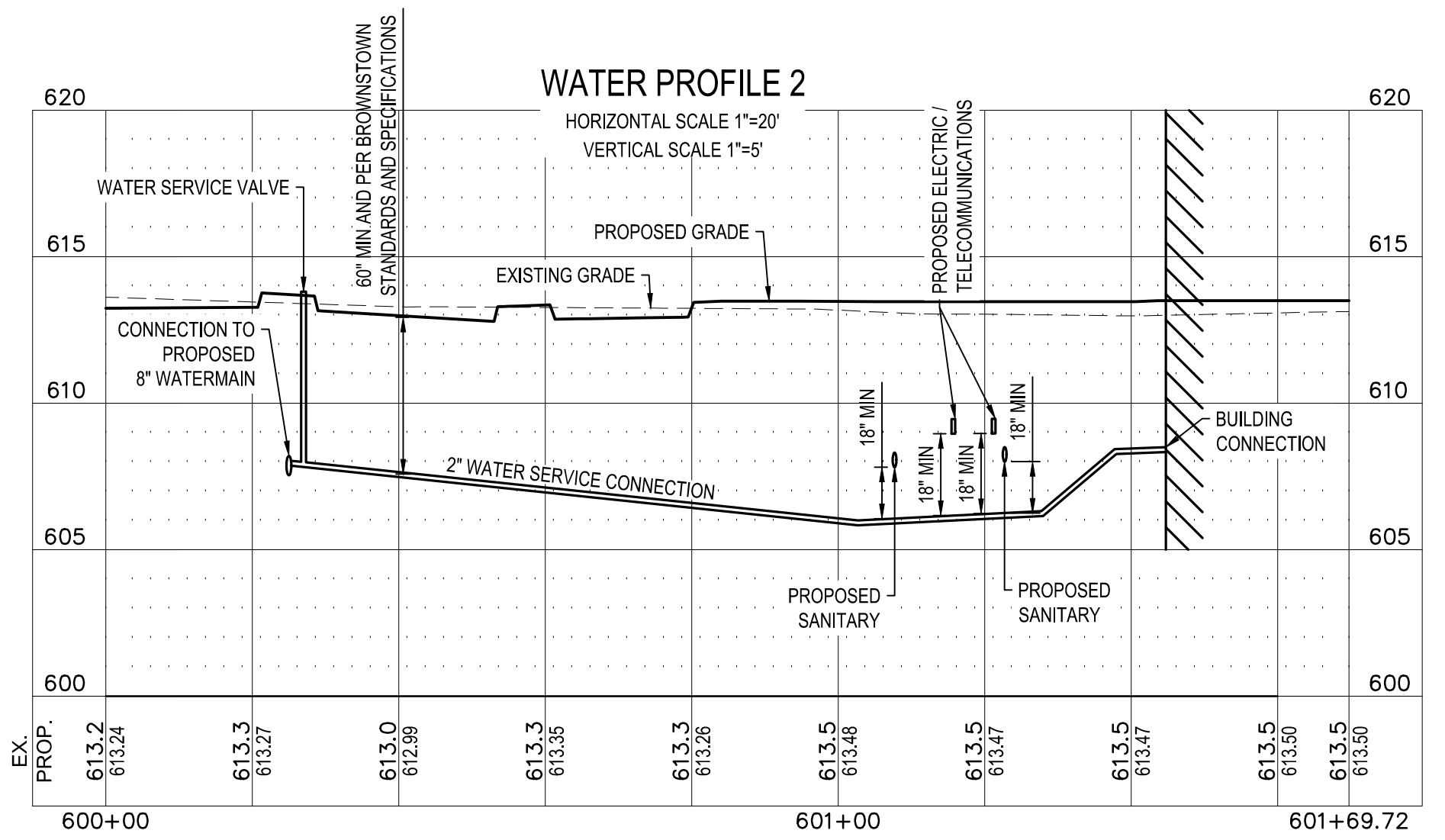
**LEGEND**



- PROPOSED STORM SEWER
- PROPOSED STORM SEWER 15" OR LARGER
- EXISTING STORM SEWER 48" OR LARGER
- PROPOSED FINGER DRAIN
- PROPOSED SANITARY SEWER
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- PROPOSED GAS SERVICE
- PROPOSED UNDERGROUND ELECTRIC/TELEPHONE/CABLE SERVICE
- PROPOSED UNDERGROUND TELEPHONE & CABLE SERVICE
- PROPOSED DOWNSPOUT
- APPURTENANCES



**PROFILE LEGEND**



- ▲ CITY AND COUNTY COMMENTS
- ▲ TOWNSHIP/MDOT COMMENTS
- ▲ 01.20.22 ISSUED FOR BID
- ▲ WATER LINE
- ▲
- ▲
- ▲
- ▲
- ▲
- ▲

CONTRACT DATE: 01/01/19  
 BUILDING TYPE: ENDEAVOR 2.0  
 PLAN VERSION: MARCH 2022  
 BRAND DESIGNER: DAN DICKSON  
 SITE NUMBER: 315089  
 STORE NUMBER: 40164

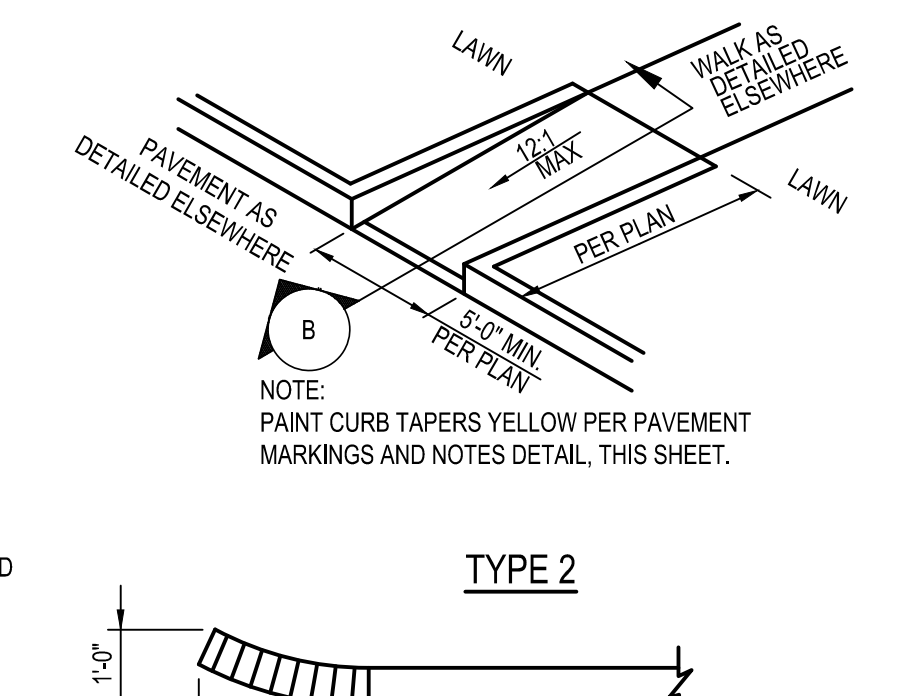
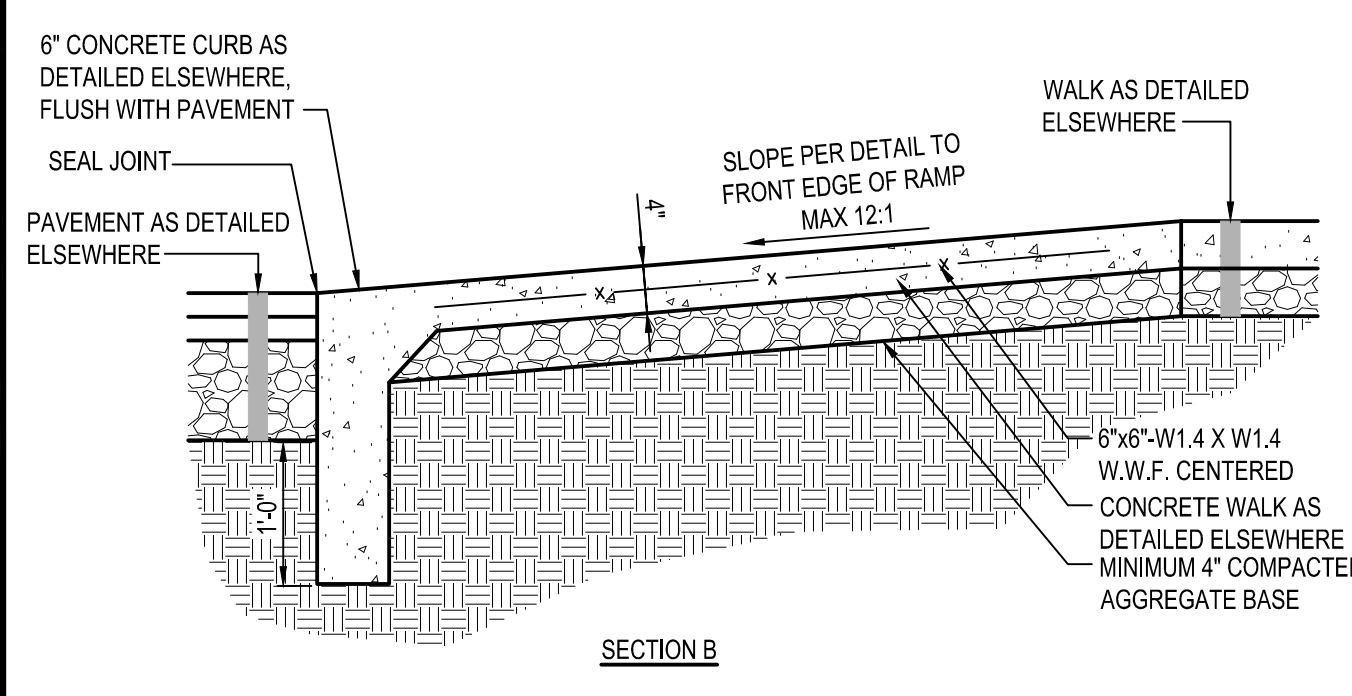
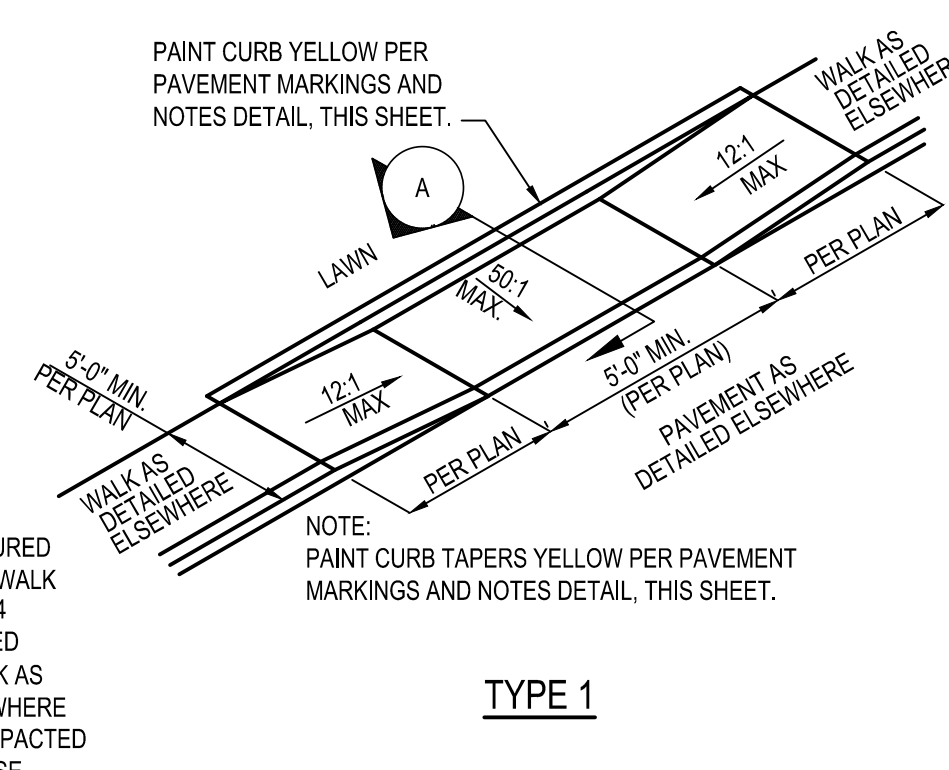
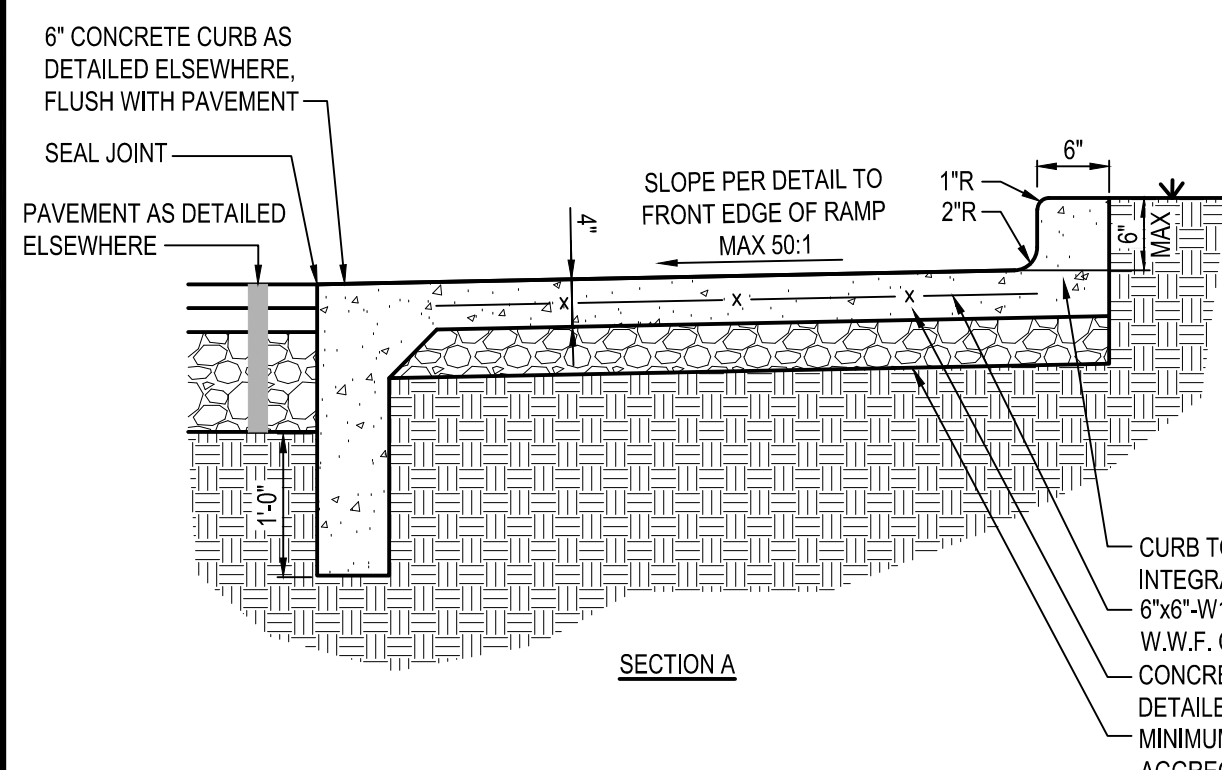
**TACO BELL**  
 18708 TELEGRAPH RD  
 BROWNSTOWN, MI 48183



**WATER PROFILES**

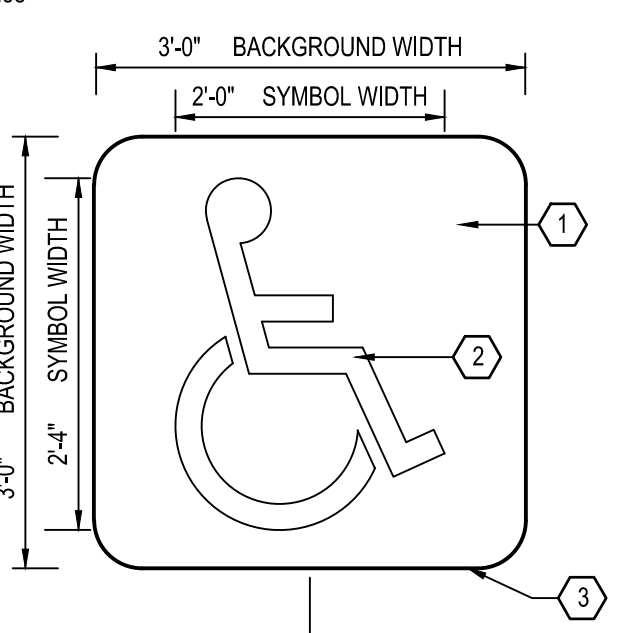
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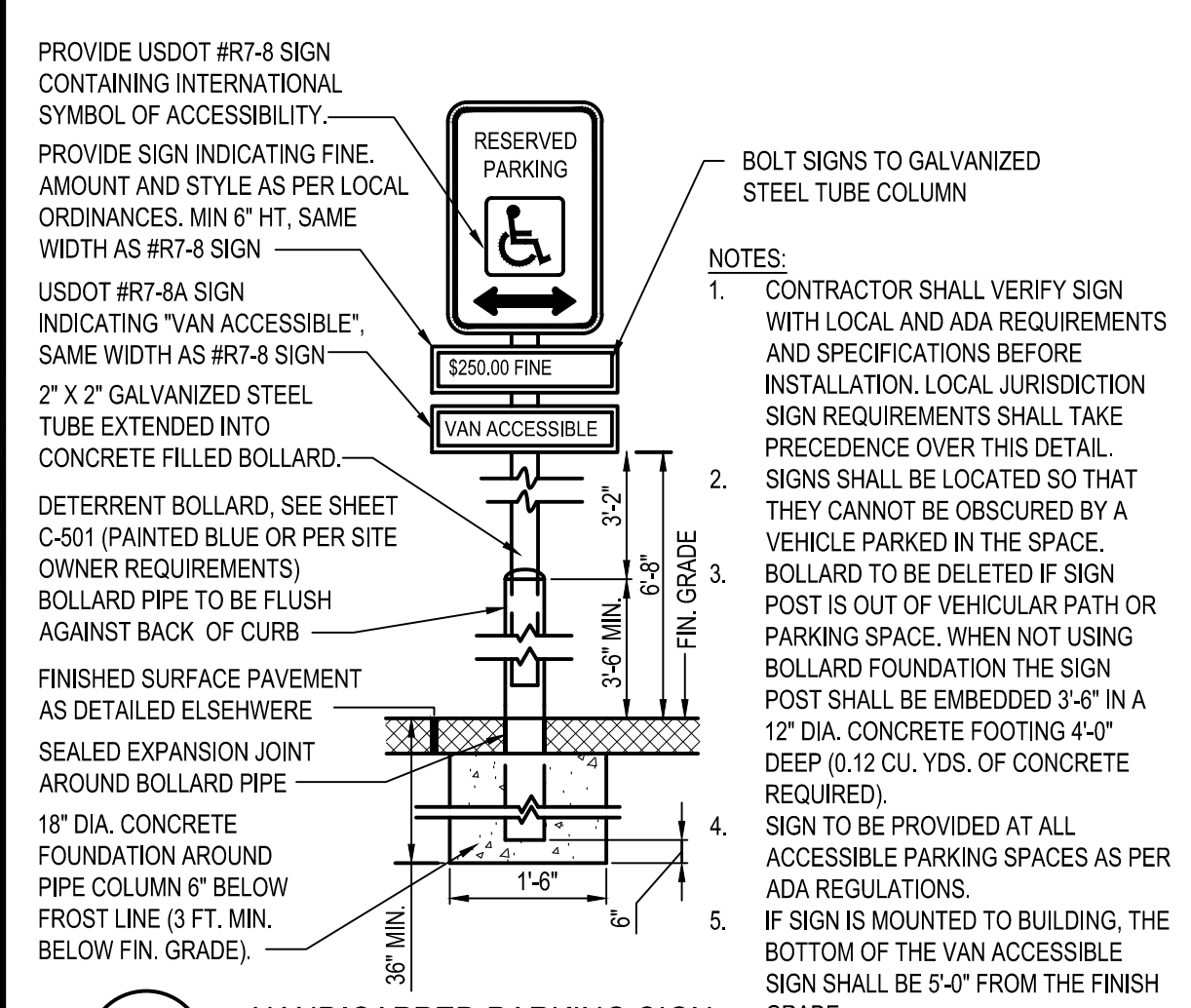


**C1 ADA ACCESSIBLE RAMP**  
N.T.S.

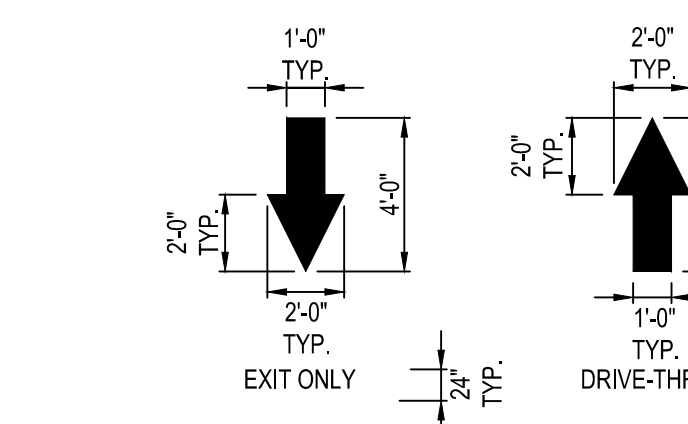
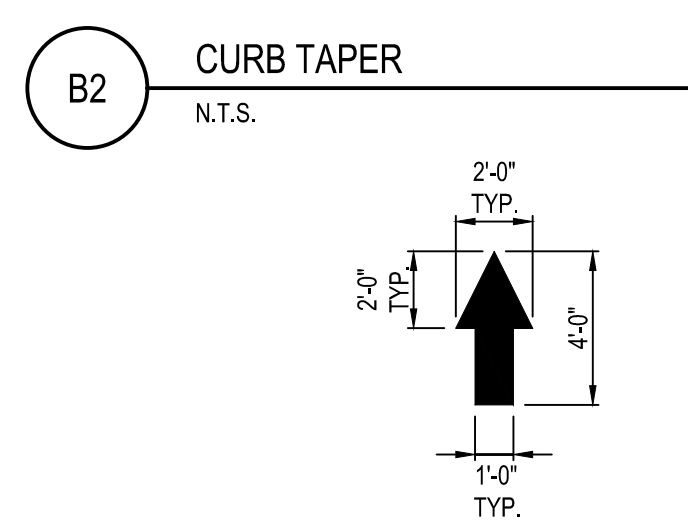
- KEYED NOTES**
- 1 PAINT BACKGROUND BENJAMIN MOORE M58 SAFETY & ZONE MARKING LATEX M58-30 - BLUE
  - 2 PAINT SYMBOL BENJAMIN MOORE M58 SAFETY & ZONE MARKING LATEX M58-01 - WHITE 4" WIDTH
  - 3 BOTTOM EDGE OF SYMBOL BOX SHALL MATCH END OF STALL STRIPE AT DRIVE AISLE END OF STALL.



**B1 ADA PAVEMENT SYMBOL**  
N.T.S.



**A1 HANDICAPPED PARKING SIGN**  
N.T.S.



**NOTES:**

ALL PAVEMENT MARKINGS TO BE WHITE PAVEMENT PAINT, UNLESS STATED OTHERWISE. ALL PAVEMENT MARKINGS WITHIN ADA AREAS SHALL BE PAINTED BLUE EXCEPT FOR COLORS DEFINED ON THE ADA PAVEMENT SYMBOL.

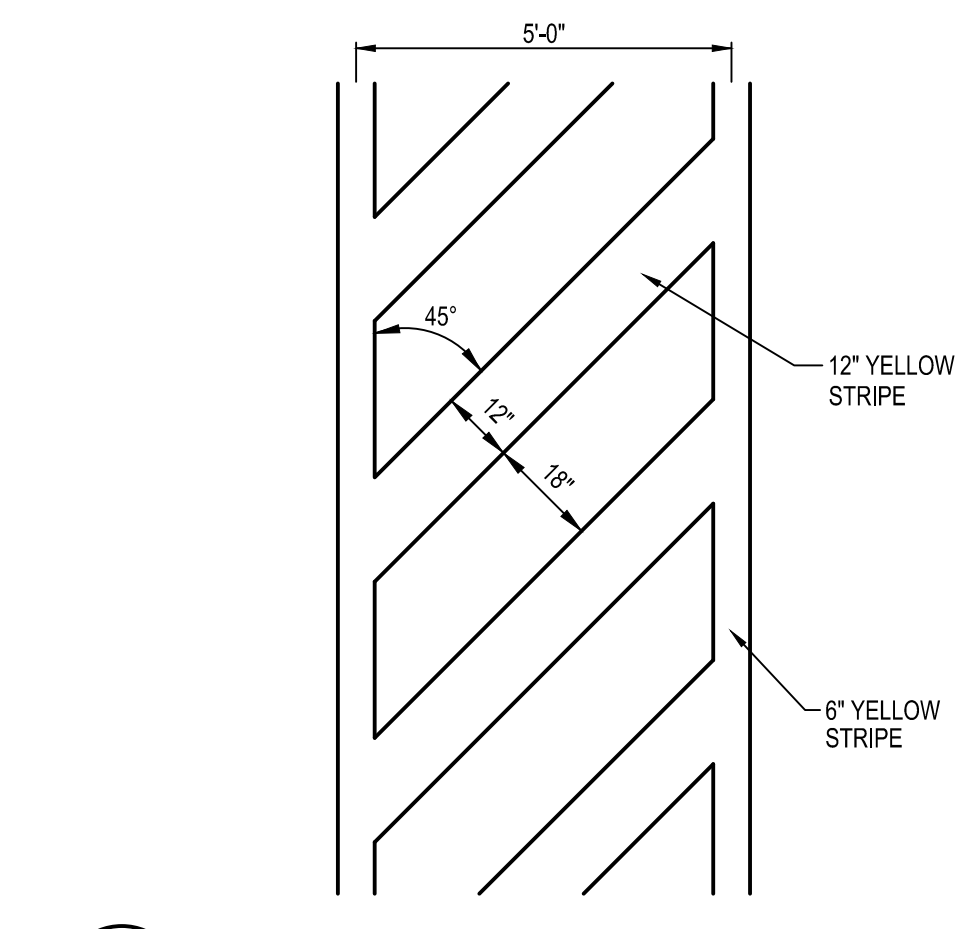
MARKING (STRIPING) PAINT FOR PARKING SPACES, TRAFFIC ARROWS, ADA PARKING AND SYMBOLS, ETC., PER LOCAL REQUIREMENTS AND AS FOLLOWS:

PAVEMENT MARKINGS SHALL BE PER PAINT SHALL BE WATER BASE FAST DRYING 100% ACRYLIC TYPE: WATER BASE TO MEET FEDERAL SPECIFICATION TTP-01952B. FOR COLD WEATHER APPLICATION PAINT PRODUCT SHALL BE IN ACCORDANCE WITH ASTM-D2369, D1394, D3723, D1475, D562 AND D711.

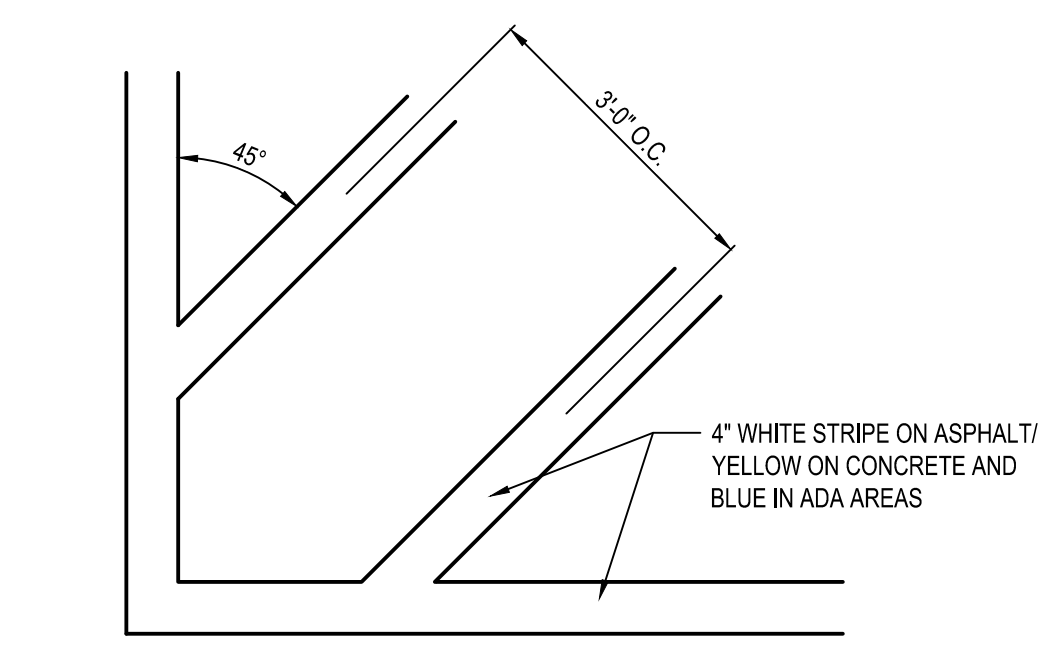
PROVIDE A NON-SLIP AGGREGATE ADDITIVE TO MARKING PAINT USED AT ADA ACCESS RAMP.

APPLY 2 COATS WITH STRAIGHT EDGES, YELLOW ON CONCRETE/WHITE ON ASPHALT EXCEPT WHEN MATCHING ADJACENT OR EXISTING COLOR WHEN THE PAVING IS AN EXPANSION OR SEGMENT OF A LARGER LOT. CONTRACTOR SHALL APPLY THE SECOND COAT NO SOONER THAN 30 DAYS OF APPLYING THE FIRST COAT.

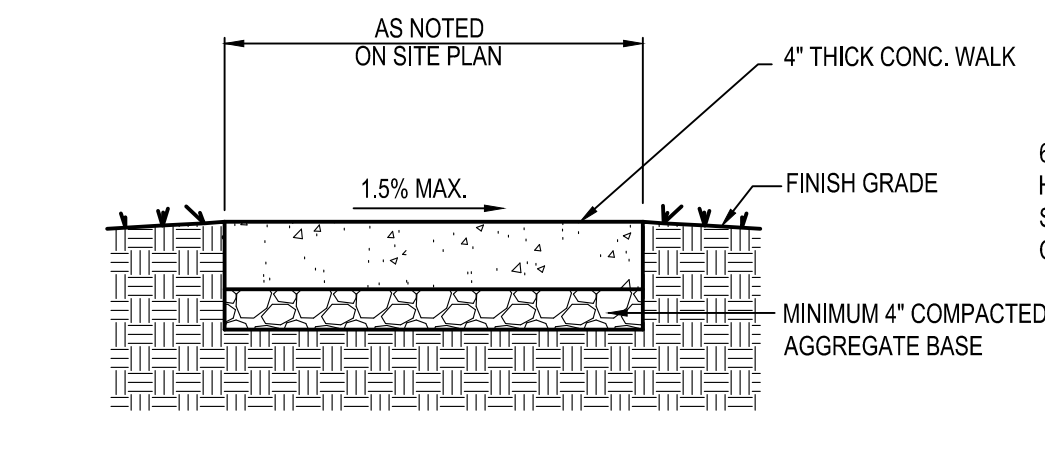
**A2 PAVEMENT MARKINGS & NOTES**  
N.T.S.



**B3 CROSSWALK STRIPING**  
N.T.S.

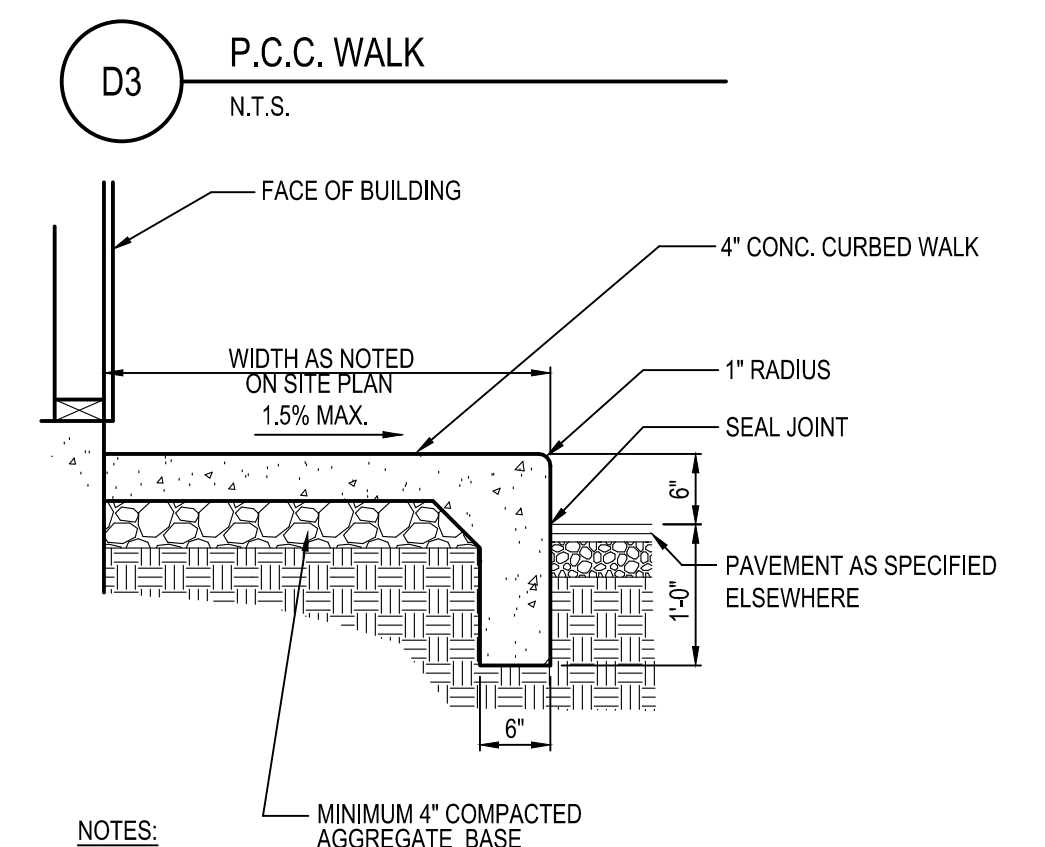


**A3 TRANSVERSE STRIPING**  
N.T.S.



**NOTES:**

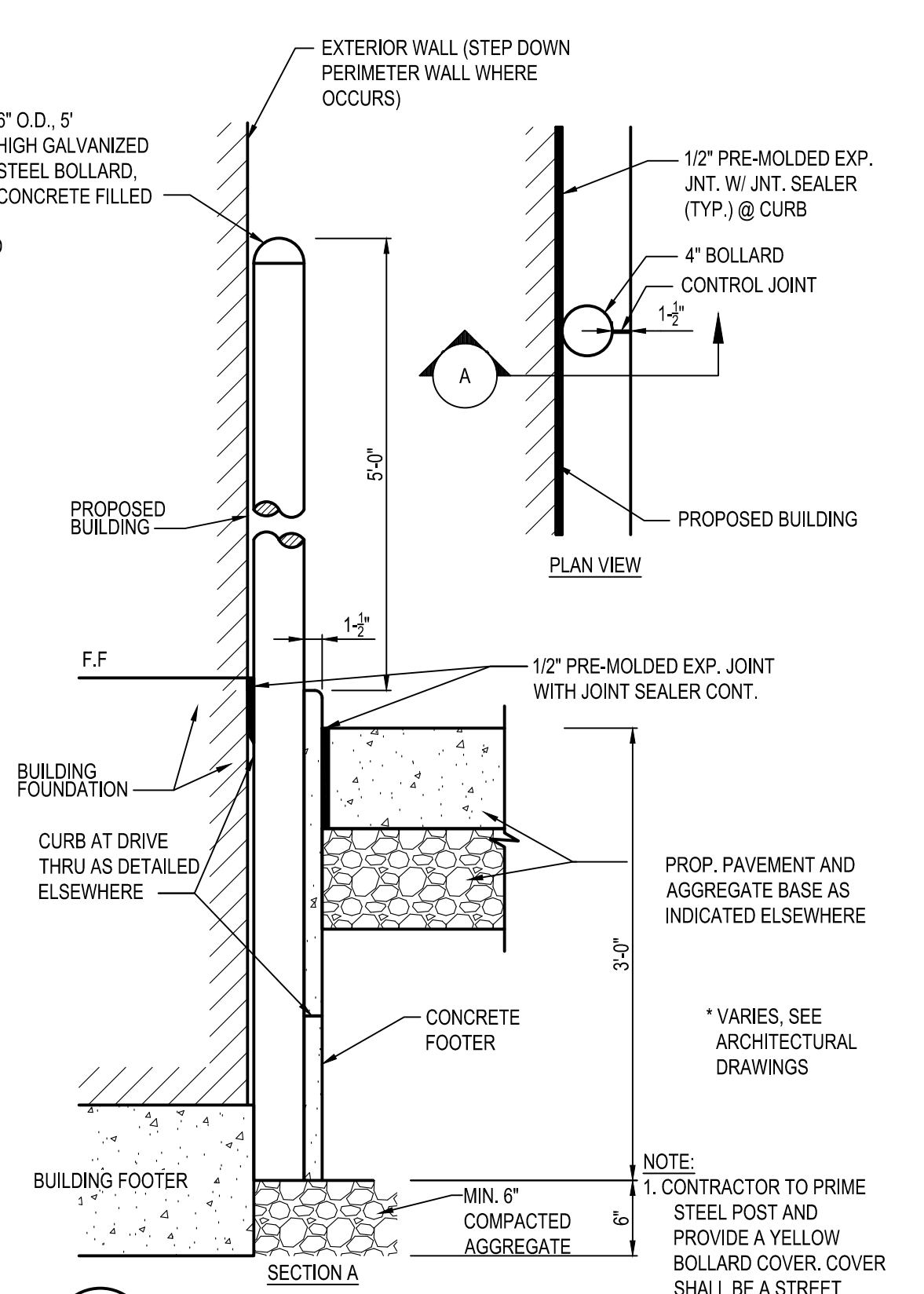
1. CONTRACTOR SHALL INSTALL 1/2" PRE-FORMED EXPANSION JOINT MATERIAL AND JOINT SEALER WHERE PAVEMENT ABUTS BUILDING.



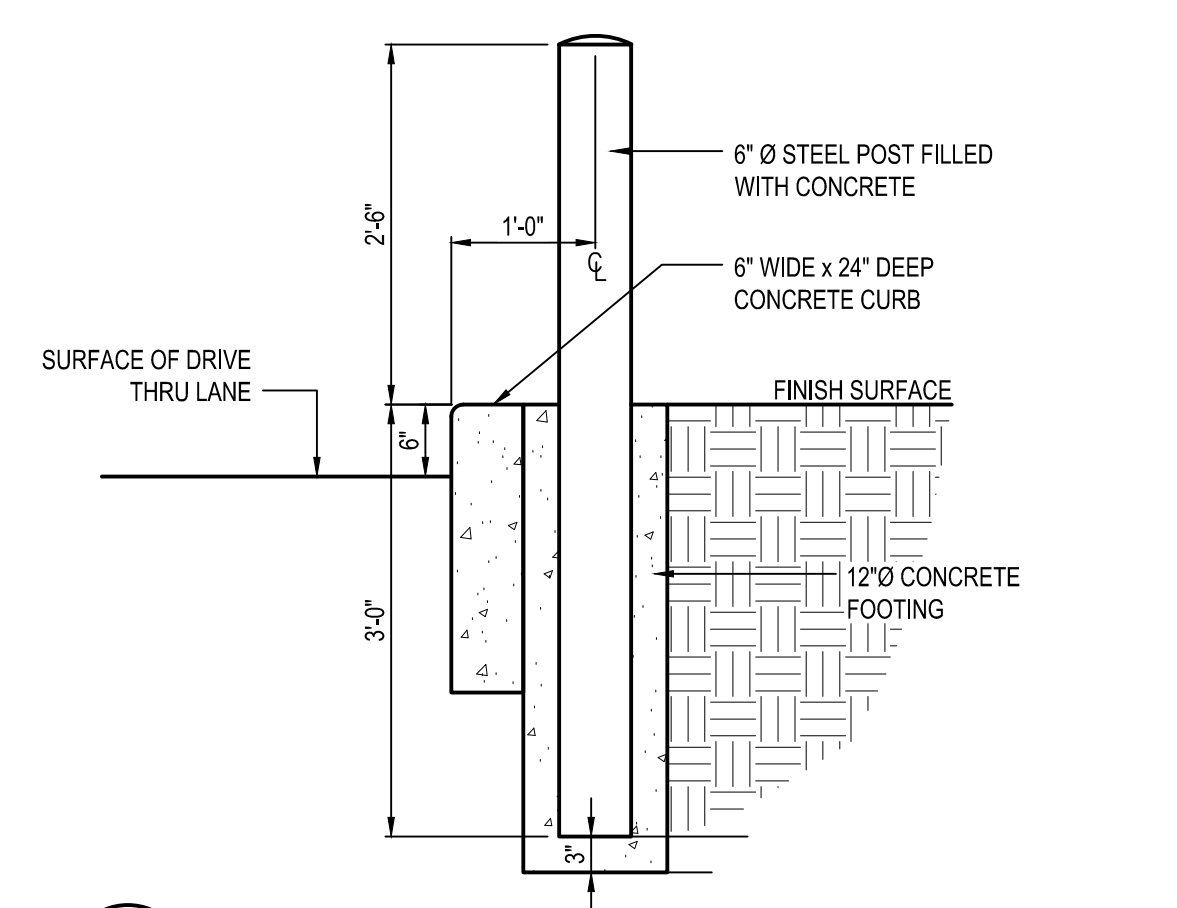
**NOTES:**

1. CONTRACTOR SHALL INSTALL 1/2" PRE-FORMED EXPANSION JOINT MATERIAL AND JOINT SEALER WHERE PAVEMENT ABUTS BUILDING.

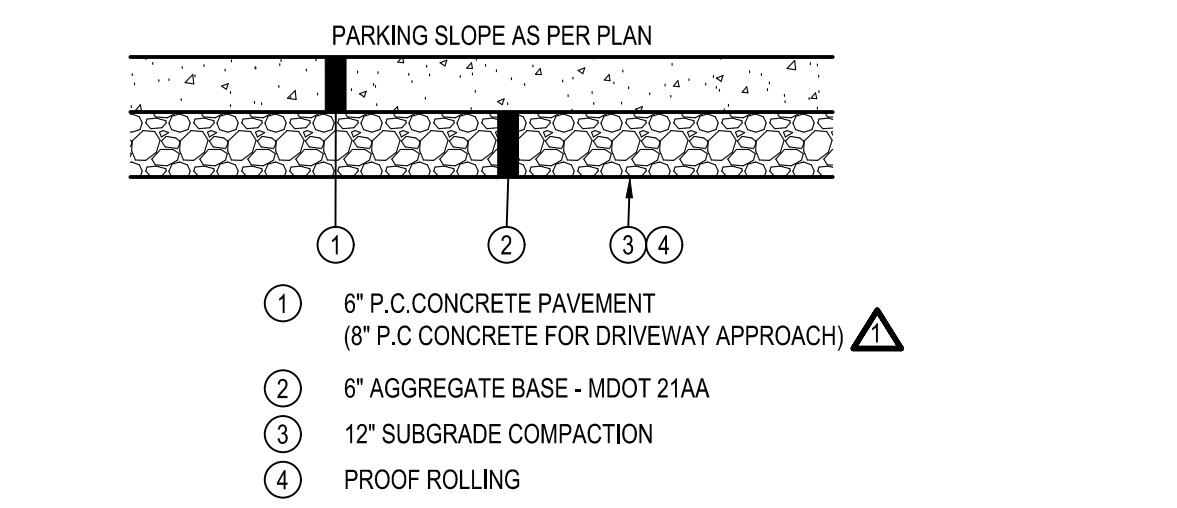
**C3 P.C.C. CURBED WALK**  
N.T.S.



**C4 DETERRENT BOLLARD (IN CURB)**  
N.T.S.



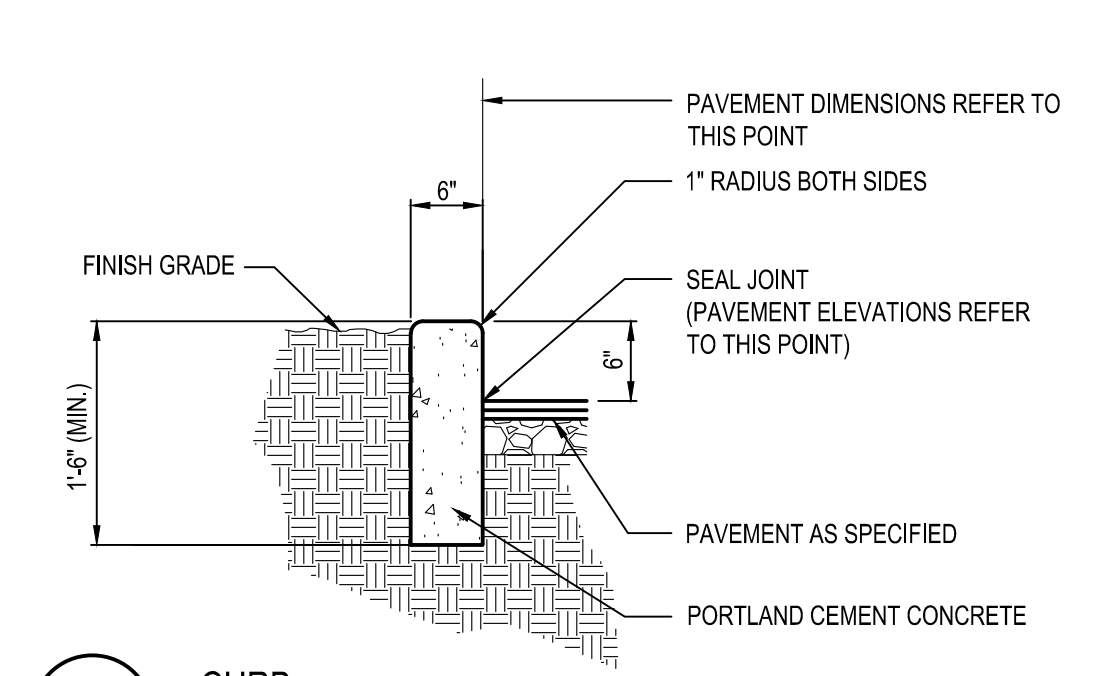
**B4 DETERRENT BOLLARD**  
N.T.S.



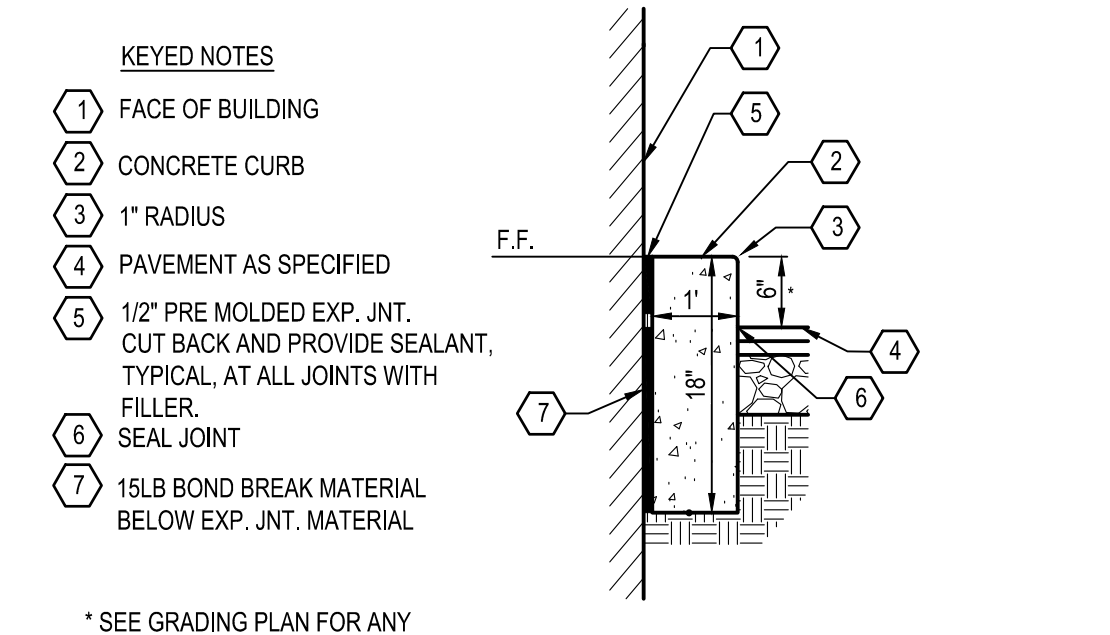
**NOTES:**

- APPLY LIQUID ASPHALT AT ALL JOINTS BETWEEN CONCRETE AND ASPHALT. APPLY CONCRETE SEALANT CONFORMING TO ASTM D6690 WHERE PROPOSED CONCRETE MEETS EXISTING CONCRETE.
- SEE SITE PLAN FOR PAVEMENT THICKNESSES AND REINFORCEMENT.
- CONCRETE PAVEMENT SHALL HAVE CONTROL JOINTS AT 12'-0" O.C.

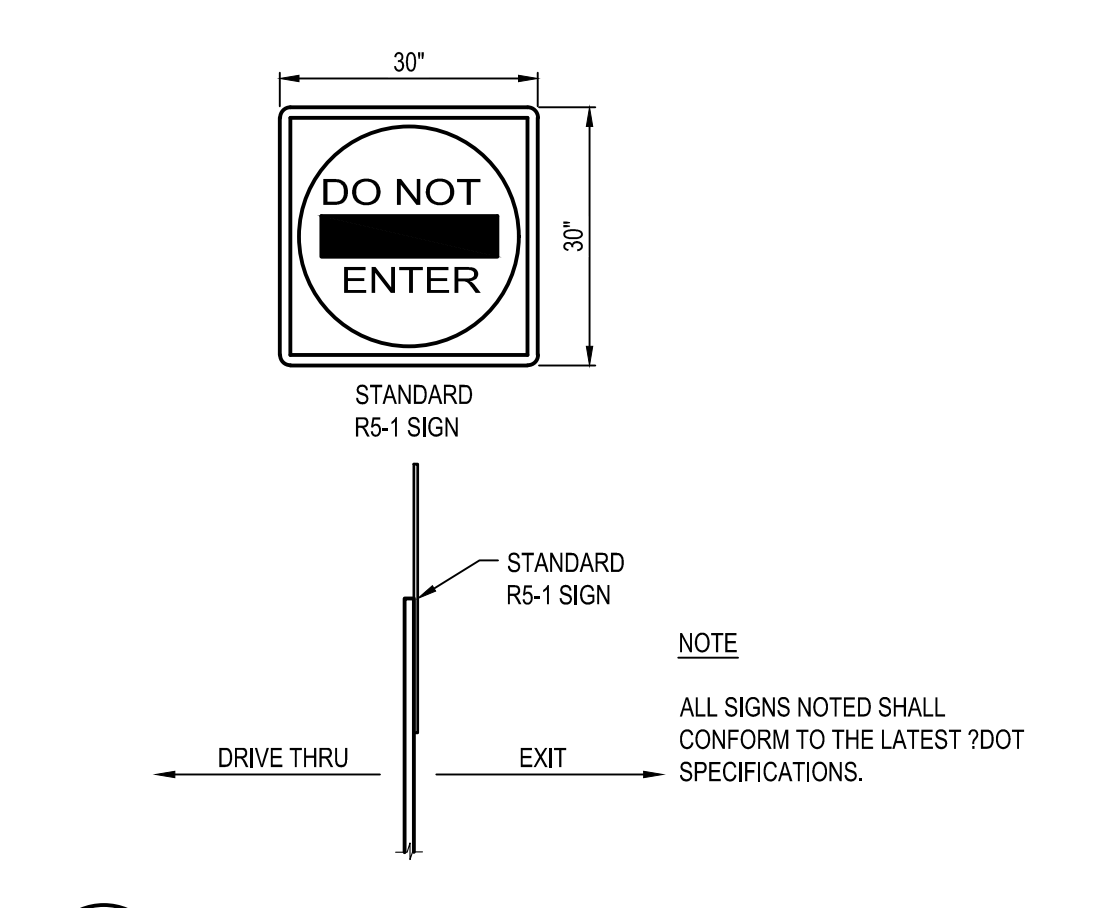
**A4 TYPICAL CONCRETE PAVEMENT SECTION**  
N.T.S.



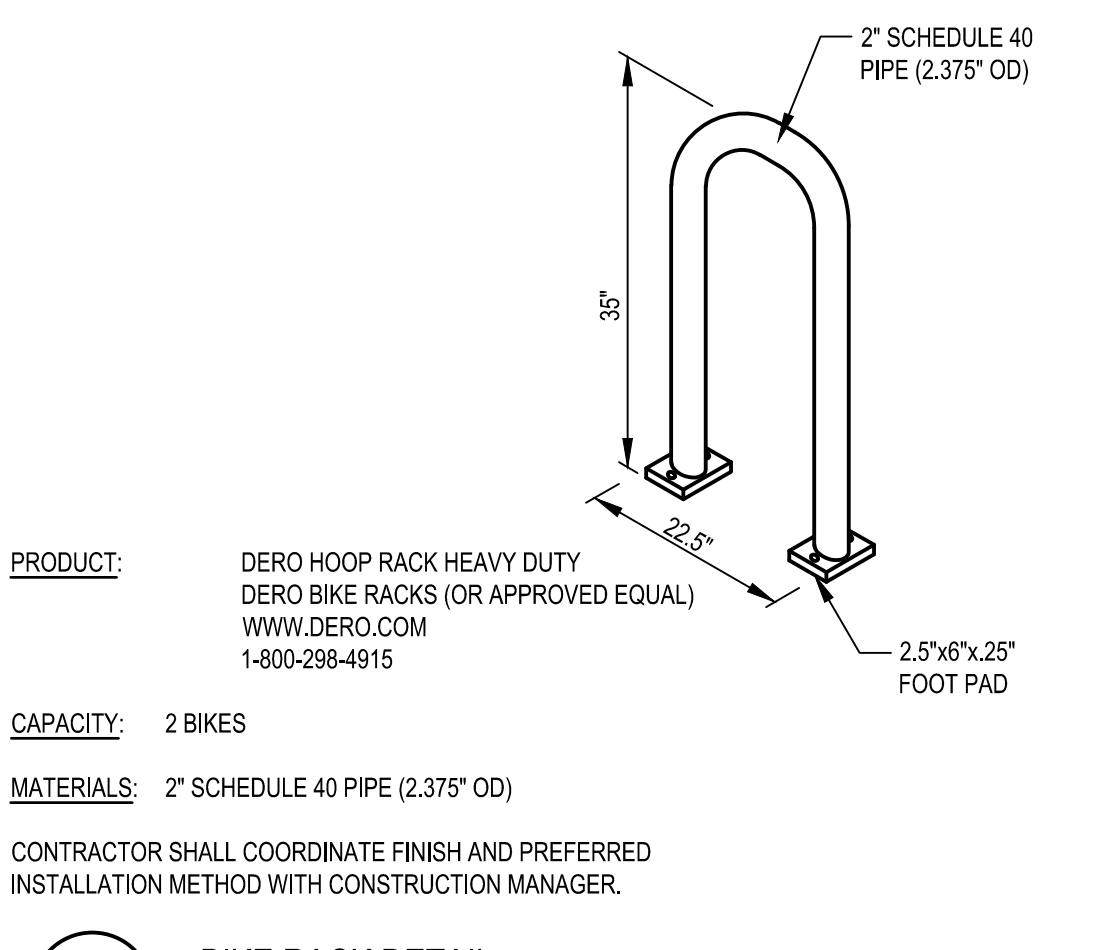
**D5 CURB**  
N.T.S.



**C5 CURB AT DRIVE THRU**  
N.T.S.



**B5 DO NOT ENTER SIGN**  
N.T.S.



**A5 BIKE RACK DETAIL**  
N.T.S.

**▲ CITY AND COUNTY COMMENTS**

**▲ TOWNSHIP/MDOT COMMENTS**

▲ 01.20.22 ISSUED FOR BID

▲ 03.11.22 ISSUED FOR CONSTRUCTION

▲

▲

▲

▲

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▲

CONTRACT DATE: 01/01/19  
BUILDING TYPE: ENDEAVOR 2.0  
PLAN VERSION: MARCH 2022  
BRAND DESIGNER: DAN DICKSON  
SITE NUMBER: 315089  
STORE NUMBER: 40164

**TACO BELL**  
18708 TELEGRAPH RD  
BROWNSTOWN, MI 48183

**TACO BELL**  
ENDEAVOR 2.0

**DETAILS**

**C-501**



This document has not been reviewed by the stamping party. Therefore, the stamping party makes no representation(s) with respect to its contents, and shall not be liable for such. Any reliance on this stamp shall be at the relying party(ies)'s own risk and hereby waives any and all claim(s) related to the existence of the stamp or otherwise.

**4 INCH CONCRETE SIDEWALK**  
Work Width as called for on Plans  
2 1/2" Toward Street (Typ.)  
4" Sand Base or as directed by the Wayne County Engineer.  
1" Transverse Expansion Joint  
Drive Width  
Plane of Weakness Joint  
Typical Both Sides  
4" Concrete Sidewalk  
Thickness 8" for Commercial Drive Thickness 6" for Residential Drive  
6" 21AA Aggregate Base or as directed by the Wayne County Engineer.

**THICKENED CONCRETE SIDEWALK**  
The Approach Walks shall be constructed within the same Project after the road is paved.  
50' Maximum Expansion Joint Spacing  
1/2" Expansion Joint  
4" Concrete Sidewalk 5" TYP.  
Back of Curb  
1" Expansion Joint and Curb Drop for Ramps

**FRONTAGE SIDEWALKS—EXISTING R.O.W.**  
Notes:  
Sidewalk transverse slope may vary from 0% to 4% to meet site conditions. When transverse slope is less than 2%, longitudinal drainage must be provided.  
Sidewalk Ramps shall conform to the current ADA requirements. See MDOT R-23 series or as approved by the Wayne County Engineer.

**APPROACH SIDEWALKS—NEW SUBDIVISIONS**  
Sidewalk intersections shall be cast monolithically with joint lines placed as near to perpendicular as possible with sidewalks edge, to avoid lap or jointed pieces of concrete.  
1/2" Expansion Joint  
Field Stake Centerline of Walk Prior to Placement of Curb.  
Key Flag  
1" Expansion Joint and Curb Drop for Ramps  
Where permanent structure is located in sidewalks, place 1/2" expansion material around structure and adjust joint pattern to intersect structure as shown.

**TYPICAL SIDEWALK JOINT LAYOUTS**

Work this Sheet with the General Notes on RS-1

REVISION DATE: 08/01/07	WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES ENGINEERING DIVISION/PERMIT OFFICE PERMIT STANDARDS	SCALE NOT TO SCALE
DIRECTOR OF ENGINEERING	<b>CONCRETE SIDEWALK</b>	<b>RS-5</b>
DIVISION PERMIT ENGINEER		SHEET 1 OF 1

NOTE: THIS IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL SIGNED COPY FOR PUBLICATION IS KEPT ON FILE AT THE WAYNE COUNTY ENGINEERING OFFICES.

**TEMPORARY ASPHALT ACCESS DRIVE**

Notes:  
1. WRITTEN PERMISSION SHALL BE SECURED TO CONSTRUCT DRIVE ON PRIVATE PROPERTY.  
2. UPON PROJECT COMPLETION REMOVE TEMPORARY APPROACH, RESTORE THE RIGHT-OF-WAY TO ITS ORIGINAL CONDITIONS, AND RECONSTRUCT CURB AS PER CURB DETAIL "C" OR PLACE THE PERMANENT APPROACH WITHIN THE SAME LOCATION AND RECONSTRUCT CURB DROP AS PER CURB DETAIL "B".

GENERAL NOTES:  
1. STONE SIZE SHOULD BE 2" MIN. RECLAIMED OR RECYCLED OF AN EQUIVALENT DIAMETER MAY ALSO BE USED.  
2. WHERE ACCESS TO THE CONSTRUCTION SITE IS LIMITED IN LENGTH (SUCH AS IN URBAN AREAS), AS DIRECTED BY THE COUNTY ENGINEER, DAILY STREET SWEEPING MAY BE NEEDED TO REMOVE SOIL THAT IS TRACKED ONTO THE ROADS.  
3. PROVIDE CULVERT AS SHOWN ON THE PLANS WHEN DITCH IS EXISTING. MIN. 12" DIA. ROP OR CMP.

CONSTRUCTION CONSIDERATIONS:  
1. SAW-CUT HORIZONTALLY THE EXISTING CONCRETE CURB AS PER WAYNE COUNTY DETAIL "A" AND PREPARE THE EDGE OF PAVEMENT.  
2. REMOVE AND DISPOSE OF UNWANTED TREES, OTHER VEGETATION, OR FOREIGN OBJECTS AND DEBRIS FROM THE AREA.  
3. APPLY THE STONE IN LAYERS AND COMPACT IT AS DIRECTED BY THE WAYNE COUNTY ENGINEER.  
4. PLACE H.M.A. TOP AND COMPACT IT TO ITS 97% OF THE UNIT WEIGHT OF THE MATERIALS OR AS DIRECTED BY THE WAYNE COUNTY ENGINEER.

AFTER CONSTRUCTION:  
IF MUD AND SOIL ATTACHED TO TRUCK TIRES DOES NOT FALL OFF ONTO THE ASPHALT, THEN TRUCK TIRES SHOULD BE WASHED ON AN AREA STABILIZED WITH CRUSHED STONE. WASH RACKS MAY BE USED.

MAINTENANCE:  
PROPER MAINTENANCE MAY INCLUDE ADDITIONAL LAYERS OF STONE OR H.M.A. WHEN THE ORIGINAL LAYERS BECOME COVERED WITH MUD OR BECOME COMPLETELY OR PARTIALLY DEGRADED DUE TO MOVEMENT OF HEAVY TRUCKS AND VEHICLES. AFTER EACH STORM EVENT, INSPECT THE ROAD FOR DEBRIS AND ALL SEDIMENT DROPPED OR ERODED ONTO PUBLIC R.O.W. SHOULD BE REMOVED IMMEDIATELY BY SWEEPING EFFECTIVELY.

Work this Sheet with the General Notes on RS-1

REVISION DATE: 08/01/07	WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES ENGINEERING DIVISION/PERMIT OFFICE PERMIT STANDARDS	SCALE NOT TO SCALE
DIRECTOR OF ENGINEERING	<b>TEMPORARY ASPHALT ACCESS DRIVE</b>	<b>CD-1</b>
DIVISION PERMIT ENGINEER		SHEET 1 OF 2

NOTE: THIS IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL SIGNED COPY FOR PUBLICATION IS KEPT ON FILE AT THE WAYNE COUNTY ENGINEERING OFFICES.

1. 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.

2. Paving Standard Plan Details may be shown with wire fabric reinforcement. Use of reinforcement shall be required as called for on the plans.

3. 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.

4. 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.

5. 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/Cft.

6. 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.

7. 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.

8. 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.

9. 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.

10. 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.

Work this Sheet with the General Notes on RS-1

REVISION DATE: 08/01/07	WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES ENGINEERING DIVISION/PERMIT OFFICE PERMIT STANDARDS	SCALE NOT TO SCALE
DIRECTOR OF ENGINEERING	<b>GENERAL NOTES</b>	<b>RS-1</b>
DIVISION PERMIT ENGINEER		SHEET 1 OF 1

NOTE: THIS IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL SIGNED COPY FOR PUBLICATION IS KEPT ON FILE AT THE WAYNE COUNTY ENGINEERING OFFICES.

**COMMERCIAL DRIVE APPROACH**

Notes:  
CONSTRUCT THE DRIVE APPROACH WITH 8" NON-REINFORCED CONCRETE ON 6" OF 21AA AGGREGATE BASE COURSE COMPACTED IN PLACE (CIP) OR 6" HMA LEVELING ON 9" OF 21AA AGGREGATE BASE COURSE (CP). CURBS SHALL BE CONSTRUCTED WITH HEIGHT VARYING FROM 6" AT BACK OF CURB TO 0" HEIGHT AT FACE OF SIDEWALK OR RIGHT-OF-WAY LINE.  
AT ALL CONCRETE DRIVES, PLACE A 1" EXPANSION JOINT AT BACK OF CURB AND 1/2" EXPANSION JOINT AT FACE OF SIDEWALK OR RIGHT-OF-WAY LINE. MAINTAIN NORMAL SIDEWALK GRADE ACROSS DRIVE, 2% SLOPE UP FROM FACE OF SIDEWALK.  
INBOUND OR OUTBOUND RADIUS SHALL BE REDUCED TO 5' FOR ONE-WAY TRAFFIC DRIVE APPROACH.  
DRIVE APPROACH SHALL NOT ENCRUCH ACROSS PROPERTY LINE EXTENDED WITHOUT WRITTEN APPROVAL FROM THE ADJOINING PROPERTY OWNER.

Work this Sheet with the General Notes on RS-1 AND D-6 SHEET 2-2.

REVISION DATE: 08/01/07	WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES ENGINEERING DIVISION/PERMIT OFFICE PERMIT STANDARDS	SCALE NOT TO SCALE
DIRECTOR OF ENGINEERING	<b>COMMERCIAL DRIVE APPROACH</b>	<b>D-6</b>
DIVISION PERMIT ENGINEER		SHEET 1 OF 2

NOTE: THIS IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL SIGNED COPY FOR PUBLICATION IS KEPT ON FILE AT THE WAYNE COUNTY ENGINEERING OFFICES.

**PAVEMENT REMOVAL AND REPAIR (PATCHING)**

Notes:  
Joint (C) shall be installed at this location, unless the original joint was an expansion, then a joint (E) should be installed.  
When constructing a longitudinal unted joint, apply a heavy coat of white curing compound along the existing pavement's vertical edge to provide a bond breaker. If vertical edge is not smooth from saw cutting, additional surface grinding may be required.  
Pavement removal shall be in accordance with 2003 MDOT Standard Specifications for Construction. This detail is for finished concrete pavement repairs on class "A" roads and industrial subdivisions. Pavement thickness shall match the existing pavement thickness with a minimum section of (9) nine inches of non-reinforced concrete. See Wayne County permit standard RS-2 for pavement joint details. If concrete pavement has been resurfaced with HMA, see standard detail PR-2.  
For finished concrete pavement on class "A" County roads and industrial subdivisions less than 20 years old, minimum patch size shall be full width of lane (including the curb and gutter) with a minimum length of 15.0 feet with no less than 6 feet remaining to any pavement joints, cracks, or edge of pavement.  
Saw cut must extend completely through the pavement section. Any over-cuts except at the outside corners of the pavement patch area will be required to be removed (this will increase the size of the patch).  
All sawed over-cuts located at the outside corners of the patch location shall be cleaned and sealed with hot poured rubber asphalt.

Work this Sheet with the General Notes on RS-1

REVISION DATE: 08/01/07	WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES ENGINEERING DIVISION/PERMIT OFFICE PERMIT STANDARDS	SCALE NOT TO SCALE
DIRECTOR OF ENGINEERING	<b>PAVEMENT REMOVAL AND REPAIR (PATCHING)</b>	<b>PR-1</b>
DIVISION PERMIT ENGINEER		SHEET 1 OF 2

NOTE: THIS IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL SIGNED COPY FOR PUBLICATION IS KEPT ON FILE AT THE WAYNE COUNTY ENGINEERING OFFICES.

**CURB RETURN JOINING EXISTING PAVEMENT**

Notes:  
\* 4' for HMA Drive Pavement. No Expansion Joint Required.

Work this Sheet with the General Notes on RS-1

REVISION DATE: 08/01/07	WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES ENGINEERING DIVISION/PERMIT OFFICE PERMIT STANDARDS	SCALE NOT TO SCALE
DIRECTOR OF ENGINEERING	<b>COMMERCIAL DRIVE APPROACH</b>	<b>D-6</b>
DIVISION PERMIT ENGINEER		SHEET 2 OF 2

NOTE: THIS IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL SIGNED COPY FOR PUBLICATION IS KEPT ON FILE AT THE WAYNE COUNTY ENGINEERING OFFICES.

FOR REFERENCE ONLY

- ▲ CITY AND COUNTY COMMENTS
- ▲ TOWNSHIP/MDOT COMMENTS
- ▲ 01.20.22 ISSUED FOR BID
- ▲ 03.11.22 ISSUED FOR CONSTRUCTION
- ▲
- ▲
- ▲
- ▲
- ▲
- ▲
- ▲

CONTRACT DATE: 01/01/19  
BUILDING TYPE: ENDEAVOR 2.0  
PLAN VERSION: MARCH 2022  
BRAND DESIGNER: DAN DICKSON  
SITE NUMBER: 315089  
STORE NUMBER: 40164

TACO BELL  
18708 TELEGRAPH RD  
BROWNSTOWN, MI 48183

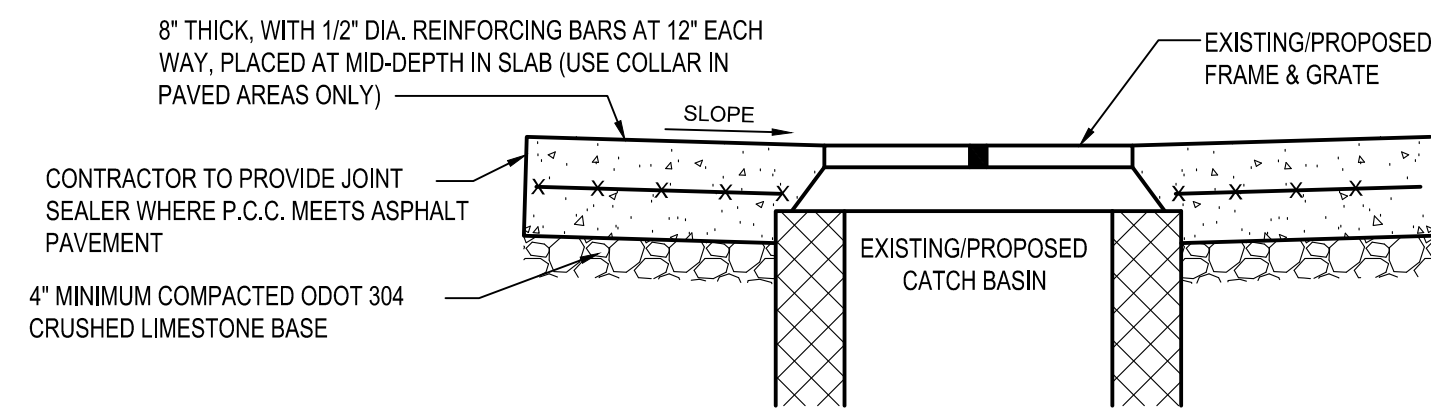


ENDEAVOR 2.0

WAYNE COUNTY DETAILS

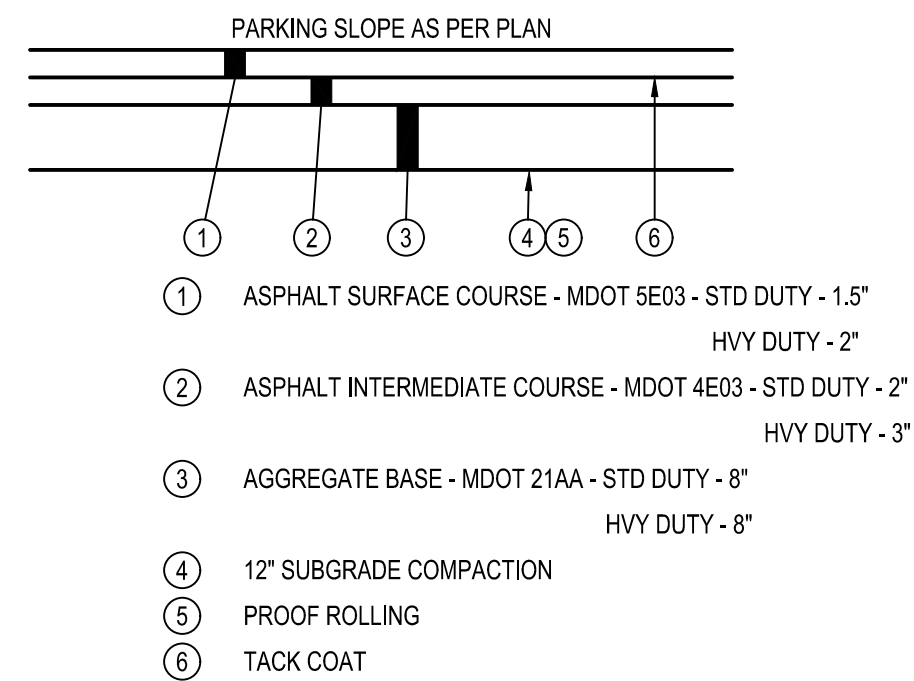
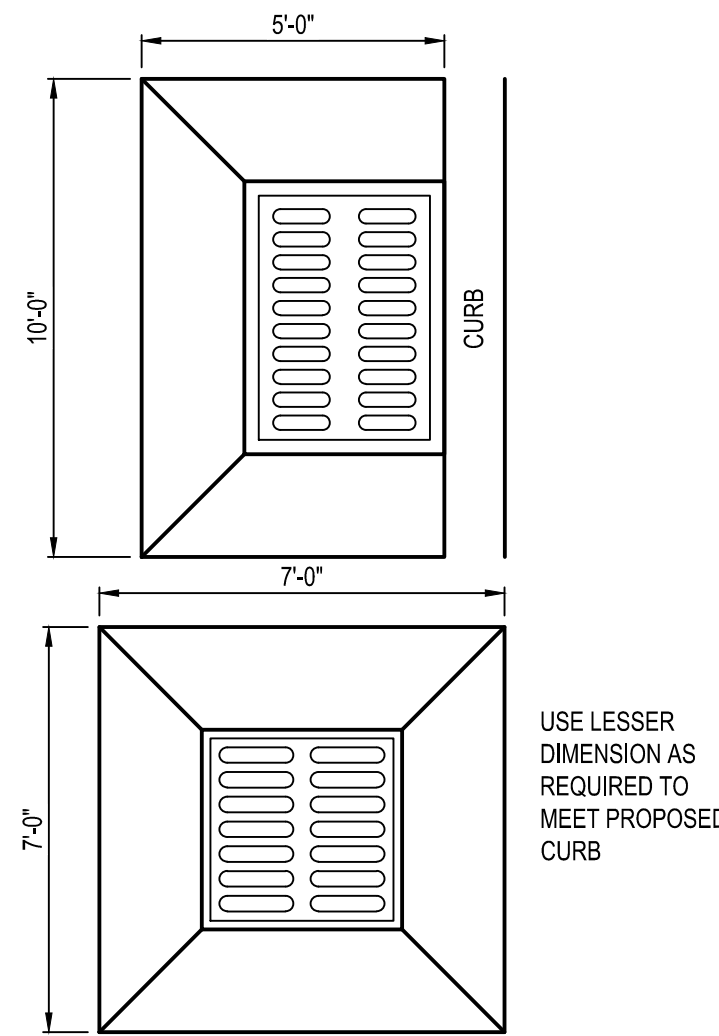
C-502





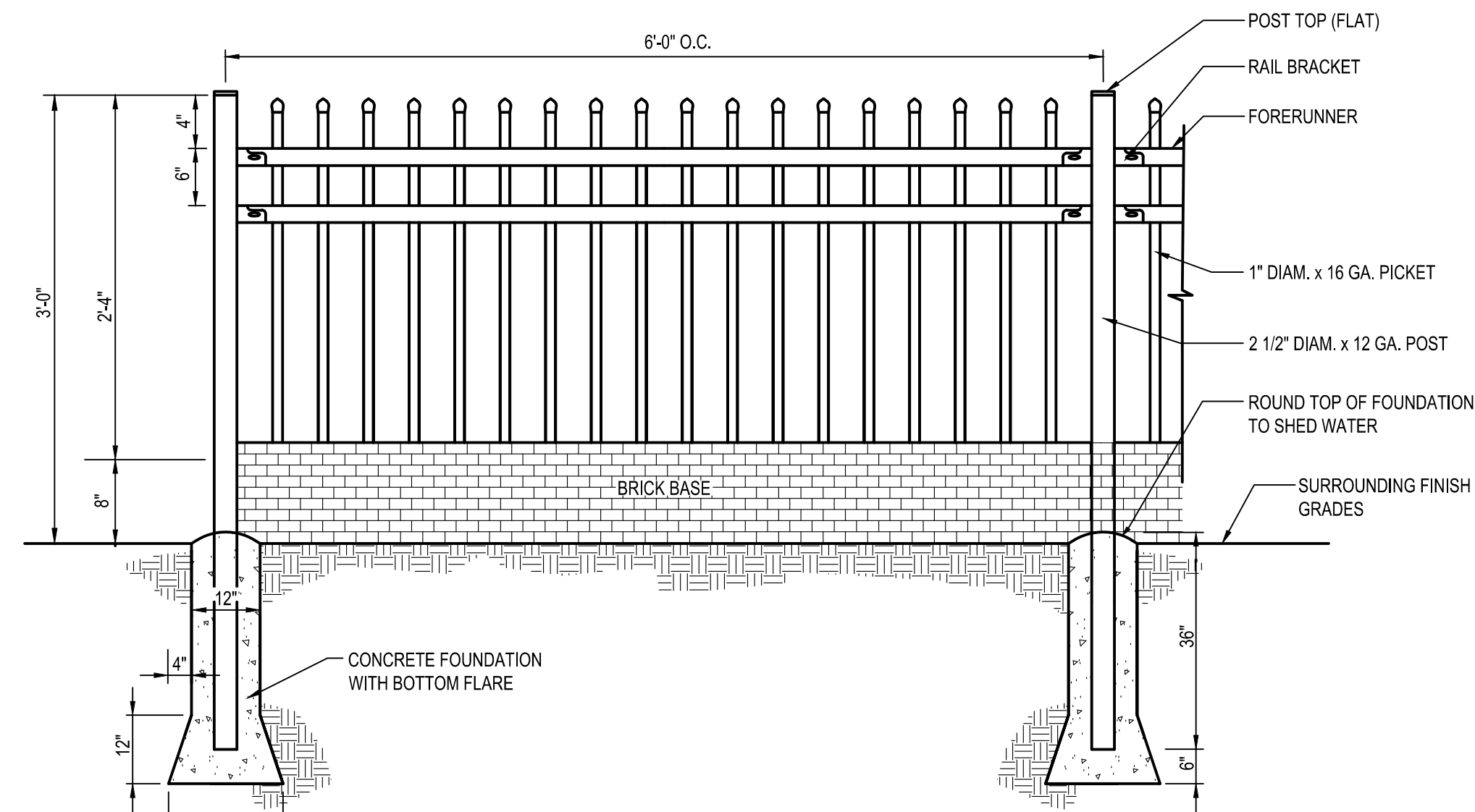
**NOTES:**  
1. CONTRACTOR SHALL INSTALL 1/2" PRE-FORMED EXPANSION JOINT MATERIAL AND JOINT SEALER WHERE PAVEMENT ABUTS DUMPSTER PAD.

**D1** CONCRETE COLLAR  
N.T.S.

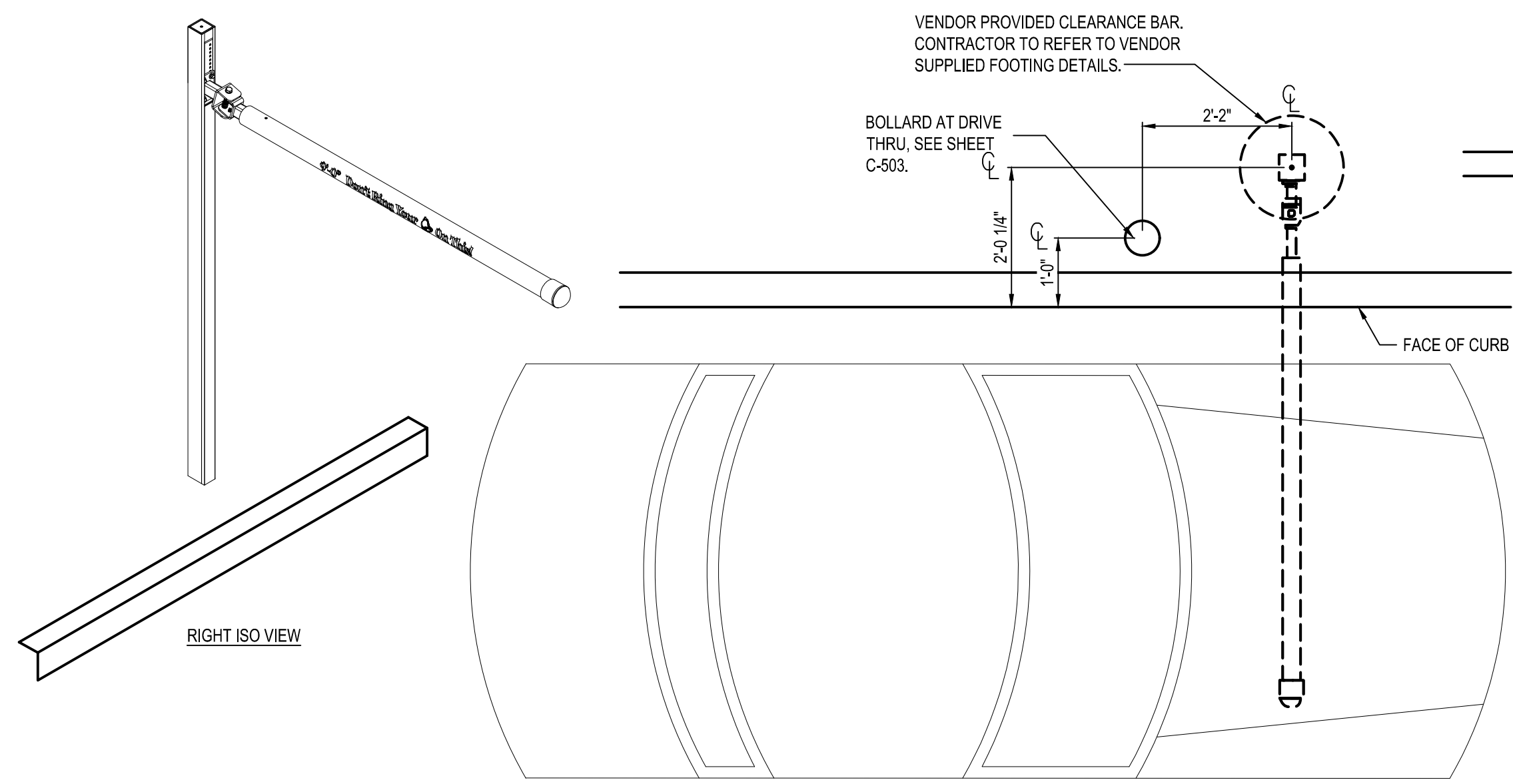


**NOTES:**  
1. APPLY LIQUID ASPHALT AT ALL JOINTS BETWEEN CONCRETE AND ASPHALT AND WHERE PROPOSED ASPHALT MEETS EXISTING ASPHALT INCLUDING SAW CUT JOINTS.  
2. NO RAP SHALL BE PERMITTED IN ASPHALT SURFACE COURSE.

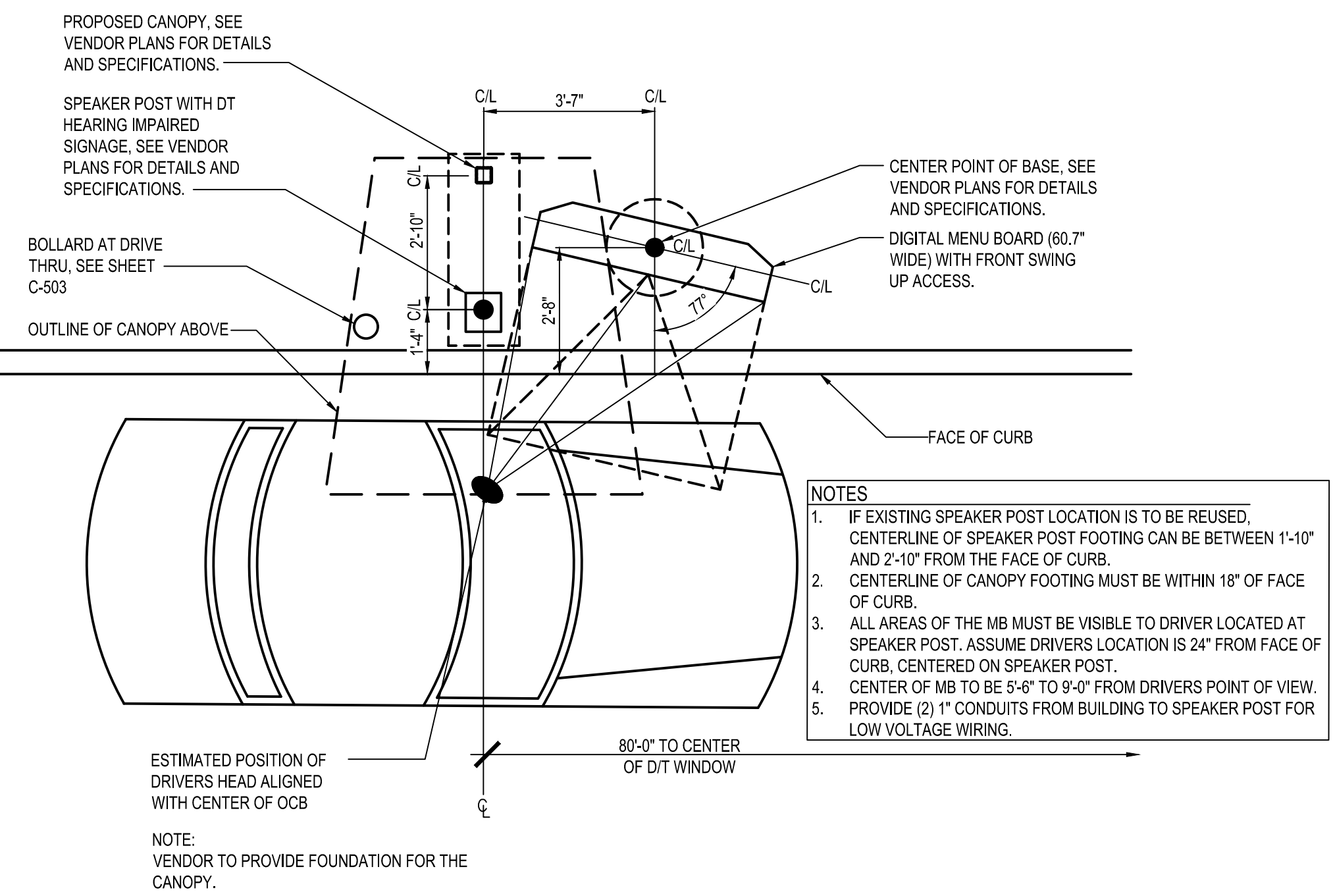
**C2** TYPICAL PAVEMENT SECTION  
N.T.S.



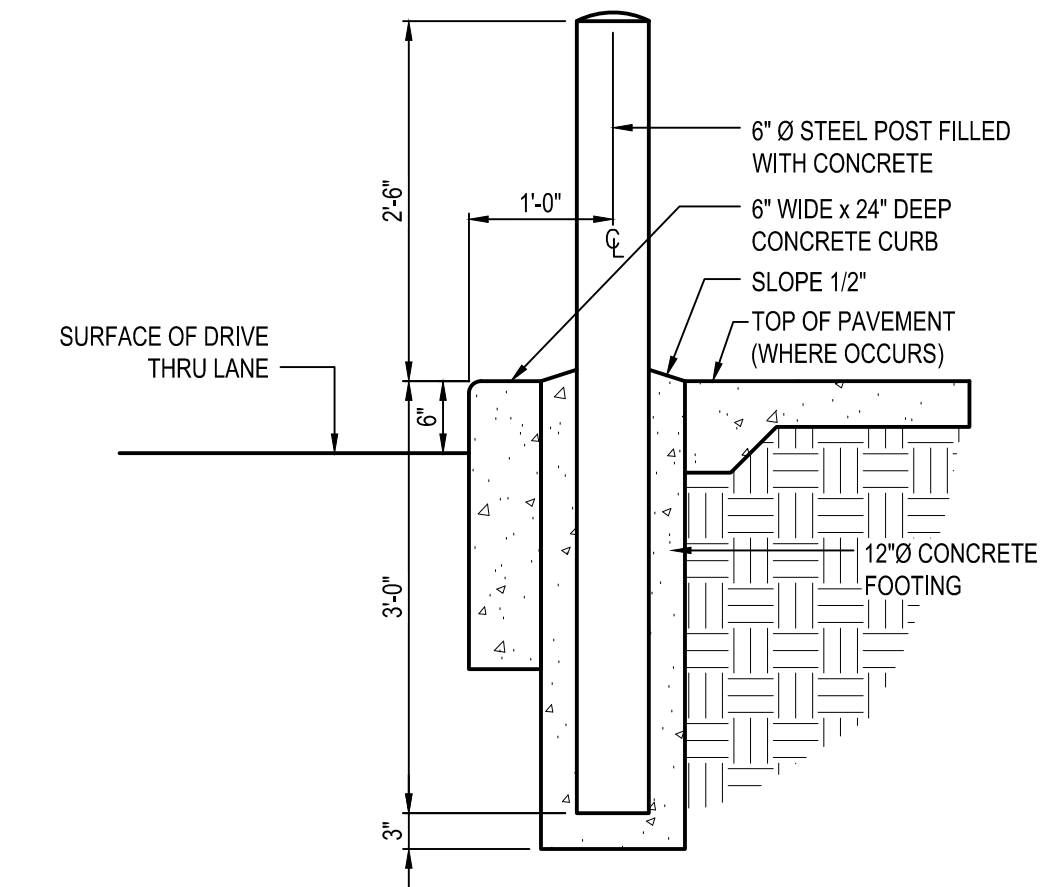
**C3** 3' HIGH DECORATIVE FENCE  
N.T.S.



**A1** PORTAL PLACEMENT DETAIL  
N.T.S.



**B1** ENLARGED MENU BOARD DETAIL @ STRAIGHT CURB  
N.T.S.



**B2** BOLLARD AT DRIVE THRU  
N.T.S.

STATE OF MICHIGAN  
LEONARDO A. SFERRA  
ENGINEER  
No. 63423  
06/15/22

▲	CITY AND COUNTY COMMENTS
▲	TOWNSHIP/MDOT COMMENTS
▲	01.20.22 ISSUED FOR BID
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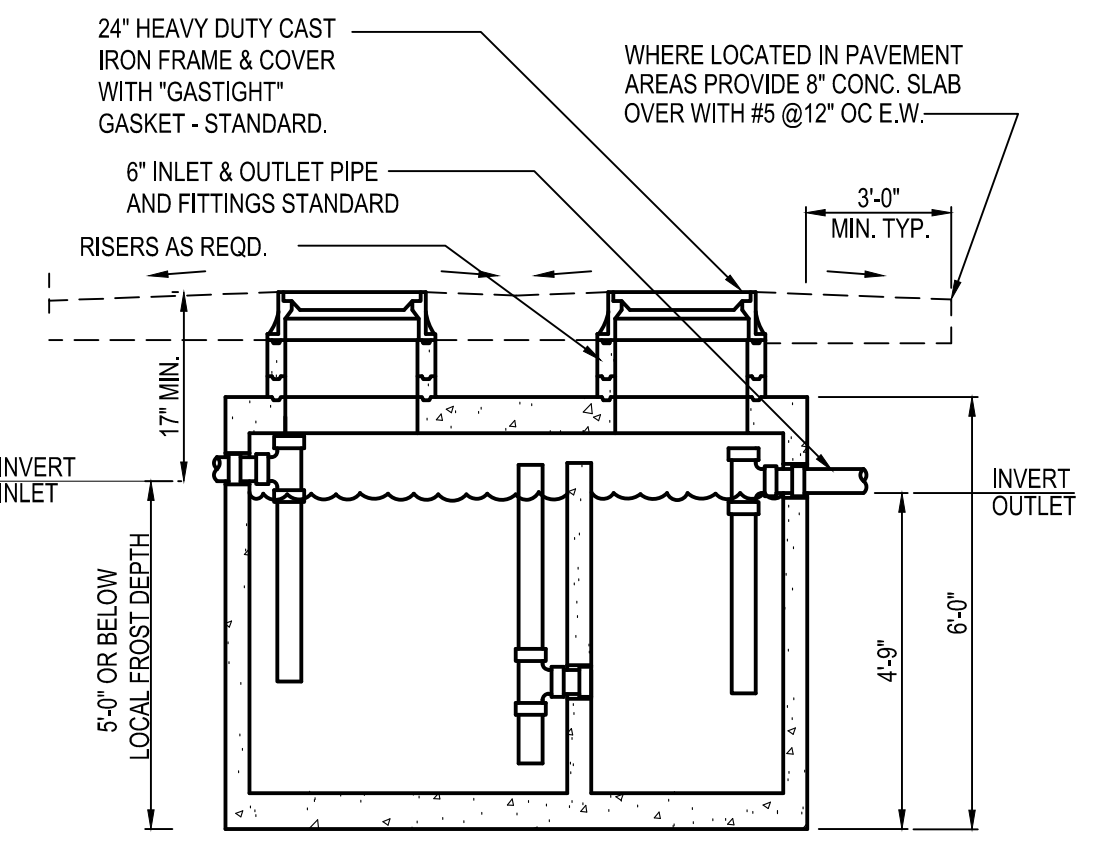
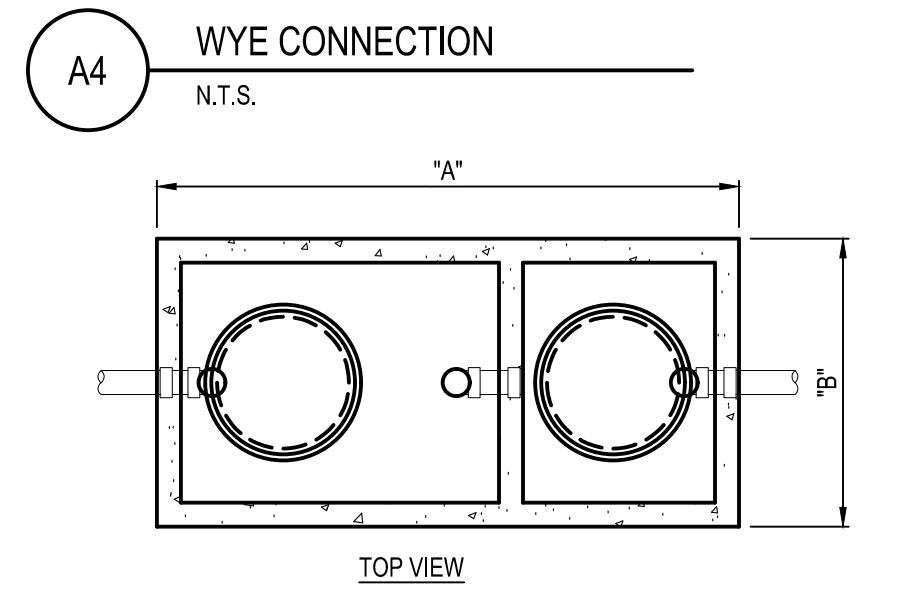
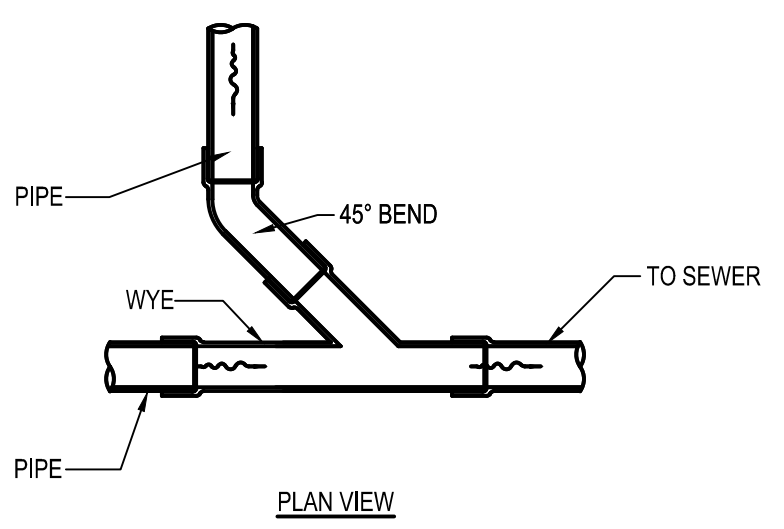
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TACO BELL  
18708 TELEGRAPH RD  
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TACO BELL  
ENDEAVOR 2.0

**DETAILS**  
**C-503**

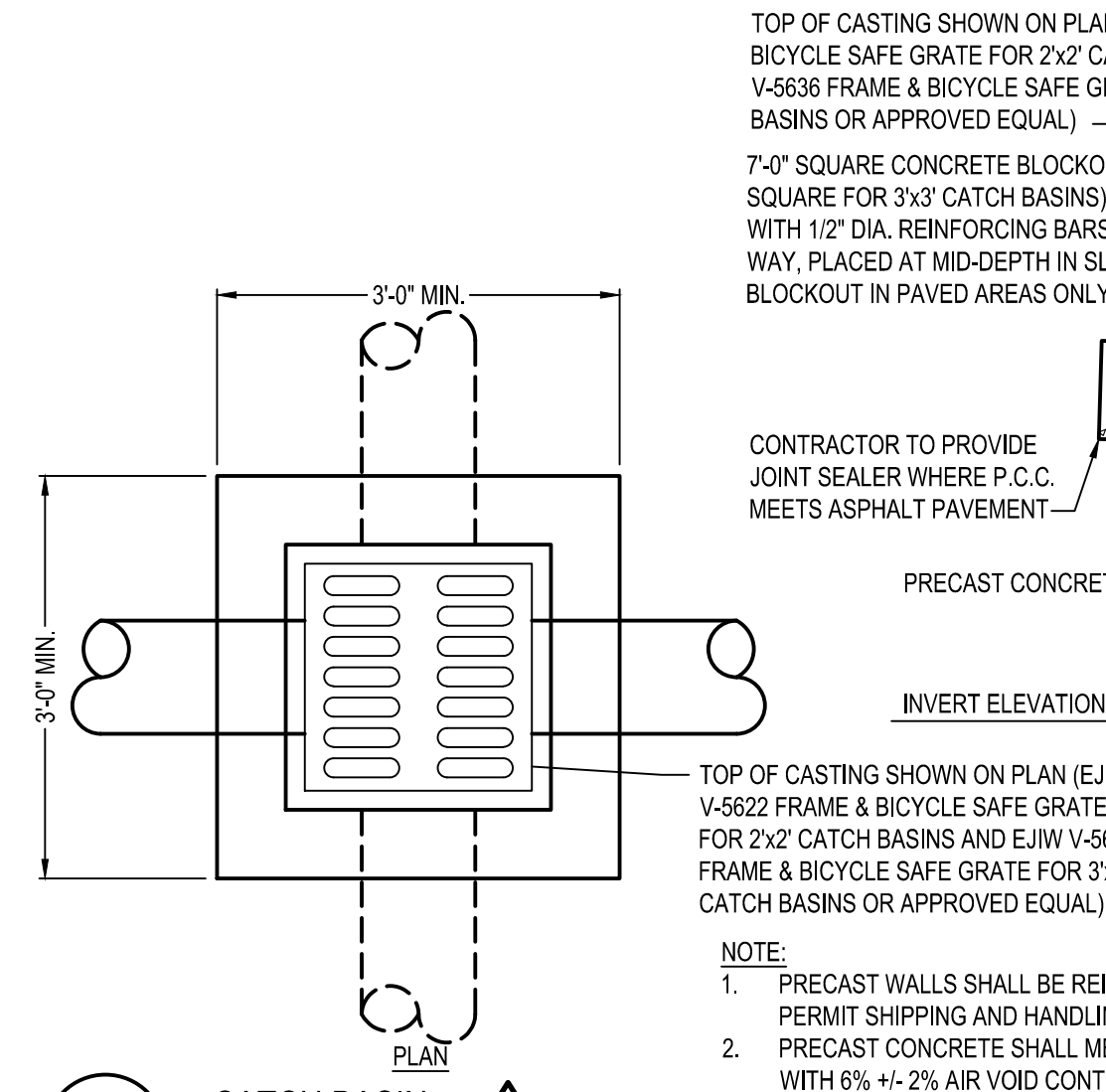




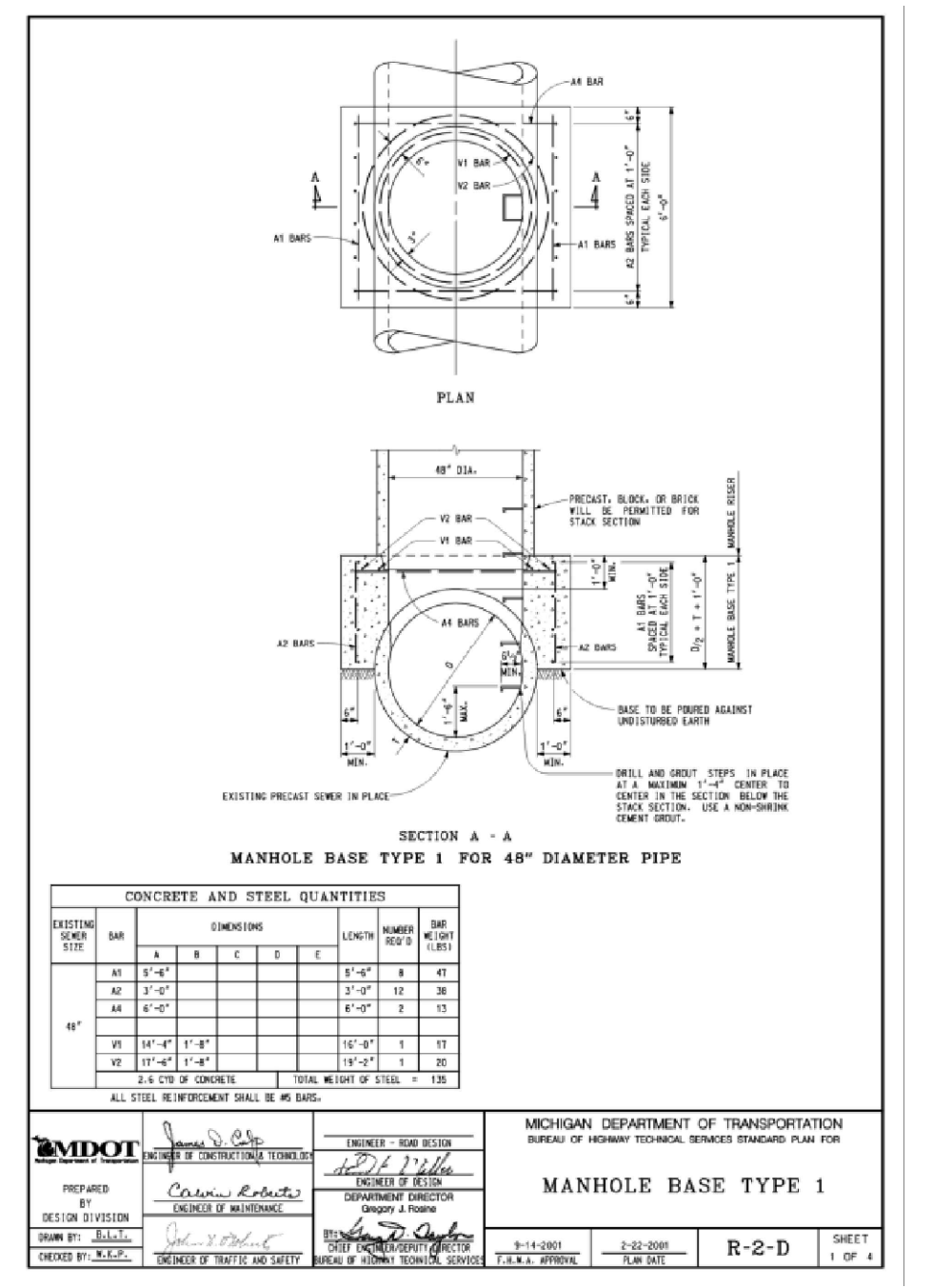
G.T. SIZE	DIM. "A"	DIM. "B"
500 GALLON	6'-2"	4'-2"
750 GALLON	8'-1"	4'-0"
1000 GALLON	8'-2"	5'-1"
1250 GALLON	8'-6"	5'-9"
1500 GALLON	*	*

GC SHALL INSTALL GREASE INTERCEPTOR (G.I.) AS APPROVED BY LOCAL WASTEWATER JURISDICTION. INSTALLATION SHALL INCLUDE VENT, SAMPLING PORT/ MANHOLE, REINF. CONCRETE TRAFFIC LID, ETC. AS REQUIRED PER WASTEWATER DEPARTMENT STANDARDS. G.I. SHALL BE DESIGNED FOR H20 VEHICLE LOADS.

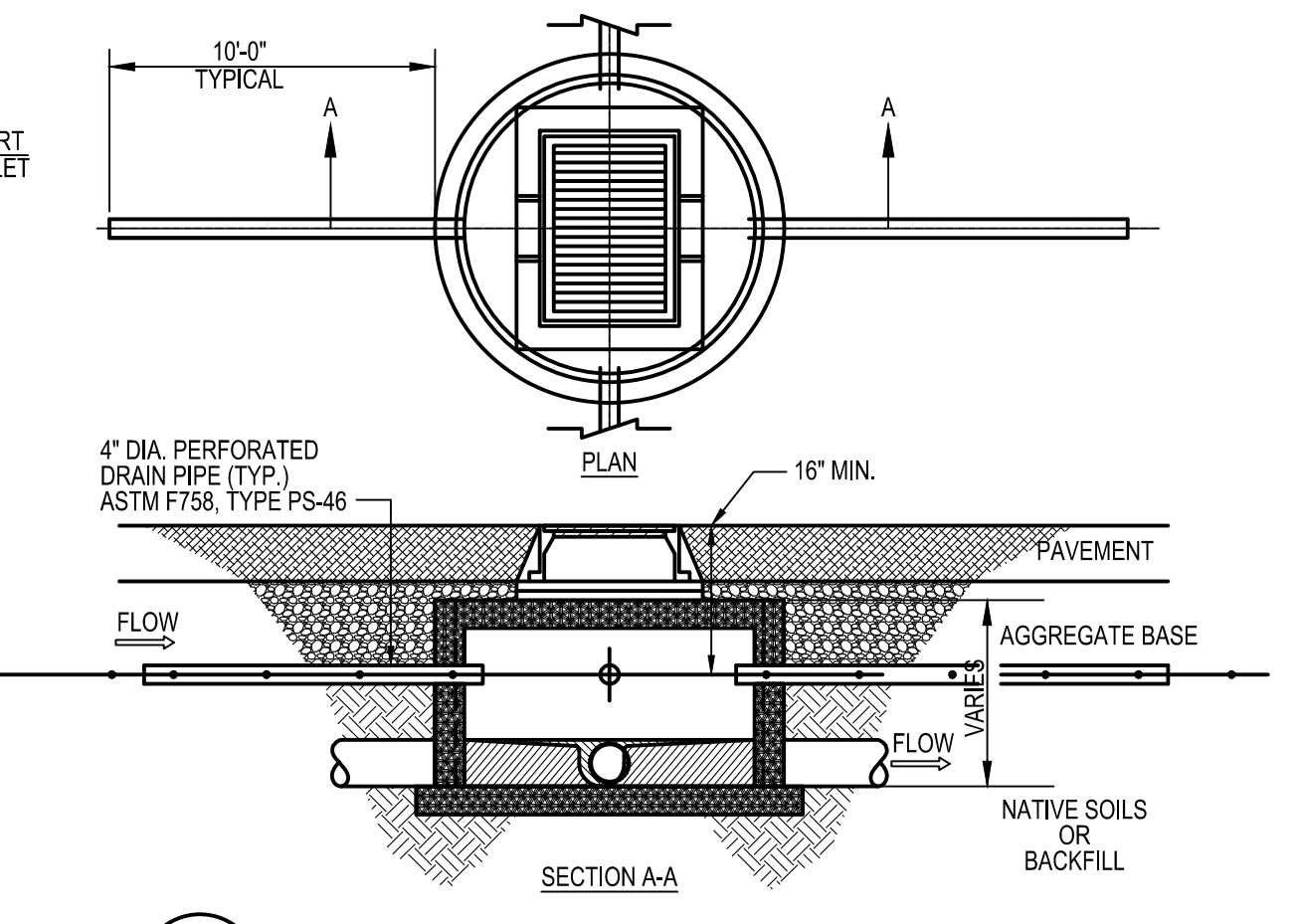
**B1 EXTERIOR GREASE INTERCEPTOR**  
N.T.S.



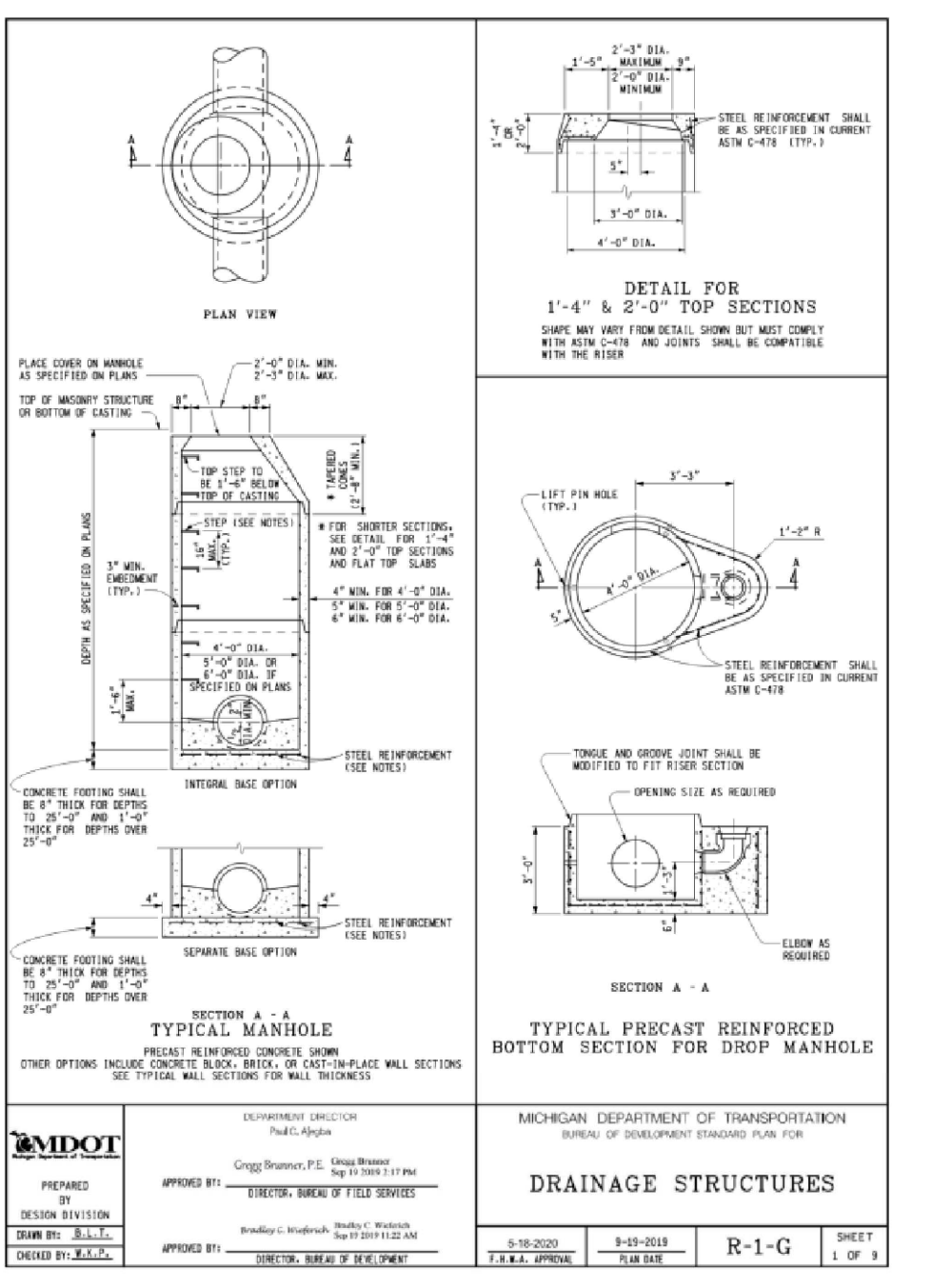
**A1 CATCH BASIN**  
N.T.S.



**C2 FINGER DRAIN DETAIL**  
N.T.S.



**C2 FINGER DRAIN DETAIL**  
N.T.S.



**C1 MDOT DOGHOUSE MANHOLE**  
N.T.S.

- KEYED NOTES**
- EXCAVATE WIDTH OF TRENCH AS NEEDED
  - PLACE SUITABLE SOIL OR GRANULAR BACKFILL IN 6" MAX. LIFTS. SUITABLE SOIL SHALL BE COMPACTED TO 90% MIN. (98% MIN. UNDER PAVEMENT) DRY DENSITY, PER ASTM D698. GRANULAR BACKFILL SHALL BE COMPACTED TO 75% (80% UNDER PAVEMENT) RELATIVE DENSITY, PER ASTM 4353. GRANULAR BACKFILL REQUIRED UNDER PAVEMENT.
  - PROPOSED STORM OR SANITARY SEWER
  - TOPSOIL, SEED, SOD, AND MULCHING OR PAVEMENT AS DETAILED ELSEWHERE.
  - NO. 57 OR NO. 67 AGGREGATE PLACED A MINIMUM OF 12" ABOVE THE TOP OF THE PIPE
  - NO. 57 OR NO. 67 AGGREGATE PLACED A MINIMUM OF 6" BELOW THE BOTTOM OF THE PIPE

**B4 SEWER TRENCH**  
N.T.S.

- KEYED NOTES**
- TOPSOIL & SOD, OR PAVEMENT AS DETAILED ELSEWHERE.
  - CONTINUOUS METALLIC WARNING TAPE
  - CLEAN SELECT GRANULAR BACKFILL
  - 6" CLEAN SAND ENVELOPE
  - TRACKER WIRE
  - GAS SERVICE LINE PER COLUMBIA GAS STANDARDS

**A3 GAS SERVICE TRENCH**  
N.T.S.

**NOTE:**

- MDOT MANHOLE DETAIL SHALL ONLY BE USED FOR PROPOSED STORM MANHOLE MH-1.
- USE THE SEPARATE BASE OPTION.
- ENSURE WATERTIGHT CONNECTION FOR BOTH EXISTING AND PROPOSED STORM LINES.

The MDOT detail(s) have not been reviewed by the stamping party. Therefore, the stamping party makes no representation(s) with respect to its contents, and shall not be liable for such. Any reliance on this stamp shall be at the relying party(ies)'s own risk and hereby waives any and all claim(s) related to the existence of the stamp or otherwise.

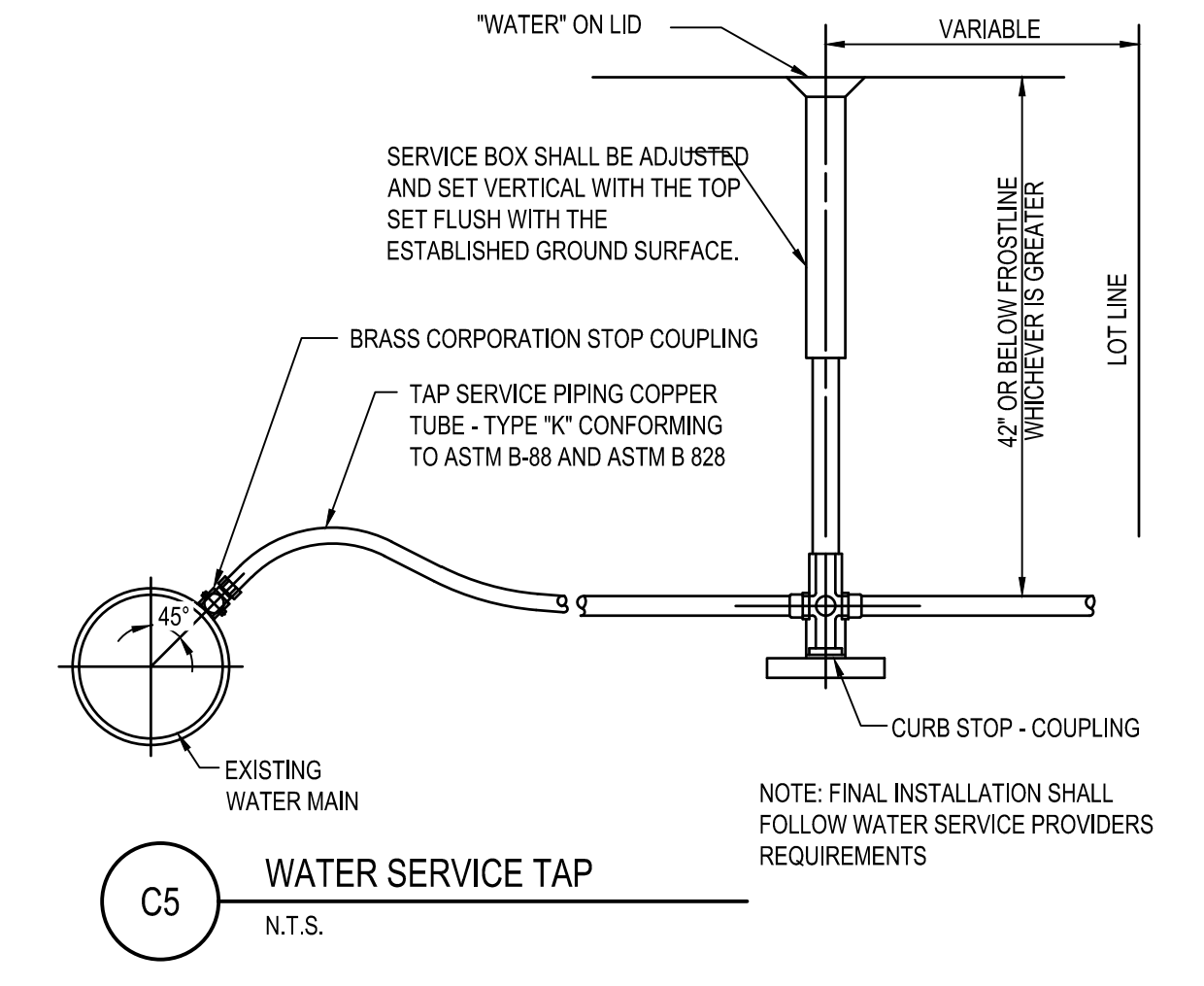
**C1 MDOT DOGHOUSE MANHOLE**  
N.T.S.

- KEYED NOTES**
- CONCRETE, MATCH PAVEMENT SPEC.
  - 6" (MIN.) AGGREGATE BASE
  - 6" DIA. CLEAN-OUT PIPE
  - CAP AND SEAL CONDUIT
  - THREADED CLEAN-OUT CAP
  - CAST-IRON MONUMENT BOX, EJIW 1565 OR APPROVED EQUAL
  - 45° BEND
  - WYE
  - SEWER

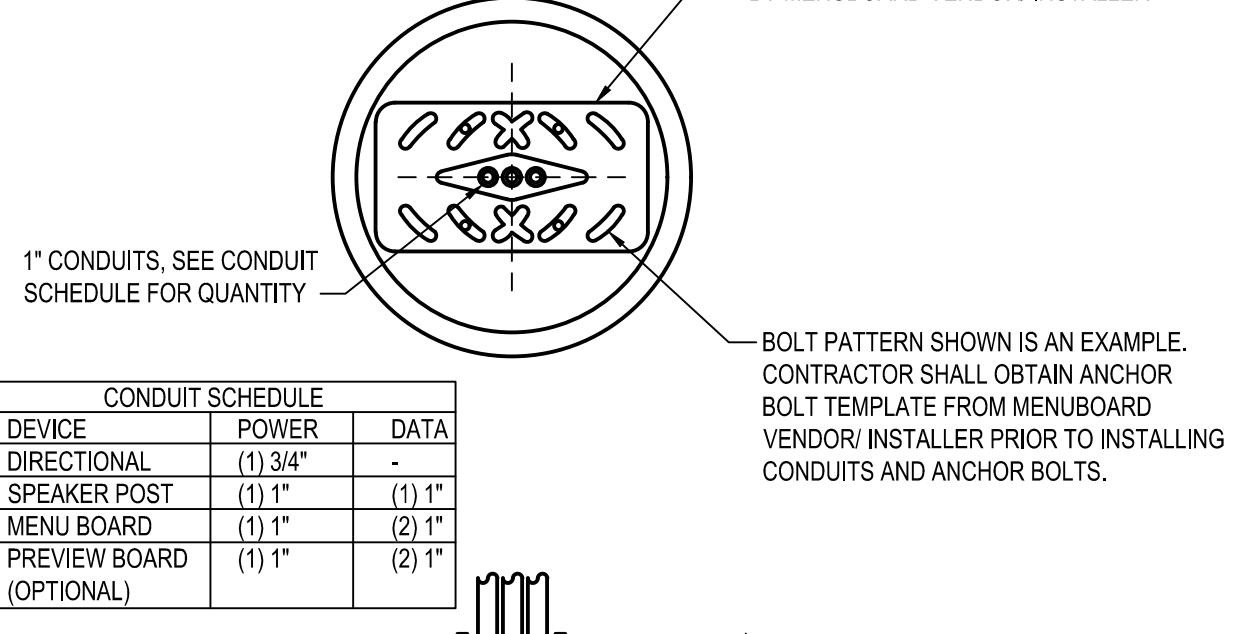
**B5 CLEAN OUT (PAVEMENT AREA)**  
N.T.S.

- KEYED NOTES**
- TOPSOIL & SEED, SOD, OR PAVEMENT AS DETAILED ELSEWHERE.
  - CONTINUOUS METALLIC WARNING TAPE
  - CLEAN SELECT GRANULAR BACKFILL
  - 6" CLEAN SAND ENVELOPE
  - 4" PVC ELECTRICAL CONDUITS (SCHEDULE 40), QUANTITY AS REQUIRED
  - 4" PVC TELEPHONE CONDUIT (SCHEDULE 40), QUANTITY AS REQUIRED

**C4 ELECTRICAL & COMMUNICATIONS SERVICE TRENCH**  
N.T.S.



**C5 WATER SERVICE TAP**  
N.T.S.



**D2 FOUNDATION CONDUIT DETAIL**  
N.T.S.

**CONDUIT SCHEDULE**

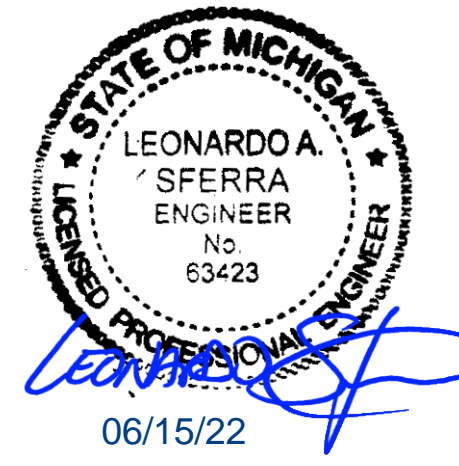
DEVICE	POWER	DATA
DIRECTIONAL	(1) 3/4"	-
SPEAKER POST	(1) 1"	(1) 1"
MENU BOARD	(1) 1"	(2) 1"
PREVIEW BOARD (OPTIONAL)	(1) 1"	(2) 1"

**NOTE:** ALL CONDUIT TO BE MIN. 12" BELOW GRADE OR LOCAL FROST DEPTH AND PROJECT 3" ABOVE FOUNDATION.

**D2 FOUNDATION CONDUIT DETAIL**  
N.T.S.

- KEYED NOTES**
- 6" DIA. CLEAN-OUT PIPE
  - CAP AND SEAL CONDUIT
  - THREADED CLEAN-OUT CAP
  - 45° BEND
  - WYE
  - SEWER

**A5 CLEAN OUT (LAWN AREA)**  
N.T.S.



**CITY AND COUNTY COMMENTS**

**TOWNSHIP/MDOT COMMENTS**

01.20.22 ISSUED FOR BID

03.11.22 ISSUED FOR CONSTRUCTION

CONTRACT DATE: 01/01/19  
BUILDING TYPE: ENDEAVOR 2.0  
PLAN VERSION: MARCH 2022  
BRAND DESIGNER: DAN DICKSON  
SITE NUMBER: 315089  
STORE NUMBER: 40164

**TACO BELL**  
18708 TELEGRAPH RD  
BROWNSTOWN, MI 48183



**ENDEAVOR 2.0**

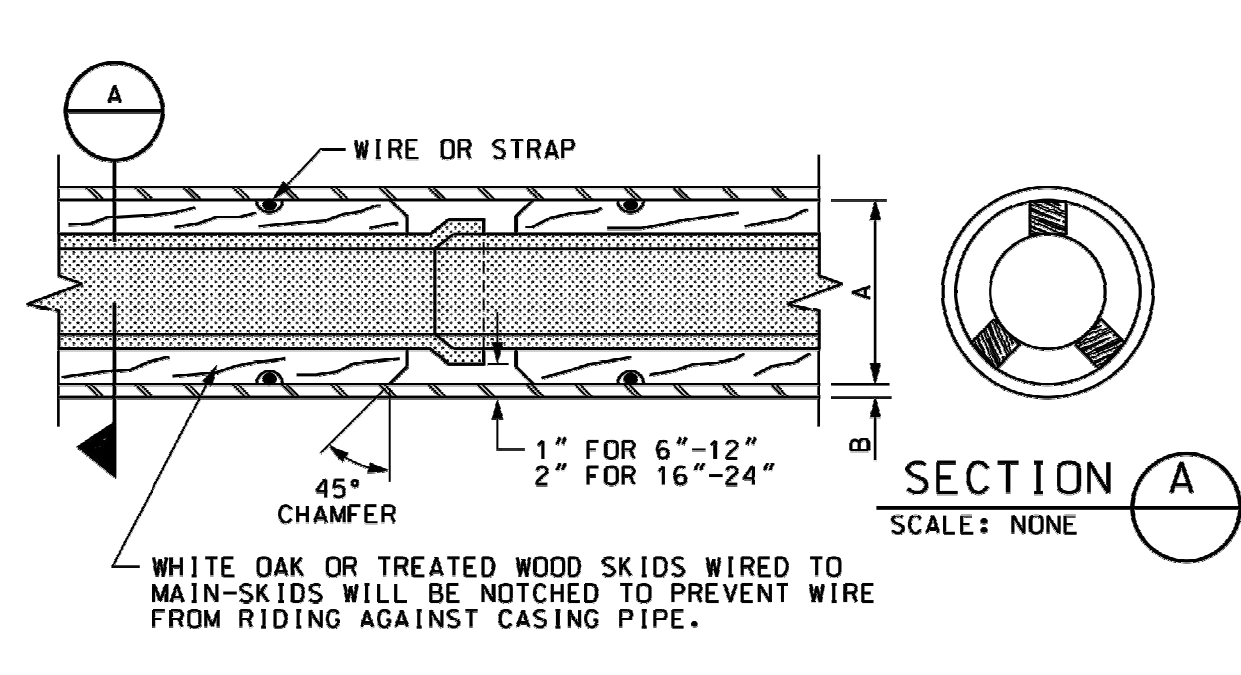
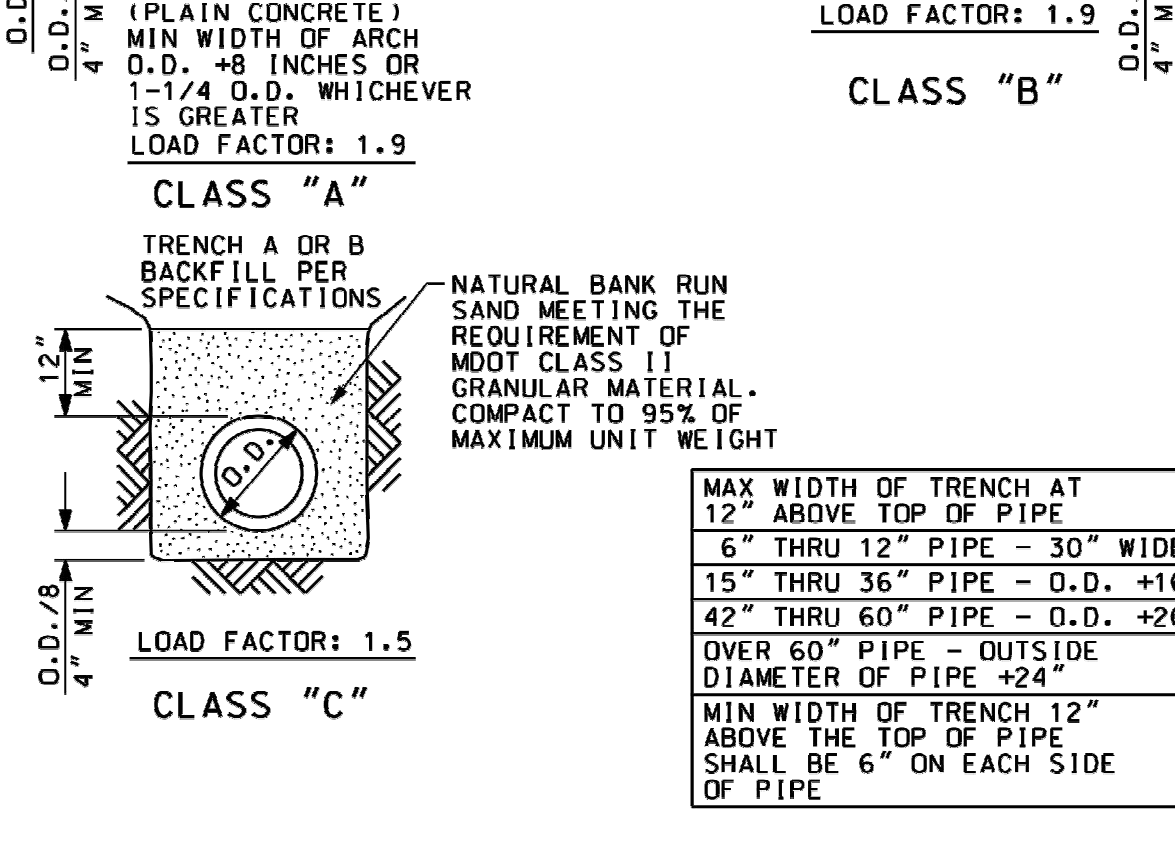
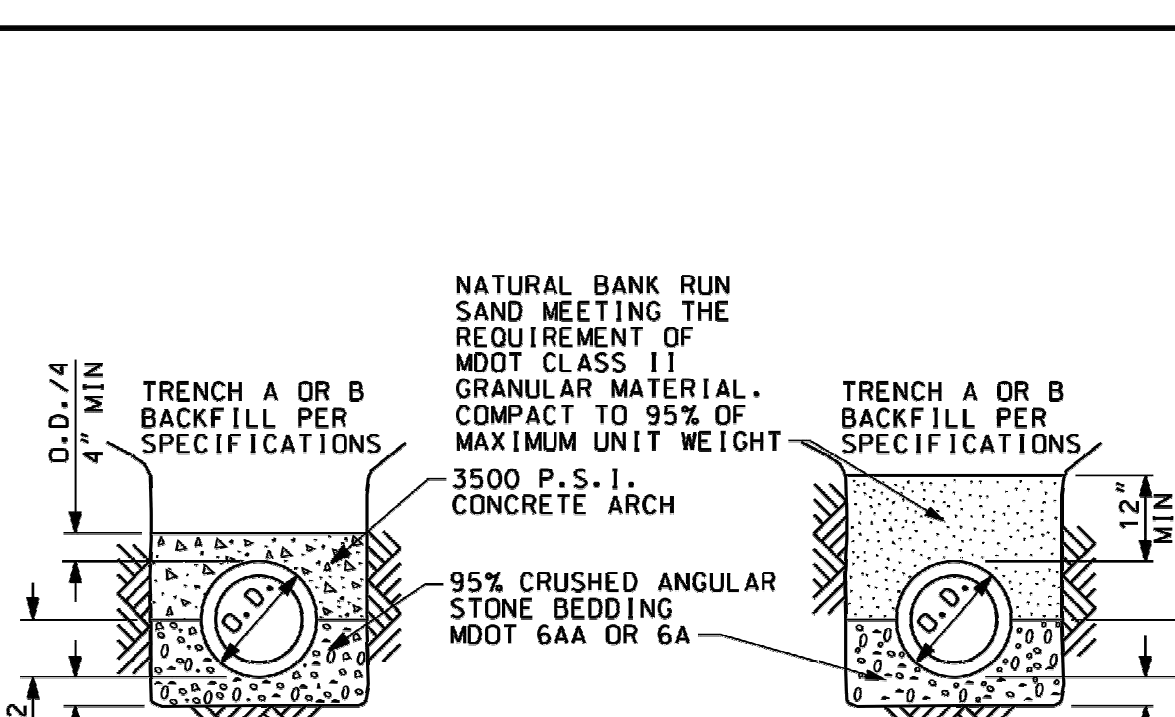
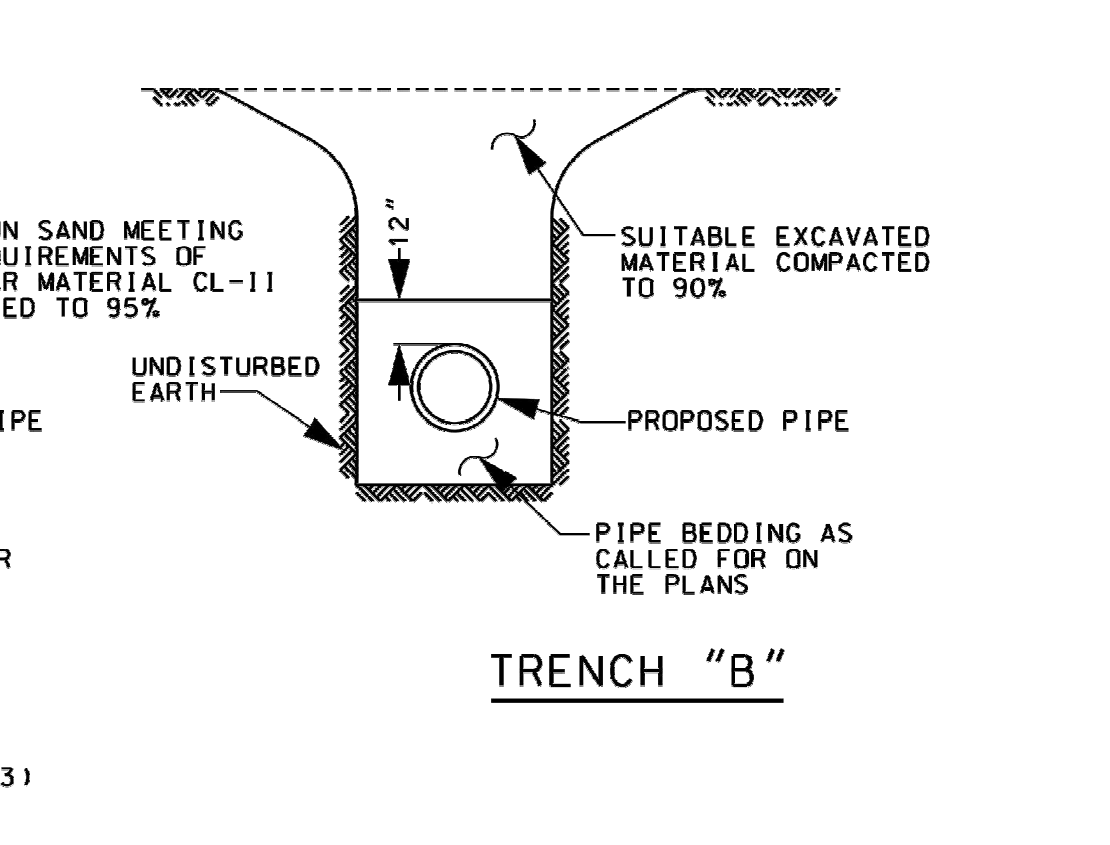
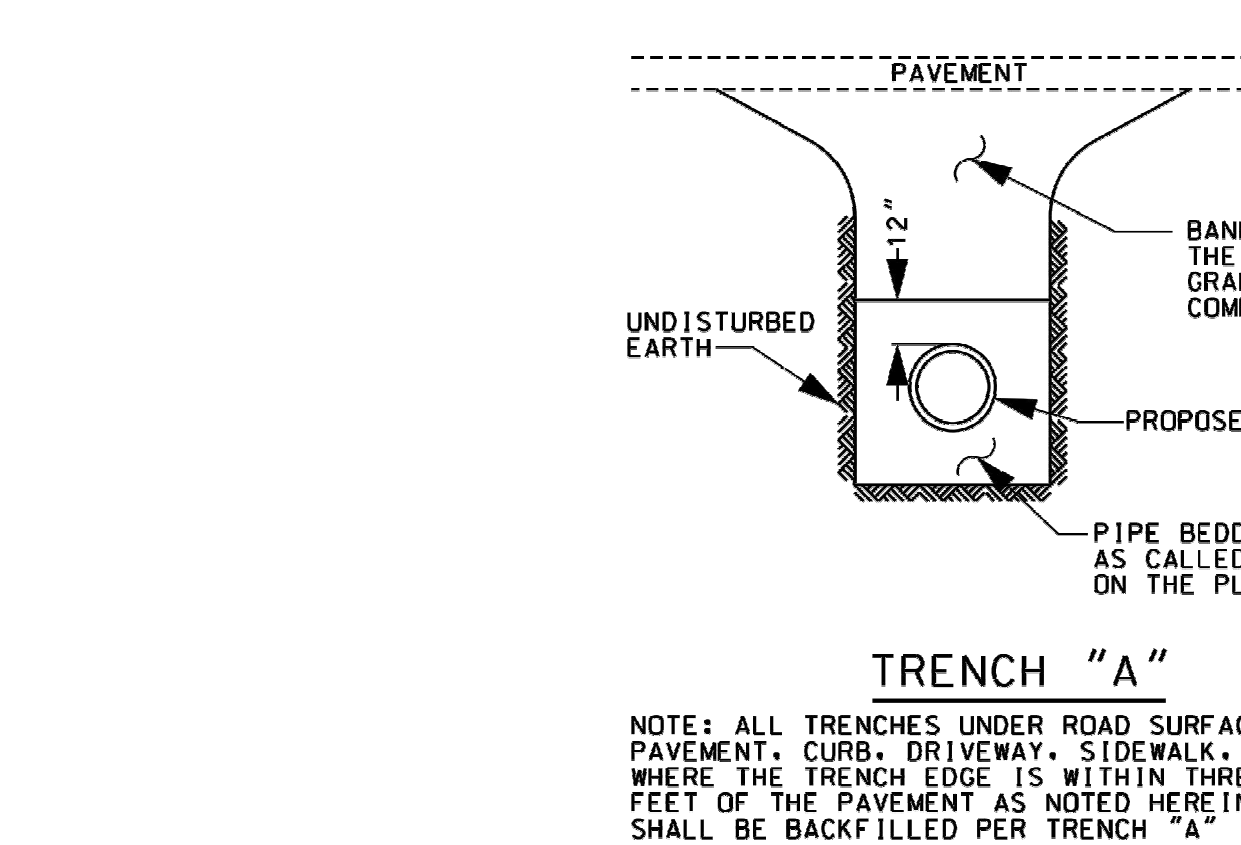
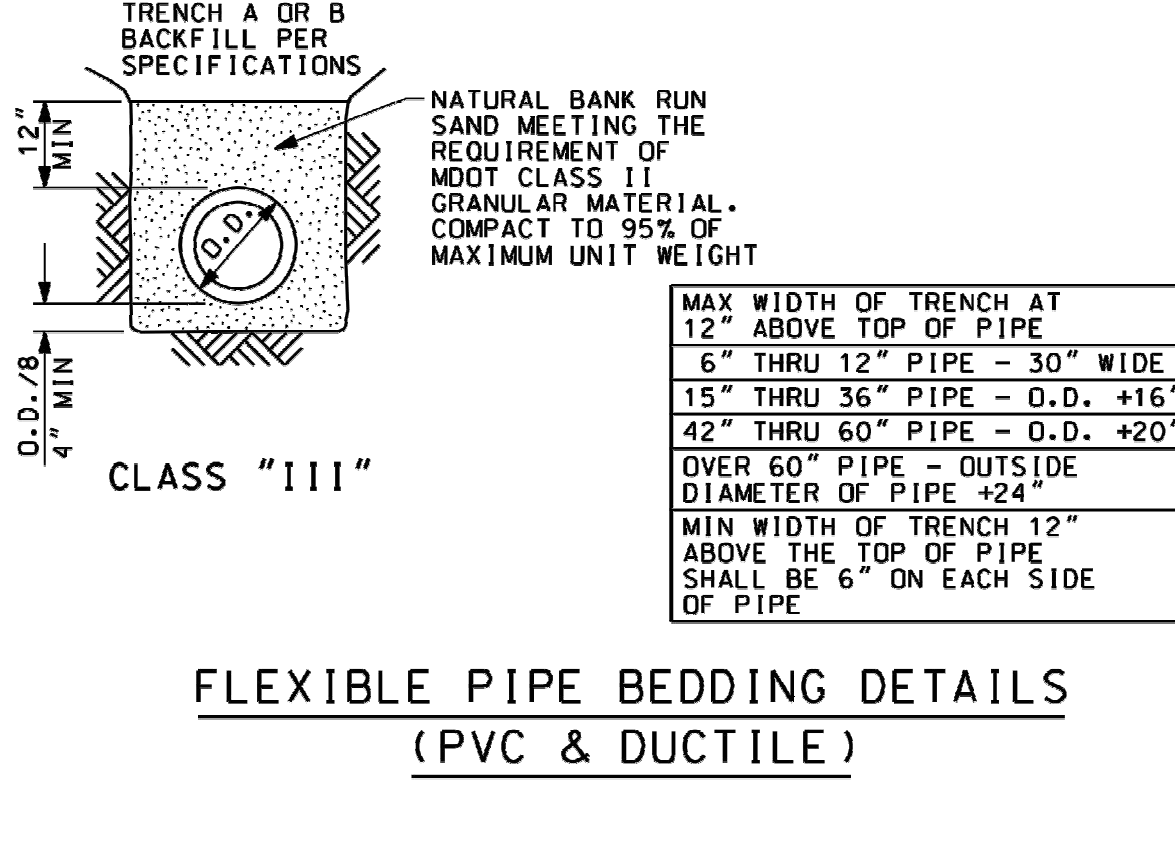
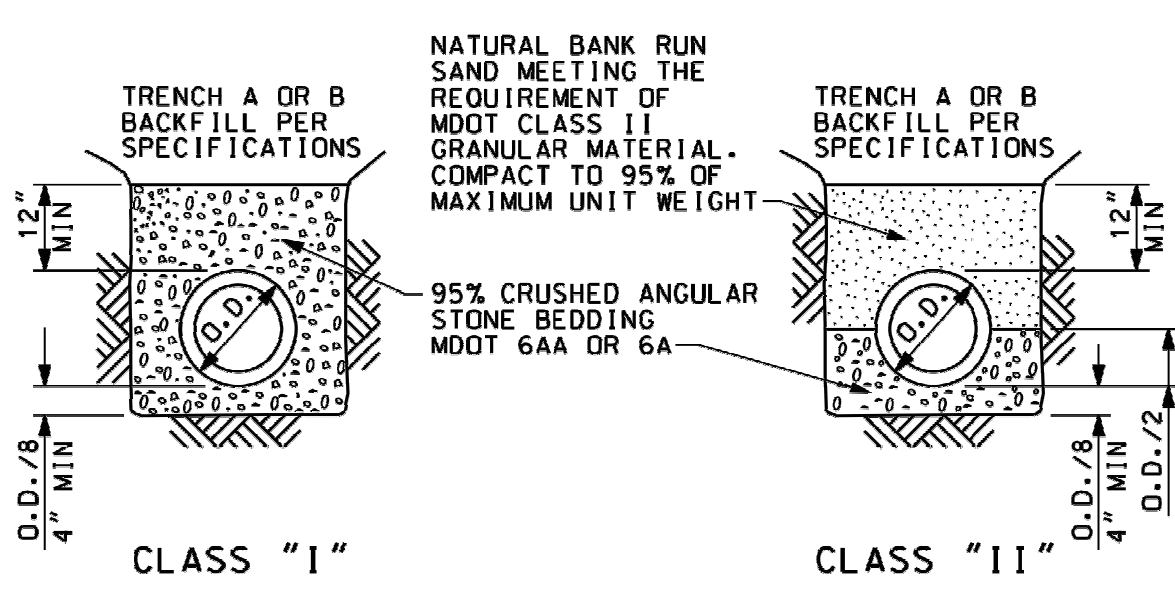
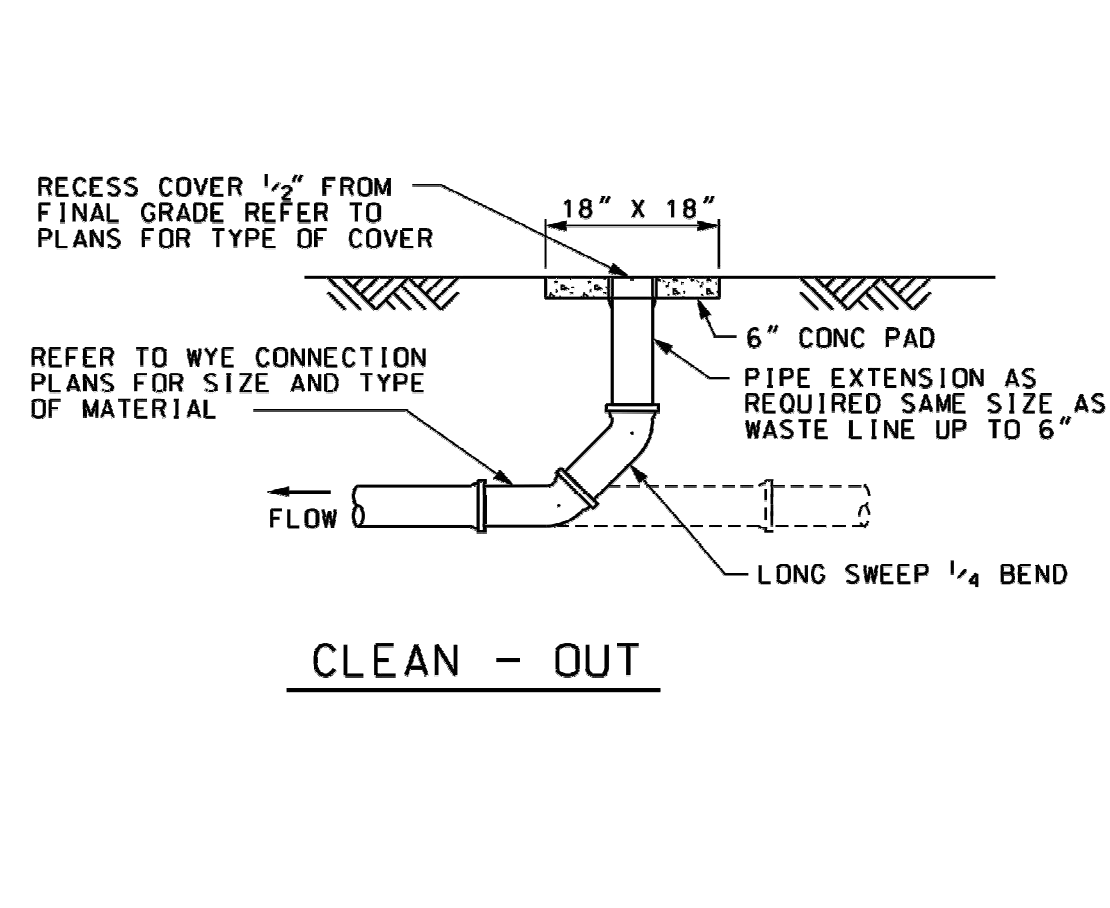
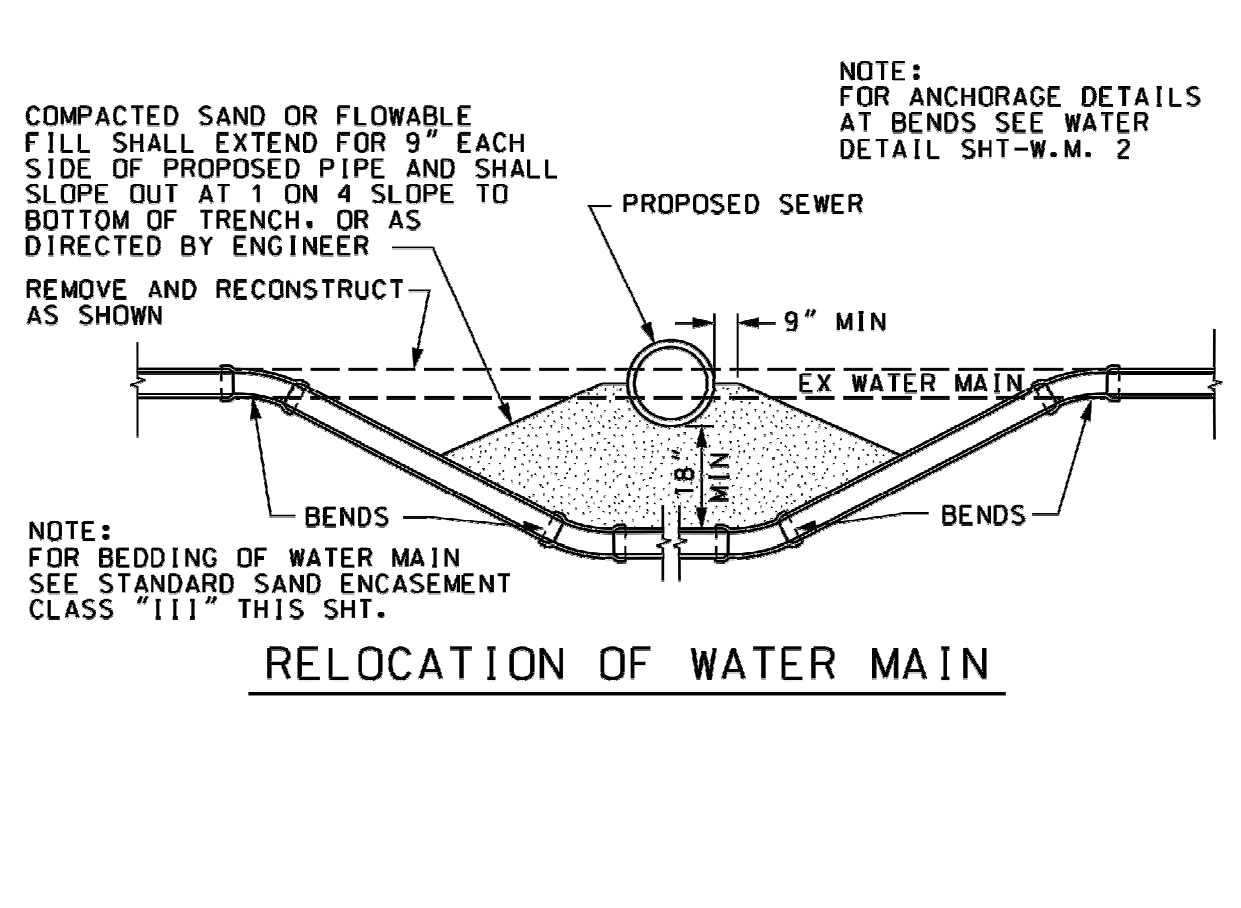
**DETAILS**

**C-504**



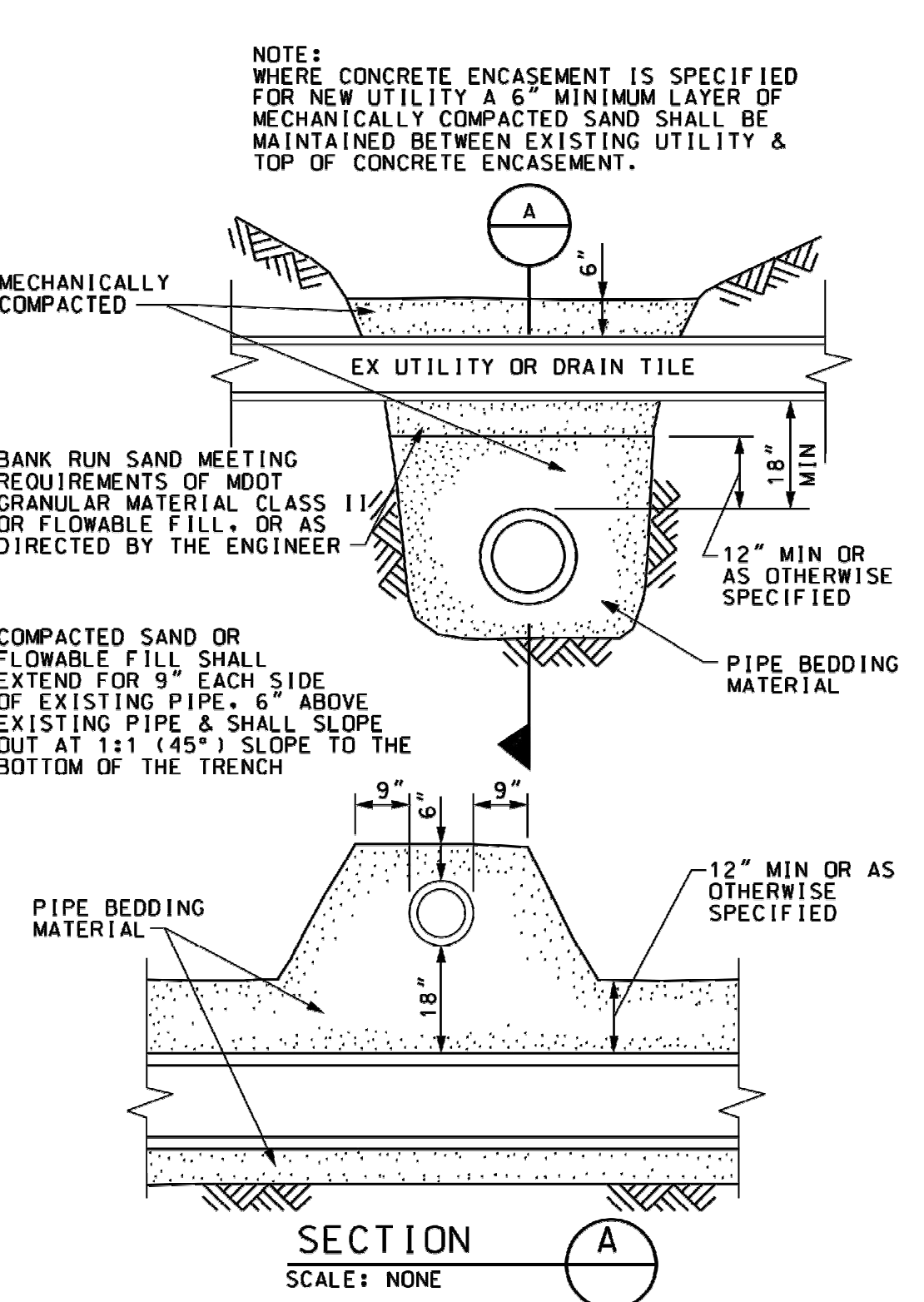
**GENERAL NOTES**

- AS HEREIN SPECIFIED, THE OWNER SHALL BE UNDERSTOOD TO MEAN BROWNSTOWN TOWNSHIP.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL ATTEND A PRE-CONSTRUCTION MEETING, AT A TIME AND PLACE AS ARRANGED BY THE OWNER, AT WHICH VARIOUS UTILITY COMPANIES AND GOVERNMENTAL AGENCY REPRESENTATIVES WILL BE PRESENT.
- PRIOR TO THE PRE-CONSTRUCTION MEETING, THE CONTRACTOR MUST HAVE IN HIS POSSESSION A COPY OF ALL PERMITS NECESSARY TO CONSTRUCT THE IMPROVEMENTS. THE CONTRACTOR SHALL NOTIFY THE PERMIT AGENCY(S), 72 HOURS PRIOR TO ANY CONSTRUCTION.
- THE CONTRACTOR SHALL MAINTAIN HIS CONSTRUCTION OPERATIONS WITHIN THE PRESENTLY EXISTING ROAD RIGHTS-OF-WAY AND EASEMENTS AS NOTED ON THE PLANS. SHOULD THE CONTRACTOR DEEM IT NECESSARY TO OPERATE BEYOND THE LIMITS OF THE EXISTING RIGHTS-OF-WAY OR EASEMENTS, HE SHALL BE RESPONSIBLE FOR MAKING SPECIAL WRITTEN AGREEMENTS WITH THE PROPERTY OWNERS AND SHALL FURNISH COPIES OF SUCH AGREEMENTS TO THE OWNER AND ENGINEER.
- THE CONTRACTOR SHALL NOTIFY "MISS DIG" (800) 482-7171) 3 DAYS (NOT INCLUDING HOLIDAYS OR WEEKENDS) NOTICE BEFORE STARTING CONSTRUCTION.
- THE CONTRACTOR SHALL MAKE ANY NECESSARY ARRANGEMENTS WITH UTILITY COMPANIES FOR RELOCATION OF EXISTING UTILITIES. THESE ARRANGEMENTS SHALL BE MADE IN SUFFICIENT TIME TO ALLOW THE RELOCATION WORK TO BE COMPLETED WITHOUT INTERFERING WITH OR DELAYING THIS CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES AND THE ENGINEER 48 HOURS PRIOR TO UNCOVERING ANY EXISTING UTILITIES.
- THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER 72 HOURS PRIOR TO THE START OF ANY CONSTRUCTION.
- THE CONTRACTOR SHALL MAINTAIN ALL TRAFFIC AT ALL TIMES AS PER THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- THE CONTRACTOR SHALL AT ALL TIMES PROVIDE EMERGENCY ACCESS TO PROPERTY IN THE VICINITY OF THE CONSTRUCTION FOR POLICE AND FIRE EQUIPMENT, AMBULANCES OR OTHER EMERGENCY VEHICLES TO PROTECT LIFE, HEALTH AND PROPERTY.
- THE CONTRACTOR SHALL MAINTAIN PUBLIC ROADS AFFECTED BY THE CONSTRUCTION OPERATIONS IN A PASSABLE CONDITION UNTIL FINAL RESTORATION OF THESE IMPROVEMENTS CAN BE MADE. IF THE PUBLIC SAFETY IS IN DANGER OR THE NECESSITY EXISTS FOR MAINTAINING TRAFFIC, BACKFILLING SHALL BE COMPLETED IMMEDIATELY. IN THE EVENT THAT THE NECESSARY BACKFILL MATERIAL AND EQUIPMENT IS NOT AVAILABLE, THE TRENCH SHALL BE TEMPORARILY BACKFILLED WITH NATURAL BANK MATERIAL. HOWEVER, THE NATIVE MATERIAL SHALL BE REMOVED WITHIN 48 HOURS AND THE TRENCH PROPERLY BACKFILLED.
- NO STREET, ROAD OR SECTION THEREOF SHALL BE CLOSED TO THROUGH TRAFFIC UNLESS AUTHORIZED BY THE AGENCY HAVING JURISDICTION. PRIOR TO CLOSING A ROAD, THE CONTRACTOR SHALL SUBMIT A DETOUR PLAN FOR REVIEW AND APPROVAL.
- FIRE DEPARTMENT, POLICE DEPARTMENT, LOCAL ROAD AUTHORITY(S), SCHOOL SYSTEM(S), LOCAL TRASH HAULER(S), AND PUBLIC AND PRIVATE UTILITIES DAILY AS TO WHAT ROADS WILL BE CLOSED OR PARTIALLY CLOSED, THE LENGTH OR TIME OF THE CLOSURE, AND WHEN THE ROAD WILL BE RE-OPENED.
- PAVED STREETS AND DRIVEWAYS SHALL BE MAINTAINED IN A REASONABLE STATE OF CLEANLINESS AND THE CONTRACTOR SHALL REMOVE ACCUMULATIONS OF DEBRIS CAUSED BY HIS OPERATIONS. THE PAVEMENTS SHALL BE CLEANED AT THE CLOSE OF EACH DAY'S OPERATION AND AS OFTEN AS NECESSARY BEFORE THAT TIME. FAILURE TO COMPLY SHALL BE CAUSE TO STOP CONSTRUCTION. CONTRACTOR SHALL ALSO COMPLY WITH THE LOCAL AIR POLLUTION CONTROL ORDINANCES.
- ALL GRAVEL AND DIRT ROADS OR DRIVEWAYS SHALL BE MAINTAINED BY GRADING, PLACING DUST PALLIATIVES, AND MAINTENANCE GRAVEL IN SUFFICIENT QUANTITY TO ELIMINATE DUST AND MAINTAIN TRAFFIC.
- THE CONTRACTOR SHALL PROVIDE ALL NECESSARY SHEETING, SHORING, DEWATERING, BRACING, TRENCH BOXES, ETC. TO PERFORM THE WORK SAFELY AND PROTECT EXISTING UTILITIES AND IMPROVEMENTS.
- THE FLOW IN THE EXISTING SEWERS SHALL BE MAINTAINED AT ALL TIMES.
- CULVERTS, DITCHES, DRAIN TILES, FIELD TILE, DRAINAGE STRUCTURES, ETC. THAT ARE DISTURBED BY CONSTRUCTION SHALL BE IMMEDIATELY RESTORED.
- ALL PROPERTY IRONS AND MONUMENTS, IF DISTURBED OR DESTROYED BY CONSTRUCTION SHALL BE REPLACED BY A MICHIGAN LICENSED PROFESSIONAL SURVEYOR AT THE CONTRACTOR'S EXPENSE.
- AFTER ALL PIPE, STRUCTURES, ETC. HAVE BEEN LAID, CONSTRUCTED AND BACKFILLED, THE SYSTEM SHALL BE TESTED AND INSPECTED. THE INSPECTION AND TESTING SHALL CONSIST OF A FIRST INSPECTION, TELEVISION INSPECTION (IF APPLICABLE), TESTING, FINAL INSPECTION AND MEASUREMENT. THE CONTRACTOR SHALL PROVIDE THE NECESSARY LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE TESTING AND INSPECTION. ALL TESTING AND INSPECTION SHALL BE CONDUCTED IN THE PRESENCE OF THE ENGINEER. TWO (2) WORKING DAYS NOTICE IS REQUIRED IN ADVANCE OF ALL TESTING AND INSPECTION.
- THE CONTRACTOR SHALL HAVE THE UNDERGROUND PORTION OF THE UTILITY READY FOR THE FIRST INSPECTION WITHIN TWO (2) WEEKS AFTER COMPLETION OF THE UTILITY.
- THE FIRST INSPECTION SHALL CONSIST OF A VISIBLE AND AUDIBLE CHECK OF SEWERS, MANHOLES, GATE WELLS, AND OTHER STRUCTURES TO ASCERTAIN THAT THE STEPS HAVE BEEN PLACED, ALL LIFT HOLES PLUGGED, CHANNELS COMPLETED, ALL VISIBLE OR AUDIBLE LEAKS STOPPED, ALL PIPE IS STRAIGHT AND TRUE TO LINE AND GRADE, ADJUSTING RINGS AND FRAME AND COVER PROPERLY INSTALLED, ALL BACKFILL COMPLETED, AND THE SYSTEM HAS BEEN THOROUGHLY CLEANED.
- THE FIRST INSPECTION SHALL BE CONSIDERED COMPLETE WHEN ALL REPAIRS HAVE BEEN MADE AND THE SYSTEM IS READY FOR TELEVISION INSPECTION OR SUBSEQUENT TESTING.
- THE FIRST INSPECTION SHALL BE COMPLETED AND ALL REPAIRS MADE SO THAT THE TELEVISION INSPECTION, AIR TESTING, PRESSURE TESTING, ETC. CAN BE COMPLETED WITHIN FOUR (4) WEEKS OF THE COMPLETION OF THE LINE. WHEN RE-TELEVISION IS NECESSARY, AN ADDITIONAL TWO (2) WEEKS WILL BE ALLOWED. TESTING OF THE SYSTEM SHALL IMMEDIATELY FOLLOW THE TELEVISION INSPECTION AND SHALL BE COMPLETED WITHIN A TWO (2) WEEK PERIOD.
- FAILURE TO MAINTAIN A SCHEDULE IN COMPLIANCE WITH THESE TERMS MAY CAUSE STOPPAGE OF THE WORK UNTIL FINAL INSPECTION OF THE COMPLETED WORK HAS PROGRESSED TO ACCEPTABLE LIMITS.
- AFTER ALL TESTING, TELEVISION INSPECTION, FINAL RESTORATION AND CLEANUP HAS BEEN COMPLETED, A FINAL INSPECTION AND MEASUREMENT WILL BE DONE. THE FINAL INSPECTION SHALL BE REQUESTED BY THE CONTRACTOR AND CONSIST OF CHECKING FOR PROPER ALIGNMENT, GRADE, CLEANLINESS, LEAKS, CONFORMANCE TO PLANS AND SPECIFICATIONS, PROPER STRUCTURAL AND MECHANICAL ADJUSTMENTS, RESTORATION, ETC. FINAL MEASUREMENT INCLUDES STRUCTURE ELEVATIONS, DISTANCE BETWEEN STRUCTURES, AND CONFIRMATION UTILITIES ARE LOCATED WITHIN EASEMENTS AND RIGHT-OF-WAY.
- SUCCESSFUL COMPLETION OF ANY TEST OR INSPECTION SHALL NOT RELIEVE CONTRACTOR FROM THEIR RESPONSIBILITY TO CORRECT ANY DEFECTS IN MATERIALS OR WORKMANSHIP WHICH MAY LATER BECOME KNOWN.
- SAND BACKFILL SHALL BE USED UNDER ALL PAVEMENTS (INCLUDING GRAVEL SURFACED DRIVEWAYS, ETC.) OR WHERE THE EXCAVATION IS WITHIN 3- FEET OF THE PAVEMENT.



DIA OF SEWER PVC OR TRUSS	DIA OF MAIN CONCRETE	MIN "A"	ROAD CROSSING MIN "B"	RAILROAD CROSSING MIN "B"
6"	8"	16"	.375	.375
8"	10"	16"	.375	.375
10"	12"	20"	.375	.438
12" & 15"	16"	24"	.375	.500
12" & 15"	20"	30"	.375	.500
18"	24"	36"	.375	.500

- NOTES:
- NO WATER SHALL BE USED IN BORING UNDER RAILROADS.
  - MAINTAIN MINIMUM OF 5'-6" OF COVER BETWEEN BASE OF RAIL AND TOP OF CASING.
  - THE ENDS OF THE CASING SHALL BE SUITABLY PROTECTED AGAINST THE ENTRANCE OF FOREIGN MATERIAL, BUT SHALL NOT BE TIGHTLY SEALED.
  - WHEN BORING ALL VOIDS OUTSIDE OF CASING PIPE SHALL BE FILLED BY MEANS OF PRESSURE GROUTING WITH 1:3 CEMENT-SAND MORTAR. THIS WORK MUST BE ACCOMPLISHED WITHIN 24 HOURS AFTER THE CROSSING HAS BEEN COMPLETED. BORING SHALL EXTEND A MINIMUM OF 10 FEET OUTSIDE THE EDGES OF THE PAVEMENT.
  - SKIDS ARE TO BE MINIMUM OF 80% OF PIPE LENGTH.



NO.	REV	DATE	DESCRIPTION	BY

NOT VALID FOR CONSTRUCTION UNLESS SIGNED AND DATED.

**WADETRIM**  
32333 Northwest Blvd., PO Box 10  
Taylor, MI 48180  
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**CHARTER TWP OF BROWNSTOWN**

MISCELLANEOUS DETAILS

ISSUED FOR: DATE: BY:

JOB NO. -

SHEET **MD1**

CITY AND COUNTY COMMENTS

TOWNSHIP/MDOT COMMENTS

01.20.22 ISSUED FOR BID

03.11.22 ISSUED FOR CONSTRUCTION

CONTRACT DATE: 01/01/19

BUILDING TYPE: ENDEAVOR 2.0

PLAN VERSION: MARCH 2022

BRAND DESIGNER: DAN DICKSON

SITE NUMBER: 315089

STORE NUMBER: 40164

**TACO BELL**

18708 TELEGRAPH RD  
BROWNSTOWN, MI 48183

ISSUED FOR: DATE: BY:

JOB NO. -

SHEET **MD1**

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PROJECT MANAGER: FIELD BOOK INFORMATION: PLOTTED 6/14/2011 10:34:40 AM BY wlfisher



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**WATER MAIN NOTES**

1. ALL WATER SYSTEM CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND GENERAL SPECIFICATIONS OF THE AGENCY OR AGENCIES HAVING JURISDICTION OF THE WATER SUPPLY SYSTEM AND CONSTRUCTION AREA. ALL WORK WITHIN THE WAYNE COUNTY ROAD RIGHT-OF-WAY SHALL CONFORM TO THE WAYNE COUNTY GENERAL NOTES (GN-1)
2. WATER MAINS SHALL NOT BE CONSTRUCTED UNDER SIDEWALKS OR ROAD PAVEMENT AREAS.
3. GATE WELLS AND OTHER WATER MAIN STRUCTURES SHALL NOT BE CONSTRUCTED UNDER DRIVEWAYS, DRIVE APPROACHES, OR SIDEWALKS.
4. ALL SURFACE STRUCTURES, SUCH AS HYDRANTS, GATE WELLS AND VALVE BOXES SHALL BE SET TO GRADE AS FURNISHED BY THE ENGINEER OR AS INDICATED ON THE PLANS.
5. FIRE HYDRANTS ARE TO BE INSTALLED PLUMB AND HAVE THEIR NOZZLES ALIGNED AS DETERMINED BY THE ENGINEER.
6. HYDRANT LOCATION: HYDRANTS ARE TO BE LOCATED AS FOLLOWS UNLESS OTHERWISE NOTED ON THE PLANS:  
SECTION LINE ROADS - 40 FEET OFF SECTION LINE  
1/4 LINE ROADS - 33 FEET OFF THE 1/4 LINE  
RESIDENTIAL STREETS - 22 FEET OFF CENTERLINE
7. PROVIDE 7-FOOT MINIMUM COVER BELOW EXISTING PAVEMENT CENTERLINE OR GROUND, WHICHEVER IS LOWER. WHEN THE PROPOSED WATER MAIN IS WITHIN 32 FEET OF CENTERLINE ON SECTION LINE ROADS, OR WITHIN 19 FEET OF CENTERLINE ON 1/4 LINE ROADS, SEVEN FEET OF COVER SHALL ALSO BE REQUIRED AT OTHER LOCATIONS AS NOTED ON THE PLANS. PROVIDE 6 FOOT MINIMUM COVER BELOW EXISTING ROAD CENTER LINE OR GROUND AT WATER MAIN, WHICHEVER IS LOWER, AT ALL OTHER LOCATIONS UNLESS OTHERWISE SPECIFICALLY NOTED ON THE PLANS.
8. PLACE SAND BACKFILL WITHIN 3 FEET OF ALL STRUCTURES INCLUDING VALVE WELLS, FIRE HYDRANTS, ETC.
9. ALL WATER MAIN PIPE SHALL HAVE CLASS III BEDDING UNLESS OTHERWISE NOTED ON THE PLANS. SEE SHEET MD-1.
10. ALL PRECAST PRODUCTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-478.
11. WATER MAIN TO BE PLACED LEVEL THROUGH ALL GATE WELLS.
12. WHEN JACKING OR BORING, ALL VOIDS SHALL BE FILLED BY MEANS OF PRESSURE GROUTING WITH 1:3 CEMENT/SAND MORTAR. THIS WORK MUST BE ACCOMPLISHED WITHIN 24 HOURS AFTER THE WATER MAIN HAS BEEN INSTALLED. WATER MAIN JACKING OR BORING SHALL EXTEND A MINIMUM OF 10 FEET OUTSIDE THE EDGES OF THE PAVEMENT.
13. ALL WATER MAIN INSTALLATION/REPLACEMENT SHALL BE SUBJECT TO PRESSURE AND BACTERIOLOGICAL TESTS PERFORMED IN ACCORDANCE WITH THE OWNERS REQUIREMENTS. THE CONTRACTOR SHALL ARRANGE FOR, PERFORM, PAY APPLICABLE FEES, AND COORDINATE THIS TESTING. THE CONTRACTOR SHALL KEEP THE OWNER AND THE ENGINEER APPRISED OF THE SCHEDULE AND TEST RESULTS.
14. CONNECTION TO EXISTING WATER MAIN SHALL BE MADE ONLY AFTER HYDROSTATIC AND BACTERIOLOGICAL TESTS HAVE BEEN SUCCESSFULLY COMPLETED AND REVIEWED BY THE ENGINEER.

FOR REFERENCE ONLY

**BROWNSTOWN NOTES**

1. FIRE HYDRANTS SHALL BE EAST JORDAN IRON WORKS 5-BR BREAK-AWAY TYPE CONFORMING TO ANWA C502 SPECIFICATION. HYDRANTS SHALL OPEN IN A COUNTER-CLOCKWISE DIRECTION WITH A DIRECTIONAL ARROW CAST IN THE BONNET. OPERATING NUT SHALL BE 2-INCH SQUARE. HYDRANTS SHALL HAVE 5-1/4 INCH SEAT VALVE, A 6-INCH MECHANICAL JOINT HUB, AND DOUBLE OPERATING STEM O-RING SEALS. HYDRANT SHALL BE EQUIPPED WITH TWO 4-INCH PUMPER NOZZLES, WITH DETROIT STANDARD THREAD, AND DETROIT FIRE DEPARTMENT STANDARD OPERATING NUT. HYDRANTS SHALL BE SUITABLE FOR 6.5 FOOT BURY PAINTED YELLOW.
2. GATE VALVES FOR SIZES 4-INCH THROUGH 16-INCH DIAMETER SHALL BE EAST JORDAN IRON WORKS, TYPE DWS, SOLID WEDGE, CONFORMING TO DETROIT WATER SYSTEM SPECIFICATION. VALVES SHALL BE DESIGNED FOR A WORKING PRESSURE OF 200 PSI AND A TEST PRESSURE OF 400 PSI, AND OPEN IN A CLOCKWISE DIRECTION AND SHALL HAVE A 2-INCH SQUARE OPERATING NUT. VALVES SHALL HAVE MECHANICAL JOINT INLET AND OUTLET CONNECTIONS.
3. WATER SERVICE AND WATER MAIN PIPE SHALL BE:
  - A. 1-INCH THROUGH 2-INCH DIAMETER - TYPE "K" COPPER. WATER SERVICES SHALL BE MINIMUM 1-INCH.
  - B. 4-INCH THROUGH 12-INCH DIAMETER WATER MAIN - DUCTILE IRON CLASS 54. MIN. THICKNESS COAL TAR ENAMEL COATING INSIDE AND OUTSIDE. WATER MAIN SHALL BE MINIMUM 8-INCH DIAMETER.
  - C. 16-INCH AND LARGER - DUCTILE IRON CLASS 54 OR CONCRETE CYLINDER PIPE DESIGNED FOR A MAXIMUM PRESSURE OF 250 PSI.
4. ALL FITTINGS SHALL BE DUCTILE IRON, PRESSURE RATING 350 PSI MINIMUM, CONFORM TO ANSI/ANWA C153/A21-53, COMPACT FITTINGS, WITH DOUBLE THICKNESS CEMENT MORTAR LINING AND COAL TAR ENAMEL COATING INSIDE AND OUTSIDE.

▲ CITY AND COUNTY COMMENTS
▲ TOWNSHIP/MDOT COMMENTS
▲ 01.20.22 ISSUED FOR BID
▲ 03.11.22 ISSUED FOR CONSTRUCTION
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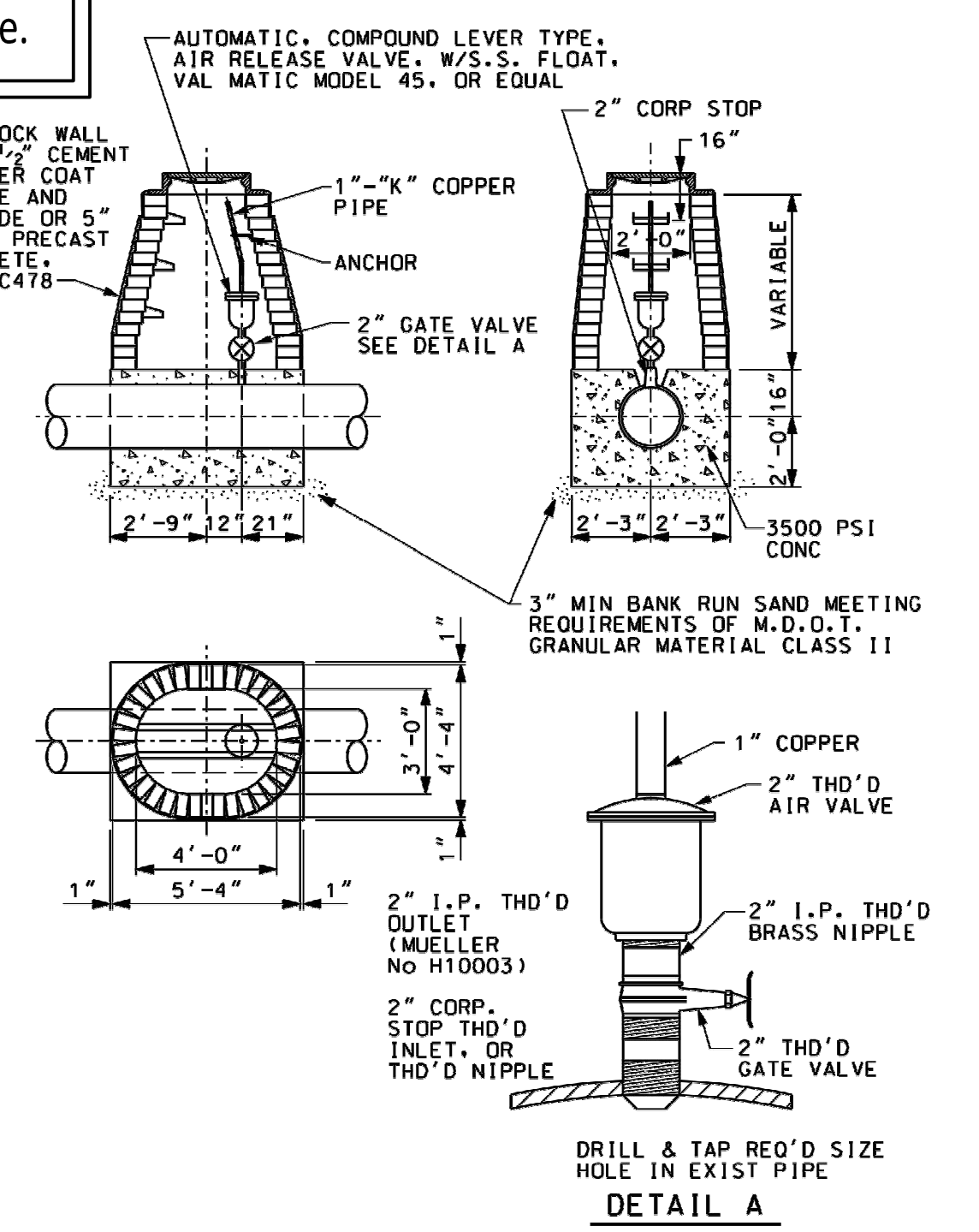
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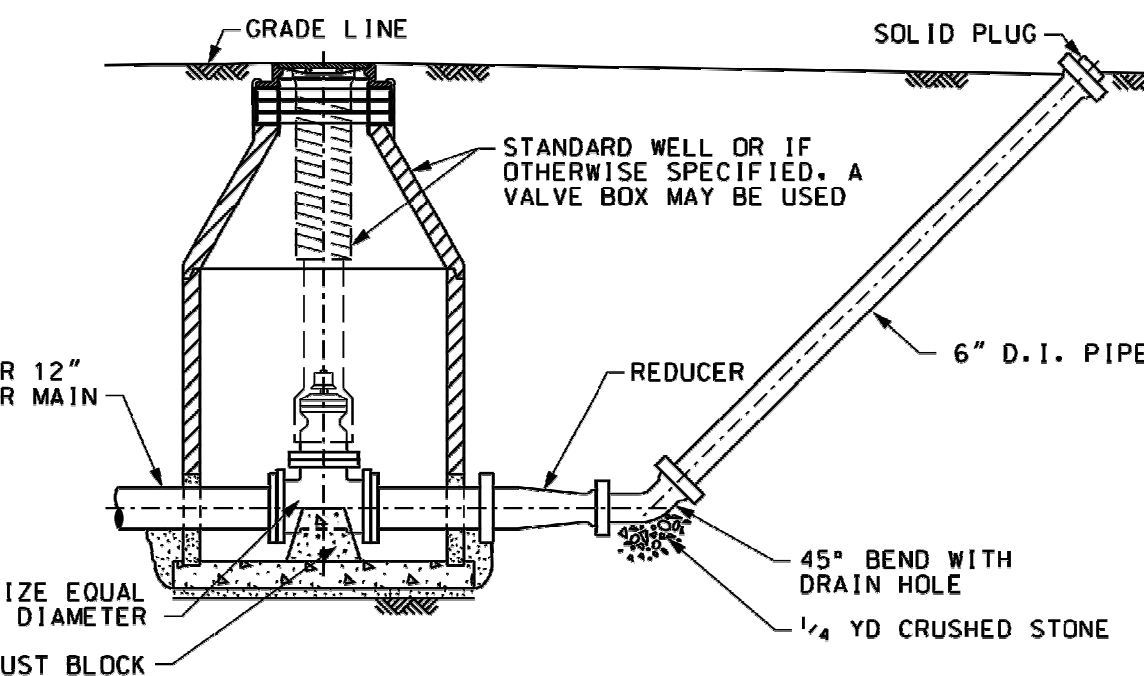
ENDEAVOR 2.0

**BROWNSTOWN WATER DETAILS**

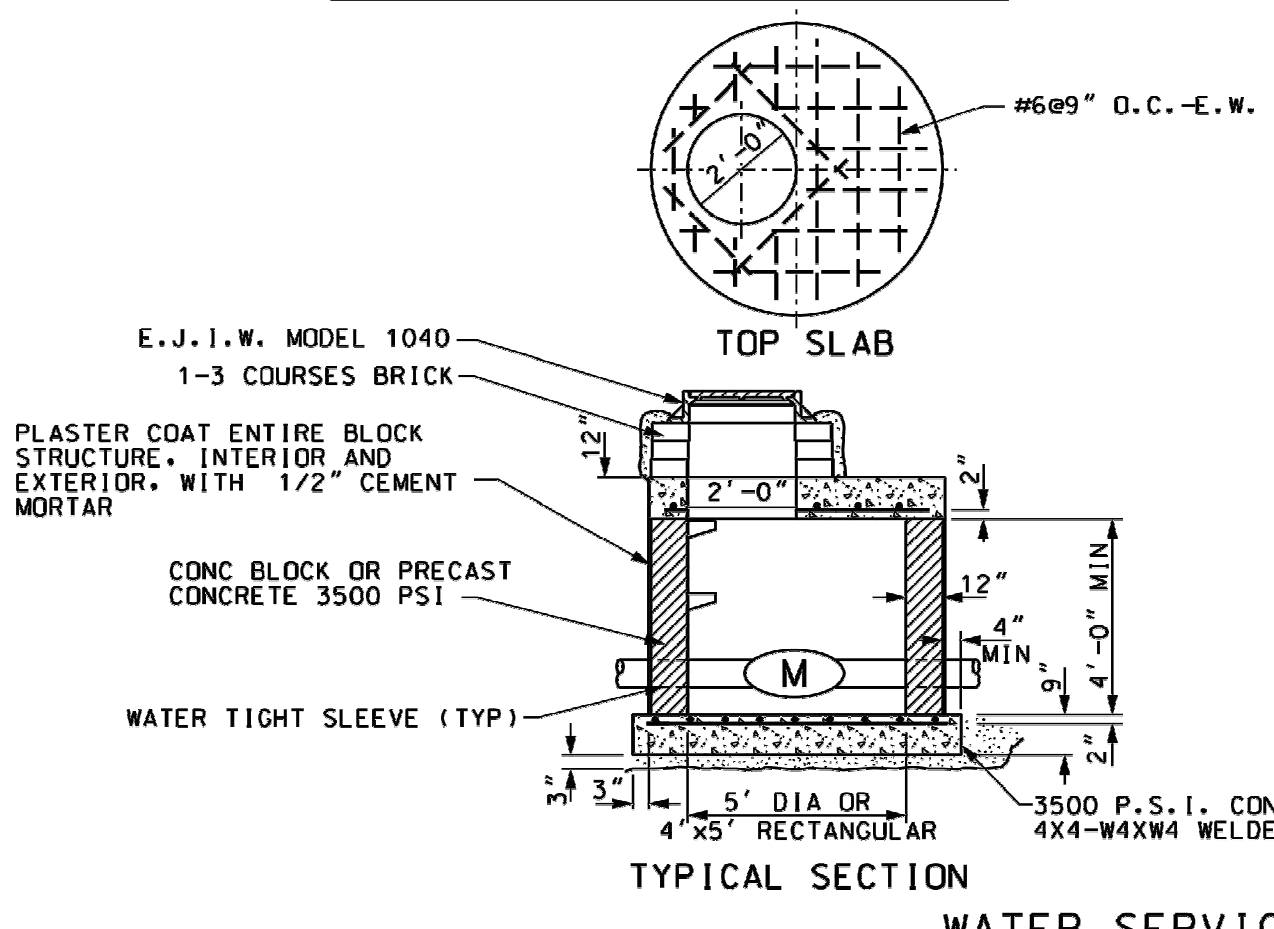
**C-506**



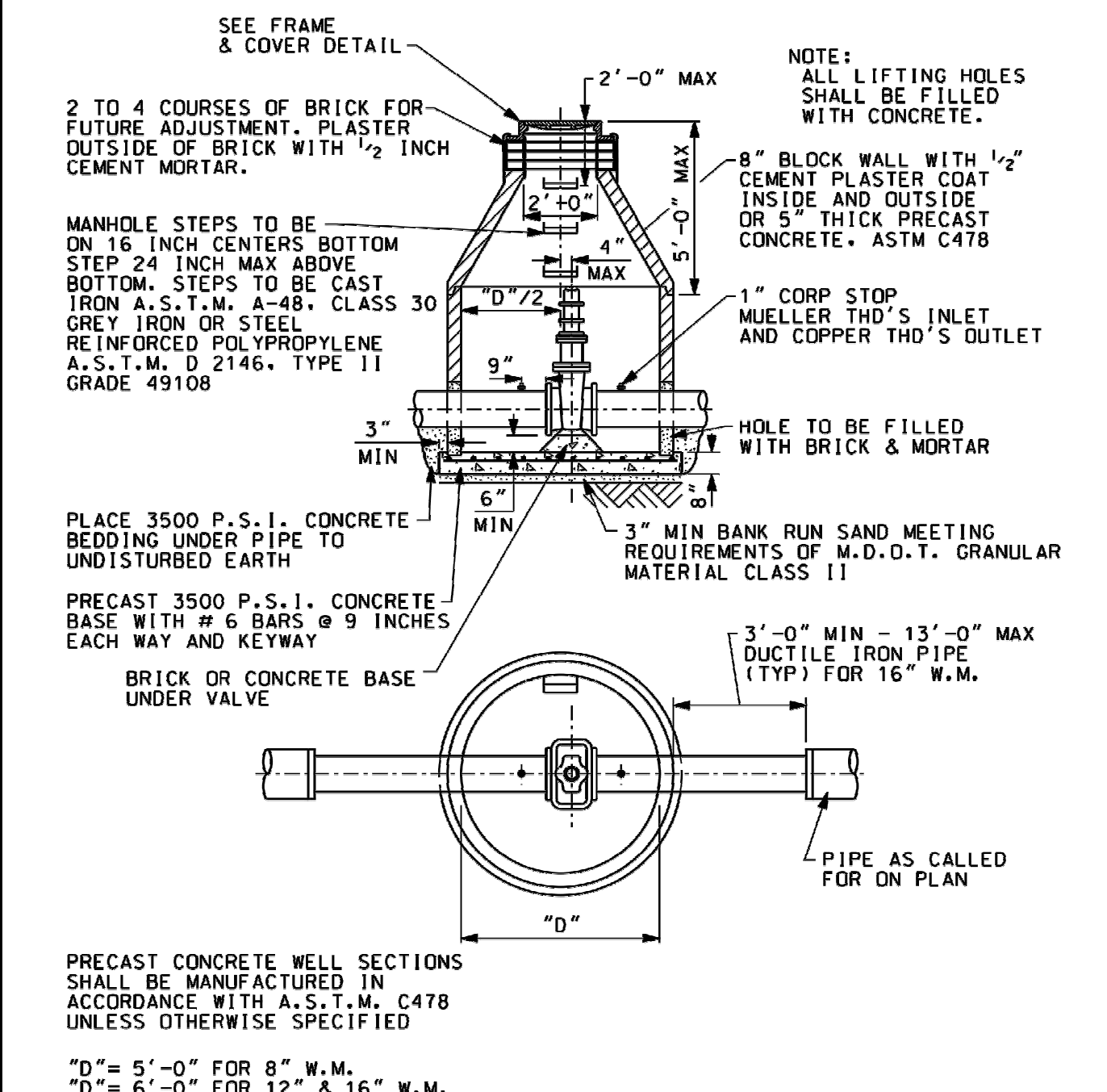
**STANDARD AIR RELEASE & WELL FOR 16" & 20" WATER MAIN**



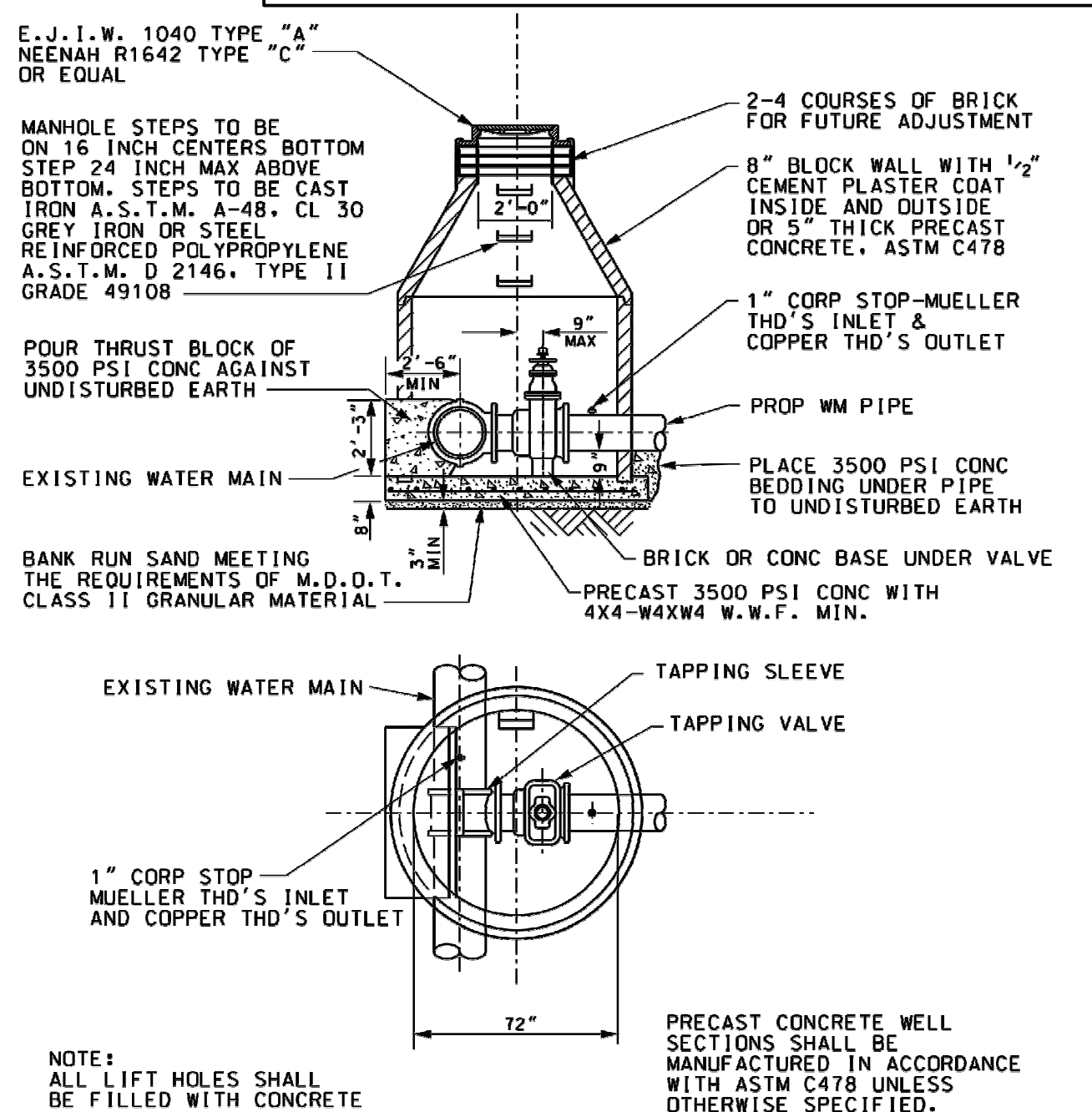
**STANDARD BLOW-OFF DETAIL**



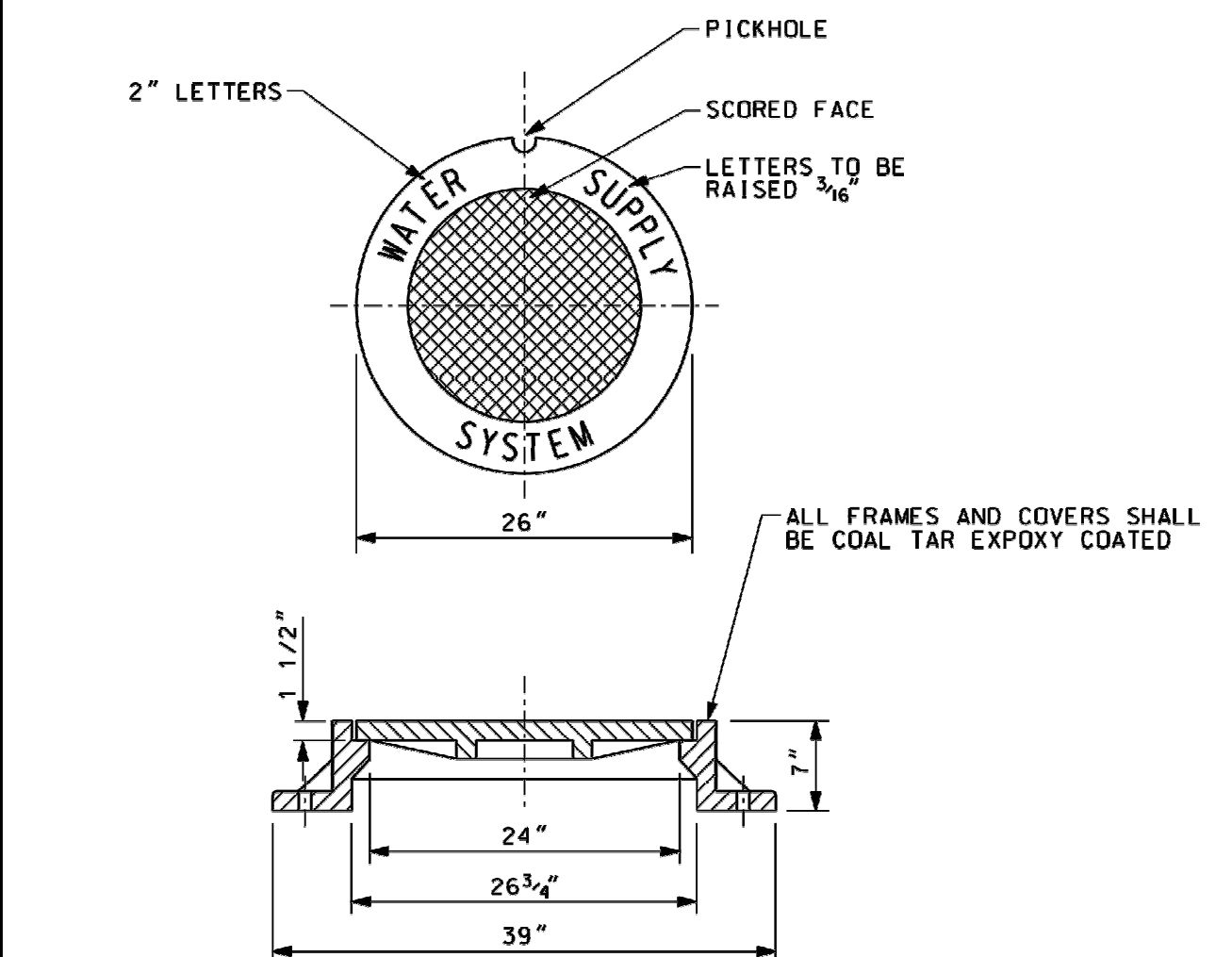
**WATER SERVICE METER PIT DETAIL**



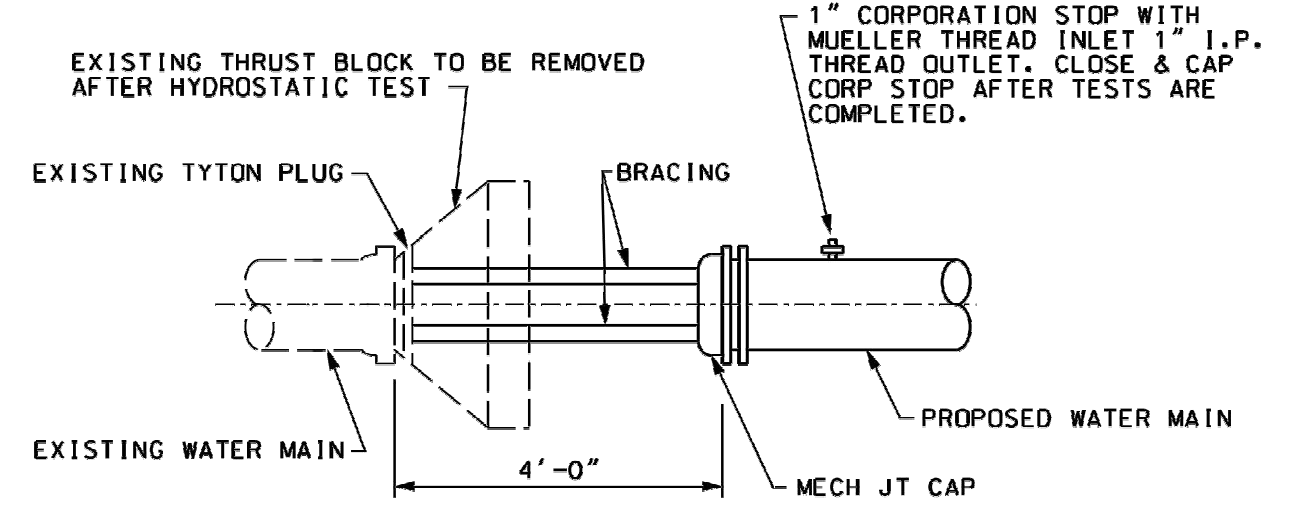
**PRECAST GATE WELL**



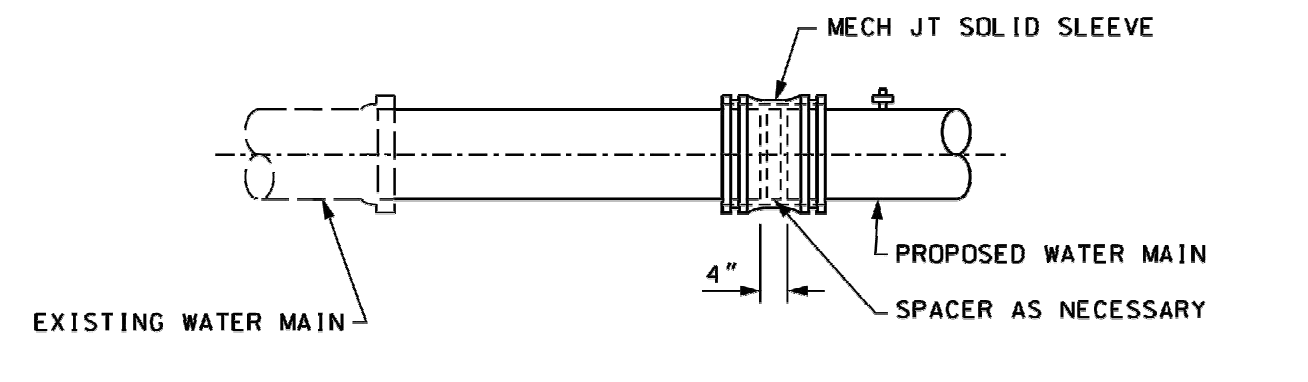
**STANDARD PRECAST TAPPING SLEEVE, VALVE & WELL**



**STANDARD FRAME AND COVER**



**TEMPORARY ARRANGEMENT FOR HYDROSTATIC TEST**



**COMPLETED CONNECTION TO EXISTING WATER MAIN**

DESIGN	ORIGINAL ISSUE	INITIALS	DATE	DATE	REVISION	BY	TPO	LEVELS	CLIENT
DRAFTING	ISSUED FOR BIDDING	MM	8-20-96	2-26-03	REVISED	BLW	F.B. PAGE	F.B. PAGE	CHARTER TOWNSHIP OF BROWNSTOWN
CHECKED	NOT VALID FOR CONST. UNLESS SIGNED AND DATED								21313 TELEGRAPH ROAD
APPROVED									BROWNSTOWN, MI 48183
					FINAL MEASURE				PHONE: (734) 675-4000 FAX (734) 675-2921



Wade-Trim  
P.O. Box 10  
25251 Northline Road, Taylor, MI 48180  
734-947-9700 / 800-482-2884  
FAX No. 734-947-9726

TITLE		SCALE NONE	
STANDARD WATER MAIN DETAILS		SHEET	OF
		WM1	

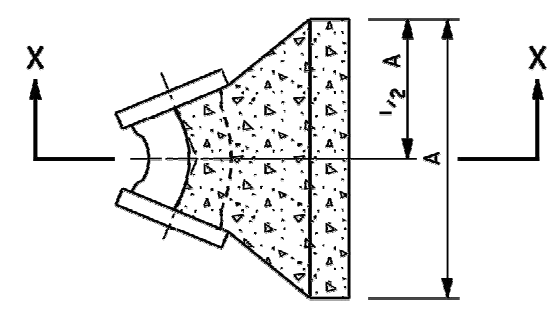
DATE: 13-Jan-97 10:41



This document has not been reviewed by the stamping party. Therefore, the stamping party makes no representation(s) with respect to its contents, and shall not be liable for such. Any reliance on this stamp shall be at the relying party(ies)'s own risk and hereby waives any and all claim(s) related to the existence of the stamp or otherwise.

DIA OF WATER MAIN	THRUST BLOCK		
D	A	B	C
6"	2'-0"	1'-6"	1'-0"
8"	2'-0"	2'-0"	1'-3"
10" & 12"	3'-6"	2'-6"	1'-6"
14" & 16"	5'-6"	3'-0"	1'-9"
18" & 20"	6'-6"	4'-0"	1'-9"
24"	7'-0"	5'-0"	2'-0"

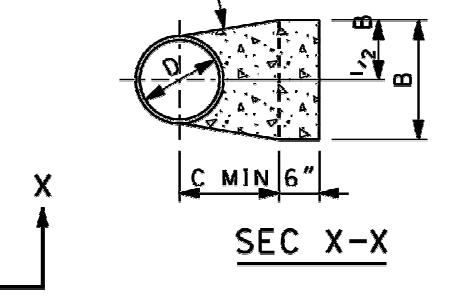
NOTE: WHEN "A" DIMENSION IS 6'-0" OR GREATER, USE #4 BARS AT 12" CENTERS EACH WAY.



THRUST BLOCK AT 45° BEND

DIA OF WATER MAIN	THRUST BLOCK		
D	A	B	C
6"	1'-6"	1'-0"	1'-0"
8"	1'-9"	1'-3"	1'-0"
10" & 12"	3'-0"	1'-6"	1'-3"
14" & 16"	4'-0"	2'-0"	1'-6"
18" & 20"	4'-0"	3'-0"	1'-9"
24"	4'-0"	4'-6"	2'-0"

3500 P.S.I. CONC POURED AGAINST UNDISTURBED EARTH

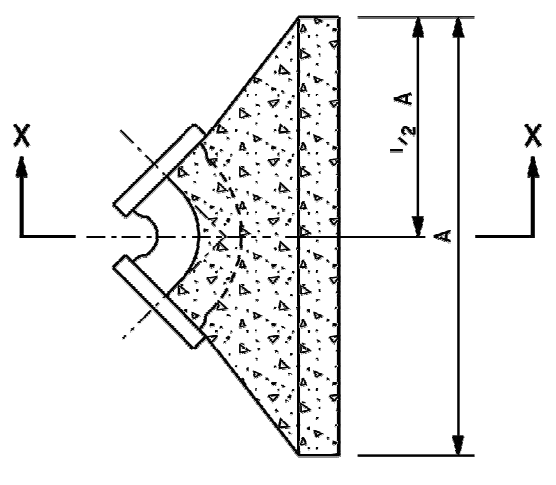


THRUST BLOCK AT 22 1/2° BEND

DIA OF WATER MAIN	THRUST BLOCK		
D	A	B	C
6"	2'-0"	1'-6"	9"
8"	2'-6"	2'-0"	1'-0"
10" & 12"	4'-0"	3'-0"	1'-3"
14" & 16"	5'-0"	4'-0"	1'-6"
18" & 20"	8'-0"	4'-0"	1'-9"
24"	9'-0"	5'-0"	2'-0"

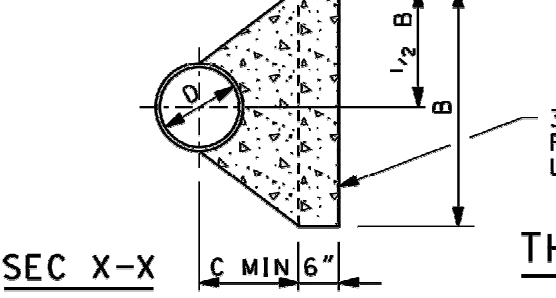
NOTE: WHEN "A" DIMENSION IS 6'-0" OR GREATER, USE #4 BARS AT 12" CENTERS EACH WAY.

THRUST BLOCK AT PLUG



DIA OF WATER MAIN	THRUST BLOCK		
D	A	B	C
6"	2'-9"	1'-6"	9"
8"	3'-0"	2'-6"	1'-0"
10" & 12"	5'-6"	3'-0"	1'-3"
14" & 16"	6'-0"	5'-0"	1'-6"
18" & 20"	9'-0"	5'-0"	1'-9"
24"	11'-0"	6'-0"	2'-0"

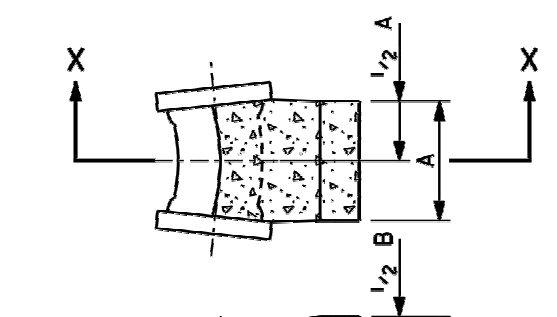
NOTE: WHEN "A" DIMENSION IS 6'-0" OR GREATER, USE #4 BARS AT 12" CENTERS EACH WAY.



THRUST BLOCK AT 90° BEND

DIA OF WATER MAIN	THRUST BLOCK		
D	A	B	C
6"	1'-0"	1'-0"	1'-0"
8"	1'-3"	1'-3"	1'-0"
10" & 12"	1'-6"	1'-6"	1'-3"
14" & 16"	2'-0"	2'-0"	1'-6"
18" & 20"	3'-1"	2'-0"	1'-9"
24"	3'-0"	3'-0"	2'-0"

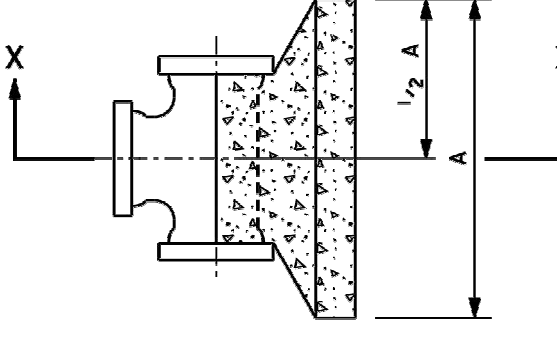
NOTE: THESE TABLES ARE BASED ON SOIL BEARING OF 1500 P.S.F. IN MUCK, PEET OR OTHER UNSUITABLE SOILS HAVING A SOIL BEARING LESS THAN 1500 P.S.F.. THE CONTRACTOR SHALL PROVIDE SUITABLE ADDITIONAL BLOCKING, ENCASEMENTS OR RESTRAINTS. BLOCKING IN BORE PIT EXCAVATIONS SHALL BE AGAINST UNDISTURBED SOIL OR SHALL BE PROVIDED WITH RESTRAINTS AS REQUIRED.



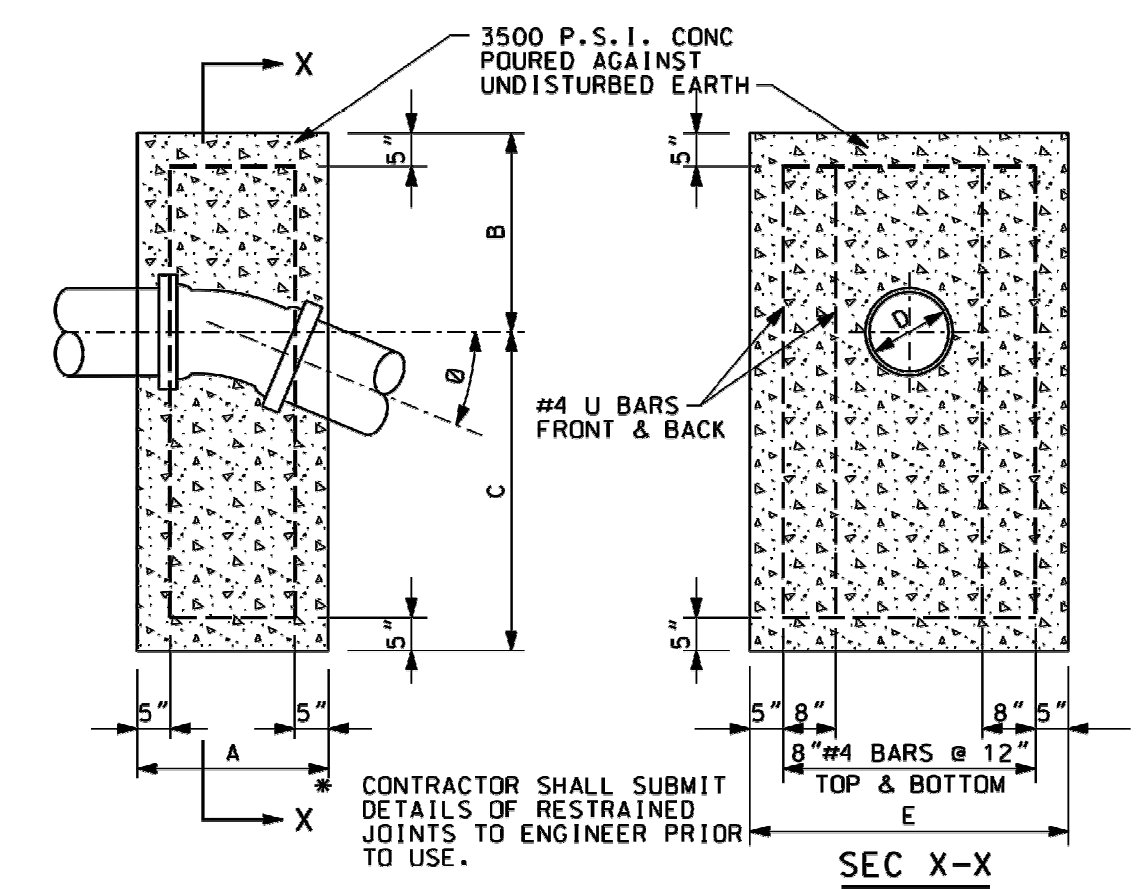
THRUST BLOCK AT 11 1/4° BEND

DIA OF WATER MAIN	THRUST BLOCK		
D	A	B	C
6"	2'-6"	1'-6"	9"
8"	2'-6"	2'-0"	1'-0"
10" & 12"	4'-0"	3'-0"	1'-3"
14" & 16"	5'-0"	4'-0"	1'-6"
18" & 20"	8'-0"	4'-0"	1'-9"
24"	9'-0"	5'-0"	2'-0"

NOTE: WHEN "A" DIMENSION IS 6'-0" OR GREATER, USE #4 BARS AT 12" CENTERS EACH WAY.



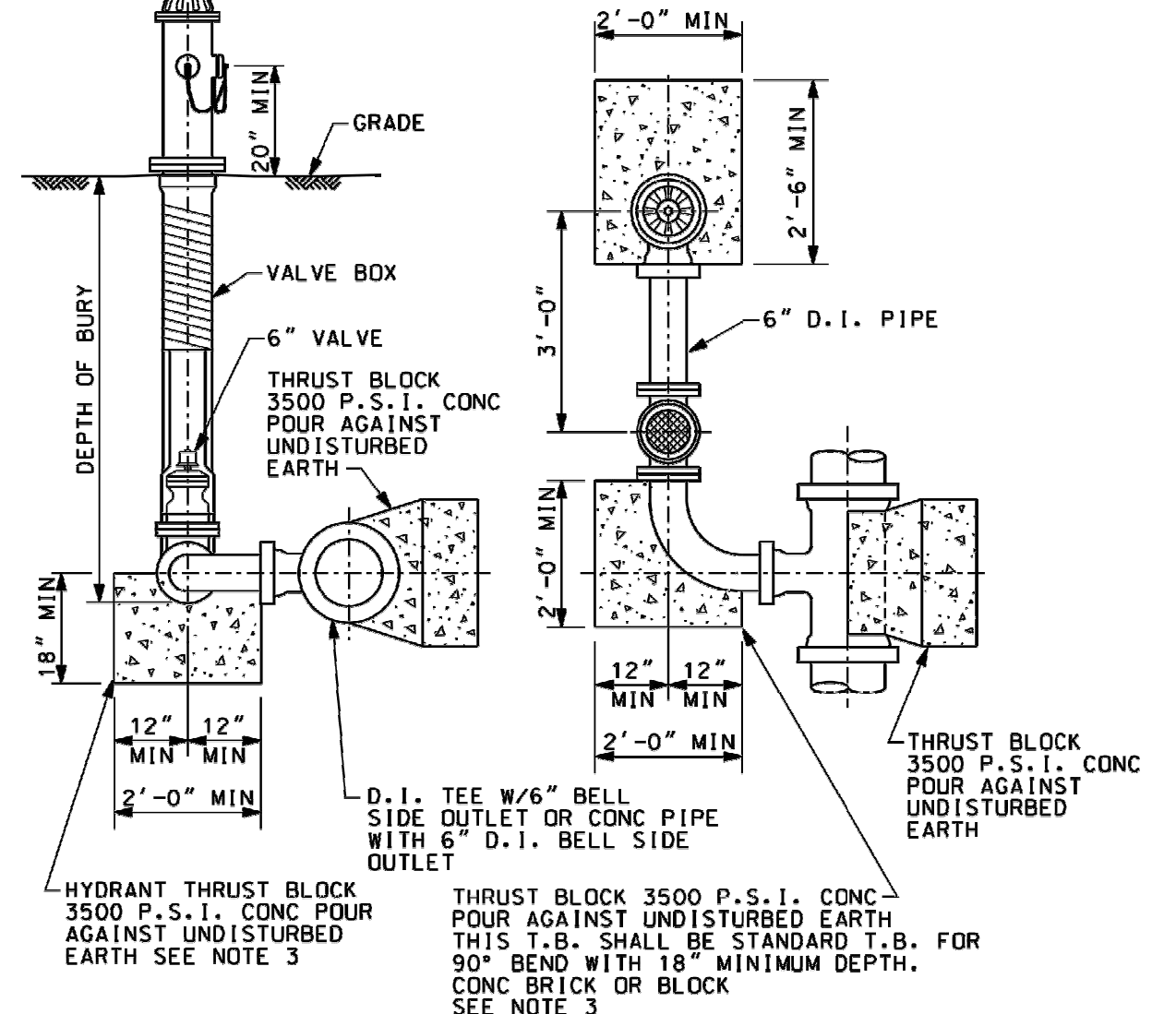
THRUST BLOCK AT TEE



D	Ø	A	B	C	E
6"	22 1/2"	1'-6"	1'-6"	1'-9"	3'-0"
8"	22 1/2"	2'-0"	1'-6"	2'-6"	4'-0"
10"	22 1/2"	2'-0"	2'-6"	3'-0"	4'-0"
12"	22 1/2"	2'-0"	2'-6"	4'-0"	5'-0"
16"	22 1/2"	2'-2"	3'-0"	4'-6"	5'-0"

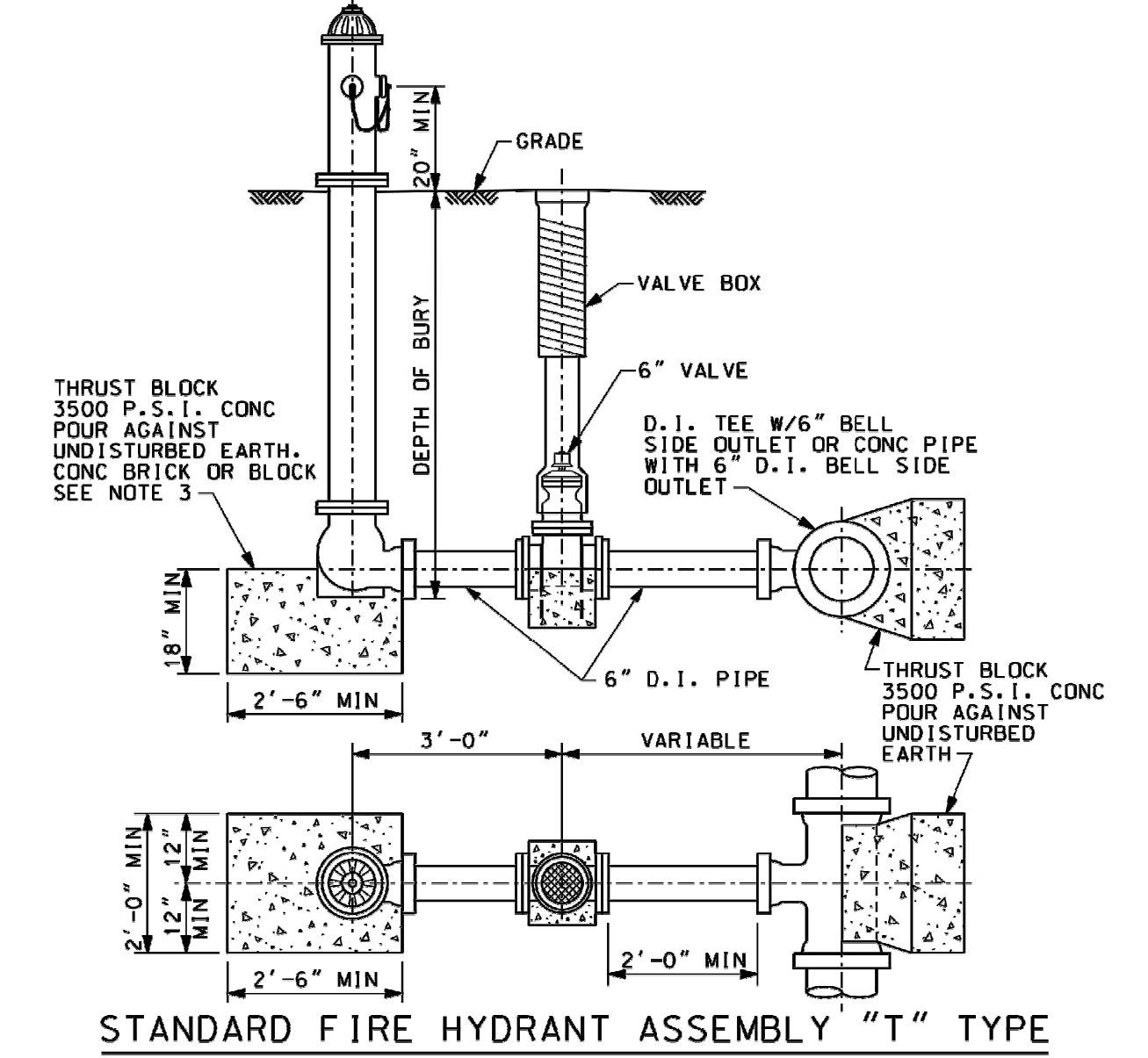
ANCHORAGE DETAILS FOR VERTICAL BENDS

NOTES:  
1. INSTALL ADDITIONAL FITTINGS & SPIGOT PIPE AS NECESSARY BETWEEN WATER MAIN & VALVE BOX TO ADJUST FOR PROPER LOCATION AND GRADE OF HYDRANT. IF THE DISTANCE FROM THE MAIN TO THE HYDRANT VALVE EXCEEDS 5 FEET, THEN A 8-INCH TEE AND 8-INCH MAIN SHOULD BE UTILIZED FOLLOWED BY A 6-INCH BY 8-INCH REDUCER JUST PRIOR TO THE HYDRANT VALVE.  
2. VERTICAL ANCHORAGES WILL BE REQUIRED ON ALL VERTICAL HYDRANT BENDS IN EXCESS OF 11 1/4".  
3. WHERE HYDRANTS ARE INSTALLED ON EXISTING MAINS THAT ARE TO BE PLACED BACK INTO SERVICE IMMEDIATELY, PLACE CONCRETE BRICK OR BLOCK TO UNDISTURBED EARTH AND ENCASE WITH CONCRETE OR USE RESTRAINING GLANDS.

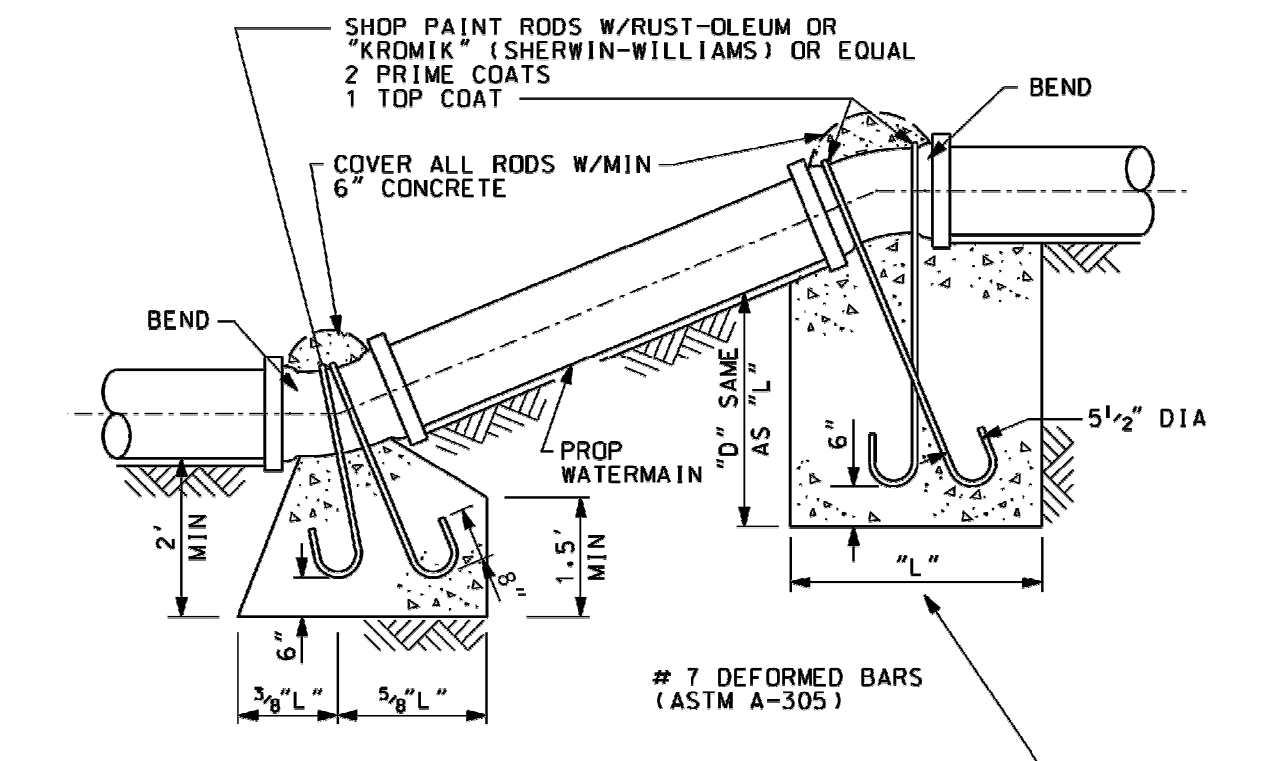


STANDARD FIRE HYDRANT ASSEMBLY CLOSE COUPLE TYPE

NOTES:  
1. INSTALL ADDITIONAL FITTINGS, BENDS & SPIGOT PIPE AS NECESSARY BETWEEN WATER MAIN & VALVE BOX TO ADJUST FOR PROPER LOCATION AND GRADE OF HYDRANT. IF THE DISTANCE FROM THE MAIN TO THE HYDRANT VALVE EXCEEDS 5 FEET, THEN A 8-INCH TEE AND 8-INCH MAIN SHOULD BE UTILIZED FOLLOWED BY A 6-INCH BY 8-INCH REDUCER JUST PRIOR TO THE HYDRANT VALVE.  
2. VERTICAL ANCHORAGES WILL BE REQUIRED ON ALL VERTICAL HYDRANT BENDS IN EXCESS OF 11 1/4".  
3. WHERE HYDRANTS ARE INSTALLED ON EXISTING MAINS THAT ARE TO BE PLACED BACK INTO SERVICE IMMEDIATELY, PLACE CONCRETE BRICK OR BLOCK TO UNDISTURBED EARTH AND ENCASE WITH CONCRETE OR USE RESTRAINING GLANDS.

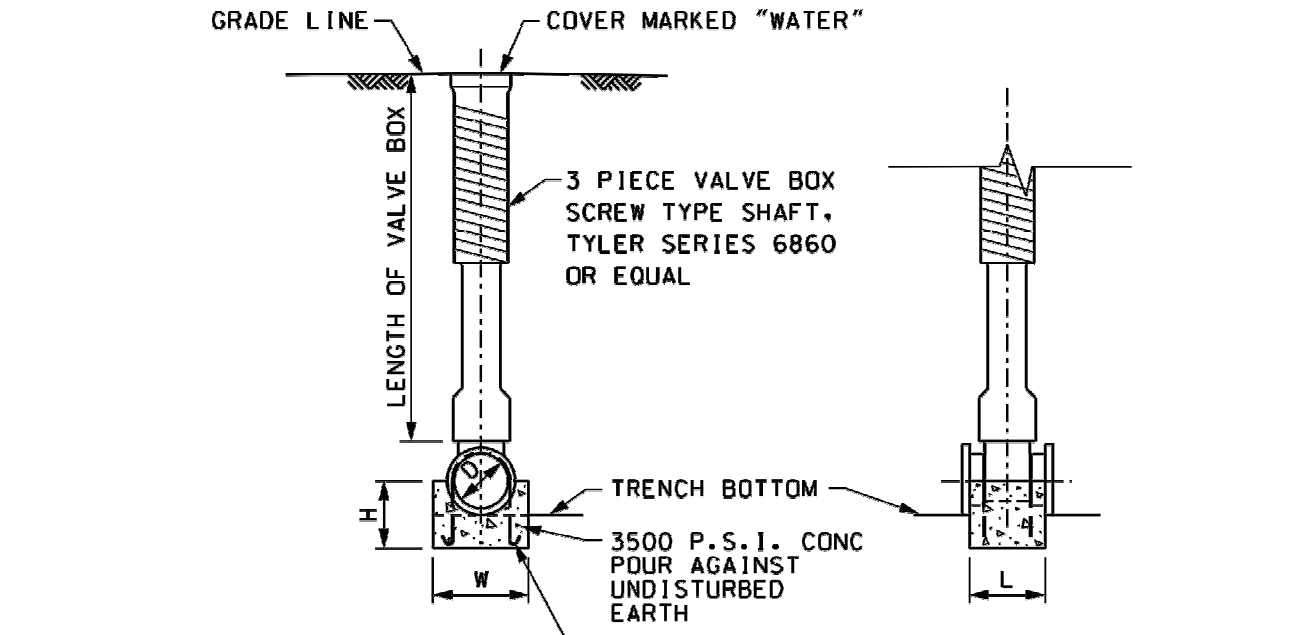


STANDARD FIRE HYDRANT ASSEMBLY "T" TYPE



NOTE: 4" MIN COVER ON ALL DITCH CROSSINGS. BENDS IF REQUIRED TO BE PLACED PER VERTICAL CONCRETE TO BE 3500 P.S.I.

VERTICAL REACTION BLOCKING



SIZE OF PIPE	H	W
6"	6"	6"
8"	8"	8"
10"	10"	10"
12"	12"	12"

W = WIDTH OF TRENCH  
L = LENGTH OF VALVE

VALVE BLOCK AND BOX DETAIL

FOR REFERENCE ONLY

- ▲ CITY AND COUNTY COMMENTS
- ▲ TOWNSHIP/MDOT COMMENTS
- ▲ 01.20.22 ISSUED FOR BID
- ▲ 03.11.22 ISSUED FOR CONSTRUCTION
- ▲
- ▲
- ▲
- ▲
- ▲
- ▲

CONTRACT DATE: 01/01/19  
BUILDING TYPE: ENDEAVOR 2.0  
PLAN VERSION: MARCH 2022  
BRAND DESIGNER: DAN DICKSON  
SITE NUMBER: 315089  
STORE NUMBER: 40164

TACO BELL  
18708 TELEGRAPH RD  
BROWNSTOWN, MI 48183



ENDEAVOR 2.0

BROWNSTOWN WATER DETAILS

C-507

FILE: \\standards\standards\brn\brn-dwg\44.dgn DATE: 15-Jan-17 11:03 VIEW: 2

DESIGN	ORIGINAL	INITIALS	DATE	DATE	REVISION
	ISSUED FOR BID	MMC	8-20-16	2-26-03	REVISED
DRAFTING					
CHECKED	NOT VALID FOR CONST. UNLESS SIGNED AND DATED				
APPROVED					FINAL MEASURE

CLIENT CHARTER TOWNSHIP OF BROWNSTOWN  
21313 TELEGRAPH ROAD  
BROWNSTOWN, MI 48183  
PHONE: (734) 675-4000 FAX (734) 675-2921

Wade-Trim  
P.O. Box 10  
25251 Northline Road, Taylor, MI 48180  
734-947-9700 / 800-882-2864  
FAX NO. 734-947-9726

TITLE  
STANDARD WATER MAIN DETAILS

SCALE	NONE
SHEET	OF
FILE	WM2
NO.	



**SCOPE OF WORK**

- THIS WORK SHALL CONSIST OF PERFORMING CLEARING AND GRUBBING, SOIL PREPARATION, FINISH GRADING, PLANTING AND DRAINAGE, INCLUDING ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND ANY OTHER APPURTENANCES NECESSARY FOR THE COMPLETION OF THIS PROJECT.
- QUANTITY TAKEOFF IS SUPPLIED FOR CONTRACTOR'S ASSISTANCE ONLY. CONTRACTOR IS RESPONSIBLE FOR SUPPLYING ALL PLANT MATERIALS AS PER PLAN.
- NO ADDITIONAL COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR DAMAGE AND REPAIR WITHIN EASEMENT OR RIGHT-OF-WAY LIMITS.

**PRESERVATION/PROTECTION (IF APPLICABLE)**

- CONTRACTOR SHALL MAINTAIN AND PRESERVE TREES AND SHRUBS NOT BEING REMOVED, INCLUDING THEIR ROOTS. TREE PROTECTION FENCING SHALL BE USED AT THE DRIP LINE OF ALL TREES AND SHRUBS WITHIN 50 FEET OF CONSTRUCTION EXCEPT AS SHOWN ON PLAN. FENCING SHALL REMAIN IN PLACE UNTIL FINAL PLANT INSPECTION FOLLOWING CONSTRUCTION. MATERIALS SHALL NOT BE STOCKPILED WITHIN THIS DEFINED AREA AND VEHICLES AND OTHER EQUIPMENT SHALL BE OPERATED TO AVOID SOIL COMPACTION.
- FEEDER ROOTS SHOULD NOT BE CUT IN AN AREA EQUAL TO TWICE THE TREE CIRCUMFERENCE (MEASURED 6" ABOVE THE GROUND LINE IN INCHES) EXPRESSED IN FEET. (EXAMPLE: A CIRCUMFERENCE OF 10" WOULD HAVE A NO CUT ZONE OF 20 FEET IN ALL DIRECTIONS FROM THE TREE). THIS SHOULD APPLY TO UTILITY SERVICES, IF FEASIBLE. THE ONLY EXCEPTION TO THIS REQUIREMENT WILL BE THOSE SPECIFICALLY ALLOWED BY THE LANDSCAPE ARCHITECT, SPECIFICATIONS OR AS INDICATION ON THE PLANS.
- TREE TRUNKS AND EXPOSED ROOTS DAMAGED DURING EQUIPMENT OPERATIONS SHALL BE TREATED IN ACCORDANCE WITH THE ARBOR CULTURAL STANDARDS OF THE CITY.

**PLANT MATERIALS**

- GENERAL - ALL MATERIALS SHALL BE OF ITS KIND AVAILABLE AND SHALL HAVE BEEN GROWN IN A CLIMATE SIMILAR TO THAT ON SITE.
- PLANTS - ALL PLANTS SHALL BE HEALTHY, OF NORMAL GROWTH, WELL ROOTED, FREE FROM DISEASE AND INSECTS. QUALITY AND SIZE OF PLANT MATERIAL SHALL CONFORM TO ANSI Z60.1 "AMERICAN STANDARDS FOR NURSERY STOCK".
- VARIETIES AND SIZES OF PLANTS SHALL BE AS SHOWN ON DRAWINGS.
- PLANTS SHALL BE IN A HEALTHY, VIGOROUS CONDITION, FREE OF DEAD OR BROKEN BRANCHES, SCARS THAT ARE NOT COMPLETELY HEALED, FROST CRACKS, DISFIGURING KNOTS, BROKEN OR ABRADED BARK, REDUNDANT LEADERS OR BRANCHES, OR ABERATIONS OF ANY KIND. PLANTS SHALL NOT HAVE MULTIPLE LEADERS, UNLESS THIS IS THE NATURAL FORM.
- BALLED AND BURLAPPED (B&B) PLANTS SHALL BE DUG WITH A FIRM ROOT BALL OF NATURAL EARTH, OF A SIZE IN PROPORTION TO THE PLANT'S SIZE, AS MEASURED BY CALIPER, HEIGHT, OR SPREAD. BALLED AND BURLAPPED PLANTS SHALL BE HANDLED ONLY BY THE ROOT BALL, NOT BY THE TRUNK OR BRANCHES, AS THIS MAY BREAK OR LOOSEN THE ROOT BALL AND DAMAGE THE ROOT SYSTEM. CONTAINER PLANTS SHALL HAVE BEEN ESTABLISHED FOR A MINIMUM OF ONE FULL GROWING SEASON IN THEIR CONTAINERS BEFORE INSTALLATION. CONTAINER PLANTS SHALL BE HANDLED ONLY BY THE CONTAINER, NOT BY THE STEMS OR BRANCHES, AS THIS MAY PULL THE PLANT OUT OF THE CONTAINER AND BREAK OR LOOSEN THE ROOT BALL AND DAMAGE THE ROOT SYSTEM.
- PLANTS SHALL BE PROTECTED FROM DRYING OUT DURING SHIPPING WITH TARPULINS OR OTHER COVERINGS. PLANTS SHALL BE PROTECTED FROM DRYING OUT AFTER DELIVERY BY PLANTING IMMEDIATELY; IF THIS IS NOT POSSIBLE, THE ROOT BALL SHALL BE COVERED WITH PEAT MOSS OR EARTH, AND WATERED FREQUENTLY TO KEEP IT MOIST UNTIL PLANTING.
- DO NOT HANDLE, MOVE, BIND, TIE OR OTHERWISE TREAT PLANTS SO AS TO DAMAGE THE ROOT BALL, ROOTS, TRUNK, OR BRANCHES IN ANY WAY.

**TOPSOIL**

- TOPSOIL HAS BEEN (OR WILL BE) STOCKPILED FOR REUSE IN LANDSCAPE WORK. IF QUANTITY OF STOCKPILED TOPSOIL IS INSUFFICIENT, PROVIDE ADDITIONAL TOPSOIL AS REQUIRED TO COMPLETE LANDSCAPE WORK. IMPORTED TOPSOIL SHALL CONSIST OF LOOSE, FRIABLE, LOAMY TOPSOIL WITHOUT ADMIXTURE OF SUBSOIL OR REFUSE. ACCEPTABLE TOPSOIL SHALL CONTAIN NOT LESS THAN 3 PERCENT NOR MORE THAN 20 PERCENT ORGANIC MATTER.
- PLANTING BACKFILL FOR PARKING LOT ISLANDS SHALL CONSIST OF A HOMOGENEOUS MIXTURE OF 3 PARTS TOPSOIL TO ONE PART SPHAGNUM PEAT INSTALLED OVER A 6" THICKNESS OF NO. 57 AGGREGATE.

**SOIL CONDITIONING**

- OBTAIN LABORATORY ANALYSIS OF STOCKPILED AND IMPORTED TOPSOIL COMPLETE WITH RECOMMENDATIONS FOR SOIL AMENDMENT.
- BEFORE MIXING, CLEAN TOPSOIL OF ROOTS, PLANTS, SOD, STONES, CLAY LUMPS, AND OTHER EXTRANEIOUS MATERIALS HARMFUL OR TOXIC TO PLANT GROWTH.
- MIX SPECIFIED SOIL AMENDMENTS AND FERTILIZERS WITH TOPSOIL AT RATES SPECIFIED BY THE LAB REPORT. DELAY MIXING OF FERTILIZER IF PLANTING WILL NOT FOLLOW PLACING OF PLANTING SOIL WITHIN A FEW DAYS.
- FOR PLANTING BEDS AND LAWNS, MIX PLANTING SOIL EITHER PRIOR TO PLANTING OR APPLY ON SURFACE OF TOPSOIL AND MIX THOROUGHLY BEFORE PLANTING. MIX LIME WITH DRY SOIL PRIOR TO MIXING OF FERTILIZER.
- PREVENT LIME FROM CONTACTING ROOTS OF ACID-LOVING PLANTS.
- APPLY PHOSPHORIC ACID FERTILIZER (OTHER THAN THAT CONSTITUTING A PORTION OF COMPLETE FERTILIZERS) DIRECTLY TO SUBGRADE BEFORE APPLYING PLANTING SOIL AND TILLING.

**PLANTING SOIL**

- PLANTING SOIL MIX SHALL BE CLEAR OF ALL STONES AND DEBRIS 1" OR LARGER, AND CONSIST OF THE FOLLOWING: 25% ORGANIC COMPOST, 75% ACCEPTABLE TOPSOIL.

**OTHER MATERIALS**

- BED EDGING - EDGING SHALL BE 4" STEEL EDGING WITH THREE (3) METAL ANCHOR STAKES PER 20 FOOT SECTION. ALL MASS PLANTING BEDS SHALL HAVE EDGING PLACED BETWEEN MULCH AREA AND ANY ADJACENT TURF AREA.
- MULCH: ORGANIC MULCH FREE FROM DELETERIOUS MATERIALS AND SUITABLE FOR TOP DRESSING OF TREES, SHRUBS, OR PLANTS AND CONSISTING OF THE FOLLOWING:
  - RIVER ROCK MULCH AREA: AGGREGATE MULCH, 3/4"-2" IN SIZE, WASHED AND ROUNDED, SHALL BE INSTALLED WITHIN THE RIVER ROCK MULCH AREA PER THE PLAN. RIVER ROCK MULCH SHALL BE INSTALLED AT 3" INCHES DEPTH.
  - NON-DRYED, DOUBLE SHREDDED HARDWOOD SHALL BE INSTALLED IN ALL OTHER LANDSCAPE BEDS OUTSIDE OF THE RIVER ROCK MULCH AREA AT A DEPTH OF 3 INCHES.

**GENERAL WORK PROCEDURES**

- LANDSCAPE WORK SHALL BE ACCORDING TO THE WORKMANLIKE STANDARDS ESTABLISHED FOR LANDSCAPE CONSTRUCTION AND PLANTING IN THE MICHIGAN STANDARDIZED LANDSCAPE SPECIFICATIONS (ASLA) AND ANY LOCAL LANDSCAPE ORDINANCES.
- CONTRACTOR SHALL OBTAIN A COPY OF LOCAL ORDINANCES REGARDING ACCEPTABLE PLANT AND PLANTING DETAILS AND ABIDE BY THOSE ORDINANCES AND DETAILS.
- ENGINEER RESERVES THE RIGHT TO REJECT ALL PLANT MATERIAL DEEMED NOT ACCEPTABLE.
- ANY PROPOSED PLANT SUBSTITUTIONS SHALL BE EQUIVALENT IN FORM, HABIT, STRUCTURE, BRANCHING AND LEAF TYPE AND MUST BE ISSUED TO THE LANDSCAPE ARCHITECT FOR APPROVAL, IN WRITING, PRIOR TO INSTALLATION.

**WEEDING**

- BEFORE AND DURING PRELIMINARY GRADING AND FINISH GRADING, ALL WEEDS AND GRASSES SHALL BE DUG OUT BY THE ROOTS AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE.

**PLANTING**

- POSITION TREES AND SHRUBS AT THEIR INTENDED LOCATIONS AS PER THE PLANS AND SECURE THE APPROVAL OF THE OWNER BEFORE EXCAVATING PITS, MAKING NECESSARY ADJUSTMENTS AS DIRECTED.
- PLANTING PITS SHALL BE AS PER DETAILS.
- PREPARED SOIL SHALL BE TAMPED FIRMLY AT BOTTOM OF PIT, FILL WITH PLANTING SOIL AROUND BALL OF PLANT. COMPLETE BACKFILLING AND WATER THOROUGHLY.
- EACH TREE AND SHRUB SHALL RECEIVE THE LANDSCAPER'S BIONUTRITION (3-0-3) GRANULAR WITH MYCORRHIZAL TECHNOLOGY FERTILIZER OR APPROVED OTHER. APPLY FERTILIZER PER MANUFACTURER'S SPECIFICATIONS.
- WATER IMMEDIATELY AFTER PLANTING. WATER SHALL BE APPLIED TO EACH TREE AND SHRUB IN SUCH MANNER AS NOT TO DISTURB BACKFILL AND TO THE EXTENT THAT ALL MATERIALS IN THE PLANTING HOLE ARE THOROUGHLY SATURATED.
- INSTALL BED EDGING AND MULCH PER MATERIALS SPECIFICATION AND DETAILS.
- REMOVE ALL SALES TAGS, STRINGS, STRAPS, WIRE, ROPE OR OTHER MATERIALS THAT MAY INHIBIT PLANT GROWTH BOTH ABOVE AND BELOW THE SURFACE OF THE SOIL.
- REMOVE ANY BROKEN, SUCKERING, DISEASED, CRISSCROSSED OR AESTHETICALLY DISPLEASING BRANCHES BACK TO LIVE LEADER OR SIDE LATERAL WITH A FLUSH CUT.

**FINISH GRADING**

- ALL AREAS WILL BE GRADED BY THE CONTRACTOR TO SUBSTANTIALLY PLUS/MINUS 0.1 FOOT OF FINISH GRADE.
- ALL LAWN AND PLANTING AREAS SHALL BE GRADED TO A SMOOTH, EVEN, UNIFORM PLANE WITH NO ABRUPT CHANGE OF SURFACE. SOIL AREAS ADJACENT TO THE BUILDINGS SHALL SLOPE AWAY FROM THE BUILDINGS.
- ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW FREE FLOW OF SURFACE WATER.
- PARKING LOT ISLAND SHALL BE BACKFILLED AS PART OF THIS CONTRACT.

**GROUND COVER**

- SPACING AND VARIETY OF GROUND COVER SHALL BE AS SHOWN ON DRAWINGS.
- MULCH GROUND COVER WITH 2" THICKNESS OF SPHAGNUM PEAT.
- IMMEDIATELY AFTER PLANTING GROUND COVER, CONTRACTOR SHALL THOROUGHLY WATER GROUND COVER.
- ALL GROUND COVER AREAS SHALL BE TREATED WITH A PRE-EMERGENT BEFORE FINAL LANDSCAPE INSPECTION. GROUND COVER AREAS SHALL BE WEEDED PRIOR TO APPLYING PRE-EMERGENT. PRE-EMERGENT TO BE APPLIED AS PER MANUFACTURER'S RECOMMENDATION.

**GUARANTEE**

- CONTRACTOR SHALL GUARANTEE ALL PLANTS FOR A PERIOD OF ONE (1) YEAR FROM DATE OF PROJECT ACCEPTANCE BY THE OWNER.

**CLEANUP**

- UPON THE COMPLETION OF ALL PLANTING WORK AND BEFORE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL MATERIAL, EQUIPMENT, AND DEBRIS RESULTING FROM HIS WORK. AN "ACCEPTABLE CONDITION" SHALL BE AS DEFINED AND APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.

**LANDSCAPE NOTES & PLANTING SPECIFICATIONS**

**IRRIGATION**

- CONTRACTOR SHALL PROVIDE & INSTALL AN IRRIGATION SYSTEM TO PROVIDE 100% COVERAGE OF THE SITE. AREAS WITHIN 5 FEET OF BUILDING WALLS SHALL BE IRRIGATED BY DRIP IRRIGATION OR SIMILAR. CONTRACTOR SHALL ENSURE BUILDING WALLS AND WINDOWS WILL NOT BE DAMAGED OR STAINED BY IMPROPER IRRIGATION INSTALLATION OR POOR SELECTION OF FIXTURES. SYSTEM SHALL INCLUDE ALL APPURTENANCES & BE APPROVED BY OWNER.
- IRRIGATION CONTRACTOR SHALL PROVIDE A METHOD FOR WINTERIZATION. WINTERIZATION SHALL BE PERFORMED BY CONTRACTOR UPON COMPLETION IF SYSTEM IS INSTALLED BETWEEN NOVEMBER 1 AND MARCH 31.

**MAINTENANCE**

(MAINTENANCE PERIOD TO COMMENCE AFTER FINAL INSPECTION.)

- MAINTENANCE PERIOD FOR THIS CONTRACT SHALL BE 90 CALENDAR DAYS COMMENCING AFTER FINAL INSPECTION OF CONSTRUCTION.
- MAINTAIN TREES, SHRUBS AND OTHER PLANTS BY PRUNING, CULTIVATING AND WEEDING AS REQUIRED FOR HEALTHY GROWTH. RESTORE PLANTING SAUCERS, RESET TREES AND SHRUBS TO PROPER GRADES OR VERTICAL POSITION AS REQUIRED.
- MAINTAIN LAWNS BY WATERING, MOWING, TRIMMING, AND OTHER OPERATIONS SUCH AS ROLLING, REGRADING AND REPLANTING AS REQUIRED TO ESTABLISH A SMOOTH, ACCEPTABLE LAWN, FREE OF ERODED OR BARE AREAS.
- MAINTAIN THE LANDSCAPING BY KEEPING ALL PLANTS DISEASE-FREE AND PLANTING BEDS GROOMED, EXCEPT IN NATURALLY OCCURRING VEGETATION AREAS.
- REPLACE ANY REQUIRED PLANTING(S), WHICH SEVERELY DECLINE OR DIE AFTER THE DATE OF PLANTING. SUCH REPLACEMENT SHALL OCCUR DURING THE NEXT APPROPRIATE PLANTING SEASON.

**SODDING**

- SOD SHALL BE FIRST GRADE CERTIFIED BLENDS OF THE FOLLOWING SPECIES PER HARDINESS ZONE CONTAINING NOT MORE THAN 30 PERCENT OF OTHER GRASSES AND CLOVERS, AND FREE FROM ALL NOXIOUS WEEDS.
  - ZONES 3, 4 & 5: APPROVED BLUE GRASS BLEND
  - ZONE 6: APPROVED FESCUE BLEND
  - ZONES 7 & 8: APPROVED BERMUDA BLEND
  - ZONES 9 & 10: APPROVED ST AUGUSTINE FLORATAM BLEND
- SOD SHALL BE RECENTLY MOWED TO A HEIGHT OF NOT LESS THAN 3 INCHES. IT SHALL BE CUT INTO STRIPS OF NOT LESS THAN 3 FEET AND NOT OVER 6 FT. WITH A UNIFORM WIDTH OF NOT OVER 24 INCHES.
- SOD SHALL BE CUT TO A DEPTH EQUAL TO THE GROWTH OF THE FIBROUS ROOTS BUT IN NO CASE LESS THAN 1 INCH.
- SOD SHALL BE DELIVERED TO THE JOB WITHIN 24 HOURS AFTER BEING CUT AND SHALL BE INSTALLED WITHIN 48 HOURS AFTER BEING CUT.
- BEFORE SOD IS PLACED, THE SOD BED WILL HAVE BEEN EXCAVATED TO SUCH A DEPTH THAT WHEN THE SOD IS IN PLACE THE TOP OF THE SOD WILL BE FLUSH WITH THE SURROUNDING GRADE.
- NO SOD SHALL BE PLACED WHEN THE TEMPERATURE IS BELOW 32 DEGREES F. NO FROZEN SOD SHALL BE PLACED NOR SHALL ANY SOD BE PLACED ON FROZEN SOIL. WHEN SOD IS PLACED BETWEEN THE DATES OF JUNE 1ST AND OCTOBER 15TH, IT SHALL BE COVERED IMMEDIATELY WITH A STRAW MULCH 1 INCH THICK (LOOSE MEASUREMENT).
- AFTER LAYING, THE SOD SHALL BE WATERED THOROUGHLY AND TAMPED WITH APPROVED SOD TAMPERS SUFFICIENTLY TO BRING THE SOD INTO CLOSE CONTACT WITH THE SOD BED AND INSURE TIGHT JOINTS BETWEEN THE SECTIONS OR STRIPS.
- THE CONTRACTOR SHALL KEEP ALL SODDED AREAS INCLUDING SUBGRADE, THOROUGHLY MOIST FOR 30 DAYS AFTER SODDING.
- THE CONTRACTOR SHALL REPAIR ANY AREAS DAMAGED FOLLOWING INSTALLATION AS DIRECTED BY THE ENGINEER. SOD SHALL BE IN PLACE AT LEAST 30 DAYS BEFORE FINAL ACCEPTANCE.

**SEEDING**

- GRASS SEED SHALL BE FRESH, CLEAN, DRY, NEW-CROP SEED COMPLYING WITH THE ASSOCIATION OF OFFICIAL SEED ANALYSTS "RULES FOR TESTING SEEDS" FOR PURITY AND GERMINATION TOLERANCES.
- ALL AREAS TO BE SEEDED SHALL RECEIVE NO LESS THAN FIVE POUNDS OF SEED PER ONE THOUSAND SQUARE FEET. APPLY SEED AND PROTECT WITH STRAW MULCH AS REQUIRED FOR NEW LAWNS. GRASS SEED MIX SHALL CONSIST OF THE FOLLOWING:

PROPORTION	NAME	MIN. % GERM.	MIN. % PURE SEED	MAX. % WEED SEED
70%	TALL FESCUE (FESTUCA ARUNDINACEA)	80	85	0.50
20%	KENTUCKY BLUEGRASS (POA PRATENSIS)	85	98	0.50
10%	PERENNIAL RYE GRASS (LOLIUM PERENNE)	90	98	0.50

**DETENTION BASIN SEEDING**

- GRASS SEED SHALL BE FRESH, CLEAN, DRY, NEW-CROP SEED COMPLYING WITH THE ASSOCIATION OF OFFICIAL SEED ANALYSTS "RULES FOR TESTING SEEDS" FOR PURITY AND GERMINATION TOLERANCES.
- ALL AREAS TO BE SEEDED SHALL RECEIVE NO LESS THAN FIVE POUNDS OF SEED PER ONE THOUSAND SQUARE FEET. APPLY SEED AND PROTECT WITH STRAW MULCH AS REQUIRED FOR NEW LAWNS. GRASS SEED MIX SHALL CONSIST OF THE FOLLOWING:

PROPORTION	NAME	MIN. % GERM.	MIN. % PURE SEED	MAX. % WEED SEED
30%	KENTUCKY BLUEGRASS (POA PRATENSIS)	80	85	0.50
40%	KENTUCKY 31 FESCUE (FESTUCA ARUNDINACEA VAR. KY 31)	85	98	0.50
30%	PERENNIAL RYE GRASS (LOLIUM PERENNE)	90	98	0.50

**PLANTING SCHEDULE**

- ALL PLANTING IS RECOMMENDED TO BE DONE WITHIN THE FOLLOWING DATES. WHEN PLANTING OUTSIDE THESE DATES, WRITTEN DOCUMENTATION SHALL BE PROVIDED THAT SURVIVAL OR REPLACEMENT WILL BE ENSURED. NO PLANTING SHALL BE DONE IN FROZEN SOIL.

NORMAL PLANTING SEASONS	SPRING	FALL
ALL TREES AND SHRUBS	MARCH 15-MAY 15	OCTOBER 1-DECEMBER 1
EVERGREENS	APRIL 1-MAY 15	OCTOBER 1-NOVEMBER 15
GROUNDCOVERS	APRIL 1-JUNE 1	WHEN SOD IS WORKABLE
SEED AND MULCH	APRIL 1-MAY 15	OCTOBER 1-NOVEMBER 15

**GENERAL NOTE**

- ALL AREAS DISTURBED BY CONSTRUCTION THAT ARE WITHIN THE RIGHT-OF-WAY SHALL BE FINE GRADED TO MAINTAIN POSITIVE DRAINAGE, HAVE A 4" LAYER OF TOPSOIL APPLIED AND BE SEEDED ACCORDING TO SPECIFICATIONS ON THIS SHEET.



- ▲ CITY AND COUNTY COMMENTS
- ▲ TOWNSHIP/MDOT COMMENTS
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- ▲ 03.11.22 ISSUED FOR CONSTRUCTION
- ▲
- ▲
- ▲
- ▲
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CONTRACT DATE: 01/01/19  
 BUILDING TYPE: ENDEAVOR 2.0  
 PLAN VERSION: MARCH 2022  
 BRAND DESIGNER: DAN DICKSON  
 SITE NUMBER: 315089  
 STORE NUMBER: 40164



**ENDEAVOR 2.0**

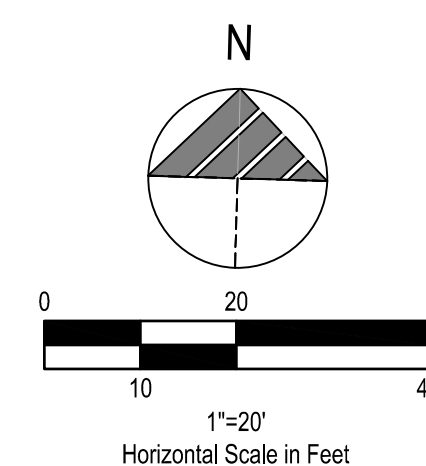
**LANDSCAPE NOTES**

**L-001**



**PLANT LIST**

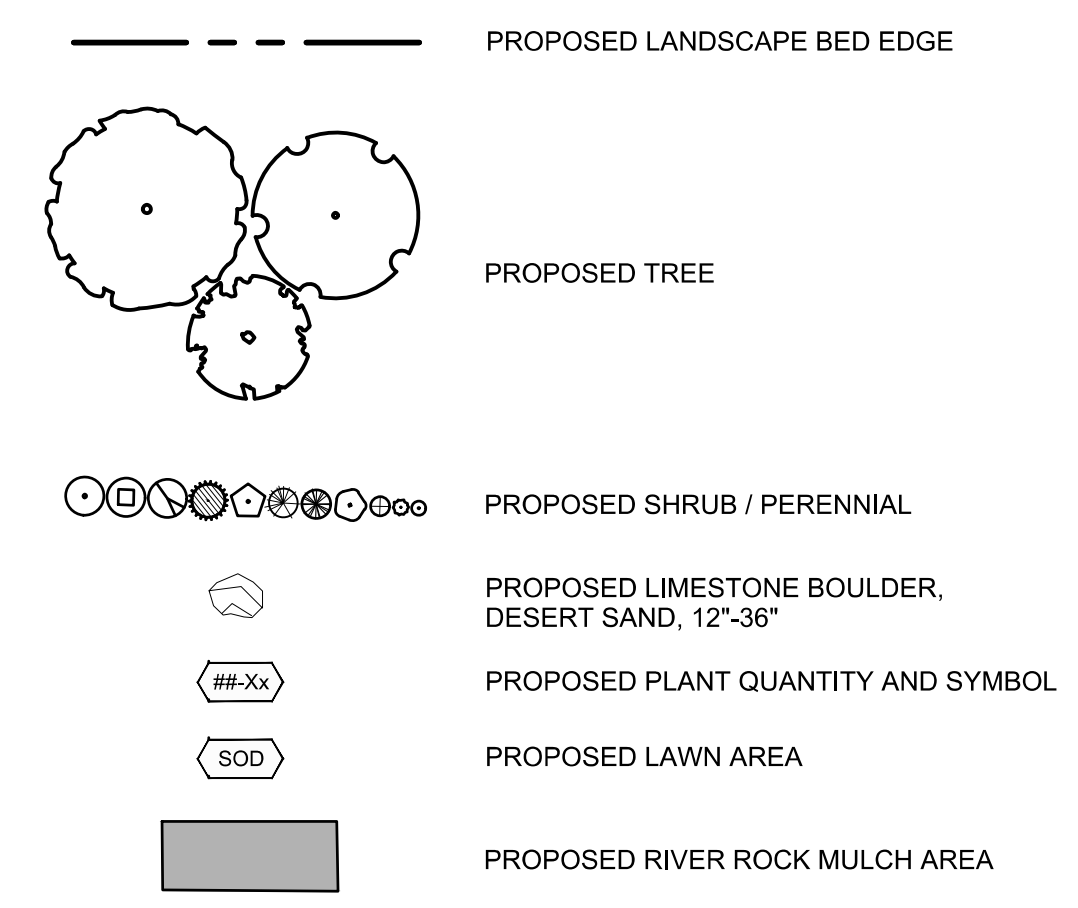
Symbol	Botanical Name	Common Name	Qty.	Min. Size	Condition	Remarks
Bx	Buxus 'Green Velvet'	Green Velvet Boxwood	29	24" H Min.	B&B	3' o/c
Gb	Ginkgo biloba 'Princeton Sentry'	Princeton Sentry Ginkgo	11	2.5" Cal.	B&B	Specimen
Gt	Gleditsia triacanthos f. inermis 'Skycole'	Skyline Thornless Honeylocust	11	2.5" Cal.	B&B	Specimen
Fg	Festuca glauca	Blue Fescue	24	No. 2	Cont.	Per Plan
Hh	Hemerocallis 'Happy Returns'	Happy Returns Daylily	85	No. 1	Cont.	1.5' o/c
Jc	Juniperus chinensis 'Sea Green'	Sea Green Juniper	24	24" H Min.	B&B	4' o/c
Js	Juniperus scopulorum 'Wichita Blue'	Wichita Blue Juniper	2	5' H	B&B	5' o/c
Ma	Malus 'JFS KW213MX' P.A.F.	Raspberry Spear Crabapple	12	2" Cal.	B&B	Specimen
Pf	Potentilla fruticosa 'Abbotswood'	Abbotswood Potentilla	52	24" H Min.	Cont.	3' o/c
Ra	Rhus aromatica 'Gro-Low'	Gro-Low Fragrant Sumac	28	18" H, No. 3	Cont.	4.5' o/c
Sj	Spiraea japonica 'Double Play' 'Candy Corn'	Double Play Candy Corn Spirea	32	No. 3	Cont.	2' o/c
Te	Thuja occidentalis 'Smaragd'	Emerald Arborvitae	11	5' H	B&B	4' o/c
Tr	Thuja occidentalis 'Rheingold'	Rheingold Arborvitae	10	24" H Min.	B&B	3' o/c
Yf	Yucca filamentosa 'Color Guard'	Color Guard Yucca	7	No. 5	Cont.	Per Plan



**LANDSCAPE NOTES**

- MULCH PER LANDSCAPE SPECIFICATIONS.
- ALL DISTURBED AREAS NOT TO BE PAVED OR MULCHED SHALL BE SODDED PER SPECIFICATIONS.
- ALL DISTURBED AREAS WITHIN THE R.O.W. NOT TO BE PAVED, SHALL BE SEEDED PER THE SPECIFICATIONS.

**LANDSCAPE LEGEND**



**LANDSCAPE CALCULATIONS**

PARKING LOT LANDSCAPING CALCULATION: 872 SF			GREENBELT CALCULATION: EAST 148 LF		
	REQUIRED	PROVIDED		REQUIRED	PROVIDED
CANOPY TREES	9	9	CANOPY TREES	4	4
			ORNAMENTAL TREES	4	4
			SHRUBS / FENCE	24 OR FENCE	FENCE

GREENBELT CALCULATION: SOUTH 270 LF		
	REQUIRED	PROVIDED
CANOPY TREES	7	7
ORNAMENTAL TREES	7	7
SHRUBS	42	42



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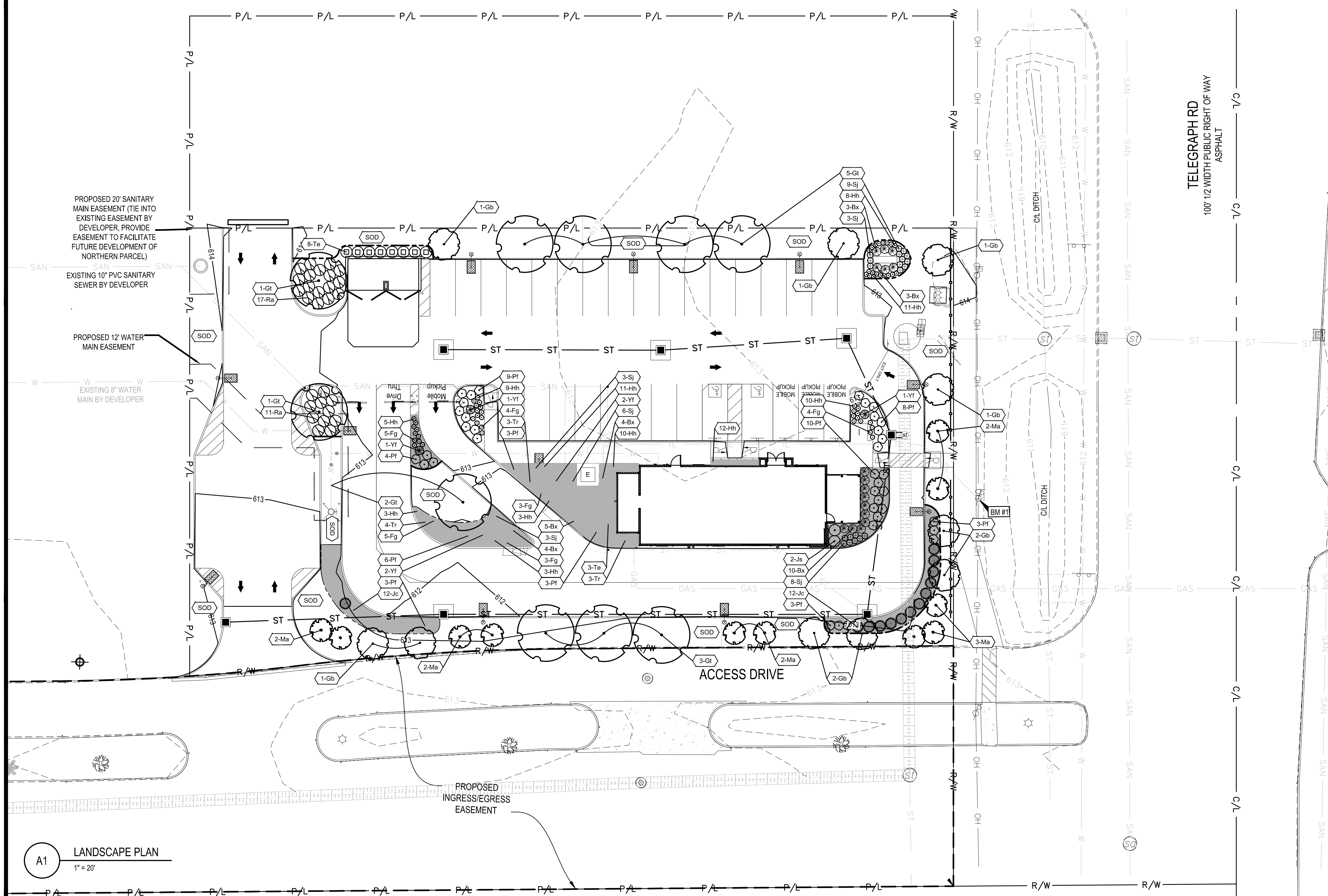
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**TACO BELL**  
 18708 TELEGRAPH RD  
 BROWNSTOWN, MI 48183



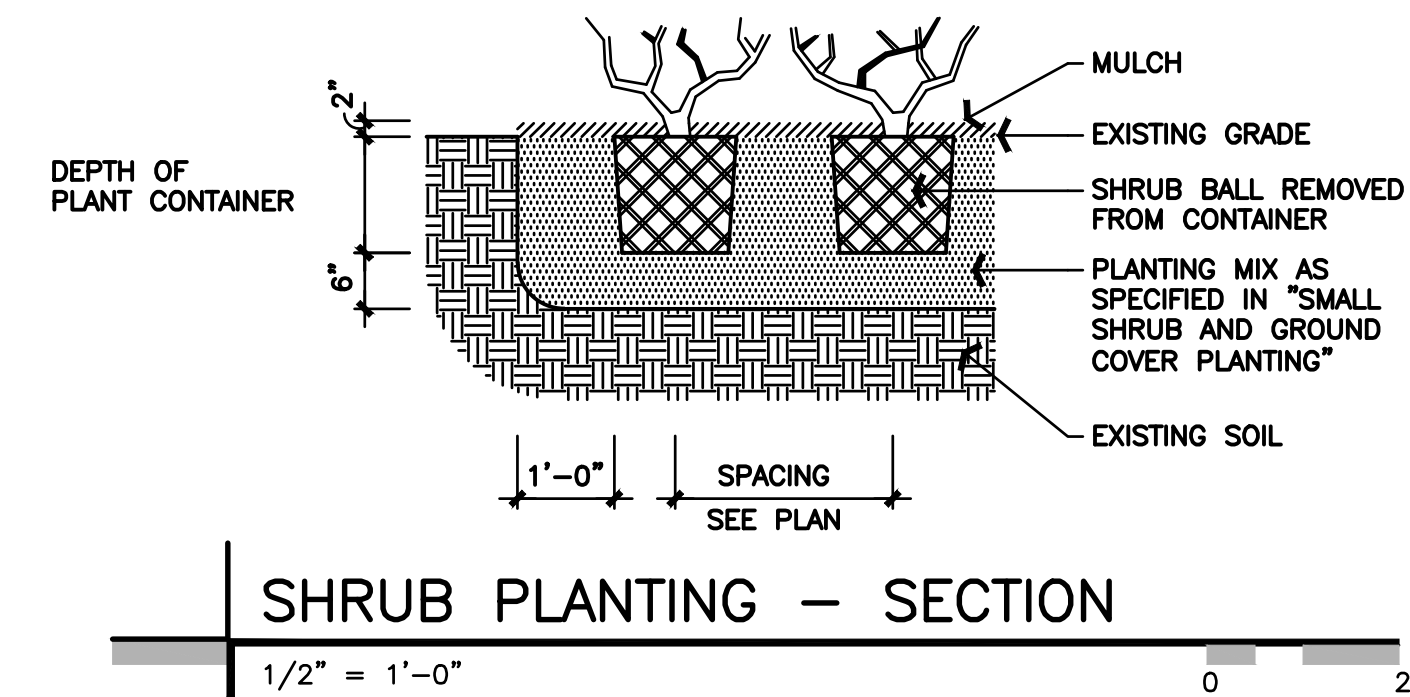
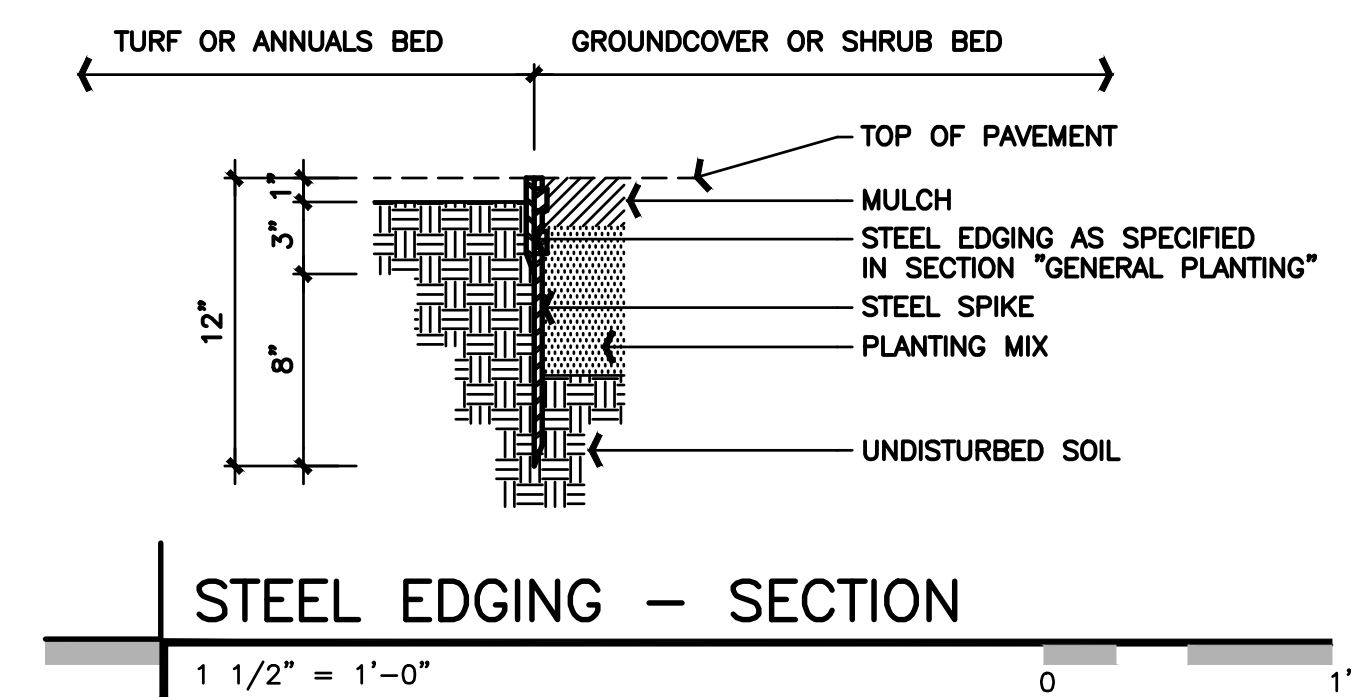
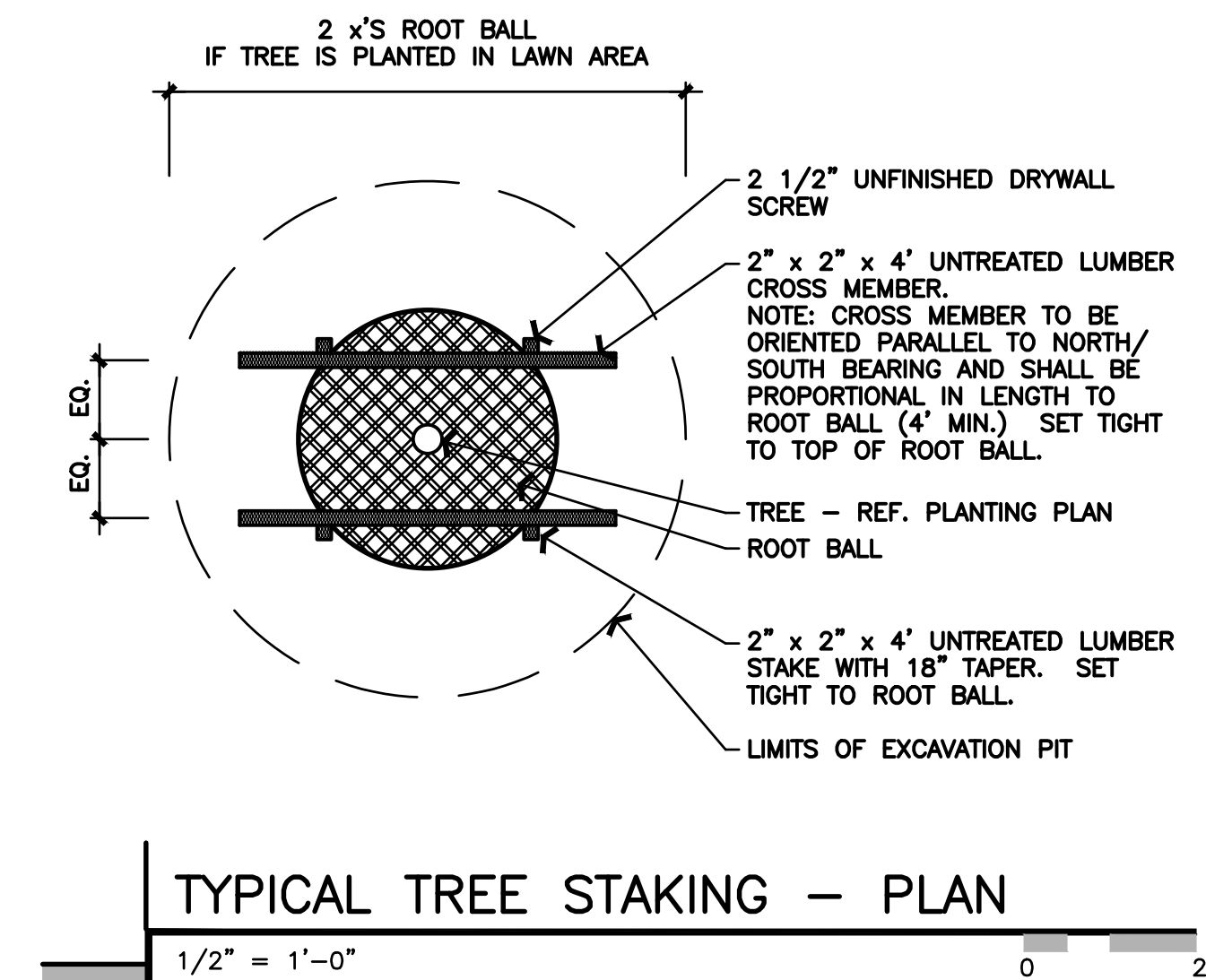
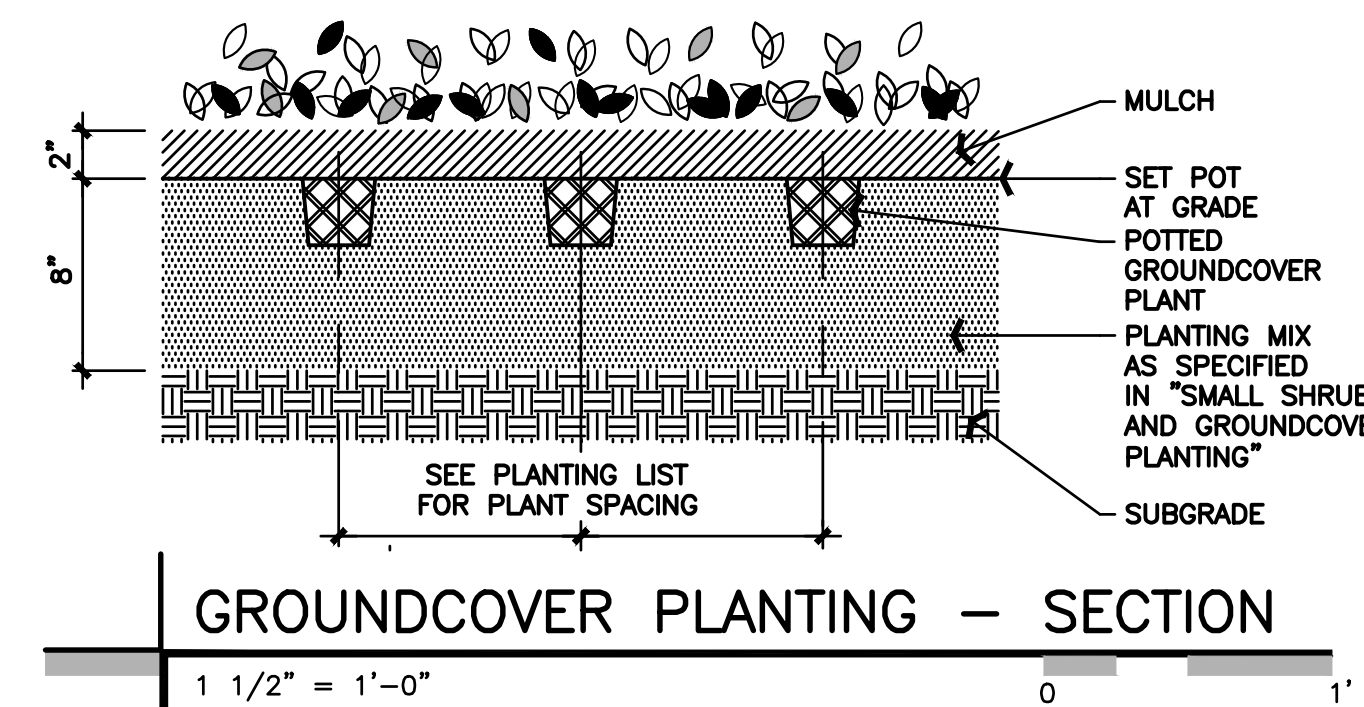
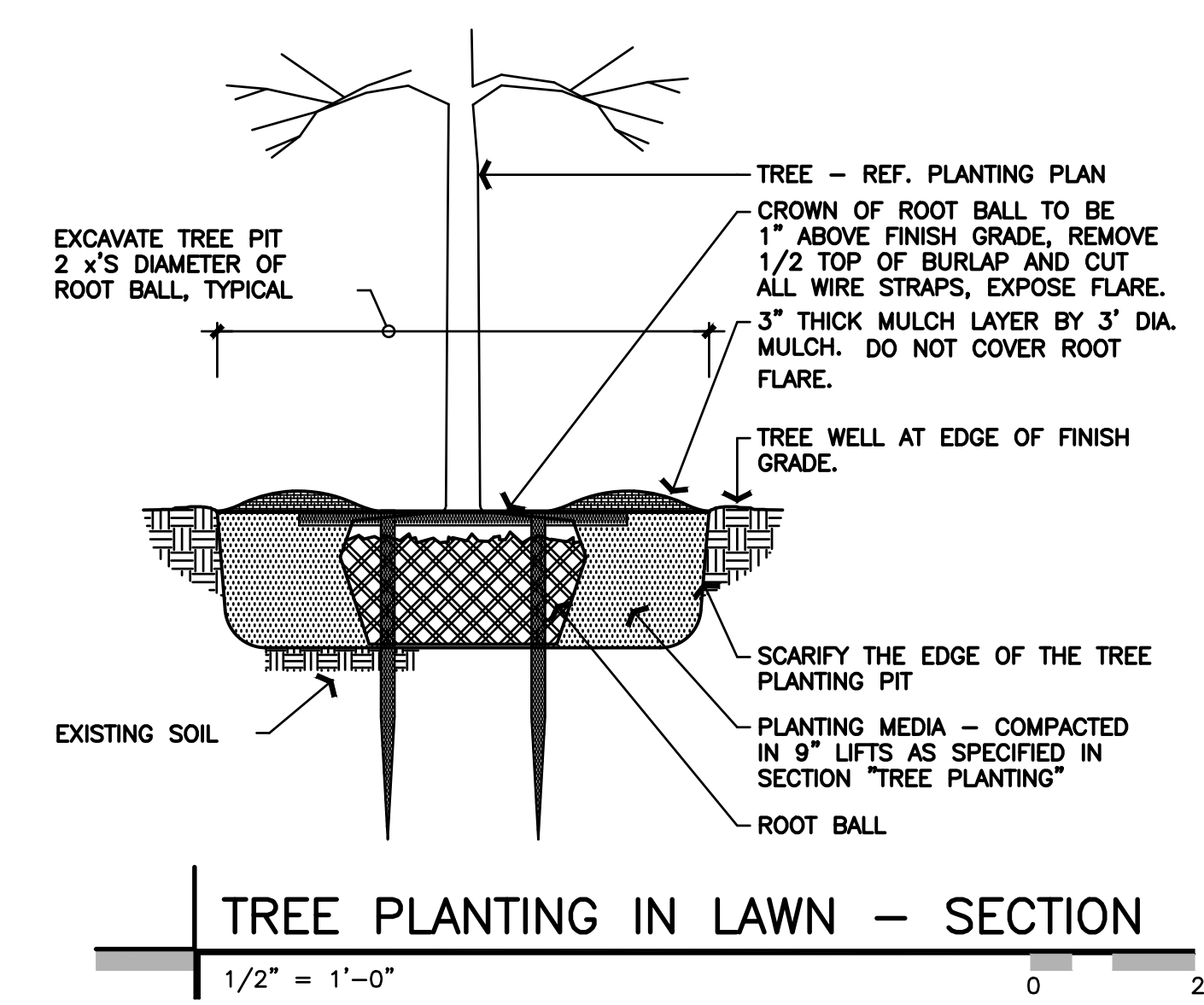
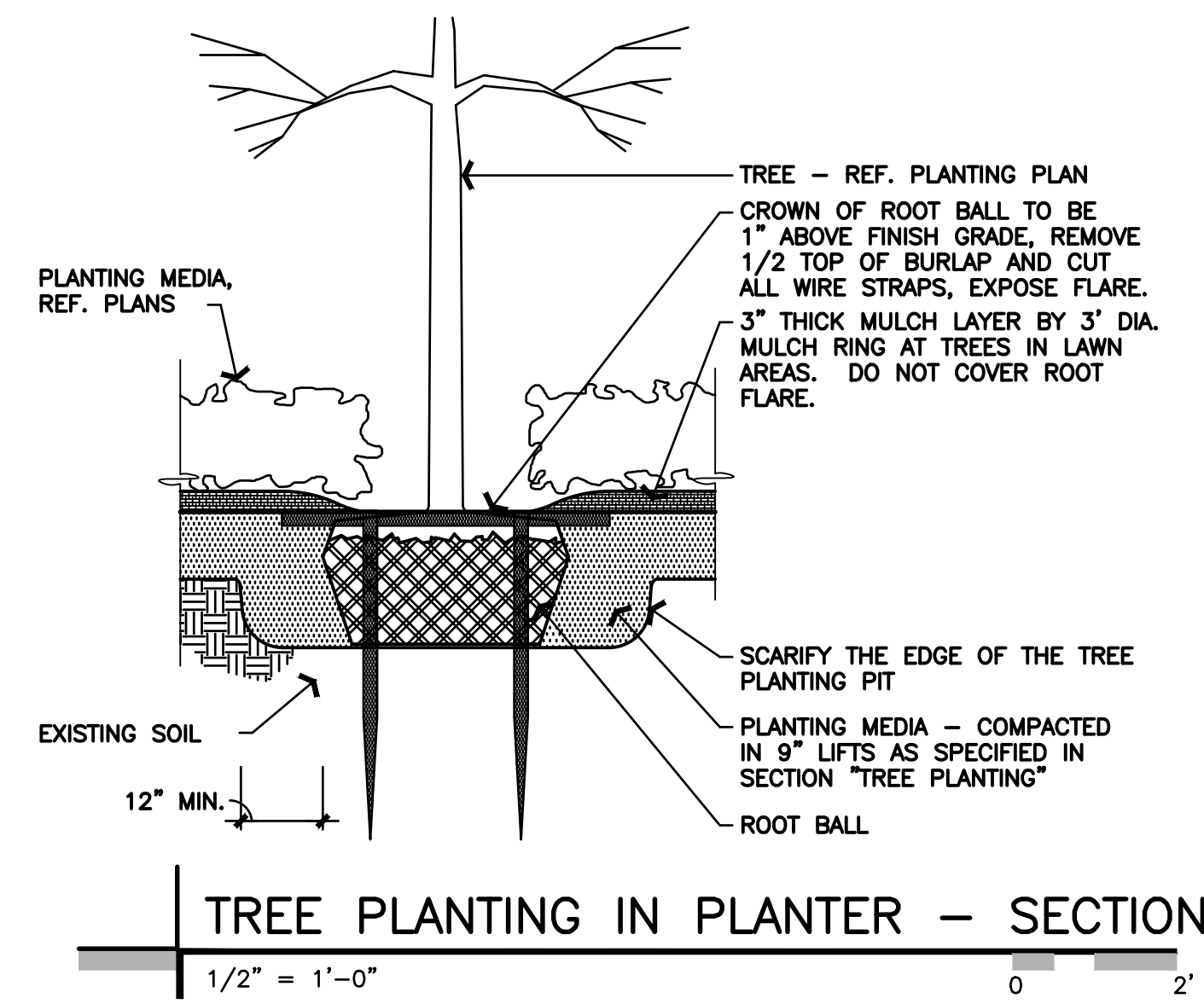
**LANDSCAPE PLAN**

**L-101**



**A1 LANDSCAPE PLAN**  
 1" = 20'





*Ivan Valentic*  
06/15/22

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