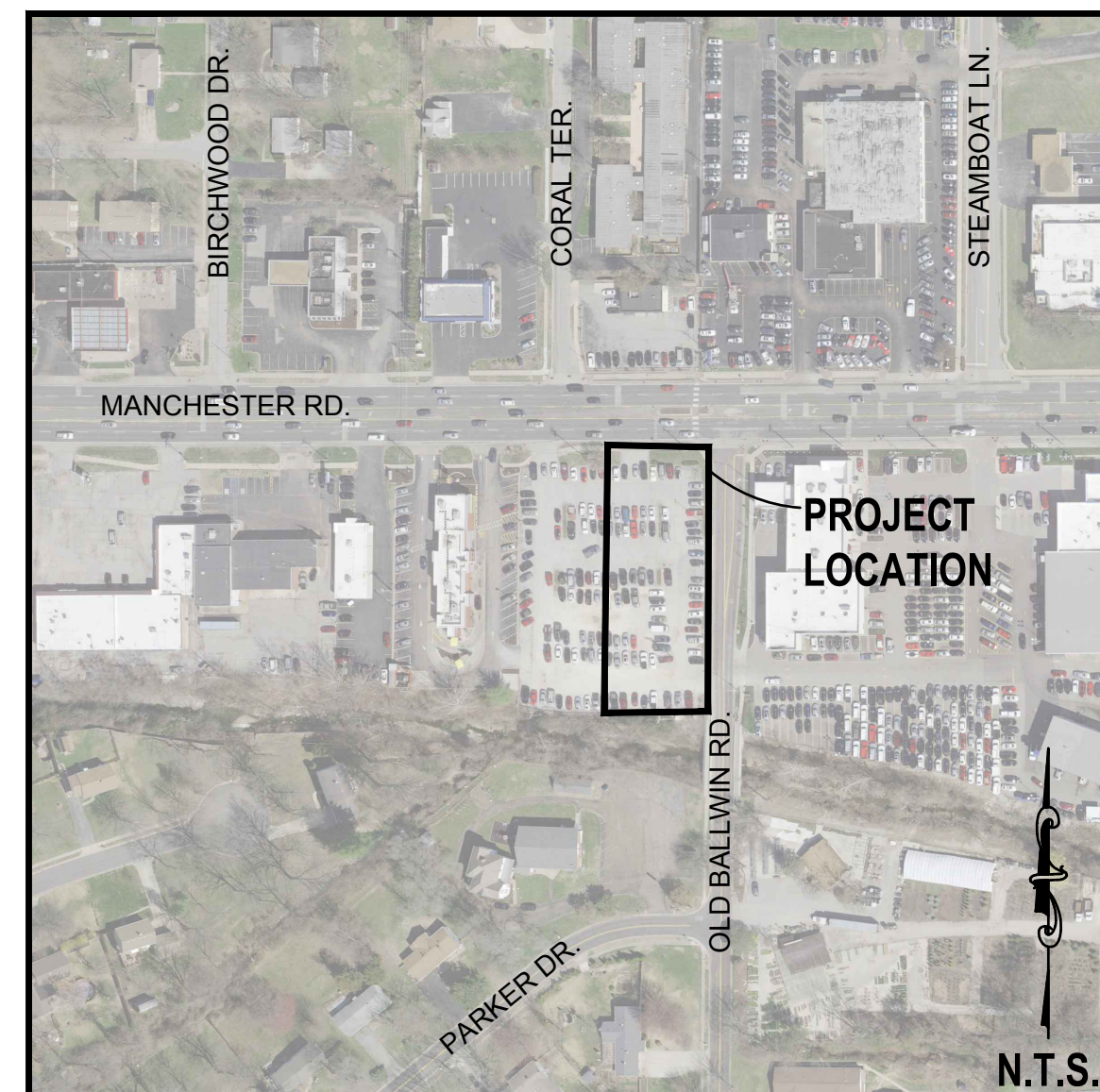


DUTCH BROTHERS COFFEE

15200 MANCHESTER ROAD BALLWIN, MISSOURI 63011



UTILITIES

WATER	MISSOURI AMERICAN	(314) 633-9000
SEWER	MSD	(314) 768-6272
ELECTRIC	AMEREN-MISSOURI	(314) 342-1000
GAS	SPIRE	(314) 621-6960
TELEPHONE	AT&T	(314) 655-0649
CABLE TV	CHARTER COMMUNICATIONS	(636) 387-6641
MISSOURI ONE-CALL		(800) DIG-RITE

ENGINEER

THOUVENOT, WADE & MOERCHEN, INC.
400 N. FIFTH ST., STE. 101
ST. CHARLES, MO 63301
636.724.8300
eallmon@twm-inc.com

OWNER'S NAME

ANVIL REAL ESTATE & DEVELOPMENT, LLC
MAKO KELLMAN
1776 MONTANO RD. NW, STE 25
ALBUQUERQUE, NM 87017
505.450.2553
mkellman@swcp.com



CONSULTING ENGINEERING GEOSPATIAL SERVICES

ILLINOIS	SWANSEA COLUMBIA GLEN CARBON PEORIA DECATUR
MISSOURI	ST. CHARLES ST. LOUIS COLUMBIA
TENNESSEE	NASHVILLE CHATTANOOGA ATHENS

THOUVENOT, WADE & MOERCHEN, INC.

WWW.TWM-INC.COM

PROF. LICENSE	NUMBER
IL. PROF. DESIGN FIRM	184-001220
IL. PROF. ENGR. CORP.	62-035370
IL. PROF. STR. ENGR. CORP.	81-005202
IL. PROF. LAND SURV. CORP.	048-000029
KS. PROF. ENGR. FACILITY	E-3256
MO. PROF. ENGR. CORP.	001528
MO. LAND SURVEYING CORP.	000346
TN. PROF. ENGR. FIRM	8974

SEAL

SIGNATURE: ERIC L. ALLMON
DATE SIGNED:
LICENSE EXPIRATION: 12/31/2025

ISSUED FOR PLANNING & ZONING
DATE OF ISSUANCE 05/22/2024

REV.	DATE	DESCRIPTION
△		
△		
△		
△		

DRAWN BY: ELA
DESIGNED BY: ELA
CHECKED BY: NSG
APPROVED BY: ELA
PROJECT NO: 230952

PROJECT:
MO0401_BALLWIN
DUTCH BROTHERS COFFEE
15200 MANCHESTER ROAD

TITLE:
COVER SHEET

C100

ABBREVIATIONS

AHEAD	AHD	PERMANENT	PERM.
ASPHALT	ASPH.	PAGE	PG.
ADJUST TO GRADE	ATG	PROFILE GRADE LINE	PGL
ADJUST TO GRADE BY OTHERS	ATCBO	POWER POLE	PP
BITUMINOUS	BIT.	PROPOSED PAVEMENT	PR. OR PROP. PAVMT.
BACK	BK	RADIUS OR REMOVE	R
BUILDING	BLDG.	REINFORCED CONCRETE PIPE ROAD	RCP RD
BACK OF CURB	BOC	REMOVED AND REPLACED	R&R
BEGINNING OF PROJECT	BOP	RIGHT OF WAY	R/W OR ROW
CENTER TO CENTER	C-C	RIGHT OF WAY	SDWK.
CONCRETE	CONC.	SIDEWALK	SHLDR.
DO NOT DISTURB	DND	SHOULDER	STA.
DRIVE	DR	STATION	STM
EACH	EA.	STORM SEWER	T.C.E.
ELEVATION	ELEV. OR EL.	TEMPORARY CONSTRUCTION EASEMENT	TBA
ENTRANCE	ENTR.	TO BE ABANDONED	TBA&F
END OF PROJECT	EOP	TO BE ABANDONED AND FILLED	TBRBO
EDGE OF PAVEMENT	EOP	TO BE REM'D AND REPLACED	TBR+R
EASEMENT	ESM'T.	TO BE REM'D AND RELOCATED	TC
EXISTING	EX. OR EXIST.	BY OTHERS	TEMP.
FACE OF CURB	FOC	TO BE REM'D AND RELOCATED	TMH
FACE TO BASELINE	F-B	(BY CONTRACTOR)	TYP.
FACE TO CENTERLINE	F-C	TOP OF CURB	U.D.
FACE TO FACE	F-F	TEMPORARY	UIP
GAS VALVE	GV	TELEPHONE MANHOLE	VCP
GATE POST	GP	TYPICAL	VIF
HYDRAULIC GRADE LINE	HGL	UNDERDRAIN	VW
INFLOW	INF.	USE IN PLACE	WM
INVERT	INV.	VITRIFIED CLAY PIPE	
MANHOLE	MH	VERIFY IN THE FIELD	
MEET EXISTING	MIN.	WATER VALVE	
MINIMUM	MIN.	WATER METER	
NOT TO SCALE	NTS		
PROPOSED DRAINAGE EASEMENT	P.D.E.		

LEGEND

ITEM	EXISTING	PROPOSED
SIGNS	+	+
TREES, GENERAL	☐	☐
ELECTRIC BOX	☐	☐
ELECTRIC HANDHOLE	☐	☐
LIGHT POLE	☐	☐
POWER POLE	☐	☐
SANITARY SEWER MANHOLE	☐	☐
SEWER CLEANOUT	☐	☐
INLET PROTECTION	☐	☐
WATER VALVE	☐	☐
WATER METER	☐	☐
FIRE HYDRANT	☐	☐
GAS VALVE	☐	☐
GAS METER	☐	☐
GAS MONITORING WELL	☐	☐
TELEPHONE MANHOLE	☐	☐
TREES, SHRUBS OR BUSHES	☐	☐

POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
100	1004501.860	805002.306	586.74	SET IRON ROD WITH CAP
101	1004657.213	805006.060	588.93	CUT SQUARE ON LAMP POST BASE

NOTES:

SURVEY IS VALID ONLY TO ORIGINAL PURCHASER. IT IS NOT TRANSFERABLE TO ADDITIONAL INSTITUTIONS OR SUBSEQUENT OWNERS.

ALL BUILDINGS, SURFACE AND SUBSURFACE IMPROVEMENTS ON AND ADJACENT TO THE SITE ARE NOT NECESSARILY SHOWN.

BASIS OF BEARINGS AND COORDINATES: ALL DISTANCES AND COORDINATES ARE GROUND (GRID SCALED) VALUES, REFERENCED TO MISSOURI STATE PLANE COORDINATE SYSTEM, EAST ZONE 2401.

STATION: SEILER TREECOURT CORS ARP
CORS ID: MOSI
PID: DL3650
NORTHING: 302,843.569 (M)
EASTING: 253,367.387 (M)

TO CONVERT TO GRID, MULTIPLY BY A COMBINED SCALE FACTOR OF 0.99993347

LINEAR UNIT: US SURVEY FEET (SFT)
GEODETIC DATUM: NAD 83 (2011)
VERTICAL DATUM: NAVD 88 (GEOID 12B)
PROJECT LOCATION:

LATITUDE: 38°35'32.45081"N NORTHING: 1004528.819 SFT
LONGITUDE: 90°33'11.81058"W EASTING: 804980.100 SFT
HEIGHT: 490.360 FT ELEV: 592.424 FT
CM SCALE FACTOR: 1.0000898104

NO.	DRAWING TITLE
C100	COVER SHEET
C101	GENERAL NOTES
C200	EXISTING CONDITIONS & DEMOLITION PLAN
C300	SITE IMPROVEMENT PLAN
C400	UTILITY PLAN
C500	GRADING PLAN
C600	PRE CONSTRUCTION DRAINAGE AREA MAP
C601	POST CONSTRUCTION DRAINAGE AREA MAP
C700	PAVEMENT DETAILS - SHEET 1 OF 2
C701	PAVEMENT DETAILS - SHEET 2 OF 2
C800	SANITARY AND EROSION DETAILS
C801	STORM SEWER PROFILES

SITE ZONING -

C-1 MRD OVERLAY

SITE AREA CLASSIFICATIONS

LOT 1 AREA (DUTCH BROTHERS): 0.524 ACRES
LOT 2 AREA (FUTURE): 0.716 ACRES

F.E.M.A. CLASSIFICATION

FLOOD PLAIN MAP 29189C0283K, DATED 02-02-2015, SHOWS THAT NO PORTION OF SAID PROPERTY IS WITHIN A FLOOD PLAIN ZONE.



WUNNENBERG MAP: 24DD-32
MSD MAP: 23S2
MSD No.: 24MSD-0077

PROJECT CRITERIA

PRIOR TO COMMENCEMENT OF ANY WORK, OR ORDERING ANY MATERIALS, THE CONTRACTOR SHALL REVIEW ALL PLANS, SPECIFICATIONS, AND THE PROJECT SITE(S). THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER AND ENGINEER WHO PREPARED THE PLANS OF ANY DISCREPANCIES THAT MAY REQUIRE MODIFICATION TO THESE PLANS OR OF ANY FIELD CONFLICTS.

SHOULD IT APPEAR THAT THE WORK TO BE PERFORMED OR ANY MATTER RELATIVE THERETO IS NOT SUFFICIENTLY DETAILED OR EXPLAINED ON THE PLANS, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR SUCH FURTHER EXPLANATIONS AS MAY BE NECESSARY PRIOR TO COMMENCING WORK.

THESE PLANS AND SPECIFICATIONS ARE SUBJECT TO MODIFICATIONS DURING CONSTRUCTION WHEN CONDITIONS DEVELOP THAT WERE NOT APPARENT DURING THE DESIGN OF THE PLANS AND SPECIFICATIONS. ALL MODIFICATIONS MUST BE APPROVED BY ALL PERTINENT AGENCIES HAVING JURISDICTION OVER THIS PROJECT PRIOR TO CONSTRUCTION AN/OR IMPLEMENTATION OF PROPOSED CHANGES.

IN THE EVENT OF ANY DISCREPANCY BETWEEN ANY DRAWING OR ANY DRAWING AND SPECIFICATION AND FIGURES WRITTEN THEREON, THE CONTRACTOR SHALL NOTIFY ENGINEER FOR WRITTEN CLARIFICATION OF THE DISCREPANCY PRIOR TO COMMENCING THE WORK IN QUESTION. ONLY THOSE DIMENSIONS SHOWN ON THE DRAWINGS SHALL BE UTILIZED FOR DETERMINATION OF LOCATION AND SIZES OF PROPOSED IMPROVEMENTS. DO NOT SCALE DRAWINGS.

CONTRACTOR SAFETY RESPONSIBILITIES

THE CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR PROJECT SITE(S) CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD THE OWNER AND DESIGN PROFESSIONAL HARMLESS OF ANY AND ALL LIABILITY, REAL, OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.

TWM, INC. SHALL NOT BE RESPONSIBLE FOR OR HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES IN CONNECTION WITH THE WORK.

CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROVIDING AND INSTALLING ANY AND ALL TRAFFIC BARRICADES, MARKERS, SIGNS, FLAGMEN, TRAFFIC POLICE, AND/OR OTHER FACILITIES AS MAY BE REQUIRED BY THE VARIOUS JURISDICTIONS HAVING AUTHORITY OVER THIS PROJECT TO PROTECT THE GENERAL PUBLIC. SIGNS AND PROTECTIVE DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS. THE CONTRACTOR SHALL HAVE THE RESPONSIBILITY TO NOTIFY THE STATE AND LOCAL POLICE, EMERGENCY SERVICE AGENCIES, AMBULANCE SERVICES, AND FIRE DEPARTMENTS OF ANY PROPOSED TRAFFIC DIVERSIONS.

STRUCTURE ELEVATION REQUIREMENTS

MINIMUM FIRST FLOOR ELEVATION OF EACH BUILDING OR STRUCTURE SHALL BE EIGHTEEN (18) INCHES ABOVE THE STREET CENTERLINE ELEVATION. THIS ELEVATION SHALL BE MEASURED AT THE CENTER OF THE LOT FRONTAGE AND FOR CORNER LOTS THE HIGHEST ELEVATION STREET SHALL GOVERN. ALL DRIVEWAYS AT THE PROPERTY LINE SHALL BE A MINIMUM OF SIX (6) INCHES ABOVE THE STREET CENTERLINE ELEVATION. DRIVEWAY ELEVATIONS SHALL MATCH SIDEWALK GRADES AT THE BACK OF THE SIDEWALK LOCATION. CROSS SLOPES ON SIDEWALKS SHALL NOT EXCEED TWO (2) PERCENT.

SHOULD IT BE DIFFICULT TO CONFORM TO THESE REQUIREMENTS, OR SHOULD A WALK-OUT, OR PARTIALLY EXPOSED BASEMENT BE PROPOSED, THE LOT OWNER SHALL PRIOR TO CONSTRUCTION, RETAIN AND CONSULT WITH AN ENGINEER TO DETERMINE ALLOWABLE STRUCTURE ELEVATIONS TO PRECLUDE DAMAGE FROM STORM WATER.

UTILITIES

ANY RELOCATION OF PUBLIC OR PRIVATE UTILITIES SHALL BE UNDERTAKEN IN ACCORDANCE WITH ALL REQUIREMENTS OF THE UTILITY COMPANY AND WITH REGARD TO THE REQUIRED FEES, BONDS, PERMITS, AGREEMENTS, WORKING CONDITIONS, SAFETY CERTIFICATIONS, ETC. OF SAID COMPANY OR JURISDICTION. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES AND JURISDICTIONS A MINIMUM OF 48 HOURS PRIOR TO COMMENCEMENT OF WORK TO ALLOW THE UTILITIES TO MARK THEIR SYSTEMS OR TO ALLOW THE PERTINENT JURISDICTIONS TIME TO COORDINATE THEIR STAFF, MATERIALS, AND EQUIPMENT TO CONDUCT INSPECTION.

ALL UTILITIES INCLUDING BUT NOT LIMITED TO FIRE HYDRANTS, VALVE PIT COVERS, VALVE BOXES, METER VAULTS, CURB STOP BOXES, FIRE OR POLICE CALL BOXES, TRAFFIC CONTROL SIGNALS OR OTHER UTILITY'S APPURTENANCES SHALL BE UN-OBSTRUCTED AND ACCESSIBLE DURING THE CONSTRUCTION PERIOD.

THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY AND ALL DAMAGE TO EXISTING OR INSTALLED UTILITIES OR STRUCTURES DURING CONSTRUCTION. THE CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY OR JURISDICTION TO ENSURE APPROPRIATE REPAIR IS MADE IN ACCORDANCE WITH THE UTILITY OR JURISDICTIONS REQUIREMENTS. CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO PROTECT EXISTING UTILITIES.

UTILITIES AND APPURTENANCES TO REMAIN IN THEIR PRESENT LOCATION SHALL BE ADJUSTED TO GRADE.

CONTRACTOR SHALL LOCATE AND DETERMINE SIZE OF EXISTING WATER SERVICE LINE TO DETERMINE IF IT CAN BE REUSED. CONTRACTOR IS RESPONSIBLE FOR COORDINATING NEW TAP WITH WATER COMPANY. CONNECTIONS SHALL BE MADE PER MISSOURI AMERICAN STANDARDS.

CONTRACTOR SHALL LOCATE EXISTING LATERAL DURING DEMOLITION AND REUSE THE CONNECTION TO THE SANITARY MAIN. CONNECTIONS SHALL BE MADE PER MSD STANDARDS.

TITLE / RIGHT-OF-WAY DISCLAIMER

TWM DOES NOT WARRANT THAT THESE DOCUMENTS CONTAIN COMPLETE INFORMATION REGARDING EASEMENTS, RESERVATIONS, RESTRICTIONS, RIGHT-OF-WAY BUILDING LINE SETBACKS AND OTHER ENCUMBRANCES. FOR COMPLETE INFORMATION, A CERTIFIED TITLE REPORT, OPINION, OR COMMITMENT FOR TITLE INSURANCE SHOULD BE OBTAINED AND THOROUGHLY REVIEWED.

UTILITY DISCLAIMER

THE TYPE, SIZE, AND LOCATION OF UTILITIES AS DELINEATED ON THESE DRAWINGS AND/OR CIVIL ENGINEERING DESIGN DOCUMENTS HAVE BEEN PROVIDED TO TWM BY KILLEEN STUDIO ARCHITECTS FROM A TOPOGRAPHIC SURVEY COMPLETED BY ALTEA, LLC. THE OWNER AND ENGINEER HAVE NOT UNDERTAKEN ANY EXPLORATORY INVESTIGATIONS TO CONFIRM OR VERIFY THE UTILITY LOCATION SHOWN ON THESE DOCUMENTS. THEREFORE, THE UTILITIES EXACT LOCATION, SIZE, TYPE, AND FUNCTION MUST BE CONSIDERED APPROXIMATE AND FIELD VERIFICATION OF UTILITIES BY THE CONTRACTOR MUST BE UNDERTAKEN.

THE OWNER AND ENGINEER FURTHER DO NOT WARRANT THAT ALL UTILITIES HAVE BEEN ILLUSTRATED ON THESE DOCUMENTS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONTACTING MISSOURI ONE-CALL SYSTEM (MOCs) AND ALL NON-MEMBER MOCs UTILITIES THAT MAY BE AFFECTED BY CONSTRUCTION ACTIVITIES FOR FIELD VERIFICATION OF ALL UTILITIES ON THE SITE PRIOR TO CONSTRUCTION. IF THE CONTRACTOR DETERMINES THAT A SUBSTANTIAL DISCREPANCY EXISTS BETWEEN FIELD VERIFIED UTILITIES AND THOSE PRESENTED ON THESE PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER FOR CLARIFICATION AND PROJECT DIRECTION.

GENERAL PROJECT SPECIFICATIONS

ALL WORK, INSTALLATION, PROCEDURES, MATERIALS, AND TESTING SHALL CONFORM TO THE FOLLOWING:

- THE CITY OF BALLWIN, MISSOURI MUNICIPAL CODE, LATEST EDITION
- ST. LOUIS COUNTY SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION
- ST. LOUIS COUNTY DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS, LATEST EDITION
- MSD STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, 2009
- MSD RULES REGULATIONS AND ENGINEERING DESIGN REQUIREMENTS FOR SANITARY SEWER AND STORMWATER DRAINAGE FACILITIES

TO THE EXTENT IN WHICH ANY INCONSISTENCIES, OR DISCREPANCIES EXIST BETWEEN THE LISTED SPECIFICATION, STANDARD, CODES, OR GUIDELINES BY GOVERNING BODIES AND/OR THESE PLANS AND SPECIFICATIONS, THE MOST STRINGENT SPECIFICATION AND/OR STANDARD SHALL BE BINDING AND APPLICABLE.

THE CONTRACTOR IS RESPONSIBLE FOR CONFORMING TO ALL MDNR STORM WATER PERMIT REQUIREMENTS FOR CONSTRUCTION SITE ACTIVITIES, AND THE STORM WATER POLLUTION PREVENTION PLAN FOR THE PROJECT SITE.

WHERE SECTION OR SUB-SECTION SURVEY MONUMENTS ARE ENCOUNTERED, THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER AND AUTHORIZED SURVEYING AGENT HAVE WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

ALL ABANDONED UNDERGROUND STRUCTURES ENCOUNTERED SHALL BE REMOVED TO SUFFICIENT DEPTH TO ENABLE THE PERTINENT UTILITIES TO BE CONSTRUCTED.

ALL ITEMS DESIGNATED FOR REMOVAL SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR IN COMPLIANCE WITH ALL CITY, STATE, AND FEDERAL ENVIRONMENTAL REGULATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE FROM THE SITE ANY AND ALL CONSTRUCTION MATERIALS AND DEBRIS RESULTING FROM THE CONSTRUCTION OPERATIONS.

ALL WORK, MATERIALS, AND INSTALLATION SHALL NOT BE DEEMED SATISFACTORY UNTIL SUCH TIME THAT APPROVAL IS OBTAINED FROM THE AGENCY HAVING JURISDICTION OVER THE PROJECT.

THE CONTRACTOR SHALL PROCEED AT HIS OWN RISK IN PERFORMING ANY WORK PRIOR TO VERIFYING OR RECEIVING ALL NECESSARY PERMITS.

MSD NOTES

BACKWATER VALVE NOTE:

A BACKWATER VALVE SHALL BE REQUIRED ON ALL BUILDING LATERALS PER LOCAL PLUMBING CODE.

CONSTRUCTION SITE RUNOFF:

CONSTRUCTION SITE RUNOFF SHALL NOT FLOW INTO BMP AREAS. ALL STORMWATER FLOW TO BMP AREAS SHALL BE DIVERTED, PLUGGED OR DISCONNECTED UNTIL THE CONSTRUCTION SITE IS STABLE AND THE MSD INSPECTOR PROVIDES APPROVAL TO PLACE THE BMP ON-LINE

DETAIL DRAWINGS:

THE DETAIL DRAWINGS SHOWN HERE ARE ONLY FOR PRIVATE CONSTRUCTION THAT IS NOT UNDER MSD PERMITS. REFER TO MSD SPECIFICATIONS AND STANDARD DETAILS FOR PUBLIC SEWER CONSTRUCTION OR PRIVATE CONSTRUCTION UNDER MSD PERMITS.

INFILTRATION BED:

TO PREVENT CONSTRUCTION SEDIMENT FROM CLOGGING INFILTRATION BED, AT NO TIME MAY CONSTRUCTION SEDIMENT ENTER THESE FACILITIES. ADDITIONALLY, THESE FACILITIES SHALL NOT BE CONSTRUCTED UNTIL ALL SURROUNDING AREA THAT DRAINS TO THEM IS FULLY STABLE/ESTABLISHED.

INFILTRATION TESTING - FOR WHEN UTILIZING ONSITE SOILS AND/OR MIXING ONSITE FOR PLANTING SOIL:

THE IN-PLACE PERMEABILITY OF THE PLANTING SOIL SHALL BE 2.0 TO 3.5 FT/DAY, AND VERIFIED BY AND INFILTRATION TEST PERFORMED PER THE MARYLAND STORMWATER MANUAL, APPENDIX D.1, "INFILTRATION TESTING REQUIREMENTS (FIELD TESTING REQUIRED)". A MINIMUM OF ONE PERCOLATION TEST SHALL BE PERFORMED PER FACILITY. THE MSD FIELD INSPECTOR SHALL BE ALLOWED TO SELECT THE LOCATION OF PERCOLATION TESTS. THE MSD FIELD INSPECTOR SHALL BE PROVIDED A COPY OF ALL TEST RESULTS, SIGNED AND SEALED BY A MISSOURI PROFESSIONAL ENGINEER. TEST RESULTS SHALL REPORT IN UNITS OF FT/DAY. RESULTS SHALL DEMONSTRATE ACCEPTABLE PERMEABILITY PRIOR TO CONSTRUCTION APPROVAL. NOTE THESE TESTS ARE NOT REQUIRED IF UTILIZING PREMIXED PLANTING SOIL SUPPLIED BY A LOCAL MSD APPROVED SOILS SUPPLIER.

MSD NOTES CONT:

LIMITS OF DISTURBANCE:

THE CONTRACTOR SHALL STAY WITHIN THE LIMITS OF DISTURBANCE AS SHOWN ON THE PLANS AND MINIMIZE DISTURBANCE WITHIN THE WORK AREA WHEREVER POSSIBLE.

SANITARY LATERALS:

LATERALS TO BE 6-INCH PVC AND CONSTRUCTED AT 2.0% MINIMUM SLOPE.

SEDIMENTATION BASIN - TEMPORARY:

DURING CONSTRUCTION; IF SITE RUNOFF FLOWS INTO A TEMPORARY SEDIMENT BASIN THAT WILL BE CONVERTED TO A PERMANENT BMP AREA, THEN AFTER THE TRIBUTARY AREA IS COMPLETELY STABLE THE SEDIMENT BASIN WILL NEED TO BE CLEANED OF ALL SILT, SEDIMENT, AND TRASH THAT HAS ACCUMULATED WITHIN IT. OVER EXCAVATE AS NEEDED TO ALLOW FULL DEPTH OF THE BMP SECTION. BMP PLANTING, IF APPLICABLE, CAN BE INSTALLED ONLY AFTER THIS HAS BEEN DONE AND THE MSD INSPECTOR PROVIDES APPROVAL TO PLACE THE PLANTINGS.

SHOP DRAWINGS FOR BMPS:

MSD SHOP DRAWING SUBMITTAL REQUIRED FOR BMP AND ITS COMPONENTS PRIOR TO CONSTRUCTION.

MSD CONTACT: PLEASE CONTACT THE DISTRICT'S CONSTRUCTION MANAGEMENT DIVISION AT (314) 335-2072 FOR QUESTIONS.

STANDARD CONSTRUCTION:

ALL STORM AND SANITARY SEWER STRUCTURES AND APPURTENANCES TO BE DEDICATED TO MSD, OR TO BE PRIVATE UNDER MSD INSPECTION, SHALL CONFORM TO THE METROPOLITAN ST. LOUIS SEWER DISTRICT, STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, 2009. THAT WILL INCLUDE STANDARD DETAILS SHOWN THEREIN, AND SHALL INCLUDE ALL SUBSEQUENT CHANGES MADE THERETO.

SOME RECENT CHANGES CONCERN PLASTIC PIPE MATERIALS AND PIPE FIELD TESTING AND PERFORMANCE, AND INCLUDE THE FOLLOWING:

PART 2 - MATERIALS OF CONSTRUCTION

HIGH DENSITY POLYETHYLENE (HDPE) PIPE IS NOT ALLOWED FOR GRAVITY SEWERS FOR STORM, COMBINED, OR SANITARY SEWERS THAT ARE "PUBLIC" OR "PRIVATE UNDER MSD INSPECTION".

POLYPROPYLENE (PP) PIPE IS ALLOWED AS FOLLOWS FOR GRAVITY SEWERS THAT ARE "PUBLIC" OR "PRIVATE UNDER MSD INSPECTION:

FOR USE IN SANITARY AND COMBINED SEWERS 12 TO 60 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2764 "STANDARD SPECIFICATION FOR 6 TO 60 IN. POLYPROPYLENE (PP) CORRUGATED DOUBLE AND TRIPLE WALL PIPE AND FITTINGS FOR NON- PRESSURE SANITARY SEWER APPLICATIONS."

FOR USE IN STORM SEWERS 12 TO 24 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2881 "STANDARD SPECIFICATION FOR 12 TO 60 IN. POLYPROPYLENE (PP) DUAL WALL PIPE AND FITTINGS FOR NON-PRESSURE STORM SEWER APPLICATIONS;" OR FOR USE IN STORM SEWERS 12 TO 60 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2764 "STANDARD SPECIFICATION FOR 6 TO 60 IN. POLYPROPYLENE (PP) CORRUGATED DOUBLE AND TRIPLE WALL PIPE AND FITTINGS FOR NON- PRESSURE SANITARY SEWER APPLICATIONS."

PART 4 - PIPE SEWER CONSTRUCTION

SECTION B, PIPE FIELD TESTS, PARAGRAPH 2, REACH INTEGRITY TESTING - DELETE THE FIRST SENTENCE AND THE FOLLOWING REPLACEMENT APPLIES:

ALL SANITARY AND COMBINED SEWERS SHALL SUSTAIN A MAXIMUM LEAKAGE LIMIT OF 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY, AS REQUIRED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES SPECIFICATIONS.

SECTION B, PIPE FIELD TESTS, PARAGRAPH 2, REACH INTEGRITY TESTING, SUBPARAGRAPH C, INFILTRATION/EXFILTRATION TESTING - DELETE THE SIXTH SENTENCE, CONCERNING LEAKAGE LIMITS, AND THE FOLLOWING REPLACEMENT APPLIES:

THE MEASUREMENT OF LEAKAGE SHALL NOT EXCEED 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY, AS REQUIRED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES SPECIFICATIONS.

SECTION B, PIPE FIELD TESTS, PARAGRAPH 4, MANHOLE TESTING, SUBPARAGRAPH A, VACUUM TESTING - AFTER THE FIRST SENTENCE, THE FOLLOWING ADDITION APPLIES:

THE VACUUM TEST MUST BE PERFORMED PRIOR TO BACKFILLING AROUND THE MANHOLE UNLESS THE CONTRACTOR PROVIDES DOCUMENTATION FROM THE PRECAST MANHOLE MANUFACTURER STATING THAT THE MANHOLE MAY BE VACUUM TESTED AFTER BACKFILLING HAS TAKEN PLACE. THE CONTRACTOR MUST SUBMIT THIS DOCUMENTATION PRIOR TO BACKFILLING AROUND ANY MANHOLE.

SECTION B, PIPE FIELD TESTS, PARAGRAPH 4, MANHOLE TESTING, SUBPARAGRAPH B, EXFILTRATION TESTING - DELETE THE SECOND SENTENCE, CONCERNING LEAKAGE LIMITS, AND THE FOLLOWING ADDITION APPLIES:

FOR EXFILTRATION TESTING, THE ALLOWABLE LEAKAGE LIMIT IS 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY WHEN THE AVERAGE HEAD ON THE TEST SECTION IS THREE FEET (3') OR LESS.

IF REINFORCED CONCRETE PIPE IS USED FOR SANITARY OR COMBINED SEWERS LARGER THAN 27", ALL PIPE AND JOINTS SHALL CONFORM TO ASTM C 361. IN ADDITION, IF THE DIAMETER IS LARGER THAN 48", THE JOINT TYPE MUST INCLUDE A GASKET THAT IS CONFINED IN A GROOVE IN THE SPIGOT OF THE PIPE.

CONTRACTOR'S INSURANCE (OFFSITE)

PRIOR TO OBTAINING A CONSTRUCTION PERMIT FROM THE METROPOLITAN ST. LOUIS SEWER DISTRICT, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE THE DISTRICT WITH A COPY OF AN EXECUTED CERTIFICATE OF INSURANCE INDICATING THAT THE PERMITTEE HAS OBTAINED AND WILL CONTINUE TO CARRY COMMERCIAL GENERAL LIABILITY AND COMPREHENSIVE AUTO LIABILITY INSURANCE. THE REQUIREMENTS AND LIMITS SHALL BE AS STATED IN THE "RULES AND REGULATIONS AND ENGINEERING DESIGN REQUIREMENTS FOR SANITARY AND STORMWATER DRAINAGE FACILITY", SECTION 10.090 (ADDENDUM)

EARTHWORK NOTES

ANY EARTHWORK NECESSARY TO COMPLETE THE PROJECT, AS SHOWN IN THE PLANS, SHALL BE INCLUDED IN THE COST OF THE PROJECT AND WILL NOT BE MEASURED FOR SEPARATE PAYMENT. EARTHWORK SHALL INCLUDE, BUT NOT LIMITED TO EARTH EXCAVATION, FURNISHED EXCAVATION AND FINAL GRADING AND SHAPING.

ALL EXISTING VEGETATION AND TOPSOIL SHALL BE REMOVED FROM PLANNED CONSTRUCTION AREAS PRIOR TO PLACEMENT OF FILL. TOPSOIL THICKNESS VARIES OVER THE SITE AND WILL REQUIRE REMOVAL IN FILL AREAS.

ALL TOPSOIL REMOVED PRIOR TO BULK EARTH GRADING SHALL BE SPREAD EVENLY OVER THE LOT TO MEET THE FINAL GRADE PRIOR TO CONCLUDING EARTHWORK OPERATIONS.

DEWATERING OF AREAS TO BE EXCAVATED OR FILLED SHALL BE INCIDENTAL TO THE CONTRACT AND IS THE RESPONSIBILITY OF THE CONTRACTOR.

ALL TRENCH EXCAVATION FOR ALL UTILITIES WITHIN TWO (2) FEET OF ANY PAVEMENT SURFACE SHALL BE BACKFILLED WITH 100% MSD-1 BACKFILL COMPACTED TO 95% COMPACTION.

FILL AREAS BELOW FOOTINGS SHALL BE PLACED TO 98% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D698). FILL AREAS BELOW SLABS AND PAVEMENT SHALL BE PLACED TO 95% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D698). FILL AREAS IN UNSURFACED AREAS SHALL BE PLACED TO 95% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D698).

COMPACTION TESTS ARE TO BE TAKEN IN BUILDABLE AREAS THE SITE. COMPACTION TESTS ARE REQUIRED FOR EACH FILL LIFT. NO LIFT TO EXCEED 12" IN DEPTH. ALL TESTING REPORTS SHALL BE SUBMITTED TO THE OWNER AND CONSTRUCTION INSPECTOR FOR REVIEW AND APPROVAL.

ALL EROSION CONTROL WORK SHALL BE DONE IN ACCORDANCE WITH THE PLANS.

MAXIMUM FILL SLOPES SHALL NOT EXCEED 3:1. EROSION CONTROL MEASURES SHOULD BE CONSIDERED ALONG THE FACE OF EACH SLOPE. EROSION CONTROL MEASURES TYPICALLY EMPLOYED WOULD INCLUDE SILT FENCES; DITCH CHECKS AND TIMELY SEEDING OR SODDING.

PERIMETER SILT FENCE SHALL BE INSTALLED AS DETAILED IN THE IMPROVEMENT PLANS PRIOR TO INITIAL LAND DISTURBANCE ACTIVITIES OR AS SOON AS PRACTICAL. CONTRACTOR SHALL MAINTAIN A THREE FOOT BUFFER STRIP OF EXISTING VEGETATION BETWEEN ANY DISTURBED AREA AND THE SILT FENCE AROUND THE PERIMETER OF THE SITE TO REDUCE OFF-SITE EROSION AND SEDIMENTATION.

CONTRACTOR SHALL USE STAGED CLEARING AND GRADING WHERE PRACTICAL TO REDUCE THE AMOUNT OF DISTURBED AREA TO THE ABSOLUTE MINIMUM NEEDED FOR IMMEDIATE CONSTRUCTION ACTIVITIES.

EXCEPT AS PREVENTED BY INCLEMENT WEATHER CONDITIONS, STABILIZING MEASURES, SUCH AS TEMPORARY SEEDING OR PERMANENT VEGETATION, SODDING, MULCHING, SEDIMENT BASINS, EROSION CONTROL BLANKETS, OR OTHER SPECIFIED PROTECTIVE PRACTICES SHALL BE INSTALLED ON ALL DISTURBED AREAS LEFT INACTIVE FOR SEVEN DAYS.

CONTRACTOR SHALL NOTIFY THE ENGINEER/PROJECT MANAGER OF THE INDIVIDUAL WHO IS RESPONSIBLE FOR THE ROUTINE DAILY INSPECTION/MAINTENANCE CHECKS OF ALL EROSION AND SEDIMENT CONTROL MEASURES. THE CONTRACTOR ON A DAILY BASIS SHALL CHECK ALL EROSION AND SEDIMENT CONTROL MEASURES DURING THE PERIOD OF CONSTRUCTION ACTIVITY, AND AFTER EACH STORM EVENT.

REPAIRS OR CLEANING OF EACH EROSION CONTROL DEVICE SHALL BE A REQUIRED IN ORDER TO MAINTAIN THE EFFECTIVENESS OF THE CONTROL DEVICE. ALL EROSION CONTROL DEVICES SHALL BE CLEANED WHEN ONE-HALF OF THEIR EFFECTIVE AREA IS COVERED.

ALL EROSION CONTROL AND SEDIMENTATION CONTROL MEASURES DETAILED ON THE IMPROVEMENT PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL AND MAINTAIN. THE MAINTENANCE OF THESE EROSION CONTROL AND SEDIMENTATION CONTROL MEASURES SHALL BE CONSIDERED INCIDENTAL TO THE DEVICES THEMSELVES. MAINTENANCE SHALL CONTINUE TO BE THE RESPONSIBILITY OF THE CONTRACTOR UNTIL THE OWNER TAKES OWNERSHIP OF THE IMPROVEMENTS.

AT THE COMPLETION OF CONSTRUCTION AND THE AREA STABILIZED, THE CONTRACTOR SHALL REMOVE EROSION CONTROL MEASURES NO LONGER NEEDED IN A MANNER THAT MINIMIZES SITE DISTURBANCE, AND SEED IMMEDIATELY OR COORDINATE THE TRANSFER OF MAINTENANCE RESPONSIBILITIES, AS REQUIRED WITH THE OWNER.

ALL EROSION CONTROL PRODUCTS FURNISHED SHALL BE SPECIFICALLY RECOMMENDED BY THE MANUFACTURER FOR THE USE SPECIFIED IN THE EROSION CONTROL PLAN, PRIOR TO APPROVAL AND USE OF THE PRODUCT. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A NOTARIZED CERTIFICATE BY THE PRODUCER STATING THE INTENDED USE OF THE PRODUCT AND THAT THE PHYSICAL PROPERTIES REQUIRED FOR THIS APPLICATION ARE MET OR EXCEEDED. THE CONTRACTOR SHALL PROVIDE A COPY OF THE MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES TO FACILITATE THE ENGINEER IN CONSTRUCTION INSPECTION.



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IL. PROF. LAND SURV. CORP.	048-000029
KS. PROF. ENGR. FACILITY	E-3256
MO. PROF. ENGR. CORP.	001528
MO. LAND SURVEYING CORP.	000346
TN. PROF. ENGR. FIRM	8974

SEAL

SIGNATURE: ERIC L. ALLMON
DATE SIGNED:
LICENSE EXPIRATION: 12/31/2025

ISSUED FOR PLANNING & ZONING
DATE OF ISSUANCE 05/22/2024

REV.	DATE	DESCRIPTION
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△		
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DRAWN BY: ELA
DESIGNED BY: ELA
CHECKED BY: NSG
APPROVED BY: ELA
PROJECT NO: 230952

PROJECT:

MO0401_BALLWIN
DUTCH BROTHERS COFFEE
15200 MANCHESTER ROAD

TITLE:

GENERAL NOTES

C101

WUNNENBERG MAP: 24DD-32
MSD MAP: 2352
MSD No.: 24MSD-0077



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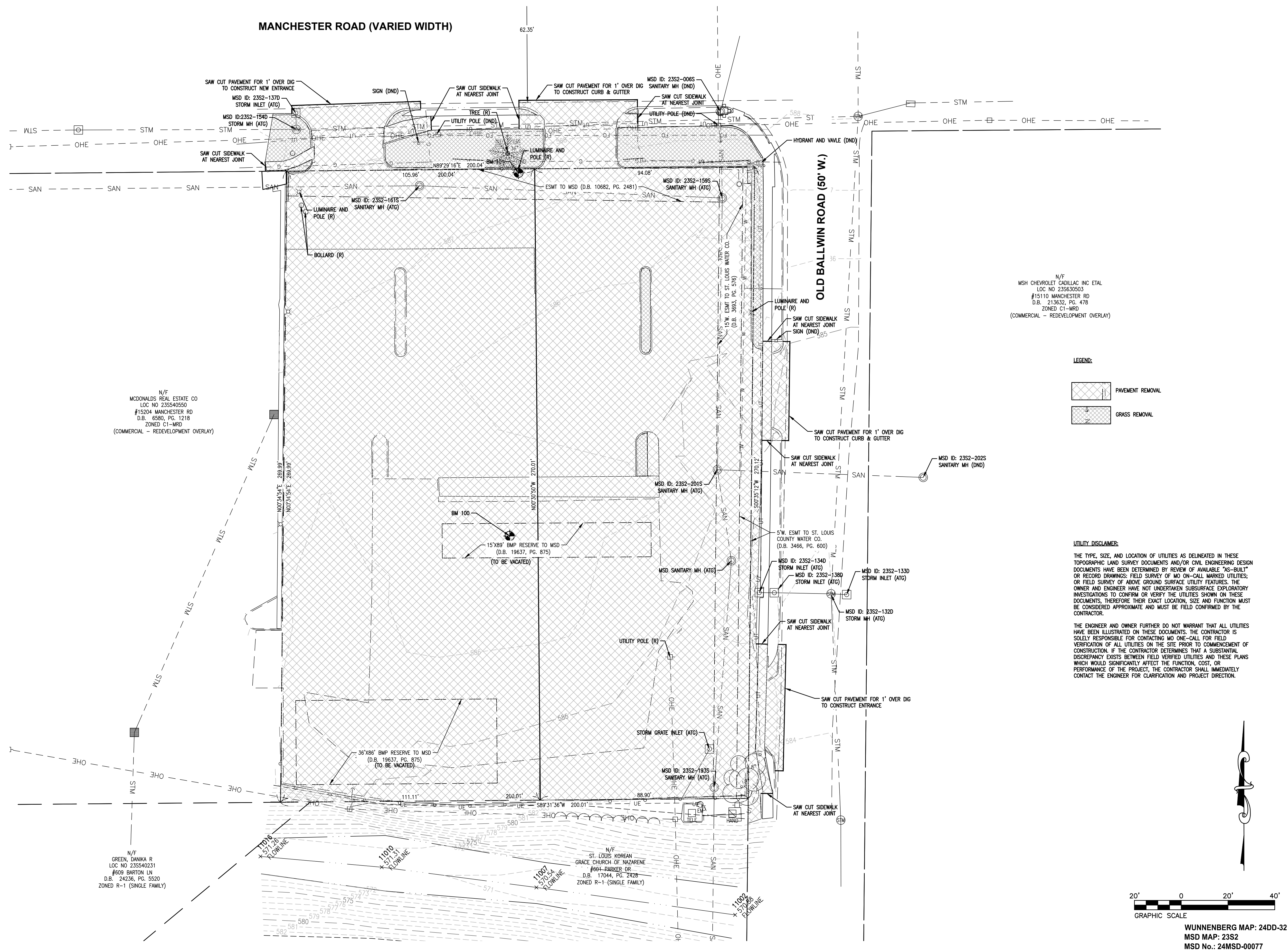
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PROJECT NO: 230952

PROJECT:
M00401_BALLWIN
DUTCH BROTHERS COFFEE
15200 MANCHESTER ROAD

TITLE:
EXISTING CONDITIONS
AND DEMO SHEET

C200



N/F
MCDONALDS REAL ESTATE CO
LOC NO 23540550
#15204 MANCHESTER RD
D.B. 6580, PG. 1218
ZONED C1-MRD
(COMMERCIAL - REDEVELOPMENT OVERLAY)

N/F
GREEN, DANIKA R
LOC NO 23540231
#609 BARTON LN
D.B. 24236, PG. 5520
ZONED R-1 (SINGLE FAMILY)

N/F
ST. LOUIS KOREAN
GRACE CHURCH OF NAZARENE
#661 PARKER DR
D.B. 17044, PG. 2428
ZONED R-1 (SINGLE FAMILY)

C:\Users\ellmon\AppData\Local\Temp\AcPublish_3504\C200_EXISTING_CONDITIONS.dwg Plotted By: ellmon



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CHECKED BY: NSG
APPROVED BY: ELA
PROJECT NO: 230952

PROJECT:
M00401_BALLWIN
DUTCH BROTHERS COFFEE
15200 MANCHESTER ROAD

TITLE:
SITE IMPROVEMENT PLAN

C300

BENCHMARK #100 N: 1004501.860 E: 805002.306 ELEV=586.74
BENCHMARK #101 N: 1004657.213 E: 805006.060 ELEV=588.93

UTILITY DISCLAIMER:

THE TYPE, SIZE, AND LOCATION OF UTILITIES AS DELINEATED IN THESE TOPOGRAPHIC LAND SURVEY DOCUMENTS AND/OR CIVIL ENGINEERING DESIGN DOCUMENTS HAVE BEEN DETERMINED BY REVIEW OF AVAILABLE "AS-BUILT" OR RECORD DRAWINGS; FIELD SURVEY OF MO ON-CALL MARKED UTILITIES; OR FIELD SURVEY OF ABOVE GROUND SURFACE UTILITY FEATURES. THE OWNER AND ENGINEER HAVE NOT UNDERTAKEN SUBSURFACE EXPLORATORY INVESTIGATIONS TO CONFIRM OR VERIFY THE UTILITIES SHOWN ON THESE DOCUMENTS, THEREFORE THEIR EXACT LOCATION, SIZE AND FUNCTION MUST BE CONSIDERED APPROXIMATE AND MUST BE FIELD CONFIRMED BY THE CONTRACTOR.

THE ENGINEER AND OWNER FURTHER DO NOT WARRANT THAT ALL UTILITIES HAVE BEEN ILLUSTRATED ON THESE DOCUMENTS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONTACTING MO ONE-CALL FOR FIELD VERIFICATION OF ALL UTILITIES ON THE SITE PRIOR TO COMMENCEMENT OF CONSTRUCTION. IF THE CONTRACTOR DETERMINES THAT A SUBSTANTIAL DISCREPANCY EXISTS BETWEEN FIELD VERIFIED UTILITIES AND THESE PLANS WHICH WOULD SIGNIFICANTLY AFFECT THE FUNCTION, COST, OR PERFORMANCE OF THE PROJECT, THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE ENGINEER FOR CLARIFICATION AND PROJECT DIRECTION.

GENERAL NOTES:

- SEE ARCHITECTURAL PLANS FOR STRUCTURAL DESIGN OF BUILDING, TRASH ENCLOSURE, AND SIGN.
- ALL WALKWAYS ARE TO BE CONSTRUCTED TO CURRENT ADAAG STANDARDS.
- ALL DIMENSIONS ARE SHOWN TO FACE OF CURB UNLESS OTHERWISE NOTED.

KEYED NOTES:

- 2.5' CURB AND GUTTER
- BARRIER CURB
- TRANSITION CURB (SEE GRADING PLAN)
- 6' CONCRETE SIDEWALK
- CONCRETE SIDEWALK WITH TURNDOWN CURB
- VAN ACCESSIBLE ADA SPACE AND SIGN (SEE DETAILS)
- DUMPSTER ENCLOSURE (SEE ARCHITECTURAL PLANS FOR DETAILS)
- MONUMENT SIGN - TO BE PERMITTED SEPARATELY
- POLE MOUNTED LUMINAIRE - SEE LIGHTING DIAGRAM
- DIRECTIONAL SIGN - TO BE PERMITTED SEPARATELY
- MENU SIGN - TO BE PERMITTED SEPARATELY
- 6' VINYL SITE PROOF FENCE
- METAL ORNAMENTAL FENCE

SITE CALCULATIONS / NOTES

BUILDING S.F.	950 S.F. BUILDING TOTAL
PARKING REQUIRED	1 PER 200 S.F.
PARKING PROVIDED	5 SPACES REQUIRED
	5 INCLUDING 1 ADA SPACE
	ALL SPACES ARE 10' X 20'

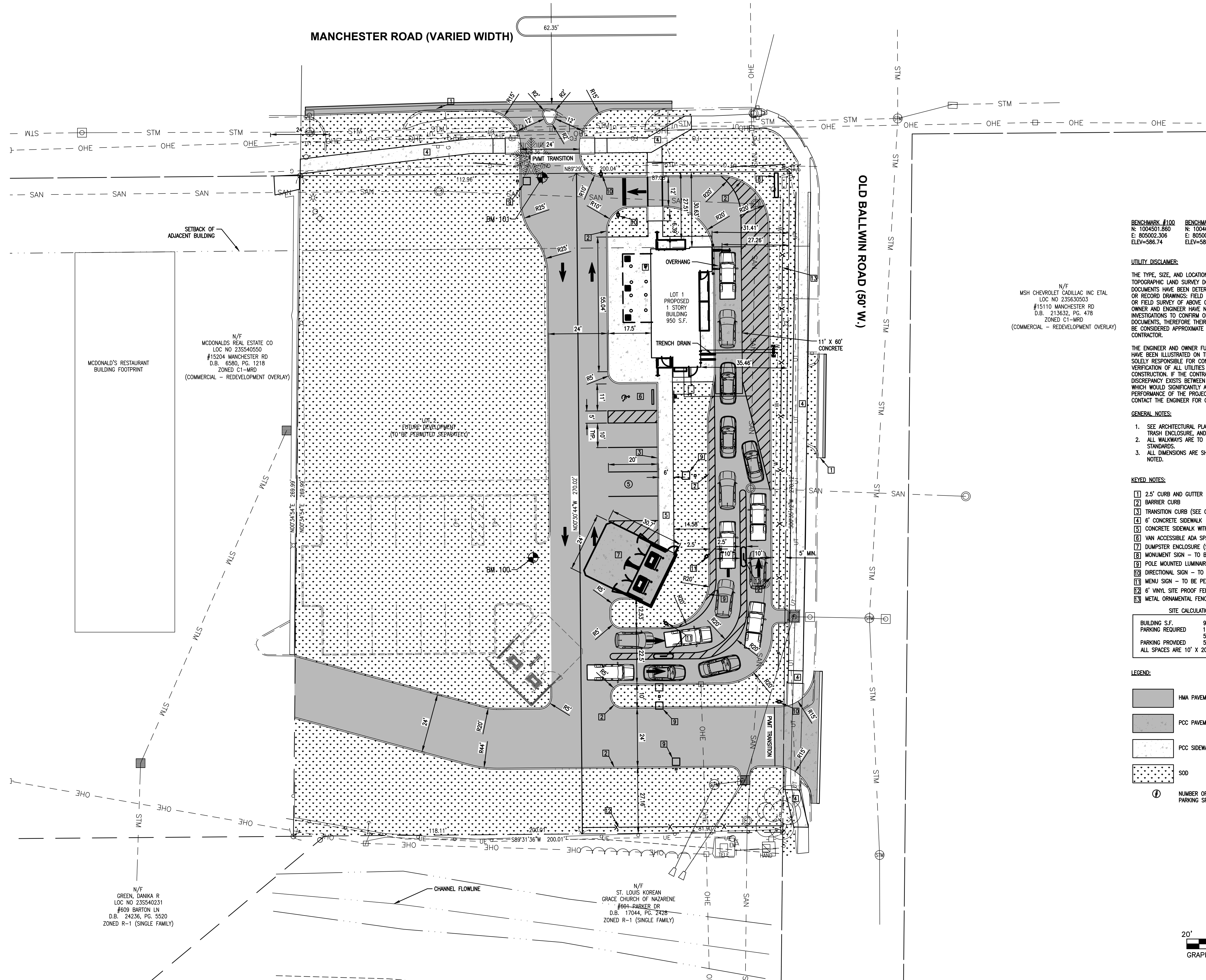
LEGEND:

- HMA PAVEMENT
- PCC PAVEMENT
- PCC SIDEWALK
- SOD

① NUMBER OF PARKING SPACES



WUNNENBERG MAP: 24DD-32
MSD MAP: 23S2
MSD No.: 24MSD-0077



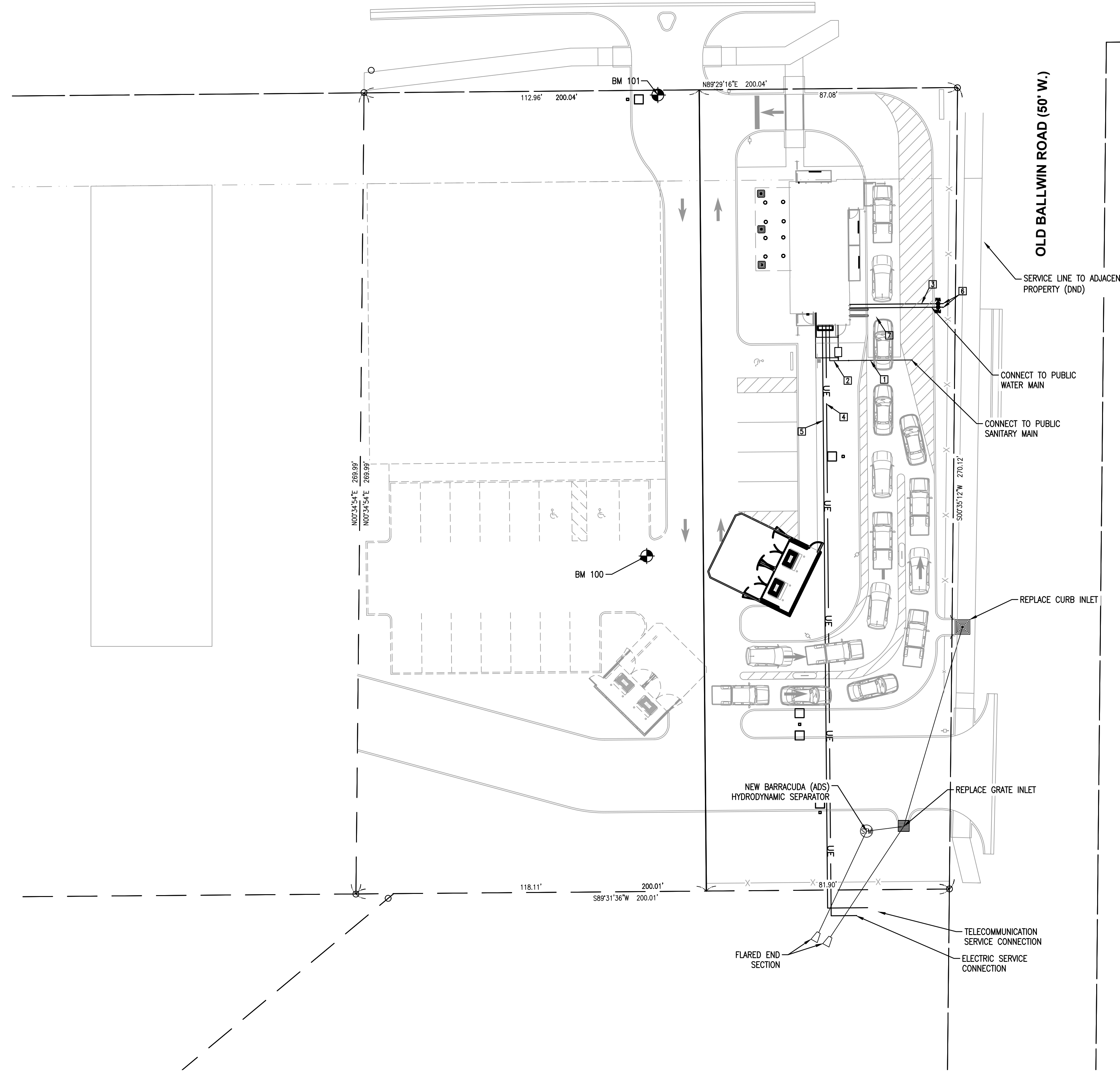
N/F MCDONALDS REAL ESTATE CO
LOC NO 235540550
#15204 MANCHESTER RD
D.B. 6580, PG. 1218
ZONED C1-MRD
(COMMERCIAL - REDEVELOPMENT OVERLAY)

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LOC NO 235540231
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D.B. 24236, PG. 5520
ZONED R-1 (SINGLE FAMILY)

N/F ST. LOUIS KOREAN
GRACE CHURCH OF NAZARENE
#604 PARKER DR
D.B. 17044, PG. 2428
ZONED R-1 (SINGLE FAMILY)

MANCHESTER ROAD (VARIED WIDTH)

OLD BALLWIN ROAD (50' W.)



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KEYED NOTES:

- 1 6" SANITARY LATERAL POLYVINYL CHLORIDE (PVC) PIPE
- 2 SANITARY LATERAL CLEANOUT
- 3 1 1/2" DOMESTIC WATER SERVICE LINE
- 4 ELECTRIC SERVICE CONNECTION
- 5 TELECOMMUNICATION SERVICE CONNECTION
- 6 1" WATER METER
- 7 1" IRRIGATION WATER SERVICE LINE



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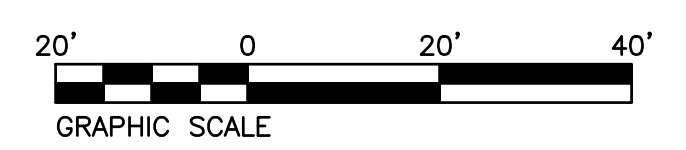
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DRAWN BY: ELA
DESIGNED BY: ELA
CHECKED BY: NSG
APPROVED BY: ELA
PROJECT NO: 230952

PROJECT:
MO0401_BALLWIN
DUTCH BROTHERS COFFEE
15200 MANCHESTER ROAD

TITLE:
UTILITY PLAN

C400



WUNNENBERG MAP: 24DD-32
MSD MAP: 23S2
MSD No.: 24MSD-0077



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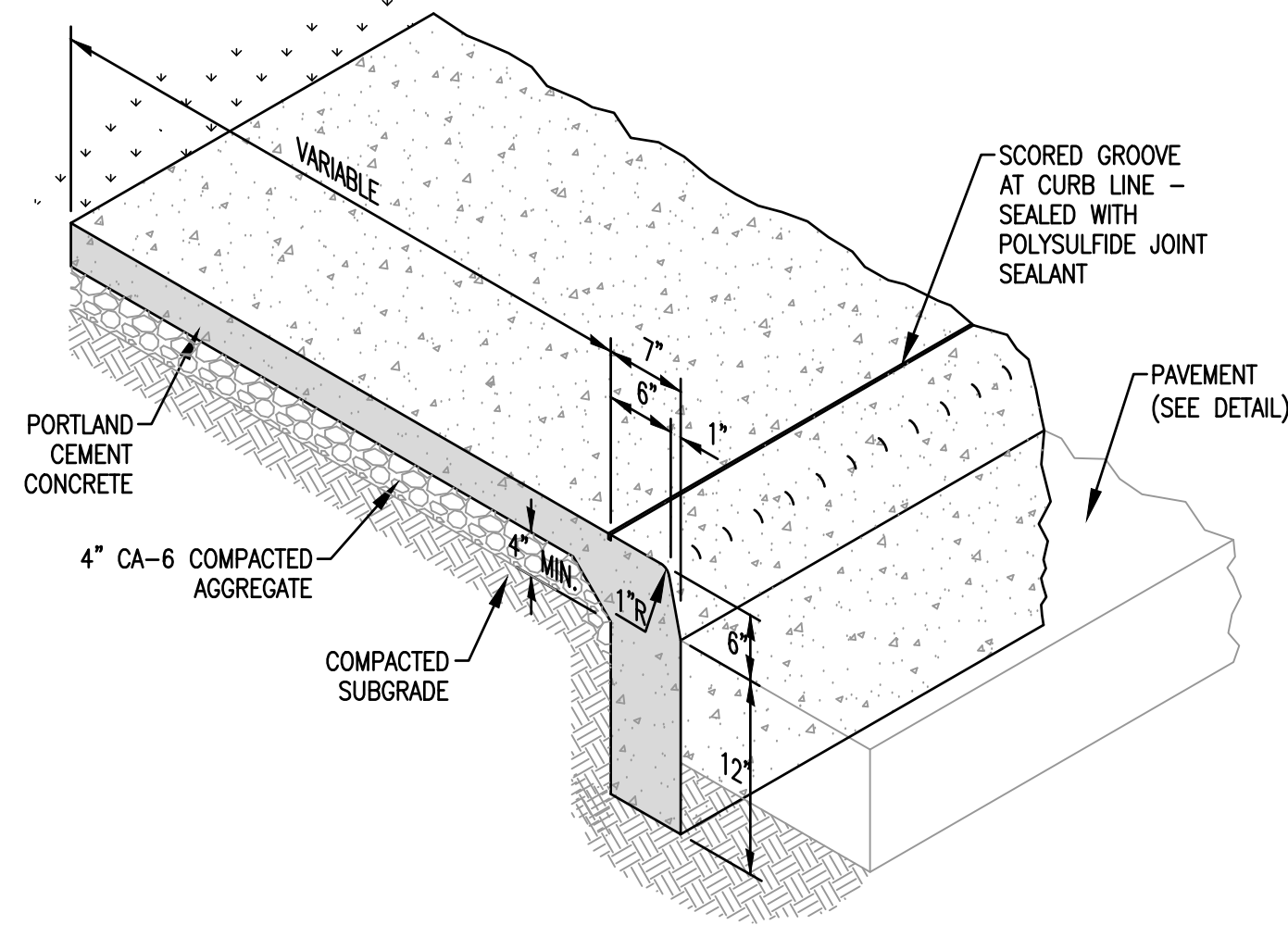
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PROJECT NO: 230952

PROJECT:
MO0401_BALLWIN
DUTCH BROTHERS COFFEE
15200 MANCHESTER ROAD

TITLE:
**PAVEMENT DETAILS
SHEET 1 OF 2**

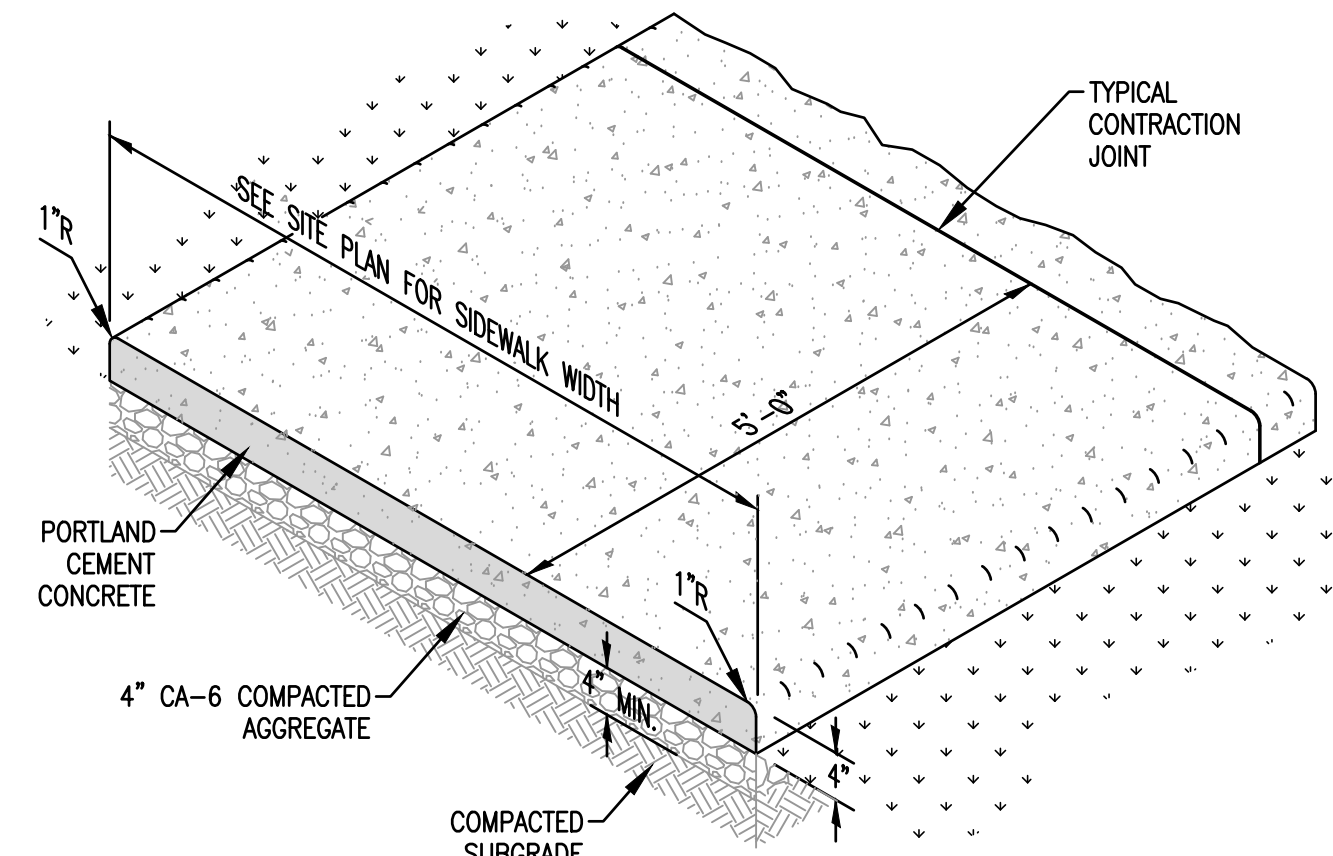
C700



NOTE:

PROVIDE CONTROL JOINTS @ 5'-0" INTERVALS AND EXPANSION JOINTS @ 50'-0" INTERVALS.
USE 3/4" PREMOULDED JOINT FILLER AT ANY SIDEWALK AND BUILDING INTERFACE.

**CONCRETE SIDEWALK (UNREINFORCED)
WITH TURNDOWN CURB**



PORTLAND CEMENT CONCRETE SHALL HAVE A MINIMUM OF 3,500 psi COMPRESSIVE STRENGTH AT 28 DAYS.
SUBGRADE SHALL BE THOROUGHLY COMPACTED TO 95% OS ASTM D-698 MAXIMUM DENSITY AT THE PROPER LINE AND GRADE PRIOR TO PLACEMENT OF THE CONCRETE.
SUBGRADE SHALL BE MOISTENED JUST BEFORE THE CONCRETE IS TO BE PLACED.

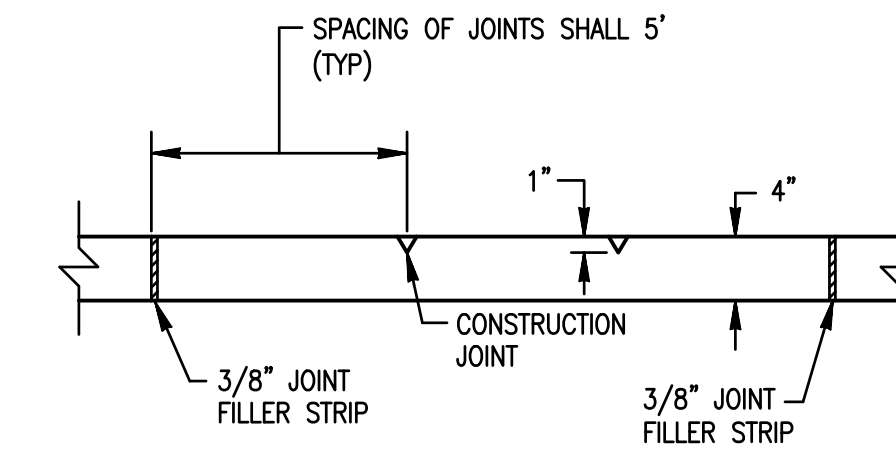
CONTRACTION JOINTS SHALL BE PLACED AT RIGHT ANGLES TO THE CENTERLINE OF THE SIDEWALK AT FIVE (5) FOOT INTERVALS AND SHALL HAVE A DEPTH 1/8" MIN. TO 1/4" MAX. THESE JOINTS SHALL BE EDGED WITH AN EDGING TOOL HAVING A 1/4" RADIUS. SIDEWALKS WIDER THAN 10 FEET AND GREATER SHALL HAVE A CONTRACTION JOINT AT EVERY 5 FOOT INTERVAL.

THE FINAL SURFACE OF THE SIDEWALK SHALL BE BRUSHED WITH A WHITWASH BRUSH AT RIGHT ANGLES TO THE SURFACE PRODUCING A SLIGHTLY ROUGHENED SURFACE WITH PARALLEL BRUSH MARKS.

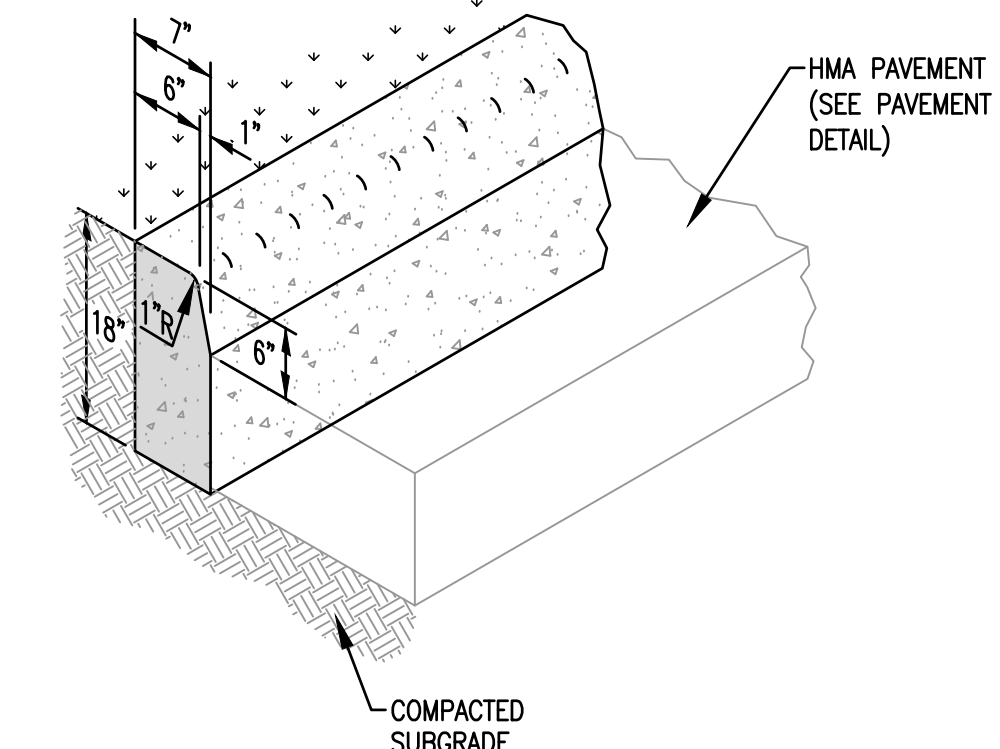
1/2" EXPANSION JOINTS SHALL BE PLACED BETWEEN THE SIDEWALK AND ALL STRUCTURES INCLUDING LIGHT STANDARDS, TRAFFIC LIGHT STANDARDS, POWER POLES, ETC.

3/4" EXPANSION JOINTS SHALL BE PLACED AT INTERVALS OF NOT MORE THAN 100 FEET. IF THE SIDEWALK IS ADJACENT TO PAVEMENT, THESE JOINTS SHALL MATCH THE PAVEMENT JOINTING PATTERN. EXPANSION JOINTS SHOULD ALSO BE PROVIDED BETWEEN DRIVEWAY PAVEMENT AND SIDEWALK, AND BETWEEN ACCESSIBILITY RAMPS AND CURBS.

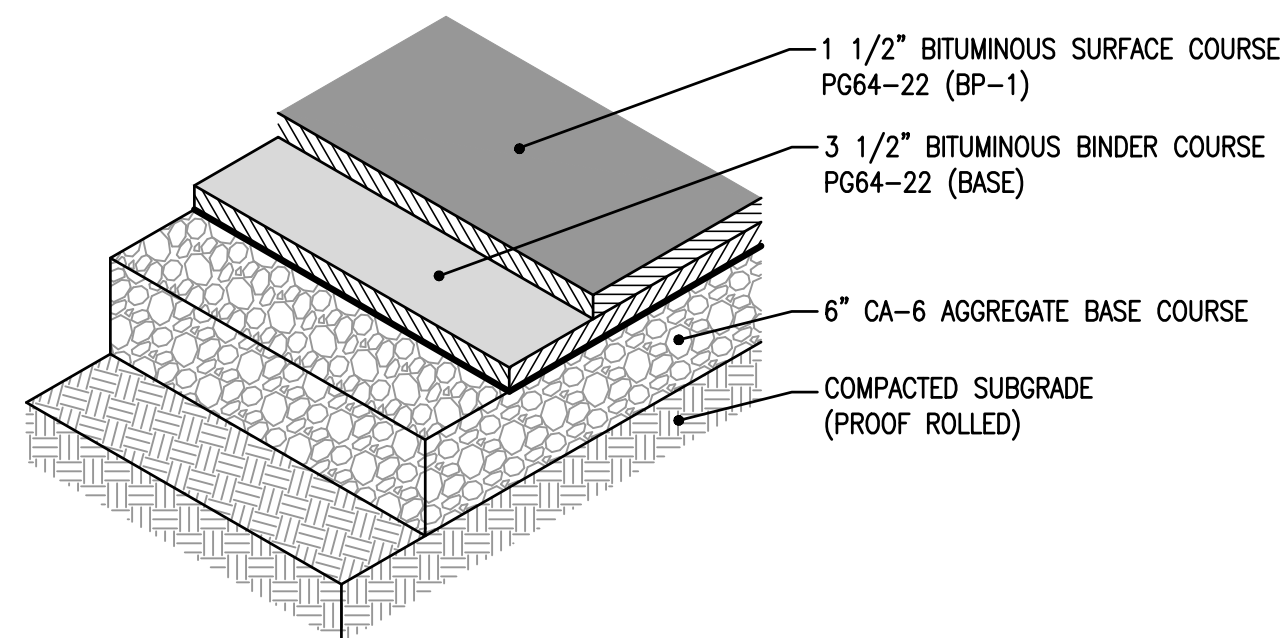
CONCRETE SIDEWALK (UNREINFORCED)



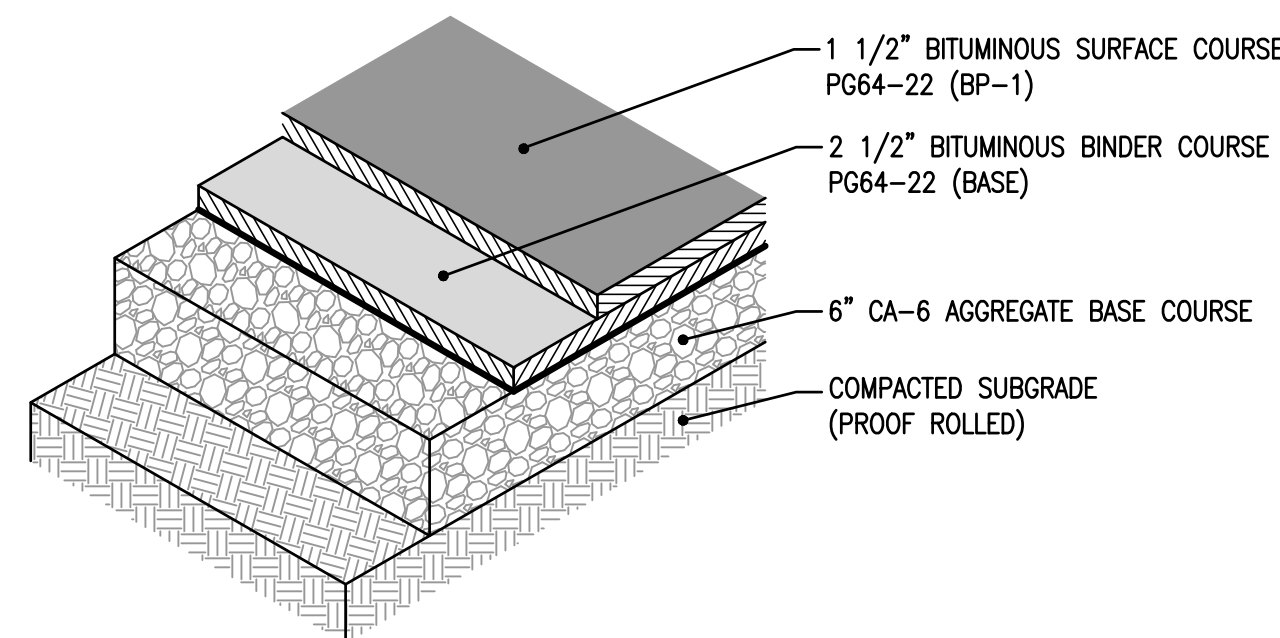
SIDEWALK JOINT DETAIL



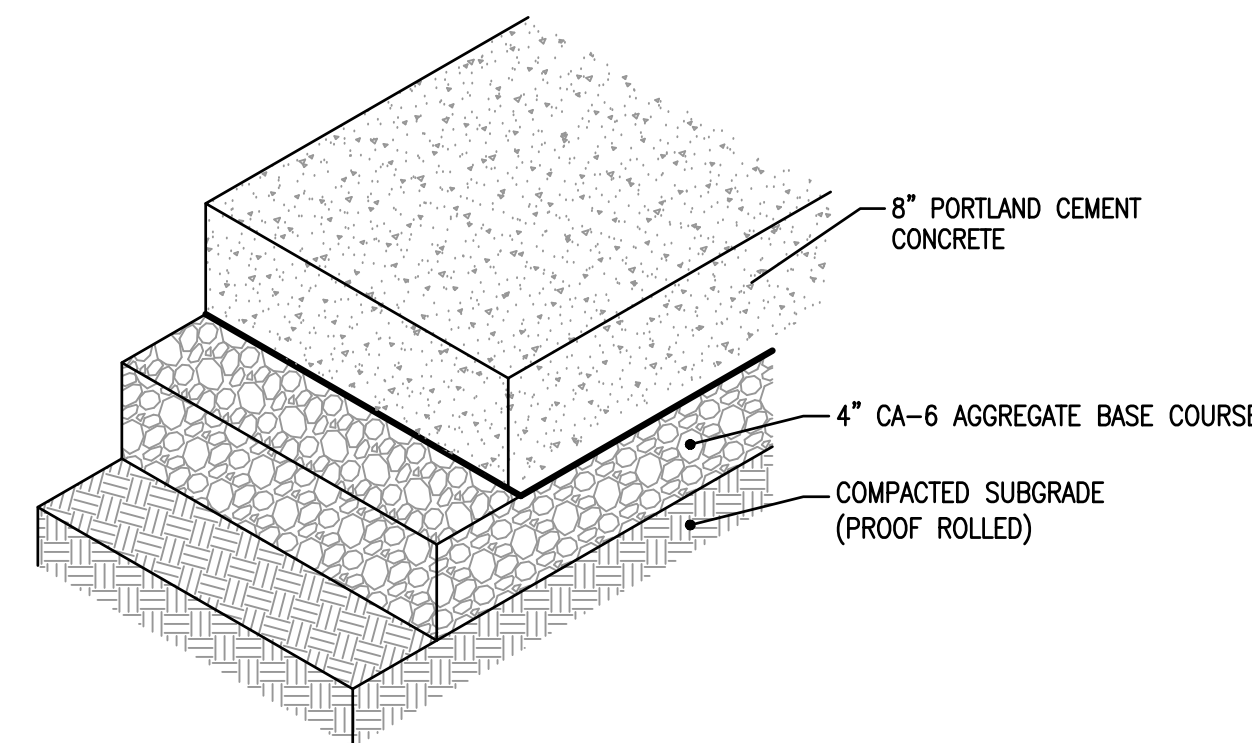
**BARRIER CURB ADJACENT TO
HMA PAVEMENT**



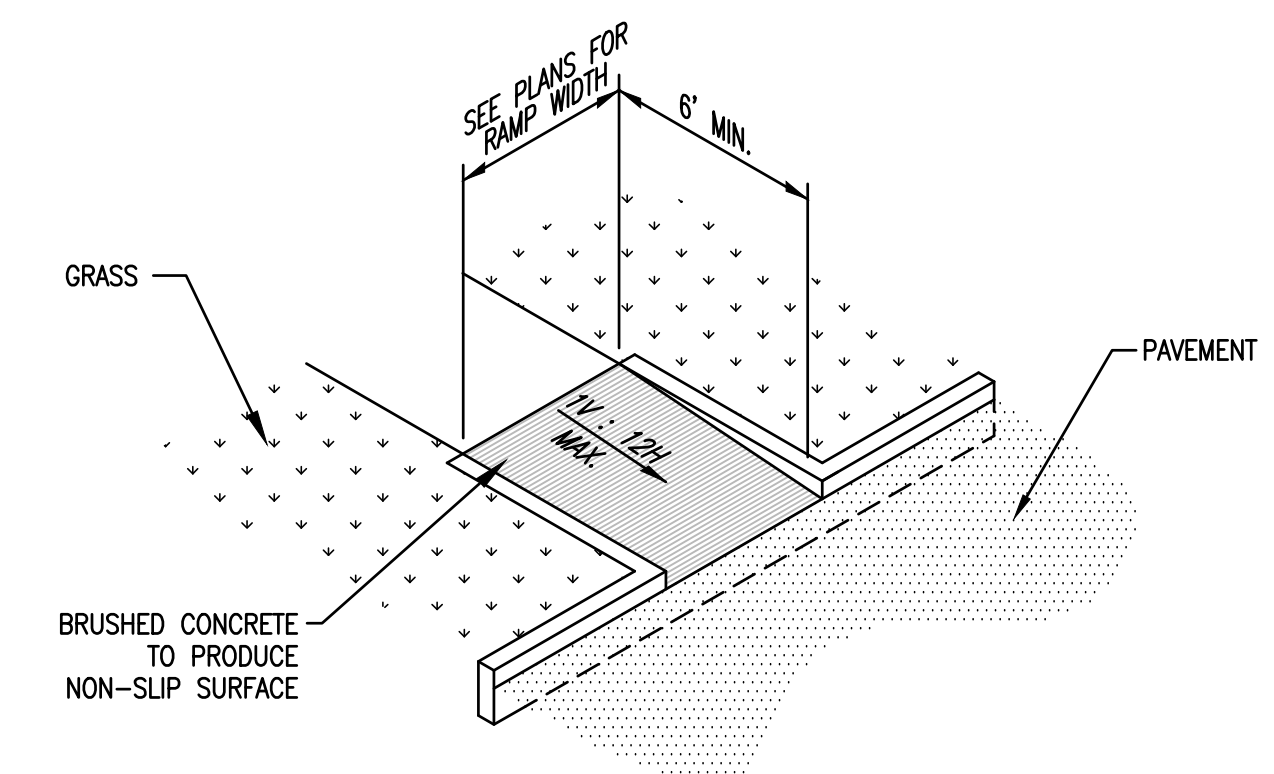
**STANDARD HMA PAVEMENT
DRIVE AISLES**



**STANDARD HMA PAVEMENT
PARKING AREAS**



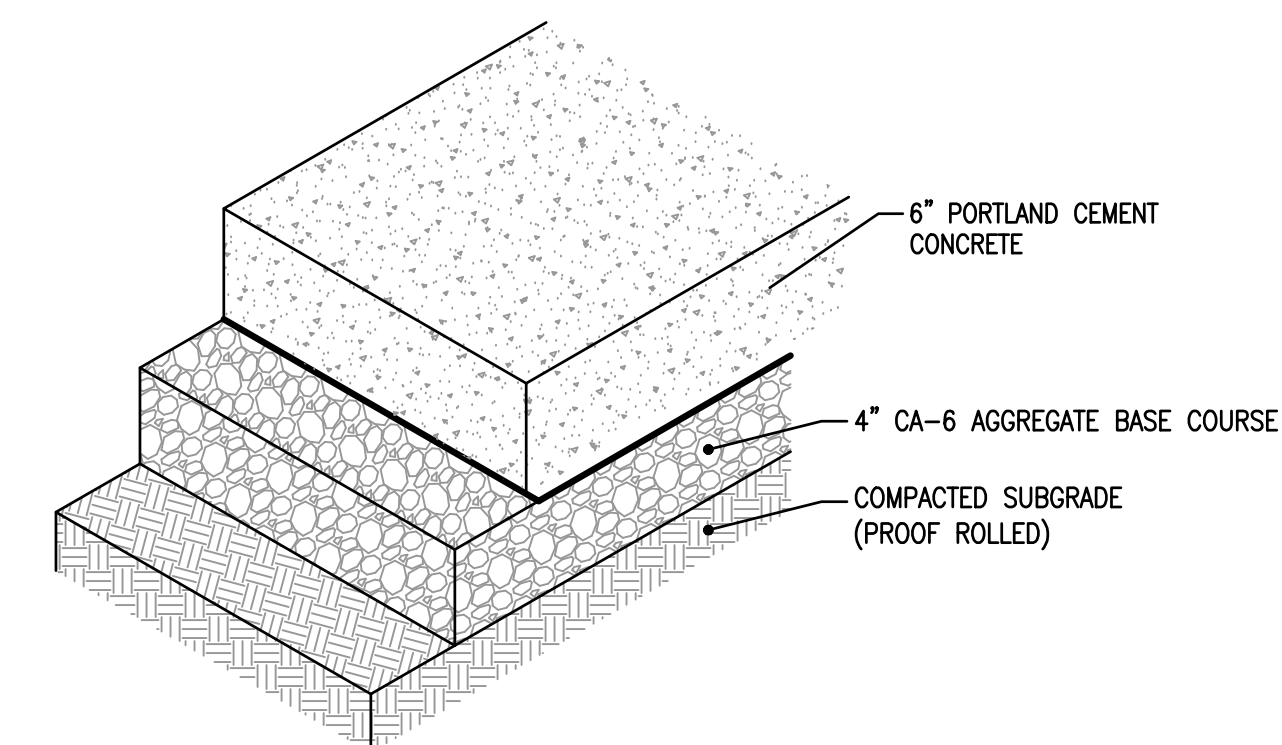
**PCC PAVEMENT
(DUMPSTER PAD)**



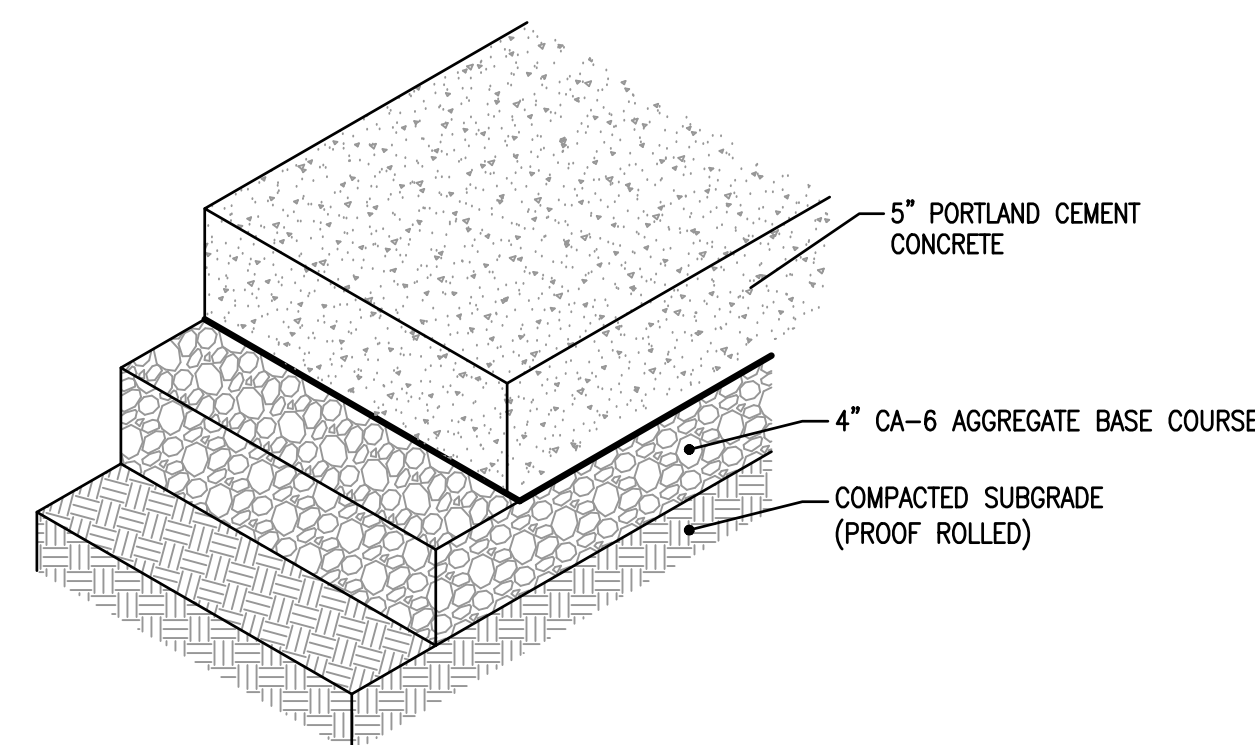
NOTES:

- DETECTABLE WARNINGS SHALL BE INSTALLED AT CURB RAMPS, MEDIANS, AND PEDESTRIAN REFUGE ISLANDS, AT GRADE RAILROAD CROSSINGS, TRANSIT PLATFORM EDGES, AND OTHER LOCATIONS WHERE PEDESTRIANS ARE REQUIRED TO CROSS A HAZARDOUS VEHICULAR WAY. DETECTABLE WARNINGS SHALL ALSO BE INSTALLED AT ALLEYS AND COMMERCIAL ENTRANCES WHEN PERMANENT TRAFFIC CONTROLS ARE PRESENT.
- ALL RAMP MATERIALS, INSTALLATION, AND WORKMANSHIP SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT.

ACCESSIBLE RAMP

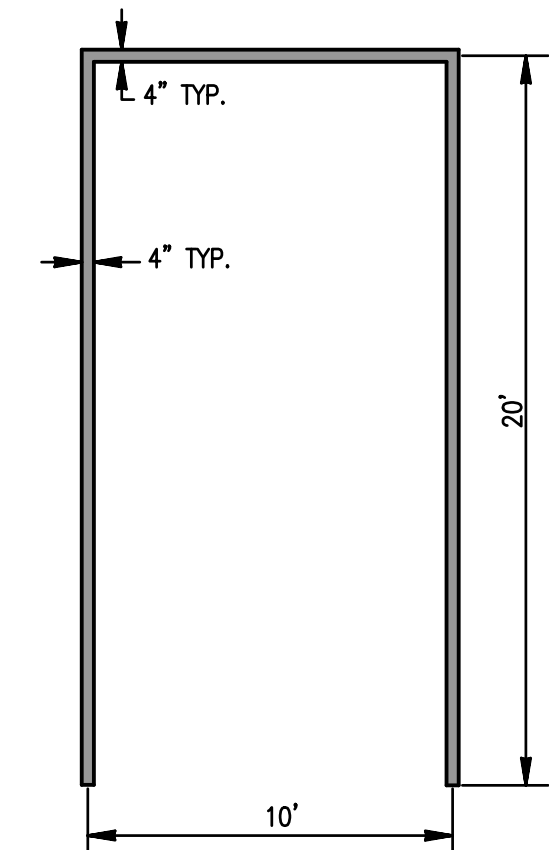


**PCC PAVEMENT
DRIVE AISLES (ALTERATE)**



**PCC PAVEMENT
PARKING AREAS (ALTERNATE)**

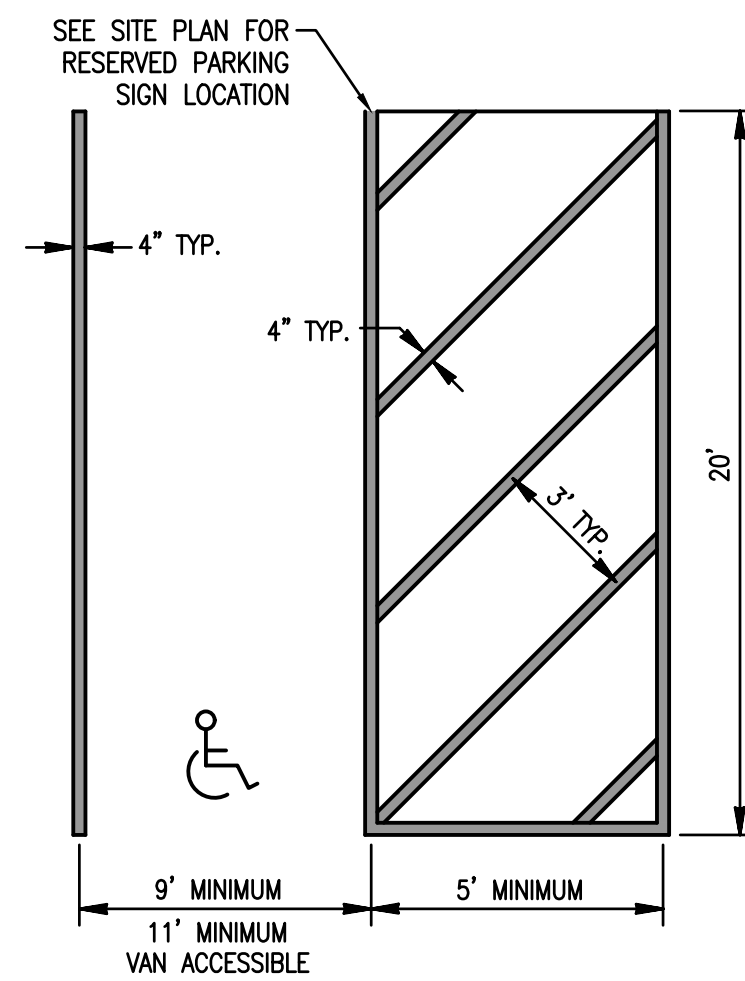
WUNNENBERG MAP: 24DD-32
MSD MAP: 23S2
MSD No.: 24MSD-0077



NOTE:
PAVEMENT MARKING TO BE PAINTED WITH YELLOW
PAVEMENT MARKING PAINT ACCORDING TO MUTCD.

ALL SURFACES TO BE PAINTED SHALL BE CLEAN AND
AIR BLASTED PRIOR TO PAINTING.

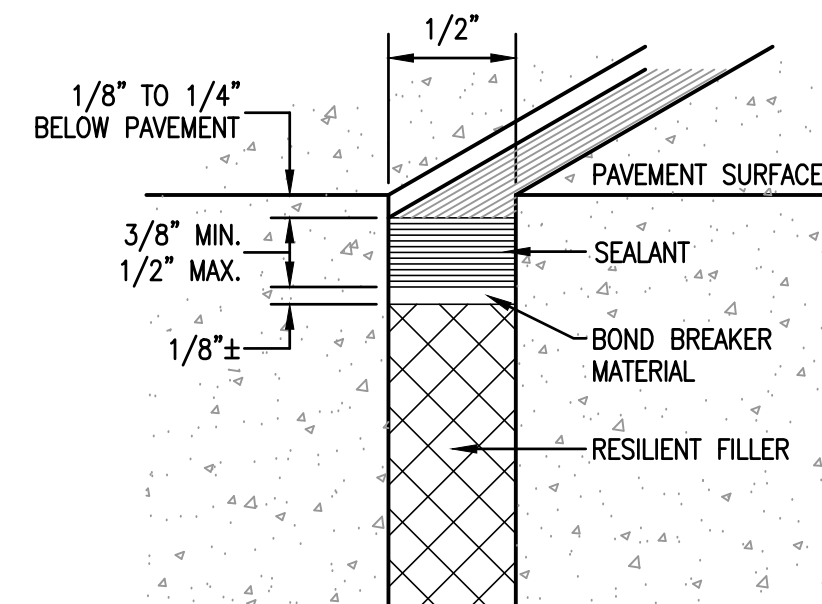
**TYPICAL PARKING SPACE
PAVEMENT MARKING**



ACCESSIBLE PARKING SYMBOL TO BE PAINTED WITH YELLOW
PAVEMENT MARKING PAINT ACCORDING TO THE MUTCD.

ALL SURFACES TO BE PAINTED SHALL BE CLEAN AND AIR
BLASTED PRIOR TO BEING PAINTED.

**ACCESSIBLE PARKING SPACE
PAVEMENT MARKING**

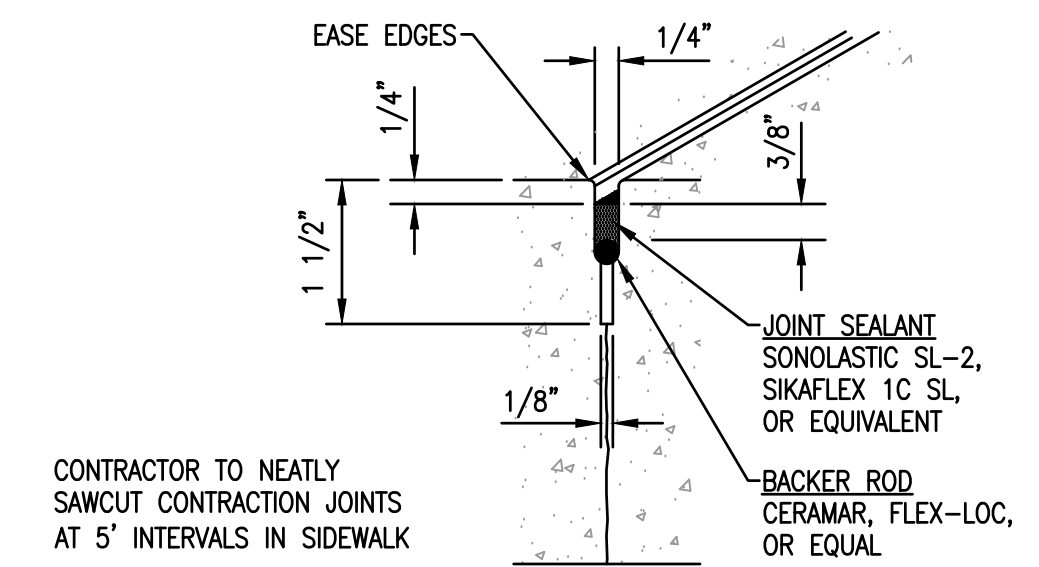


CONTRACTOR TO NEATLY
SAWCUT EXPANSION JOINTS AT
15' INTERVALS IN SIDEWALK

**EXPANSION / ISOLATION JOINT
SEALANT DETAIL**

NOTE:

USE 3/4" PREMOULDED JOINT FILLER AT ANY SIDEWALK AND BUILDING INTERFACE.



CONTRACTOR TO NEATLY
SAWCUT CONTRACTION JOINTS
AT 5' INTERVALS IN SIDEWALK

CONTRACTION JOINT SEALANT DETAIL



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TENNESSEE NASHVILLE
CHATTANOOGA
ATHENS

**THOUVENOT, WADE
& MOERCHEN, INC.**

WWW.TWM-INC.COM

PROF. LICENSE	NUMBER
IL. PROF. DESIGN FIRM	184-001220
IL. PROF. ENGR. CORP.	62-035370
IL. PROF. STR. ENGR. CORP.	81-005202
IL. PROF. LAND SURV. CORP.	048-000029
KS. PROF. ENGR. FACILITY	E-3256
MO. PROF. ENGR. CORP.	001528
MO. LAND SURVEYING CORP.	000346
TN. PROF. ENGR. FIRM	8974

SEAL

SIGNATURE: ERIC L. ALLMON
DATE SIGNED:
LICENSE EXPIRATION: 12/31/2025

ISSUED FOR PLANNING & ZONING
DATE OF ISSUANCE 05/22/2024

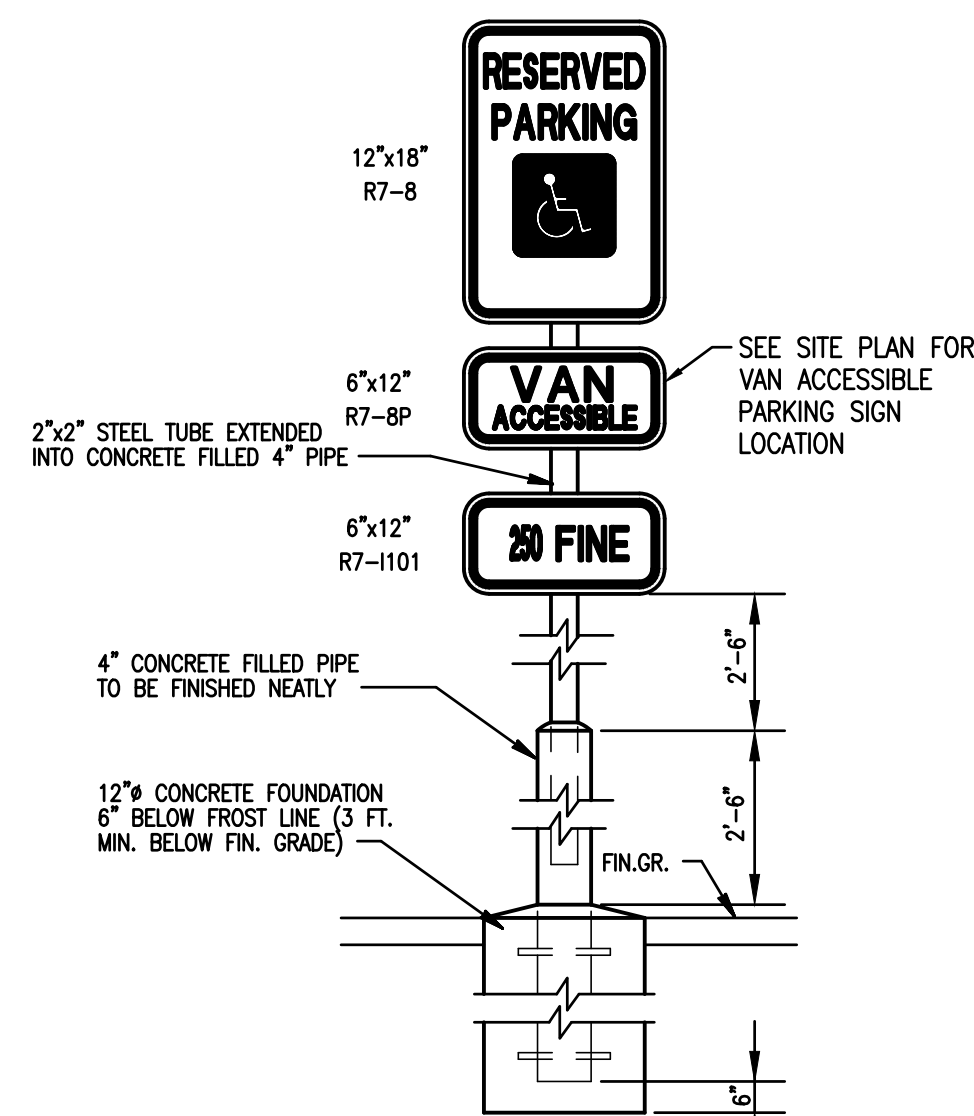
REV.	DATE	DESCRIPTION
△		
△		
△		
△		

DRAWN BY: ELA
DESIGNED BY: ELA
CHECKED BY: NSG
APPROVED BY: ELA
PROJECT NO: 230952

PROJECT:
MO0401_BALLWIN
DUTCH BROTHERS COFFEE
15200 MANCHESTER ROAD

TITLE:
**PAVEMENT DETAILS
SHEET 2 OF 2**

C701



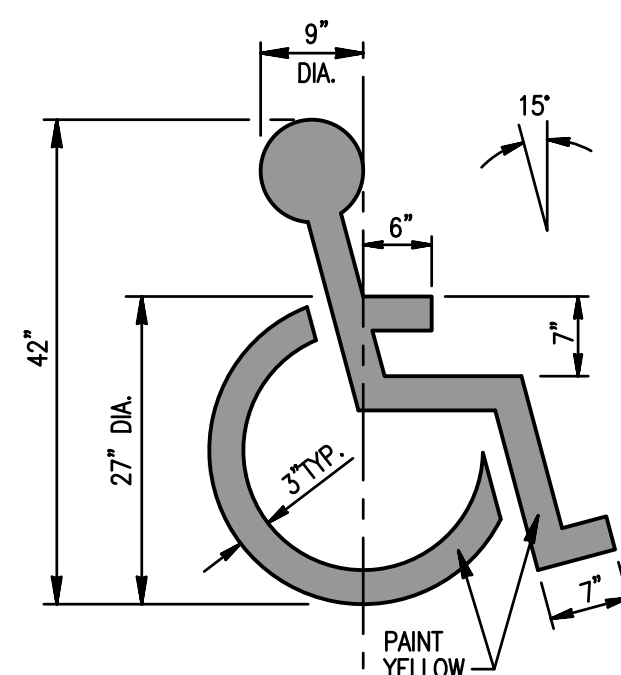
ADA ACCESSIBLE SIGNS AND POSTS TO CONFORM WITH U.S.
DEPARTMENT OF TRANSPORTATION MANUAL ON UNIFORM TRAFFIC
CONTROL DEVICES.

STANDARD ADA ACCESSIBLE PARKING SIGN TO BE MOUNTED ON
PAINTED GALVANIZED STEEL POST; 10'-0" IN LENGTH. BOTTOM
OF SIGN TO BE 5'-0" ABOVE GRADE.

CONTRACTOR TO PLACE SIGN IN THE CENTER OF THE COMBINED
PARKING SPACE AND ACCESS AISLE MIN. ONE FOOT FROM
CURB.

R7-BP SIGN SHALL ONLY BE INCLUDE ON VAN ACCESSIBLE
PARKING SPOT. SHEET PLAN SHEET FOR LOCATION.

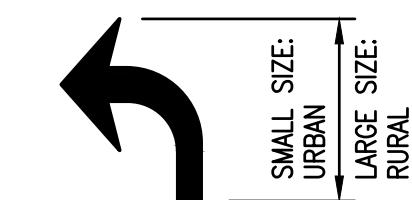
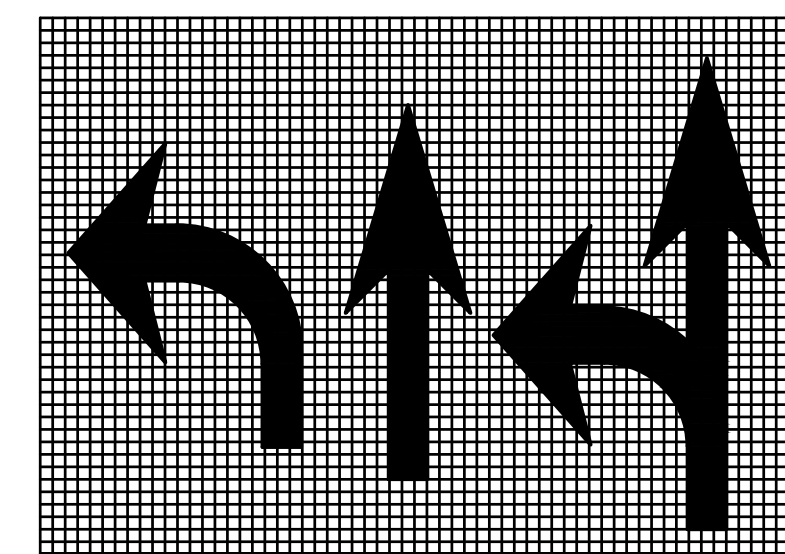
ACCESSIBLE SIGN WITH POST



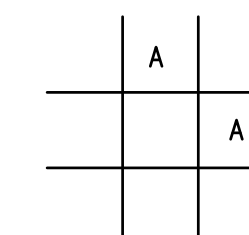
ACCESSIBLE PARKING SYMBOL TO BE PAINTED WITH YELLOW
PAVEMENT MARKING PAINT ACCORDING TO THE MUTCD.

PAINTED ACCESSIBLE SYMBOL TO BE PLACED IN LOCATIONS AS
DETAILED ON THE SITE PLAN.

**ACCESSIBLE PARKING SYMBOL
PAVEMENT MARKING**



WORD AND ARROW LAYOUT



LEGEND HEIGHT	ARROW SIZE	A
6'	SMALL	2.9"
8'	LARGE	3.8"

THE SPACE BETWEEN ADJACENT LETTERS OR
NUMERALS SHOULD BE APPROXIMATELY 3" FOR
6' LEGEND AND 4" FOR 8' LEGEND.

LETTER AND ARROW GRID SCALE

PAINTED DIRECTIONAL ARROWS AND TEXT

WUNNENBERG MAP: 24DD-32
MSD MAP: 23S2
MSD No.: 24MSD-0077