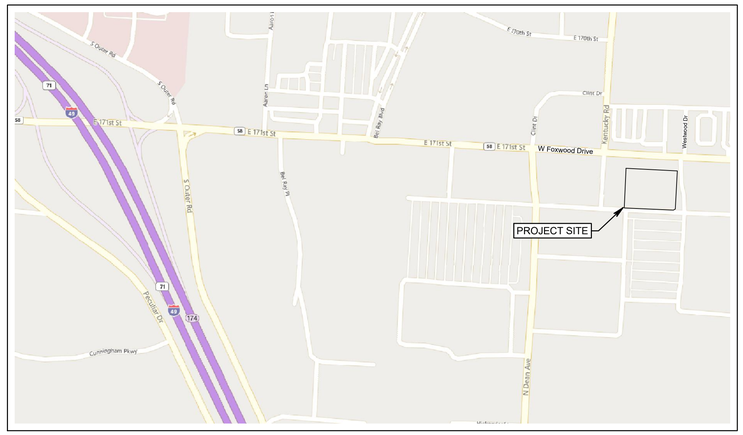
WHATABURGER

1921 W FOXWOOD DRIVE
(MO HIGHWAY 58 AND WESTGATE DRIVE)
RAYMORE, MO 64083



VICINITY MAP
N.T.S.

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OWNER

WHATABURGER
300 CONCORD PLAZA DR.
SAN ANTONIO, TX 78216
PHONE: (210) 476-6000
CONTACT: ALYSSIA LESTER
EMAIL: alester@wbhq.com

ENGINEER

ms consultants, inc.
2221 SCHROCK ROAD
COLUMBUS, OHIO 43229
PHONE: (614) 898-7100
CONTACT: PHIL KARANOVICH
EMAIL: pkaranovich@msconsultants.com

BENCHMARK

TBM:

PK NAIL SET - ELEVATION = 1093.24
PK NAIL SET - ELEVATION = 1092.26

BASIS OF BEARINGS:
MO (W) STATE PLANE COORDINATE SYSTEM SPC
(2403 MO W)

SURVEYOR

YOUNG - HOBBS AND ASSOCIATES
1202 CROSSLAND AVE.
CLARKSVILLE, TN 37040
PHONE: (931) 645-2524
CONTACT: DAVE R. HOBBS PLS

GEOTECHNICAL ENGINEER

TERRACON CONSULTANTS, INC.
15620 W. 113th STREET
LENEXA, KANSAS 66219
PHONE: (913) 492-7777
CONTACT: KOLE C. BERG, P.E.

FLOOD INFORMATION

THIS PROPERTY IS LOCATED WITHIN AN AREA HAVING ZONE DESIGNATIONS OF "X" BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, ON FLOOD INSURANCE RATE MAP NO.29037C0036F, WITH A MAP REVISED DATE OF JANUARY 2, 2013, IN CASS COUNTY, STATE OF MISSOURI, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PROPERTY IS SITUATED."

MISSOURI ONE CALL SYSTEM
1-800-DIG-RITE or 811
MAKE THE CALL . . . IT'S THE LAW

REVISION/DATE/DESCRIPTION

CITY REVIEW 08/06/2021

ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

PROJECT

PROPOSED PT20M BUILDING TYPE

1921 W FOXWOOD DR.
(MO-58 AND
WESTGATE DRIVE)
RAYMORE, MO

SHEET TITLE

COVER SHEET

NOT FOR CONSTRUCTION

DRAWN BY: DCS
CHECKED BY: PJK
PROJECT NO: 40497-10

DRAWING

C-1

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

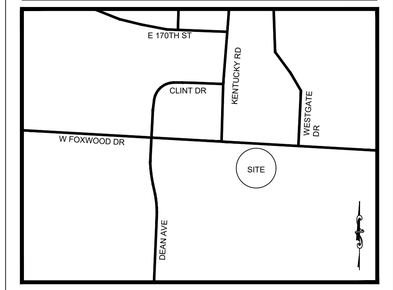
SITE ADDRESS

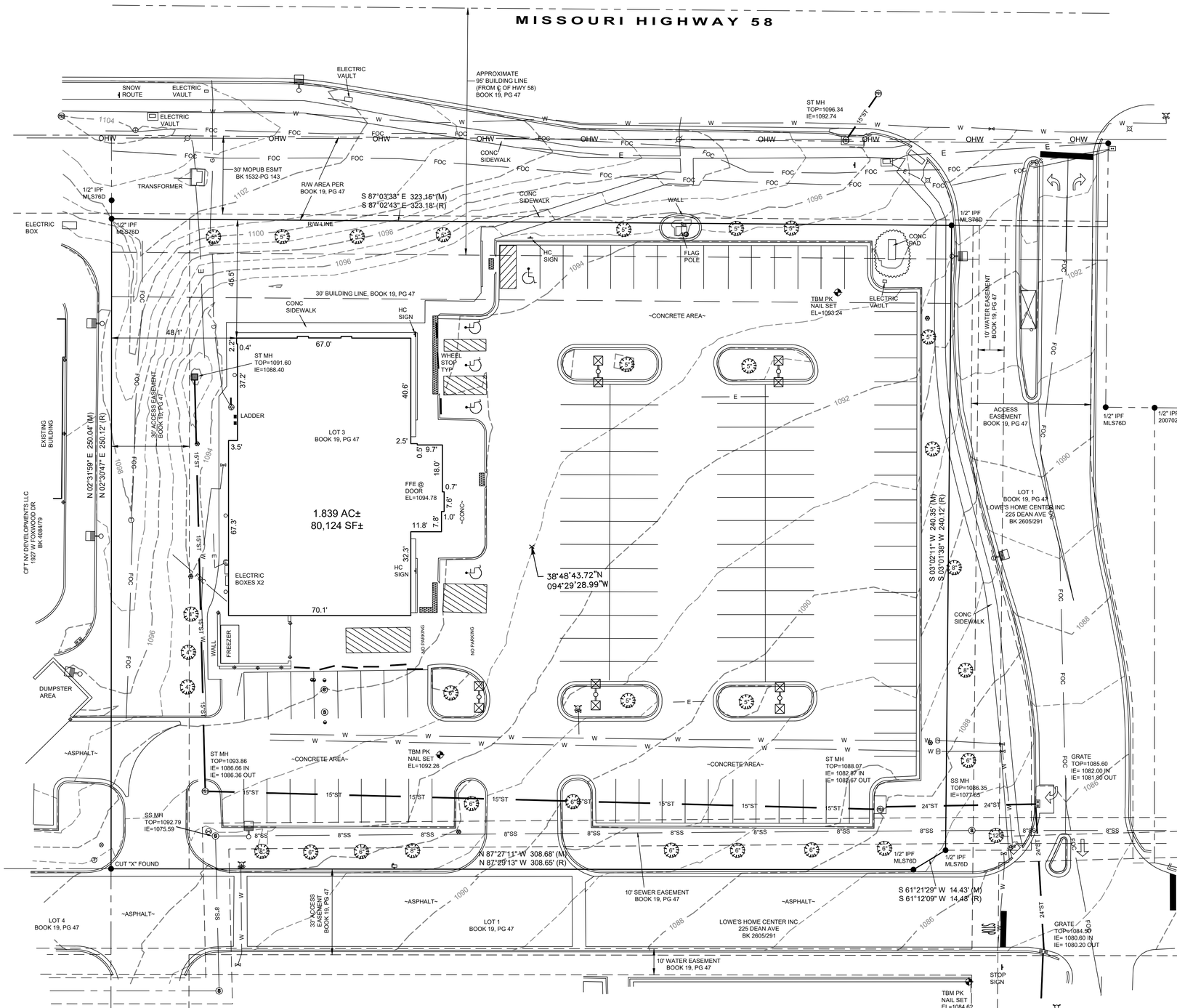
1921 W FOXWOOD DR
RAYMORE, MO 64083

PARKING COUNT

REGULAR SPACES:	118
HANDICAP SPACES:	4
TOTAL SPACES:	122

SITE MAP





LEGEND

- CORNER, AS NOTED
- FIRE HYDRANT
- WATER VALVE
- WATER METER
- TRAFFIC POLE
- ELECTRIC METER
- UTILITY POLE
- GUY WIRE
- BOLLARD
- SIGN, AS NOTED
- ROOF DRAIN
- IRRIGATION VALVE
- GAS METER
- GAS VALVE
- FOC PULL BOX
- TELEPHONE BOX
- SEWER CLEAN OUT
- SEWER MANHOLE
- CURB INLET
- GRATE INLET
- STORM MANHOLE
- STORM MANHOLE
- PROPERTY LINE
- EASEMENT LINE
- SETBACK LINES
- OHW — OVERHEAD WIRE
- E — E — UNDERGROUND ELECTRIC
- X — FENCE LINE
- G — GAS LINE, AS NOTED
- W — WATER LINE, AS NOTED
- SS — SANITARY SEWER, AS NOTED
- FOC — UNDERGROUND TELEPHONE/FIBER
- ST — STORM SEWER PIPE, AS NOTED
- LIGHT POLE
- LIGHT POLE(2-WAY)

SURVEYOR'S CERTIFICATION:

TO: WHATABURGER RESTAURANTS LLC, GEORGE PARTNERS, LLC, A MISSOURI LIMITED LIABILITY COMPANY AND CHICAGO TITLE INSURANCE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 5, 6(a), 6(b), 7(a-c), 8, 9, 13, 16, 17, AND 18 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON JULY 1, 2021.

DATE OF PLAT OR MAP: JULY 2, 2021.

DAVE R. HOBBS, PLS 2014020711 — DATE
dave@younghobbs.com

LAND DESCRIPTION (PER DEED):

Tract 1:
Lot 3, RAYMORE GALLERIA- FIRST PLAT, a subdivision in the City of Raymore, Cass County, Missouri.

Tract 2:
Easements for access, pedestrian and vehicular traffic, ingress and egress created by Declaration of Covenants, Restrictions and Easements recorded July 13, 2005 in Book 2469 at Page 7 40, amended by First Amendment to Declaration of Covenants, Restrictions and Easements recorded September 25, 2006 in Book 2879 at Page 362, amended by Second Amendment to Raymore Galleria First and Second Plat Development Agreement recorded March 24, 2008 in Book 3106 at Page 152, and amended by Second Amendment to Declaration of Covenants, Restrictions and Easements recorded January 9, 2013 in Book 364 7 at Page 127. Subject to the terms, provisions and conditions set forth in said instruments.

Tract 3:
Appurtenant perpetual easements for access, pedestrian and vehicular traffic, ingress and egress created by Reciprocal Easement Agreement April 27, 2005 in Book 2605 at Page 294. Subject to the terms, provisions and conditions set forth in said instrument.

Tract 4:
Non-exclusive driveway easement for access, pedestrian and vehicular traffic, ingress and egress created by Easement Agreement recorded March 23, 2016 in Book 3983 at Page 742. Subject to the terms, provisions and conditions set forth in said instrument.

BASIS OF BEARINGS
MO (W) STATE PLANE COORDINATE SYSTEM
SPC (2403 MO W)

0 20 40 60
SCALE 1"=20'

TABLE A NOTES:

ITEM 2: THE PHYSICAL ADDRESS OF THE SITE WAS OBTAINED FROM CASS COUNTY MISSOURI TAX ASSESSMENT OFFICE.

ITEM 3: THIS PROPERTY IS LOCATED WITHIN AN AREA HAVING ZONE DESIGNATIONS OF "X" BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, ON FLOOD INSURANCE RATE MAP NO 29037C0036F, WITH A MAP REVISED DATE OF JANUARY 2, 2013, IN CASS COUNTY, STATE OF MISSOURI, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PROPERTY IS SITUATED."

ITEM 5: CONTOURS WERE DERIVED FROM RANDOM SHOTS AND CROSS SECTIONS AND ARE SHOWN AT ONE FOOT INTERVALS. ELEVATIONS SHOWN HEREON ARE BASED ON GPS OBSERVATIONS TOGETHER WITH AN OPUS SOLUTION, DATED 7/1/2021 (NAVD88,GEOID18).

ITEM 6A: NO ZONING REPORT PROVIDED TO THIS SURVEYOR.

ITEM 16: THERE WAS NO EVIDENCE OF RECENT EARTH MOVING, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS OBSERVED IN THE PROCESS OF CONDUCTING THE FIELDWORK.

ITEM 17: THERE WAS NO EVIDENCE OF RECENT CHANGES IN STREET RIGHT OF WAY LINES. THERE WAS NO EVIDENCE OF RECENT OR STREET SIDEWALK CONSTRUCTION OR REPAIRS OBSERVED IN THE PROCESS OF CONDUCTING THE FIELDWORK.

SURVEY NOTES:

INFORMATION REGARDING THE PRESENCE, SIZE AND LOCATION OF UNDERGROUND UTILITIES IS SHOWN HEREON. THIS INFORMATION HAS BEEN SHOWN BASED ON THE LOCATION ABOVE GROUND APPURTENANCES, AVAILABLE DESIGN PLANS, AND FLAGES AND PAINT PLACED BY THE UNDERGROUND PROTECTION SERVICE, NO CERTIFICATION IS MADE AS TO THE ACCURACY OF THOROUGHNESS OF THE INFORMATION CONCERNING UNDERGROUND UTILITIES AND STRUCTURES SHOWN HEREON. (MISSOURI ONE CALL 1-800-DIG-RITE). THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A PRIVATE UTILITY LOCATE.

CONTACT PROPER AUTHORITIES BEFORE BUILDING NEAR UTILITY LINES, FOR EASEMENT WIDTH AND RESTRICTIONS. UTILITIES ARE APPROXIMATE AND SHOULD BE VERIFIED PRIOR TO ANY CONSTRUCTION.

UNLESS STATED OTHERWISE, ANY MONUMENT REFERRED TO HEREIN AS AN "IRON PIN SET" IS A SET 5/8" DIAMETER REBAR, WITH AN YELLOW PLASTIC CAP STAMPED "YOUNG-HOBBS"

THIS SURVEY HAS BEEN PREPARED FOR THE EXCLUSIVE USE OF THE PERSON OR ENTITIES NAMED HERON. NO EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO THE INFORMATION SHOWN HEREON IS TO BE EXTENDED TO ANY PERSONS OR ENTITIES OTHER THAN THOSE SHOWN HEREON.

LIST OF ENCROACHMENTS: NONE, THE OWNERSHIP OF CURB, UTILITIES, FENCES, AND/OR PERIMETER WALLS SHOWN HEREON ARE NOT KNOWN AND THUS ARE NOT LISTED AS ENCROACHMENTS. CURB, UTILITIES, FENCES, AND/OR PERIMETER WALLS ARE SHOWN IN THEIR RELATIVE POSITION TO THE BOUNDARY.

I DO HEREBY STATE THAT THIS IS A TRUE, COMPLETE AND CORRECT SURVEY OF THE DESCRIBED REAL PROPERTY SITUATED IN THE COUNTY OF CASS, MISSOURI AND THAT THIS SURVEY WAS EXECUTED IN ACCORDANCE WITH THE CURRENT MISSOURI MINIMUM STANDARDS FOR PROPERTY SURVEYS (URBAN SURVEY 1:20,000)

YOUNG - HOBBS AND ASSOCIATES
1202 CROSSLAND AVE.
CLARKSVILLE, TN 37040
PHONE 931-645-2524
FAX 931-645-2768

PRELIMINARY - NOT FOR RECORDING OR LAND TRANSFER

DAVE R. HOBBS, PLS 2014020711

No.	Date	Revision
1		

CLIENT

ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

ALTA/NSPS LAND TITLE SURVEY

OWNER INFORMATION

VAQUERO RAYMORE PARTNERS LP

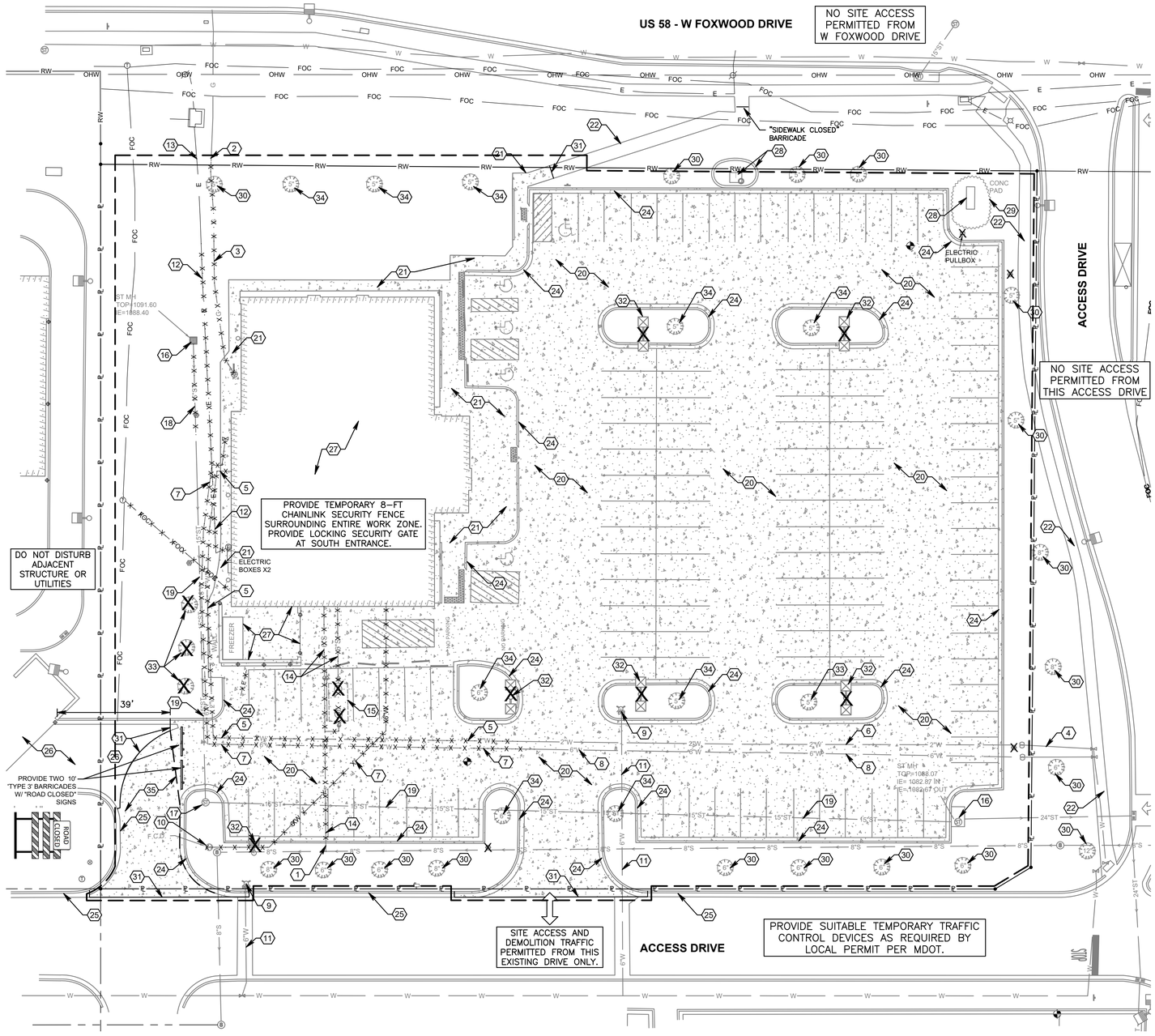
PARCEL # 04-04-17-200-000-039.005
DB 4690, PG 92

LOT 3, RAYMORE GALLERIA BOOK 19, PG 47

CITY OF RAYMORE
COUNTY OF CASS
STATE OF MISSOURI

DRAWN BY:	CLH/KAB
APPROVED BY:	DRH
DATE: (FIELD)	7/1/2021
DATE: (OFFICE)	7/2/2021
YHA PRO. #	111-21

SH. 1 OF 1 - C-2



GENERAL NOTES:

A. ALL EXISTING CONDITIONS, TOPOGRAPHY, UTILITIES AND PROPERTY INFORMATION ARE TAKEN FROM A SURVEY OF LAND SITUATED IN THE CITY OF RAYMORE, COUNTY OF CASS AND STATE OF MISSOURI, BY SURVEYOR: DAVE R. HOBBS, PLS 2014020711.

B. BY GRAPHICAL PLOTTING ONLY, THIS SITE IS SITUATED IN FEMA FLOOD ZONE X PER FIRM #29037C0036F AND #29037C0036F, BOTH EFFECTIVE JANUARY 2, 2013.

C. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND VERIFYING ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION, AND IS RESPONSIBLE FOR ANY DAMAGE TO THEM DURING CONSTRUCTION.

D. CONTRACTOR TO REMOVE AND DISPOSE OF ALL DEBRIS AND OTHER MATERIALS RESULTING FROM DEMOLITION AND CONSTRUCTION OPERATIONS. DISPOSAL WILL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS.

E. ALL EXISTING UTILITIES ARE SHOWN HEREIN AS REFERENCE ONLY AND ARE BASED ON RECORD OF THE VARIOUS UTILITY COMPANIES AND A FIELD SURVEY. CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT LOCATIONS OF ALL UTILITIES PRIOR TO DEMOLITION ACTIVITIES.

F. ALL CONSTRUCTION METHODS AND MATERIALS MUST CONFORM TO CURRENT STANDARDS AND SPECIFICATIONS OF THE FEDERAL, STATE, COUNTY, CITY OR LOCAL REQUIREMENTS, WHICHEVER HAS JURISDICTION.

G. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND TAKE ALL PRECAUTIONS NECESSARY TO AVOID DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT.

H. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH THE STATE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

I CONTRACTOR SHALL CONFINE ALL STOCKPILING OF DEMOLITION MATERIALS TO WITHIN THE LIMITS OF THE SUBJECT PROPERTY.

J. CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES PRIOR TO DEMOLITION, SEE SHEETS C-14 - C-16 FOR NOTES AND DETAILS.

K. CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE AND ENGINEER IF UNDERGROUND TANKS ARE ENCOUNTERED DURING CONSTRUCTION.

L. LOCATION OF EXISTING UNDERGROUND ELECTRICAL CIRCUITS, CONDUIT AND EXISTING IRRIGATION LINES UNDER PAVEMENT ARE NOT KNOWN AND NOT SHOWN.

M. THE EXISTING COMMERCIAL STRUCTURE IS TO BE RAZED. THE ENTIRE STRUCTURE - INCLUDING ALL FOUNDATION AND UTILITY ELEMENTS - IS TO BE COMPLETELY REMOVED AND DISPOSED OF PER LOCAL PERMIT REQUIREMENTS.

KEYED NOTES:

1. CUT AND PLUG.
2. EXISTING GAS SERVICE TO BE CUT AND PLUGGED BY UTILITY OWNER AT THE ROW LINE.
3. EXISTING GAS SERVICE LINE TO BE REMOVED.
4. EXISTING WATER SERVICE TO BE CUT AND PLUGGED AT THE CORP STOP OR ROW LINE.
5. EXISTING DOMESTIC WATER SERVICE LINE TO BE REMOVED.
6. EXISTING DOMESTIC WATER LINE TO BE MAINTAINED FOR REUSE AT CONTRACTORS OPTION.
7. EXISTING FIRE SERVICE WATER LINE TO BE REMOVED.
8. EXISTING FIRE SERVICE WATER LINE TO BE MAINTAINED FOR REUSE AT CONTRACTORS OPTION.
9. EXISTING FIRE HYDRANT TO BE MAINTAINED.
10. REMOVE EXISTING FIRE DEPARTMENT CONNECTION AND ASSOCIATED SITE PIPING.
11. MAINTAIN EXISTING FIRE HYDRANT LEAD.
12. EXISTING ELECTRIC SERVICE CONDUIT TO BE REMOVED.
13. EXISTING ELECTRIC TO BE MAINTAINED AS REQUIRED FOR NEW PRIMARY SERVICE.
14. EXISTING SANITARY SEWER LATERAL TO BE TO BE REMOVED.
15. EXISTING GREASE TRAP TO BE EMPTIED AND REMOVED.
16. EXISTING STORM STRUCTURE TO BE REMOVED.
17. EXISTING STORM STRUCTURE TO BE MAINTAINED.
18. EXISTING STORM CONDUIT TO BE REMOVED.
19. EXISTING STORM CONDUIT TO MAINTAINED FOR REUSE AT CONTRACTORS OPTION.
20. EXISTING CONCRETE PAVEMENT TO BE REMOVED.
21. EXISTING CONCRETE SIDEWALK TO BE REMOVED.
22. EXISTING CONCRETE SIDEWALK TO BE MAINTAINED.
23. NOT USED.
24. EXISTING CURBING AND/OR CURB & GUTTER TO BE REMOVED.
25. EXISTING CURB AND/OR CURB & GUTTER TO BE MAINTAINED.
26. EXISTING PAVEMENT TO BE PROTECTED AND MAINTAINED.
27. EXISTING BUILDING/STRUCTURE TO BE REMOVED.
28. EXISTING STRUCTURE TO BE REMOVED.
29. EXISTING LANDSCAPING TO BE REMOVED.
30. EXISTING LANDSCAPING OR TREE TO REMAIN AND BE PROTECTED
31. SAW CUT EXISTING PAVEMENT, CURB, OR CURB & GUTTER.
32. EXISTING LIGHT POLE TO BE REMOVED.
33. TREES TO BE REMOVED.
34. TREES (10 TOTAL) TO BE RELOCATED BY A CERTIFIED ARBORIST. SEE SHEET C-17 - LANDSCAPING PLAN FOR DETAILS.
35. THIS AREA IS A CRITICAL PUBLIC SAFETY ACCESS DRIVE AND SHALL REMAIN OPEN FOR TWO-WAY DRIVING ACCESS WHENEVER POSSIBLE. EXISTING PAVEMENT IN THIS AREA SHALL REMAIN IN PLACE UNTIL PARKING LOT PAVING BEGINS. COORDINATE WITH CITY AND FIRE DISTRICT STAFF AT LEAST ONE WEEK IN ADVANCE FOR EACH CLOSURE WITH CLOSURE/DETOUR SIGNAGE, ETC.

LEGEND

- EXISTING CONCRETE TO BE DEMOLISHED AND REMOVED
- X — ITEM TO BE REMOVED
- UTILITY TO BE REMOVED
- CONSTRUCTION LIMITS

DEMOLITION NOTES

1. REMOVE AND LEGALLY DISPOSE OF ITEMS EXCEPT THOSE INDICATED TO BE REINSTALLED, SALVAGED, OR TO REMAIN.
2. REMOVE ITEMS INDICATED; CLEAN, SERVICE, AND OTHERWISE PREPARE THEM FOR REUSE; STORE AND PROTECT AGAINST DAMAGE. REINSTALL ITEMS IN LOCATIONS INDICATED.
3. PROTECT ITEMS INDICATED TO REMAIN AGAINST DAMAGE AND SOILING DURING DEMOLITION. WHEN PERMITTED BY THE ENGINEER ITEMS MAY BE REMOVED TO A SUITABLE, PROTECTED STORAGE LOCATION DURING DEMOLITION AND THEN CLEANED AND REINSTALLED IN THEIR ORIGINAL LOCATIONS.
4. CONTRACTOR SHALL SCHEDULE DEMOLITION ACTIVITIES WITH THE CONSTRUCTION/PROJECT MANAGER INCLUDING THE FOLLOWING:
   A. DETAILED SEQUENCE OF DEMOLITION AND REMOVAL WORK, WITH STARTING AND ENDING DATES FOR EACH ACTIVITY.
   B. DATES FOR SHUTOFF, CAPPING, AND CONTINUATION OF UTILITY SERVICES.
   C. IDENTIFY AND ACCURATELY LOCATE UTILITIES AND OTHER SUBSURFACE STRUCTURAL, ELECTRICAL, OR MECHANICAL CONDITIONS.
6. REGULATORY REQUIREMENTS: COMPLY WITH LOCAL AND GOVERNING EPA NOTIFICATION REGULATIONS BEFORE STARTING DEMOLITION. COMPLY WITH HAULING AND DISPOSAL REGULATIONS OF AUTHORITIES HAVING JURISDICTION.
7. STORAGE OR SALE OF REMOVED ITEMS OR MATERIALS ON-SITE WILL NOT BE PERMITTED.
8. OBTAIN APPROVED BORROW SOIL MATERIALS OFF-SITE WHEN SUFFICIENT SATISFACTORY SOIL MATERIALS ARE NOT AVAILABLE ON-SITE.
9. MAINTAIN EXISTING UTILITIES INDICATED TO REMAIN IN SERVICE AND PROTECT THEM AGAINST DAMAGE DURING DEMOLITION OPERATIONS.
   A. DO NOT INTERRUPT EXISTING UTILITIES SERVING OCCUPIED OR OPERATING FACILITIES, EXCEPT WHEN AUTHORIZED IN WRITING BY ENGINEER AND AUTHORITIES HAVING JURISDICTION. PROVIDE TEMPORARY SERVICES DURING INTERRUPTIONS TO EXISTING UTILITIES, AS ACCEPTABLE TO OWNER AND TO GOVERNING AUTHORITIES.
10. DO NOT START DEMOLITION WORK UNTIL UTILITY DISCONNECTING AND SEALING HAVE BEEN COMPLETED AND VERIFIED IN WRITING.
11. UTILITY REQUIREMENTS: LOCATE, IDENTIFY, DISCONNECT, AND SEAL OR CAP OFF INDICATED UTILITY SERVING THE SITE.
    A. ARRANGE TO SHUT OFF AND CAP UTILITIES WITH UTILITY COMPANIES AND FOLLOW THEIR RESPECTIVE UTILITY KILL AND CAP POLICIES.
12. CONDUCT DEMOLITION OPERATIONS TO PREVENT INJURY TO PEOPLE AND DAMAGE TO ADJACENT STRUCTURES AND AREAS.
    A. ERECT TEMPORARY PROTECTION, BARRICADES AS PER LOCAL GOVERNING AUTHORITIES.
    B. PROTECT EXISTING SITE IMPROVEMENTS AND APPURTENANCES TO REMAIN.
13. EXPLOSIVES: USE OF EXPLOSIVES WILL NOT BE PERMITTED
14. REMOVE AND TRANSPORT DEBRIS IN A MANNER THAT WILL PREVENT SPILLAGE ON ADJACENT SURFACES AND AREAS.
15. CLEAN ADJACENT BUILDINGS AND IMPROVEMENT OF DUST, DIRT, AND DEBRIS CAUSED BY DEMOLITION OPERATIONS. RETURN ADJACENT AREAS TO CONDITION EXISTING BEFORE START OF DEMOLITION.
16. DAMAGES: PROMPTLY REPAIR DAMAGES TO ADJACENT FACILITIES CAUSED BY DEMOLITION OPERATIONS AT THE CONTRACTORS COST.
17. GENERAL: PROMPTLY DISPOSE OF DEMOLISHED MATERIALS. DO NOT ALLOW DEMOLISHED MATERIALS TO ACCUMULATE ON-SITE.
18. BURNING: OPEN BURNING IS NOT PERMITTED ON SITE.
19. ASBESTOS: IF ANY MATERIALS SUSPECTED OF CONTAINING ASBESTOS ARE ENCOUNTERED, DO NOT DISTURB THE MATERIALS. IMMEDIATELY NOTIFY THE ENGINEER AND THE OWNER.
20. BELOW-GRADE DEMOLITION: DEMOLISH FOUNDATION WALLS AND OTHER BELOW-GRADE DEMOLITION, AS FOLLOWS:
    A. COMPLETELY REMOVE, BELOW-GRADE DEMOLITION, INCLUDING FOUNDATION WALLS FOOTINGS, AND BELOW GRADE CONCRETE SLABS.
21. FILLING BELOW-GRADE AREAS: COMPLETELY FILL BELOW-GRADE AREAS AND VOIDS RESULTING FROM DEMOLITION OF BUILDINGS AND PAVEMENTS WITH MATERIALS ACCORDING TO REQUIREMENTS PER GEOTECHNICAL REPORT, CONTRACTOR SHALL CONTACT OWNER'S REPRESENTATIVE PRIOR TO FILLING ANY AREAS TO OBSERVE FILL PROCEDURES.
22. CONDUCT DEMOLITION OPERATIONS AND REMOVE DEBRIS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS AND OTHER ADJACENT OCCUPIED AND USED FACILITIES.
    A. DO NOT CLOSE OR OBSTRUCT STREETS, WALKS OR OTHER ADJACENT OCCUPIED OR USED FACILITIES WITHOUT PERMISSION FROM OWNER AND AUTHORITIES HAVING JURISDICTION. PROVIDE ALTERNATE ROUTES AROUND CLOSED OR OBSTRUCTED TRAFFIC WAYS IF REQUIRED BY GOVERNING REGULATIONS.
23. CONTRACTOR TO NEATLY SAW CUT EXISTING PAVEMENT TO REMAIN PRIOR TO CURB, GUTTER, PAVEMENT, ETC REMOVAL.
24. THE CONTRACTOR SHALL REMOVE EXISTING PAVEMENT MARKINGS WITH SMALL HANDHELD GRINDERS OR SCARIFIERS OR OTHER METHODS, WITH THE APPROVAL OF THE ENGINEER. TAKE CARE DURING MAKING REMOVAL NOT TO SCAR, DISCOLOR OR OTHERWISE DAMAGE THE PAYMENT SURFACE. DO NOT OVER PAINT OR USE OTHER METHODS OF COVERING MARKINGS INSTEAD OF REMOVAL.

0 10 20 30 40
SCALE: 1"=20'

MISSOURI ONE CALL SYSTEM
1-800-DIG-RITE or 811
MAKE THE CALL . . . IT'S THE LAW

REVISION/DATE/DESCRIPTION

CITY REVIEW 08/06/2021

WHATABURGER

ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

PROJECT

PROPOSED PT20M BUILDING TYPE

1921 W FOXWOOD DR. (MO-58 AND WESTGATE DRIVE) RAYMORE, MO

SHEET TITLE

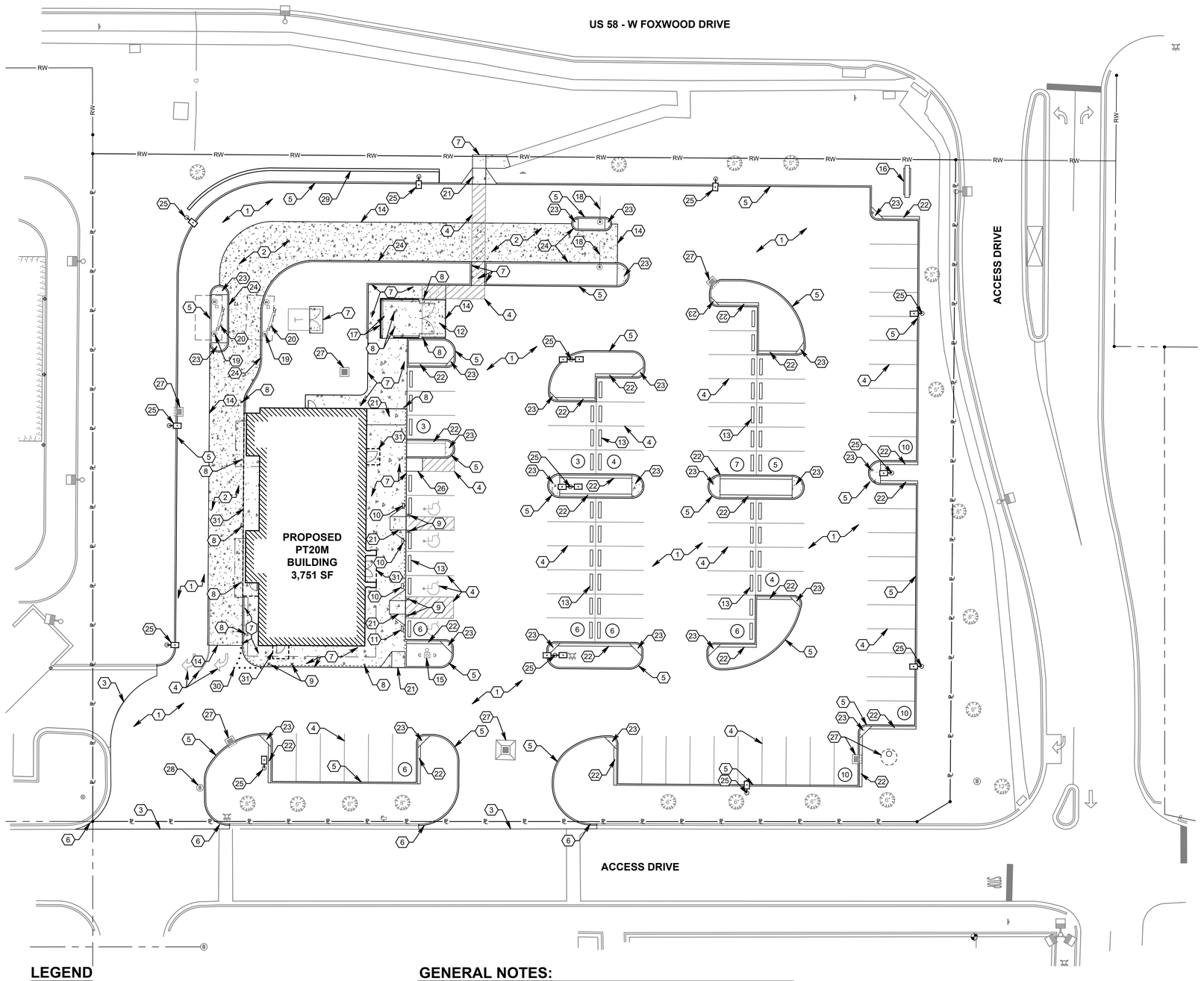
DEMOLITION PLAN

NOT FOR CONSTRUCTION

DRAWN BY: DCS
CHECKED BY: PJK
PROJECT NO: 40497-10

DRAWING

C-3



KEYED NOTES:

1. PROPOSED HEAVY DUTY ASPHALT PAVEMENT, SEE DETAIL A ON SHEET C-10.
2. PROPOSED HEAVY DUTY CONCRETE PAVEMENT, SEE DETAIL G ON SHEET C-10.
3. PROPOSED ASPHALT PAVEMENT TO BE FLUSH WITH EXISTING.
4. PROPOSED PAINTED PARKING STRIPING (TYPICAL). ALL PARKING STRIPES ARE TO BE 4" PAINTED WHITE, UNLESS OTHERWISE NOTED ON THE PLANS, DETAILS OR SPECIFICATIONS.
5. PROPOSED 6" CONCRETE CURB. SEE DETAIL F ON SHEET C-10.
6. PROPOSED TYPE CG-1 CONCRETE CURB AND GUTTER.
7. PROPOSED CONCRETE SIDEWALK. INCLUDE TURN-DOWN OR TURN-UP WHERE INDICATED ON PLANS. SEE DETAIL C ON SHEET C-10.
8. PROPOSED BOLLARD, TYP. OF 11. SEE ARCHITECTURAL AND STRUCTURAL PLANS FOR DETAILS.
9. PROPOSED ILLUMINATED BOLLARD, TYP. OF 6. SEE ARCHITECTURAL AND STRUCTURAL PLANS FOR DETAILS.
10. GENERAL CONTRACTOR TO PROVIDE AND INSTALL (3) POLE-MOUNTED HANDICAP PARKING SIGNS. SIGNS PROVIDED BY CONTRACTOR TO MEET LOCAL REQUIREMENTS, SEE DETAIL D ON SHEET C-10.
11. GENERAL CONTRACTOR TO PROVIDE AND INSTALL (1) POLE-MOUNTED HANDICAP PARKING SIGN WITH "VAN ACCESSIBLE" SIGN. SIGNS PROVIDED BY CONTRACTOR TO MEET LOCAL REQUIREMENTS, SEE DETAIL D ON SHEET C-10.
12. CONCRETE DUMPSTER ENCLOSURE APRON. SEE DETAIL B ON SHEET C-10.
13. PROPOSED PRE-CAST CONCRETE WHEEL STOP (TYP. OF 50), SEE DETAIL E ON SHEET C-10.
14. CONCRETE TO BE FLUSH WITH ADJACENT ASPHALT PAVEMENT. SEE DETAIL G ON SHEET C-11.
15. FLAGPOLE WITH GROUND-MOUNTED LIGHTS, UNITEDFLAG AND BANNER, GARRISON TYPE OR OWNER APPROVED EQUAL, 30' HIGH, 5" BUTT ALUMINUM WITH 14 GAUGE ALUMINUM BALL FINIAL. INCLUDE ALUMINUM ROLLER AND SLEEVE. HARDWARE TO INCLUDE STATIONARY STRUCK, NYLON FLAGSNAPS, AND HALYARDS. ENTIRE ASSEMBLY (INCLUDING FOUNDATION) TO CONFORM TO APPLICABLE CODES, INCLUDING WIND LOADS. SEE ARCHITECTURAL AND STRUCTURAL PLANS FOR DETAILS.
16. PROPOSED MONUMENT SIGN - CONTRACTOR TO COORDINATE WITH OWNER. SEE ELECTRICAL PLANS AND SIGNAGE PACKAGE FOR DETAILS.
17. PROPOSED DUMPSTER ENCLOSURE AND CONCRETE PAD. SEE ARCHITECTURAL AND STRUCTURAL PLANS FOR DETAILS.
18. PROPOSED HEADACHE BAR. SEE ARCHITECTURAL PLANS FOR DETAILS.
19. PROPOSED MENU BOARD CANOPY. SEE ARCHITECTURAL PLANS FOR DETAILS.
20. PROPOSED EXTERIOR MENU BOARD. SEE ARCHITECTURAL PLANS FOR DETAILS.
21. PROPOSED CURB RAMP WITH ADA STRIPING. SEE DETAIL J ON SHEET C-10.
22. PROPOSED 1' WIDE CRUSHED GRANITE STRIP. SEE DETAIL C ON SHEET C-17.
23. PROPOSED CONCRETE ISLAND NOSE. SEE DETAIL H ON SHEET C-11.
24. PROPOSED 6" MONOLITHIC CURB. SEE DETAIL F ON SHEET C-11.
25. LIGHTPOLE AND FOUNDATION. SEE STRUCTURAL PLANS AND SHEET C-19 FOR DETAILS.
26. PRODUCT DELIVERY RAMP
27. PROPOSED STORM MANHOLE, CATCH BASIN, YARD DRAIN OR CURB INLET. SEE UTILITY PLAN, SHEET C-8.
28. EXISTING SANITARY MANHOLE. ADJUST CURB LOCATION AS REQUIRED TO ALLOW PROPER CLEARANCE FOR MANHOLE LID AND FRAME. ADJUST FRAME AND LID AS REQUIRED TO MATCH THE ELEVATION OF PROPOSED PAVEMENT.
29. PROPOSED MASONRY RETAINING WALL. SEE DETAIL J ON SHEET C-11
30. PROPOSED 6" DIA. WHITE CERAMIC RAISED PAVEMENT MARKER, TYP. OF 10. SEE DETAIL __ ON SHEET ___.
31. SEE BUILDING STRUCTURAL PLANS AND SECTIONS FOR DRIVE-THRU AND BUILDING ENTRY FOUNDATION DETAILS

SITE DATA

	SQ. FT.	ACRES	PERCENT
TOTAL SITE AREA	80,124	1.839	-
BUILDING	3,746	0.0860	4.68%
PAVEMENT AND WALK	55,081	1.2645	68.74%
EXISTING PERVIOUS	18,505	0.4248	23.10%
EXISTING IMPERVIOUS	61,619	1.4146	76.90%
TOTAL PROPOSED PERVIOUS	21,297	0.4889	26.58%
TOTAL PROPOSED IMPERVIOUS	58,827	1.3505	73.42%

PARKING DATA

	REQUIRED	PROVIDED
STANDARD	28	82
HANDICAP	2	4
TOTAL	30	86
CAR STACK		LINE A: 13 LINE B: 14

RAYMORE PARKING REQUIREMENTS
COMMERCIAL - EATING AND DRINKING ESTABLISHMENT
GREATER OF: 1 SPACE PER 4 SEATS OR 1 SPACE PER
50 SQ.FT. OF CUSTOMER SERVICE AREA

53 SEATS / 4 = 13.25 = 14 SPACES
1389 SQ.FT. / 50 = 27.78 = 28 SPACES

ACCESSIBLE PARKING SPACES: 1 ACCESSIBLE PER 25 SPACES
28 SPACES = 2 ACCESSIBLE SPACES

LEGEND

EXISTING	PROPOSED	DESCRIPTION
		CONSTRUCTION LIMITS
		PROPERTY LINE
RW		RIGHT-OF-WAY LINE
		ELECTRIC TRANSFORMER
		LIGHT POLE
	10	PARKING SPACE COUNT FOR ROW
		HEAVY DUTY CONCRETE PAVEMENT
		CONCRETE SIDEWALK

GENERAL NOTES:

A. ALL EXISTING CONDITIONS, TOPOGRAPHY, UTILITIES AND PROPERTY INFORMATION ARE TAKEN FROM A SURVEY OF LAND SITUATED IN THE CITY OF RAYMORE, COUNTY OF CASS AND STATE OF MISSOURI, BY SURVEYOR: DAVE R. HOBBS, PLS 2014020711.

B. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND VERIFYING ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION, AND IS RESPONSIBLE FOR ANY DAMAGE TO THEM DURING CONSTRUCTION.

C. PROVIDE SMOOTH TRANSITION FROM NEWLY PAVED AREAS TO EXISTING PAVED AREAS AS NECESSARY. THE EXISTING EDGE OF PAVEMENT SHALL BE FREE OF ALL LOOSE DEBRIS AT ALL AREAS WHERE PROPOSED PAVEMENT MEETS EXISTING PAVEMENT. THE EDGE OF EXISTING ASPHALT PAVEMENT SHALL BE PROPERLY SEALED WITH A TACK COAT MATERIAL IN ALL AREAS WHERE NEW ASPHALT PAVEMENT IS INDICATED TO JOIN EXISTING.

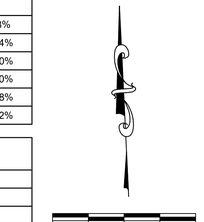
D. ALL DIMENSIONS TO FACE OF CURB AND/OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

E. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND TAKE ALL PRECAUTIONS NECESSARY TO AVOID DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT.

F. REFER TO ARCHITECTURAL DRAWINGS FOR BUILDING DIMENSIONS AND ADDITIONAL INFORMATION.

G. ALL CONSTRUCTION METHODS AND MATERIALS MUST CONFORM TO CURRENT STANDARDS AND SPECIFICATIONS OF THE FEDERAL, STATE, COUNTY, CITY OR LOCAL REQUIREMENTS, WHICHEVER HAS JURISDICTION.

H. ALL EXCAVATED AREAS TO BE SEEDED AND/OR SODDED AFTER FINISH GRADING UNLESS OTHERWISE NOTED. ALL NEWLY SEEDED/SODDED AREAS SHALL HAVE A MINIMUM OF 4" OF TOPSOIL. HOLD SOIL DOWN 1" FROM PAVEMENT ELEVATION. CONTRACTOR TO SUPPLY STRAW MULCH WHERE GRASS SEED HAS BEEN PLANTED.



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REVISION/DATE/DESCRIPTION

CITY REVIEW	08/06/2021

WHATABURGER

ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

PROJECT

PROPOSED PT20M BUILDING TYPE

1921 W FOXWOOD DR. (MO-58 AND WESTGATE DRIVE) RAYMORE, MO

SHEET TITLE

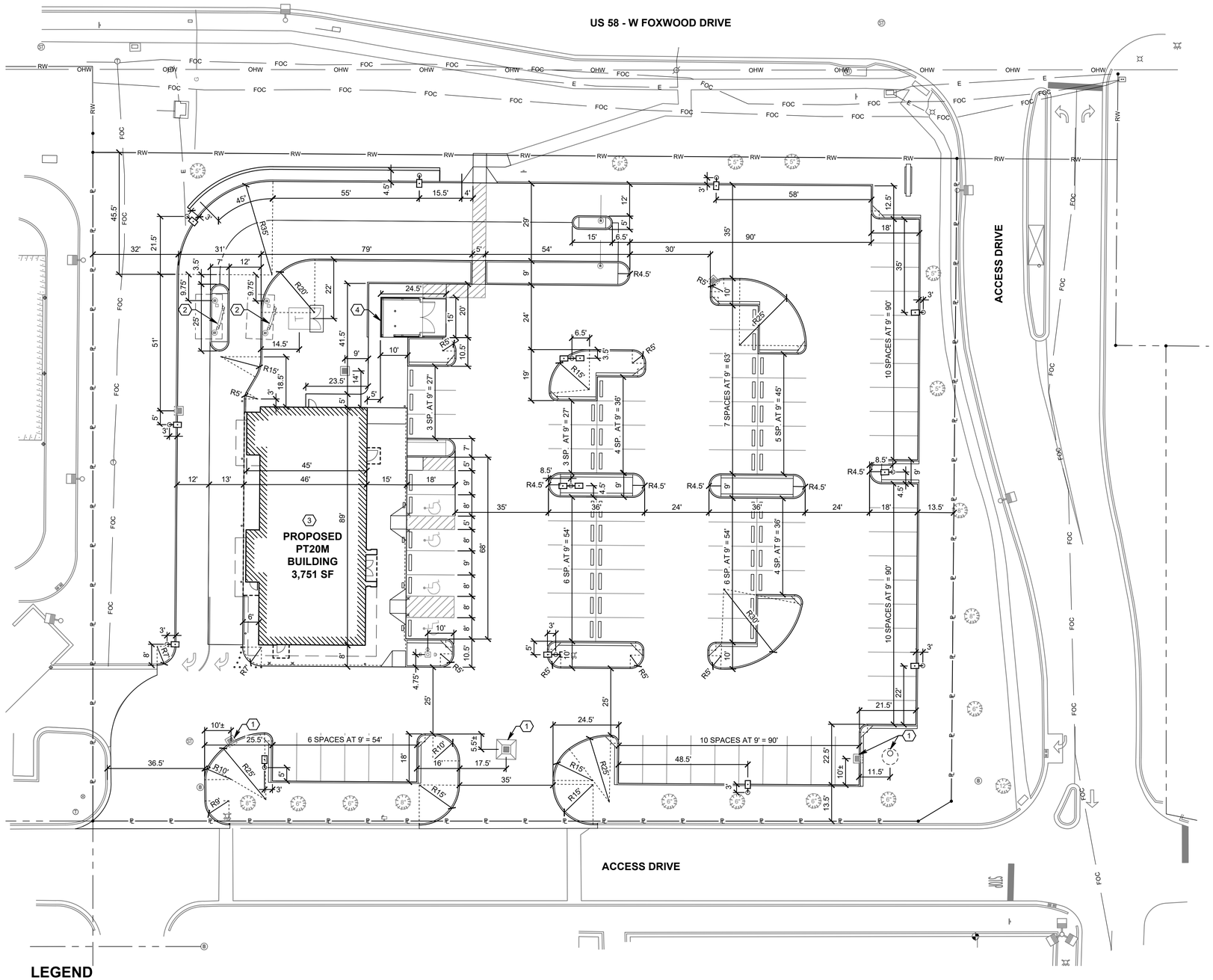
SITE CIVIL PLAN

NOT FOR CONSTRUCTION

DRAWN BY:	DCS
CHECKED BY:	PJK
PROJECT NO:	40497-10

DRAWING

C-4



LEGEND

EXISTING	PROPOSED	DESCRIPTION
		CONSTRUCTION LIMITS
℄		PROPERTY LINE
RW		RIGHT-OF-WAY LINE
		ELECTRIC TRANSFORMER
☼		LIGHT POLE
		HEAVY DUTY CONCRETE PAVEMENT
		CONCRETE SIDEWALK

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D. ALL DIMENSIONS TO FACE OF CURB AND/OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

E. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND TAKE ALL PRECAUTIONS NECESSARY TO AVOID DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT.

F. REFER TO ARCHITECTURAL DRAWINGS FOR BUILDING DIMENSIONS AND ADDITIONAL INFORMATION.

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I. ALL RADII ARE 3.0 FEET UNLESS OTHERWISE SHOWN. ALL RADII INDICATED ON PLANS SHALL BE CONSTRUCTED AS CIRCULAR ARCS.

KEY NOTES:

1. LOCATE PROPOSED STORM MANHOLE, CATCH BASIN AND CURB INLET ALONG EXISTING STORM ALIGNMENT AS REQUIRED.
2. SEE ARCHITECTURAL PLANS FOR CANOPY AND MENUBOARD AREA LAYOUT DIMENSIONS.
3. SEE ARCHITECTURAL AND STRUCTURAL PLANS FOR BUILDING LAYOUT DIMENSIONS.
4. SEE ARCHITECTURAL AND STRUCTURAL PLANS FOR DUMPSTER ENCLOSURE LAYOUT.

0 10 20 30 40

SCALE: 1"=20'

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PROJECT

PROPOSED PT20M BUILDING TYPE

1921 W FOXWOOD DR.
(MO-58 AND WESTGATE DRIVE)
RAYMORE, MO

SHEET TITLE

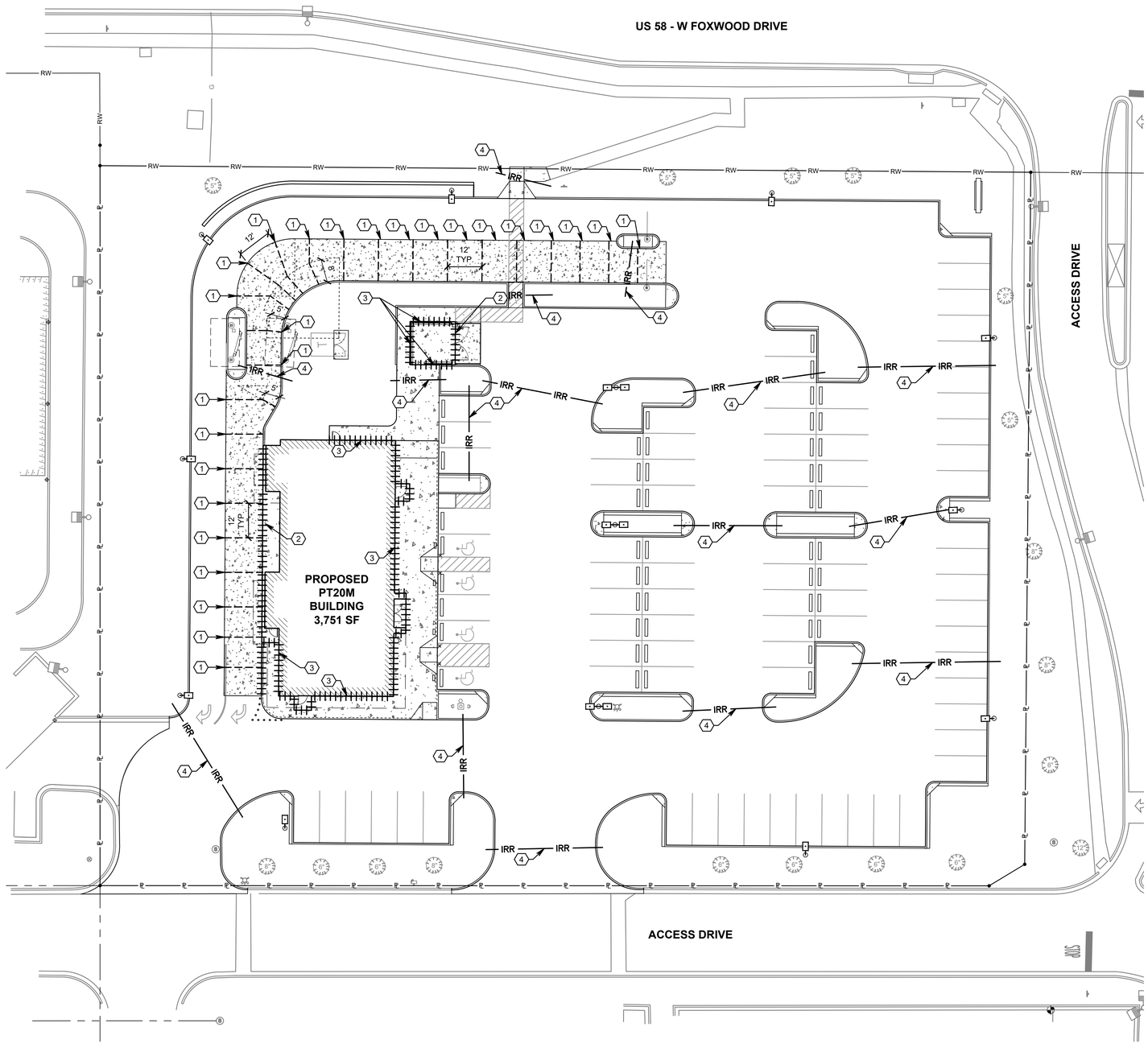
DIMENSION CONTROL PLAN

NOT FOR CONSTRUCTION

DRAWN BY:	DCS
CHECKED BY:	PJK
PROJECT NO:	40497-10

DRAWING

C-5



KEYED NOTES:

1. SAWED CONSTRUCTION JOINT REQUIRED, TYPICAL. SEE DETAIL I ON SHEET C-10.
2. DOWELED EXPANSION JOINT REQUIRED, TYPICAL. SEE DETAIL I ON SHEET C-10.
3. EXPANSION JOINT REQUIRED WHERE CONCRETE OR CURB ABUTS BUILDING FOUNDATION, STORM STRUCTURE, FLUME, OR SIDEWALK OPENING. SEE DETAIL I ON SHEET C-10.
4. SCHEDULE 40 PVC IRRIGATION SLEEVE - SEE DETAIL SHEETS FOR MORE INFORMATION.

GENERAL NOTES:

A. PAVEMENT SPECIFICATION AND RECOMMENDATIONS ARE TAKEN FROM GEOTECHNICAL REPORT PROVIDED BY TERRACON CONSULTANTS, INC. DATED JUNE 18, 2021.

B. PORTLAND CEMENT CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI.

C. MAXIMUM CONTROL JOINT SPACING SHALL NOT EXCEED 12 FEET.

D. EXPANSION JOINTS SHALL BE USED WHEREVER THE PAVEMENT WILL ABUT A STRUCTURAL ELEMENT SUBJECT TO DIFFERENT MAGNITUDE OF MOVEMENT (E.G., LIGHT POLES, RETAINING WALLS, EXISTING PAVEMENT, STAIRWAYS, ENTRYWAY PIERS, BUILDING WALLS, MANHOLES, ETC.)

E. EXPANSION JOINTS SHALL BE SEALED PER DETAILS TO MINIMIZE MOISTURE INFILTRATION INTO SUBGRADE SOILS AND RESULTANT CONCRETE DETERIORATION AT THE JOINTS.

F. SLEEVES SHOWN ARE FOR IRRIGATION ONLY. ADDITIONAL SLEEVES MAY BE REQUIRED FOR OTHER FRANCHISE UTILITIES. CONTRACTOR SHALL COORDINATE LOCATION AND SUPPLY ADDITIONAL SLEEVES REQUIRED FOR ELECTRICAL AND TELECOMMUNICATION SERVICES.

G. ALL CONCRETE JOINTS SHALL RUN CONTINUOUSLY THROUGH CURBS.

H. ALL CONCRETE JOINTS SHALL BE PERPENDICULAR AT BOTH ENDS TO STRAIGHT EDGES OR TO THE TANGENT AT THEIR INTERSECTION WITH CURVES. SUCCESSIVE "BENT" JOINTS SHALL BE LAID OUT WITH COORDINATED BEND LOCATIONS. ALL CONCRETE JOINTS SHALL BE LAID OUT AND MARKED FOR APPROVAL BY THE ENGINEER BEFORE SAW-CUTTING.

LEGEND

- HEAVY DUTY CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- IRR — 4" SCHED. 40 PVC SLEEVE FOR IRRIGATION LINES
- SAWN CONTRACTION JOINT
- EXPANSION JOINT

0 10 20 30 40

SCALE: 1"=20'

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Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

PROJECT

PROPOSED PT20M BUILDING TYPE

1921 W FOXWOOD DR. (MO-58 AND WESTGATE DRIVE) RAYMORE, MO

SHEET TITLE

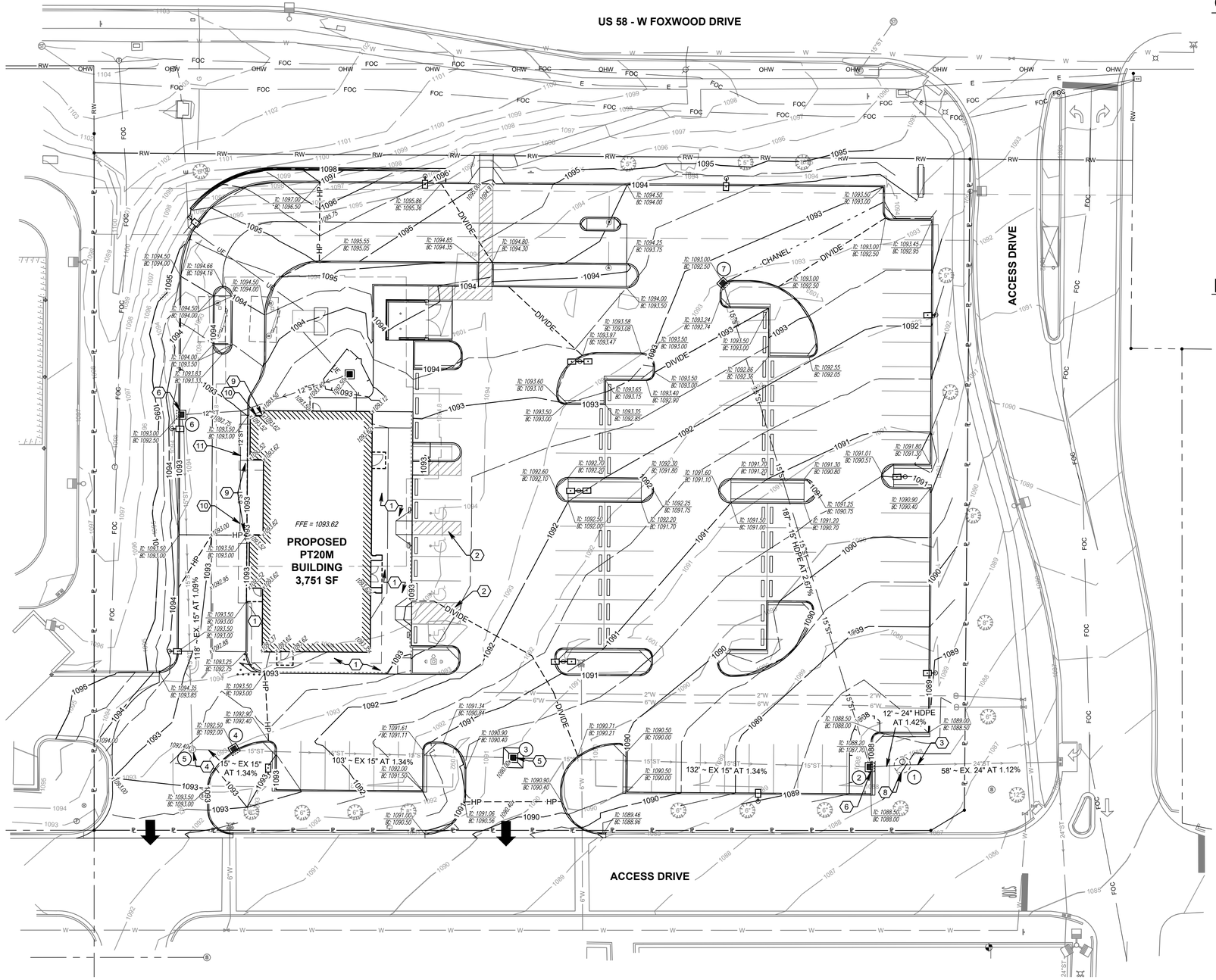
CONCRETE JOINTING PLAN

NOT FOR CONSTRUCTION

DRAWN BY:	DCS
CHECKED BY:	PJK
PROJECT NO:	40497-10

DRAWING

C-6



GENERAL NOTES:

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B. ALL CONSTRUCTION METHODS AND MATERIAL MUST CONFORM TO CURRENT STANDARDS AND SPECIFICATIONS OF THE FEDERAL, STATE, COUNTY, CITY OR LOCAL REQUIREMENTS, WHICHEVER HAS JURISDICTION.

C. ALL PROPOSED SPOT ELEVATIONS SHOWN ARE TOP OF CURB AND FINAL GRADE ELEVATIONS UNLESS OTHERWISE NOTED.

D. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND VERIFYING ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.

E. CONTRACTOR TO VERIFY ALL EXISTING GRADES AND CONTACT ENGINEER PRIOR TO BEGINNING WORK IF DISCREPANCY IS FOUND. CONTRACTOR TO VERIFY ASSUMED FINISHED FLOOR ELEVATION PRIOR TO BEGINNING WORK.

F. THE EXCAVATING CONTRACTOR MUST TAKE PARTICULAR CARE WHEN EXCAVATING IN AND AROUND EXISTING UTILITY LINES AND EQUIPMENT. VERIFY COVER REQUIREMENTS BY UTILITY CONTRACTORS AND/OR UTILITY COMPANIES SO AS TO NOT CAUSE DAMAGE.

G. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES 48 HOURS BEFORE CONSTRUCTION IS TO START, TO VERIFY IF ANY UTILITIES ARE PRESENT ON SITE. ALL VERIFICATIONS (LOCATION, SIZE AND DEPTH) SHALL BE MADE BY THE APPROPRIATE UTILITY COMPANIES. WHEN EXCAVATION IS AROUND OR OVER EXISTING UTILITIES, THE CONTRACTOR MUST NOTIFY THE UTILITY SO A REPRESENTATIVE OF THAT UTILITY COMPANY CAN BE PRESENT TO INSTRUCT AND OBSERVE DURING CONSTRUCTION.

H. ALL WORK SHALL BE PERFORMED FROM PRIVATE PROPERTY. ALL TRAFFIC LANES MUST REMAIN OPEN AT ALL TIMES.

I. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING UTILITIES DURING CONSTRUCTION AND ALL DAMAGE SHALL BE REPAIRED TO ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER OR CITY.

J. CONTRACTOR SHALL INSTALL AND BACKFILL STRUCTURES AND TRENCHES PER DETAIL SHEETS.

K. ALL EXISTING UTILITIES ARE TAKEN FROM SURVEY AND DO NOT NECESSARILY REPRESENT ALL UNDERGROUND UTILITIES ADJACENT TO OR UPON PREMISES SHOWN ON PLAN.

L. ALL STORM CONDUITS ARE ADS N-12 SMOOTH INTERIOR HDPE PIPE OR APPROVED EQUAL, UNLESS OTHERWISE NOTED.

KEYED NOTES:

1. CONTRACTOR TO MAINTAIN 2.00% MAX CROSS SLOPE ON SIDEWALK.
2. CONTRACTOR TO MAINTAIN MAX 2.00% SLOPE IN ALL DIRECTIONS IN HANDICAP ACCESSIBLE AREA.
3. CONNECT PROPOSED STORM SYSTEM OUTLET TO EXISTING STORM SEWER SYSTEM.
4. PROPOSED 48" STORM MANHOLE.
5. PROPOSED CATCH BASIN. SEE DETAIL SHEETS.
6. PROPOSED CURB INLET. SEE DETAIL SHEETS.
7. PROPOSED FINGER DRAIN, SEE DETAIL SHEETS.
8. PROPOSED HYDRODYNAMIC SEPARATOR, ADS BARRACUDA S6. SEE DETAIL SHEETS.
9. PROPOSED DOWNSPOUT AND BOOT CONNECTOR. SEE THE ARCHITECTURAL PLANS AND DETAIL SHEETS.
10. PROPOSED 8" HDPE PIPE, MIN. 1.0% SLOPE.
11. PROPOSED 12" HDPE COLLECTOR DRAIN, MIN. 1.0% SLOPE.
12. CONNECT TO PROPOSED STORM SEWER PIPE USING INSERT-A-TEE OR APPROVED EQUAL.
13. PROPOSED SITE GRADING TO TIE INTO GRADING OF THE CONCURRENT RIGHT-OF-WAY PROJECT. COORDINATE WITH THE ROADWAY CONTRACTOR TO ENSURE POSITIVE DRAINAGE.

LEGEND

EXISTING	PROPOSED	DESCRIPTION
	TC: 1088.20 BC: 1087.70	TOP OF CURB TOP OF PAVEMENT
	1090.00x	FINISHED GRADE SPOT ELEVATION
	1.00%	GRADE SLOPE
	HP — HP	HIGH POINT
	ST	STORM MAIN
		ROOFDRAIN/UNDERDRAIN
		CONSTRUCTION LIMITS
950	950	MAJOR CONTOUR LINES
951		MINOR CONTOUR LINES
		CATCH BASIN
ST		STORM STRUCTURE
		MAJOR FLOOD ROUTING

STORM STRUCTURE DATA

1. PROPOSED MANHOLE WITH HYDRODYNAMIC SEPARATOR
   TC: 1088.07
   PR. 24"(E), EX.24"(W)INV = 1082.67
2. PROPOSED CURB INLET
   TC: 1087.70
   EX.15"(W), PR. 15"(N) INV = 1083.00
   PR. 24" INV (E) = 1082.87
3. PROPOSED CATCH BASIN
   TC: 1090.70
   EX. 15" INV (E,W) = 1084.77
4. PROPOSED CURB INLET
   TC: 1090.70
   EX. 15" INV (E,W) = 1086.14
5. EXISTING STORM MANHOLE
   TC: 1092.40
   EX. 15" INV (N) = 1086.66
   EX. 15" INV (W) = 1086.36
6. PROPOSED CURB INLET
   TC: 1092.50
   PR. 15" INV (S) = 1088.00
7. PROPOSED CURB INLET
   TC: 1092.50
   PR. 15" INV (S) = 1088.00

0 10 20 30 40
SCALE: 1"=20'

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NOTICE

WHATABURGER

ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

PROJECT

PROPOSED PT20M BUILDING TYPE

1921 W FOXWOOD DR.
(MO-58 AND WESTGATE DRIVE)
RAYMORE, MO

SHEET TITLE

SITE GRADING PLAN AND DRAINAGE PLAN

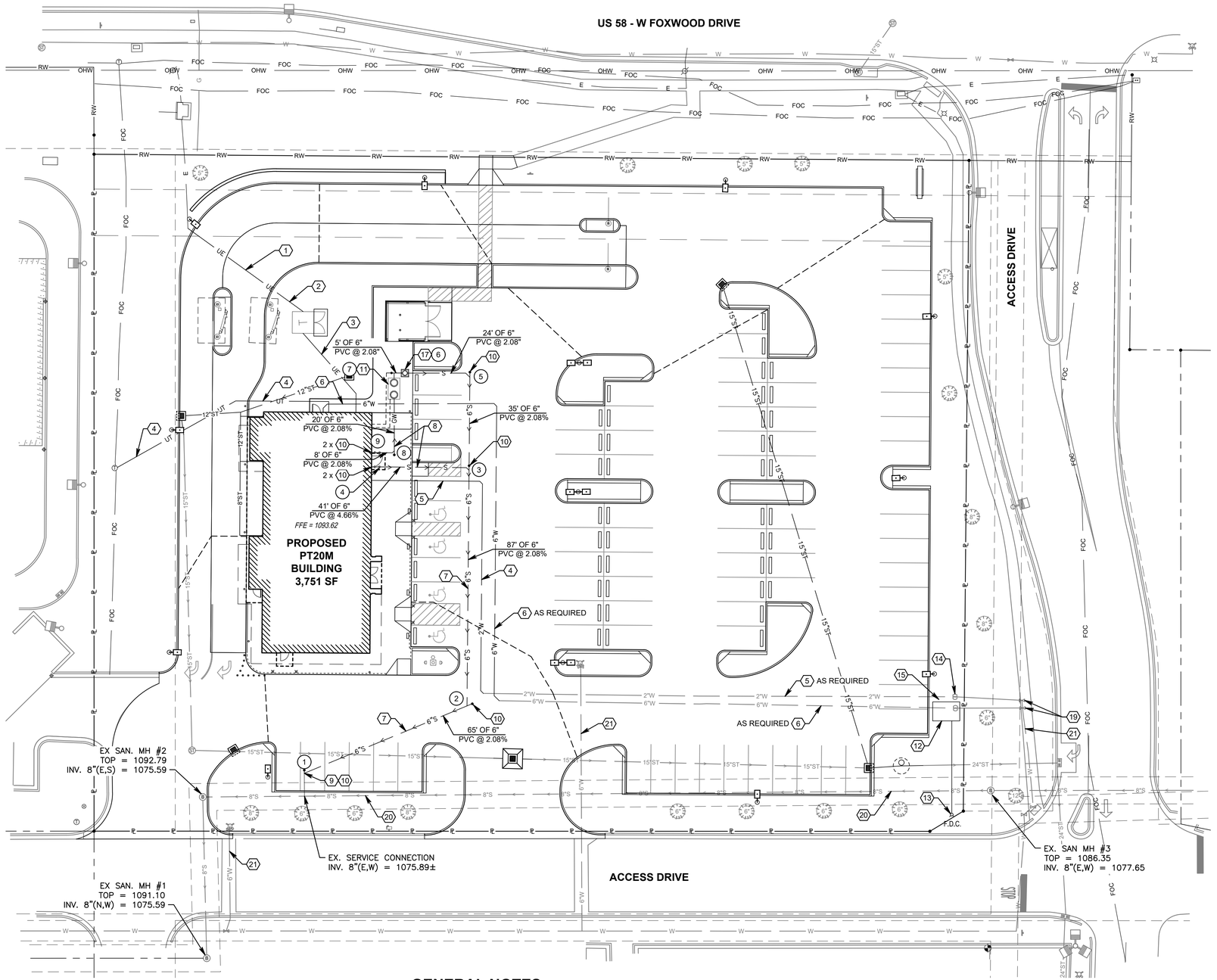
NOT FOR CONSTRUCTION

DRAWN BY: DCS
CHECKED BY: PJK
PROJECT NO: 40497-10

DRAWING

C-7

P:\21-0019-00_MS-Consultants_MSA\02_Whataburger_Raymore_MO\Drawings\Dwg-set\WAB_Raymore_GradingPlan.dwg, Tab: Sheet_1 - plotted: 8/8/2021 2:08 PM by dsestar



KEYED NOTES:

1. PROPOSED PRIMARY ELECTRICAL SERVICE. CONTRACTOR TO COORDINATE CONDUIT SIZE, NUMBER OF CONDUITS, CONNECTIONS, AND BEND RADII WITH UTILITY OWNER AND MEP PLANS. CONTRACTOR TO COORDINATE CONNECTION WITH UTILITY OWNER.
2. PROPOSED ELECTRIC TRANSFORMER. COORDINATE DETAILS AND LOCATION WITH UTILITY OWNER AND ELECTRICAL PLANS.
3. PROPOSED SECONDARY ELECTRICAL SERVICE. CONTRACTOR TO COORDINATE CONDUIT SIZE, NUMBER OF CONDUITS, CONNECTIONS, AND BEND RADII WITH UTILITY OWNER AND MEP PLANS. CONTRACTOR TO COORDINATE CONNECTION WITH UTILITY OWNER.
4. 2" PVC CONDUIT FOR UNDERGROUND TELEPHONE/COMM SERVICE. CONTRACTOR TO COORDINATE WITH UTILITY OWNERS AS REQUIRED.
5. PROPOSED TYPE K COPPER 2" DOMESTIC WATER SERVICE. INCLUDE IN BASE BID ALL VALVES, PIPING, STRUCTURES, ETC. THAT WILL BE REQUIRED. SEE MEP PLANS FOR CONTINUATION INTO BUILDING.
6. PROPOSED 6" SERVICE. INCLUDE IN BASE BID ALL VALVES, PIPING, STRUCTURES, ETC. THAT WILL BE REQUIRED. SEE MEP PLANS FOR CONTINUATION INTO BUILDING.
7. PROPOSED 6" SANITARY SEWER. ASTM D3034, SDR-26. SEWER TO HAVE MINIMUM SLOPE OF 2.00%. CONTRACTOR TO MAINTAIN A MINIMUM OF 48" OF COVER OVER SEWER LINES.
8. PROPOSED 4" SANITARY SEWER. ASTM D3034, SDR-26. SEWER TO HAVE MINIMUM SLOPE OF 2.00%. CONTRACTOR TO MAINTAIN A MINIMUM OF 48" OF COVER OVER SEWER LINES.
9. PROPOSED SANITARY SEWER SERVICE CONNECTION TO EXISTING TAP/RISER.
10. PROPOSED SANITARY CLEANOUT (TYP.). SEE DETAIL ON SHEET DETAIL B ON SHEET C-11.
11. GREASE TRAP REQUIRED. SEE PLUMBING SHEETS FOR DETAILS.
12. PROPOSED UNDERGROUND BACKFLOW PREVENTER CONCRETE VAULT PER CITY OF RAYMORE STANDARD SPECIFICATIONS. SEE DETAIL D ON SHEET C-12.
13. PROPOSED FIRE DEPARTMENT CONNECTION WITH A 5" STORZ CONNECTION AND 30° DOWN ANGLE TO BE APPROVED BY LOCAL FIRE DEPARTMENT. HEIGHT TO BE 36" TO CENTER OF CAP. PROVIDE COLOR AND SIGNAGE PER LOCAL REQUIREMENTS.
14. PROPOSED DOMESTIC WATER METER PER CITY OF RAYMORE STANDARD DRAWING.
15. PROPOSED 1" IRRIGATION LINE WITH METER VAULT, SEE IRRIGATION PLAN FOR MORE INFORMATION.
16. PROPOSED VALVE.
17. PROPOSED SAMPLING WELL. SEE PLUMBING PLANS FOR DETAILS.
18. PROPOSED 6" TAP INTO EXISTING WATER MAIN.
19. EXISTING TAP TO EXITING WATERMAIN
20. EXISTING SANITARY SEWER MAIN.
21. EXISTING WATER MAIN.

SANITARY STRUCTURE DATA

1. PROPOSED CLEANOUT
   TC: 1092.35
   PR. 6" INV = 1082.93
2. PROPOSED CLEANOUT
   TC: 1091.33
   PR. 6" INV = 1084.28
3. PROPOSED CLEANOUT
   TC: 1092.55
   PR. 6" INV = 1086.09
4. PROPOSED DOUBLE CLEANOUT
   TC: 1093.58
   PR. 6" INV = 1088.00
5. PROPOSED CLEANOUT
   TC: 1093.50
   PR. 6" INV = 1086.82
6. PROPOSED MONITORING WELL
   TC: 1093.51
   PR. 6" INV = 1087.32
7. PROPOSED GREASE TRAP
   TC: 1093.21
   PR. 6" INV = 1087.42
8. PROPOSED CLEANOUT
   TC: 1093.45
   PR. 6" INV = 1087.84
9. PROPOSED DOUBLE CLEANOUT
   TC: 1093.58
   PR. 6" INV = 1088.00.

NOTE: CONTRACTOR TO VERIFY INVERT OF EXISTING SANITARY SEWER MAIN PRIOR TO CONSTRUCTING PROPOSED SANITARY SEWER SERVICE LINE.

NOTE: CONTRACTOR TO FIELD VERIFY BUILDING FFE PRIOR TO INSTALLING ANY SANITARY STRUCTURES AND ADJUST PROPOSED ELEVATIONS ACCORDINGLY.

LEGEND

EXISTING	PROPOSED	DESCRIPTION
		CONSTRUCTION LIMITS
ST	ST	STORM LINE
		UNDERDRAIN / ROOFDRAIN
SAN	SAN	SANITARY LINE
		SANITARY CLEANOUT
		SANITARY MANHOLE
		SANITARY GREASE TRAP
W	W	WATER LINE
		FIRE HYDRANT
UE	UE	UNDERGROUND ELECTRIC LINE
		ELECTRIC PULLBOX
		ELECTRIC TRANSFORMER
FO	UT	UNDERGROUND TELEPHONE LINE
		UTILITY POLE
		LIGHT POLE

GENERAL NOTES:

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C. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND VERIFYING ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION, AND IS RESPONSIBLE FOR ANY DAMAGE TO THEM DURING CONSTRUCTION.

D. CONTRACTOR RESPONSIBLE FOR MAINTAINING A MINIMUM COVER OF 42 INCHES OVER ALL WATER MAINS AND SERVICES.

E. CLEANOUT LOCATIONS ARE NUMBERED ON PLAN. ALL CLEANOUTS IN PAVEMENT AREAS ARE TO BE H-20 RATED. CLEANOUTS SHALL BE INSTALLED PER DETAIL B ON SHEET C-11.

F. SEE PLUMBING PLANS FOR CONTINUATION OF UTILITY LINES INTO BUILDING.

G. CONTRACTOR SHALL INSTALL AND BACKFILL ALL TRENCHES AND STRUCTURES PER DETAIL A ON SHEET C-11.

H. STORM SEWER SHOWN HERE FOR REFERENCE ONLY. SEE GRADING PLAN FOR DESIGN DATA.

I. THERE SHALL BE A MINIMUM 10 FOOT HORIZONTAL SEPARATION BETWEEN WATER TAPS, WATER SERVICES, PRIVATE WATER SYSTEMS, AND ANY SANITARY AND/OR STORM SEWER SYSTEMS. WHERE 10 FEET HORIZONTAL SEPARATION CANNOT BE OBTAINED, THE BOTTOM OF THE WATER LINE SHALL BE AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER.

J. THE EXCAVATING CONTRACTOR MUST TAKE PARTICULAR CARE WHEN EXCAVATING IN AND AROUND EXISTING UTILITY LINES AND EQUIPMENT. VERIFY COVER REQUIREMENTS BY UTILITY CONTRACTORS AND/OR UTILITY COMPANIES SO AS TO NOT CAUSE DAMAGE.

K. NOTE: UNDERGROUND ELECTRIC SERVICE TO PARKING LOT LIGHTING, LANDSCAPE LIGHTING, AND SIGN NOT SHOWN. COORDINATE LOCATION AND UTILITY CROSSINGS AS REQUIRED.

L. NOTE: UNDERGROUND SITE IRRIGATION LINES NOT SHOWN. COORDINATE LOCATIONS AND OTHER UTILITY CROSSINGS AS REQUIRED.

0 10 20 30 40
SCALE: 1"=20'

MISSOURI ONE CALL SYSTEM
1-800-DIG-RITE or 811
MAKE THE CALL . . . IT'S THE LAW

REVISION/DATE/DESCRIPTION

CITY REVIEW 08/06/2021

WHATABURGER

ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

PROJECT

PROPOSED PT20M BUILDING TYPE

1921 W FOXWOOD DR. (MO-58 AND WESTGATE DRIVE) RAYMORE, MO

SHEET TITLE

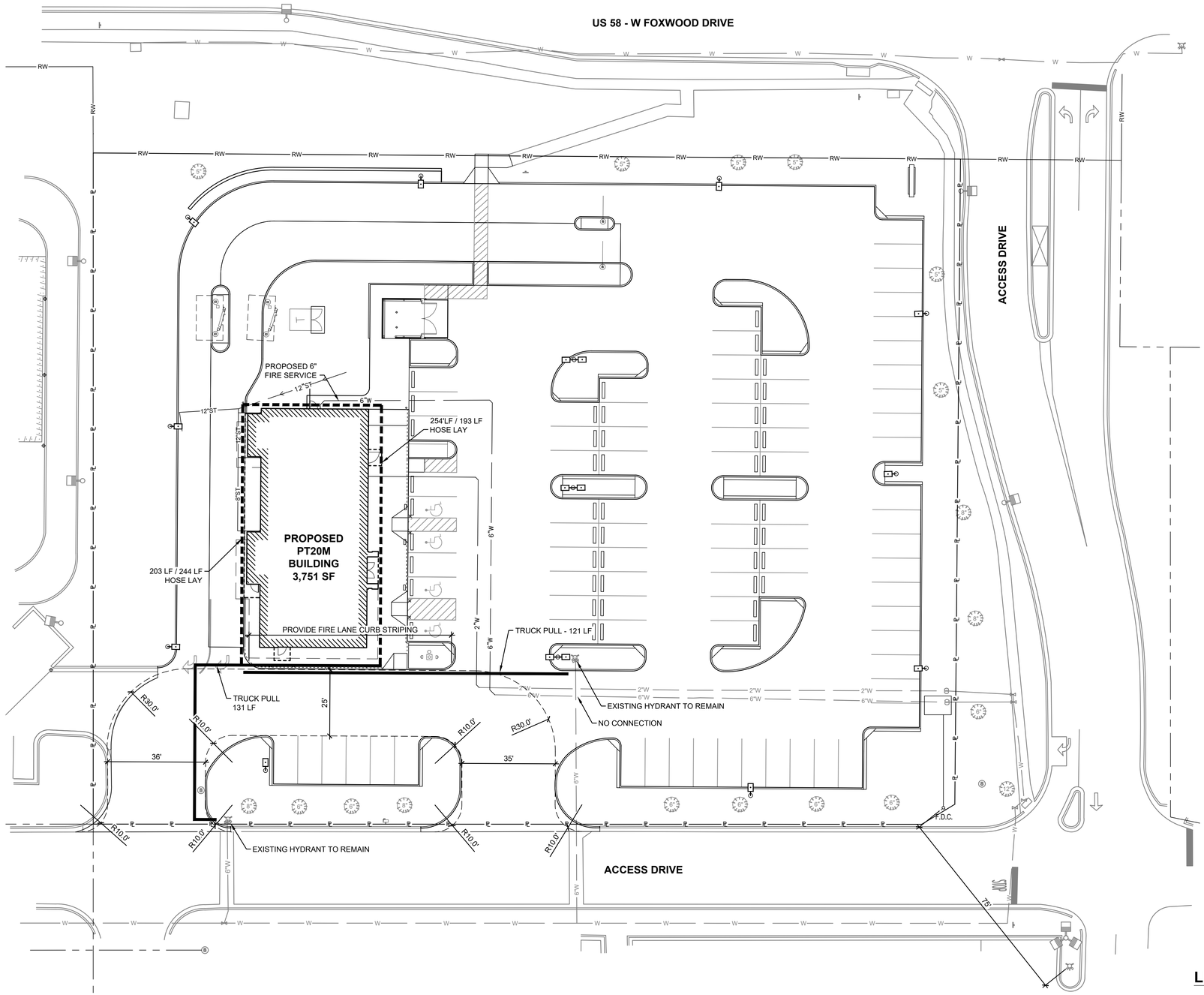
SITE UTILITY PLAN

NOT FOR CONSTRUCTION

DRAWN BY:	DCS
CHECKED BY:	PJK
PROJECT NO:	40497-10

DRAWING

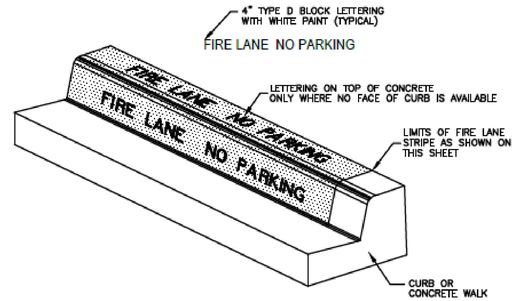
C-8



GENERAL NOTES:

A DETAILS SHOWN ON THIS SHEET ARE SCHEMATIC. CONTRACTOR TO CONFIRM MARKINGS CONFORM TO ALL CODES AND REGULATIONS.

B THE FIRE DEPARTMENT CONNECTION (FDC):
- MUST BE EQUIPPED WITH A 5" STORZ CONNECTION;
- MUST BE ANGLED DOWN WITH A 30° DOWNTURN;
- MUST BE EQUIPPED WITH A LOCKING KNOX FDC CAP;
- MUST BE INSTALLED NO HIGHER THAN 48" ABOVE GRADE;
- AND MUST BE PROVIDED WITH PROTECTION POSTS NO CLOSER THAN 36".



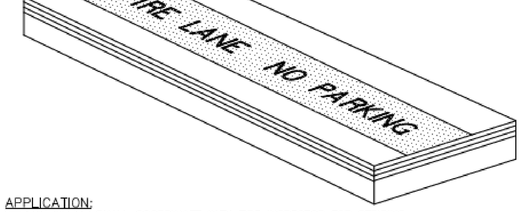
MARKINGS

APPLICATION:

1. ON 6" CURB:
   PAINT RED LANE STRIPE ON BOTH FACE AND TOP OF CURB
   PAINT WHITE LETTERS ON FACE OF CURB ONLY
2. LOW CURB (HEADER CURB) OR CONCRETE PAVEMENT:
   PAINT RED LANE STRIPE AND WHITE LETTERS ON TOP OF CURB
3. 15 FEET SPACING BETWEEN THE BEGINNING OF THE WHITE LETTERING.

FIRE LANE STRIPING DETAIL

NOT-TO-SCALE



APPLICATION:

1. CONTRACTOR SHALL COORDINATE WITH FIRE INSPECTOR FOR STRIPING LOCATIONS.
2. PAINT A 6" WIDE RED STRIPE LOCATED 3" OFF EDGE OF PAVEMENT WITH 4" WHITE LETTERING ON RED STRIPE.
3. SEE SITE, STRIPING AND DIMENSIONAL CONTROL PLAN FOR CURB TYPES & LOCATIONS.
4. 15 FOOT SPACING BETWEEN THE BEGINNING OF THE WHITE LETTERING.

TYPICAL FIRE LANE MARKING DETAIL

NOT TO SCALE

LEGEND

EXISTING	PROPOSED	DESCRIPTION
PL		PROPERTY LINE
RW		RIGHT-OF-WAY LINE
W	W	WATER LINE
		FIRE HYDRANT
		FIRE LANE
		FIRE HOSE HAND LAY
		FIRE HOSE TRUCK PULL
F.D.C.	F.D.C.	FIRE DEPARTMENT CONNECTION

0 10 20 30 40

SCALE: 1"=20'

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fax 614.898.7570

PROJECT

PROPOSED PT20M BUILDING TYPE

1921 W FOXWOOD DR. (MO-58 AND WESTGATE DRIVE) RAYMORE, MO

SHEET TITLE

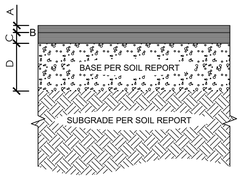
FIRE PROTECTION PLAN

NOT FOR CONSTRUCTION

DRAWN BY:	DCS
CHECKED BY:	PJK
PROJECT NO:	40497-10

DRAWING

C-9



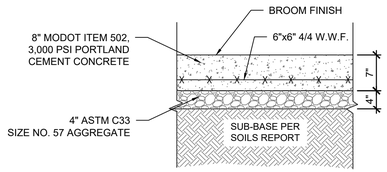
HEAVY DUTY PAVING

A = 1.5" ASPHALT CONCRETE
(MODOT ITEM 403, SURFACE COURSE)
B = TACK COAT (0.05 GAL/S.Y.)
C = 2.5" ASPHALT CONCRETE
(MODOT ITEM 403, INTERMEDIATE COURSE)
D = 6" AGGREGATE BASE
(MODOT ITEM 304, TYPE 5)

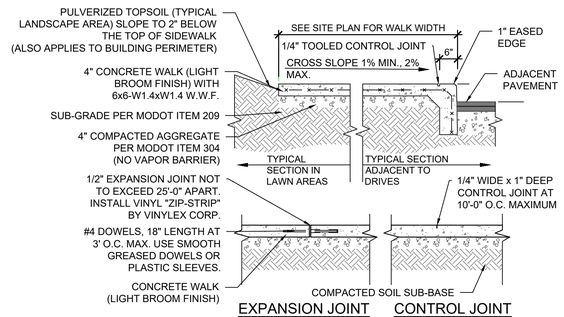
NOTES

A. SUBGRADE COMPACTION: PER THE GEOTECHNICAL ENGINEERING REPORT PREPARED BY TERRACON CONSULTANTS, INC., DATED JUNE 18, 2021.
B. BASE COURSE TO CONFORM TO MODOT STANDARDS FOR BASE COURSE COMPACTED TO 100% OF THE MODIFIED PROCTOR (ASTM D-1557) MAXIMUM DRY DENSITY.
C. ALL SUBGRADE AND PAVEMENT OPERATIONS AND MATERIALS SHALL MEET THE MINIMUM REQUIREMENTS OF THE CURRENT MODOT SPECIFICATIONS.
D. PROOF ROLL PAVEMENT SUBGRADE WITHIN TWO (2) DAYS PRIOR TO COMMENCEMENT OF PAVING OPERATIONS. PROOF ROLL SHOULD BE COMPLETED USING A LOADED TANDEM-AXLE DUMP TRUCK WITH A MINIMUM GROSS WEIGHT OF 20 TONS OR SIMILARLY LOADED RUBBER-TIRE EQUIPMENT.

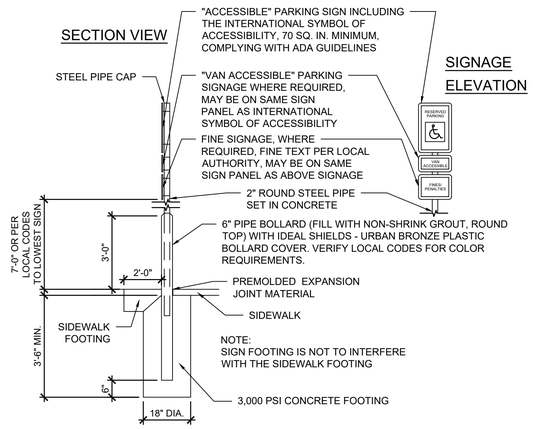
A / C-10 ASPHALT PAVING SECTION
N.T.S.



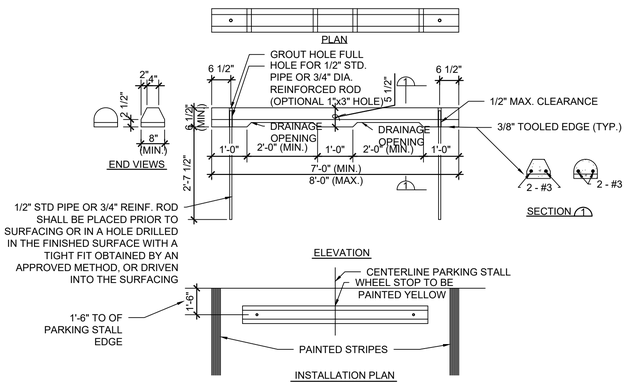
B / C-10 TRASH ENCLOSURE APRON DETAIL
N.T.S.



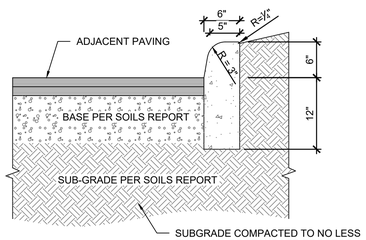
C / C-10 CONCRETE WALK
N.T.S.



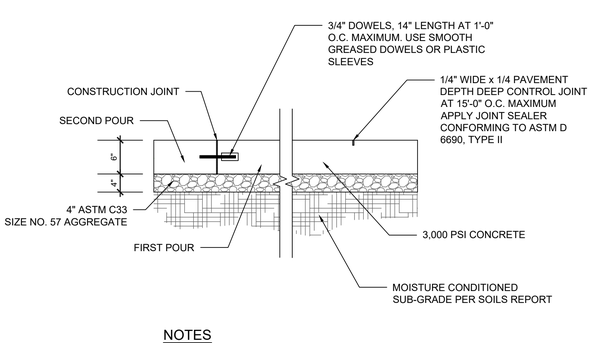
D / C-10 POLE-MOUNTED HANDICAP PARKING SIGN
N.T.S.



E / C-10 PRE-CAST CONCRETE WHEEL STOP
N.T.S.



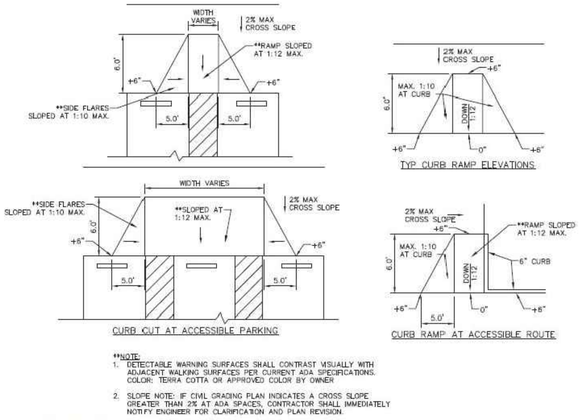
F / C-10 CURB DETAIL
N.T.S.



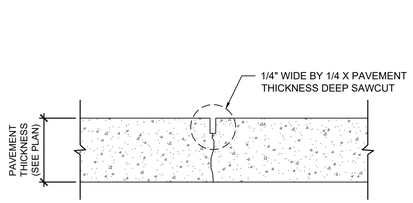
NOTES

A. SUB-GRADE COMPACTION PER SOILS REPORT.
B. ALL SUB-GRADE AND PAVEMENT OPERATIONS AND MATERIALS SHALL MEET THE MINIMUM REQUIREMENTS OF THE CURRENT MODOT SPECIFICATIONS.
C. ANY CONCRETE WITHIN PUBLIC RIGHT-OF-WAY SHALL MEET SPECIFICATIONS OF KCMMB 4K MIX.

G / C-10 HEAVY DUTY CONCRETE PAVEMENT
N.T.S.

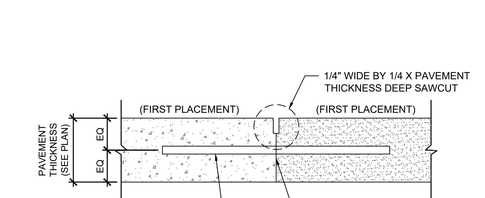


H / C-10 CURB RAMP
N.T.S.

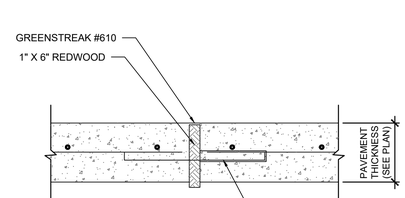


NOTE:
A. SEE PLAN FOR JOINT SPACING.

CONTRACTION JOINT



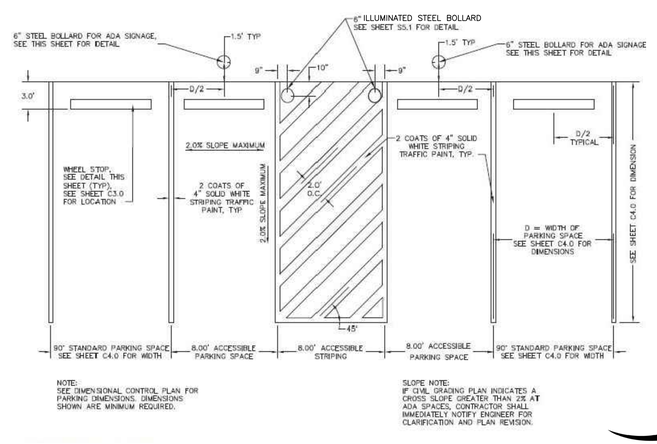
CONSTRUCTION JOINT



NOTES:
A. ENSURE JOINTS ARE CLEAN AND DRY PRIOR TO THE APPLICATION OF THE GREENSTREAK #610.
B. INSTALL REDWOOD PLANK AFTER JOINTS HAVE BEEN CLEANED AND DRIED.
C. GREENSTREAK #610 APPLICATION SHALL BE IN STRICT COMPLIANCE WITH MANUFACTURER'S REQUIREMENTS.

EXPANSION JOINT

I / C-10 CONCRETE JOINT DETAILS
N.T.S.



J / C-10 PARKING STRIPING
N.T.S.

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REVISION/DATE/DESCRIPTION

CITY REVIEW 08/06/2021

NOTICE

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ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

PROJECT

PROPOSED PT20M BUILDING TYPE

1921 W FOXWOOD DR.
(MO-58 AND WESTGATE DRIVE)
RAYMORE, MO

SHEET TITLE

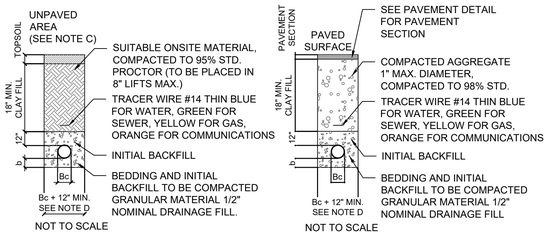
SITE DETAILS

NOT FOR CONSTRUCTION

DRAWN BY: DCS
CHECKED BY: PJK
PROJECT NO: 40497-10

DRAWING

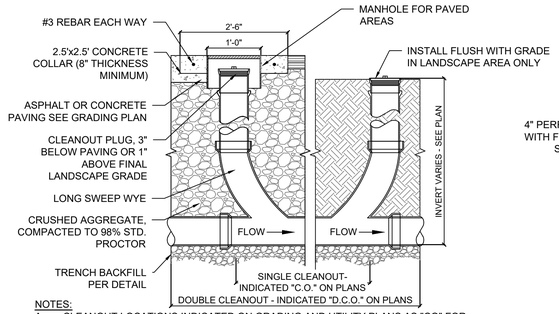
C-10



TRENCH / BACKFILL NOTES

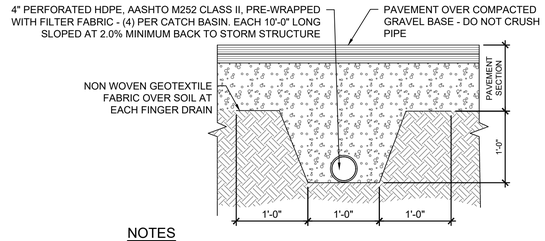
A. BEDDING THICKNESS UNDER PIPE BARREL b, SHALL BE 1/8 OF Bc; 6" MIN. Bc IS OUTSIDE DIAMETER OF PIPE AT BELL.
B. THE HAUNCH AREA OF THE PIPE MUST BE FULLY SUPPORTED; THEREFORE THE BEDDING MATERIAL SHALL BE HAND PLACED AND COMPACTED UNDER THE PIPE HAUNCH.
C. IF UNPAVED AREA IS WITHIN 10' OF PAVEMENT OR STRUCTURE THEN FOLLOW TRENCH GUIDELINES FOR PAVED AREA.
D. PIPE DIAMETER OF 4" OR SMALLER SHALL HAVE A MAXIMUM TRENCH WIDTH OF 12".
E. BEDDING AND INITIAL BACKFILL SHALL BE SAND FOR ALL UTILITY CONDUIT CARRYING WATER, ELECTRIC, GAS, AND TELEPHONE.

A C-11 TRENCH BACKFILL DETAIL N.T.S.



NOTES:
A. CLEANOUT LOCATIONS INDICATED ON GRADING AND UTILITY PLANS AS "CO" FOR SINGLE CLEANOUT AND "DCO" FOR DOUBLE CLEAN OUT.
B. PROVIDE CLEANOUTS AS SPECIFIED:
1. ZURN Z-1400 CLEANOUTS IN NON-TRAFFIC AREAS AND SIDEWALKS
2. ZURN-1449 CLEANOUTS IN LANDSCAPED AREAS
3. ZURN Z-1400 HD CLEANOUTS IN TRAFFIC AREAS WITH A "SERVICE STATION" TYPE MANHOLE, OPW #104 A12 - DOVER CORP./OPW DIV.

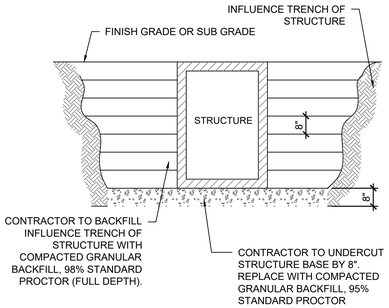
B C-11 PIPE CLEANOUT DETAIL N.T.S.



NOTES

A. THE INTENTION OF THE FINGER DRAIN SYSTEM IS TO PREVENT EXCESS WATER ACCUMULATION AT THE LOW POINTS IN THE GRAVEL BASE AT DRAINAGE STRUCTURES. SYSTEM TO BE INSTALLED TO ASSURE ADEQUATE DRAINAGE OF PAVEMENT BASE.

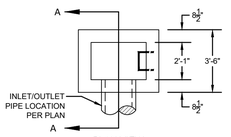
C C-11 FINGER DRAIN N.T.S.



STRUCTURE BACKFILL NOTES

A. BACKFILL TO BE PLACED IN 8" LIFTS
B. NO ON SITE FILL WILL BE ALLOWED FOR UTILITY STRUCTURES.

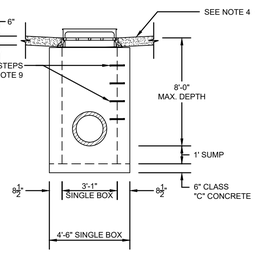
D C-11 STRUCTURE BACKFILL N.T.S.



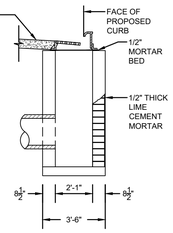
PLAN VIEW
(CASTING REMOVED)

CASTING SPECIFICATIONS		
	NEENAH	EAST JORDAN
SINGLE BOX FRAME	R-3290	7030
DOUBLE BOX FRAME	R-3295-A	7031
TRIPLE BOX FRAME	R-3295-B	7032
GRATE (SUMPS)	TYPE C	TYPE M2
VANE GRATE (SLOPES)	TYPE V	TYPE M4
DRIVEWAY FRAME & GRATE	R-3290-A	7034

ALL FRAMES, GRATES & CURB BOXES FOR CURB & GUTTER INLETS SHALL MEET THE ABOVE SPECIFICATIONS, OR SHALL BE APPROVED EQUALS.



ELEVATION



SECTION A-A

NOTES:
1. PRECAST WALLS SHALL HAVE A MINIMUM THICKNESS OF 6" AND BE REINFORCED SUFFICIENTLY TO PERMIT SHIPPING AND HANDLING WITHOUT DAMAGE.

2. THE INLET BOTTOM SHALL BE SHAPED TO PROVIDE SLOPE OF 3" TO 4" TO OUTLET PIPE. THE CROSS SECTIONAL FORM OF BOTTOM AND LONGITUDINAL SLOPE IS TO BE ADAPTED TO LOCATION OF OUTLET PIPE AS DIRECTED.

3. INLET/OUTLET PIPE LOCATION PER PLAN.

4. THE EXISTING GUTTER WITHIN THE AREA AROUND THE INLET WHERE CUT OUT, SHALL BE REPLACED WITH CLASS QC1 CONCRETE OR ASPHALT CONCRETE PAVING AS ORDERED.

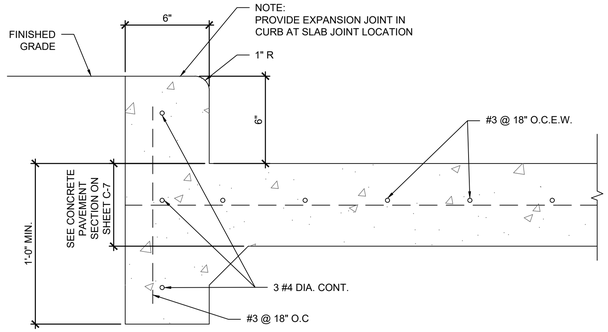
5. THE BACKFILLING WITHIN PROPOSED PAVED AREAS SHALL BE WELL TAMPED IN LAYERS NOT EXCEEDING 4" IN THICKNESS, LOOSE MEASUREMENT, OR BACKFILLED WITH AN APPROVED MATERIAL.

6. WALLS MAY BE BRICK, PRECAST SOLID CONCRETE BLOCKS, OR CAST IN PLACE CONCRETE, CLASS QC1 OR PRECAST CONCRETE.

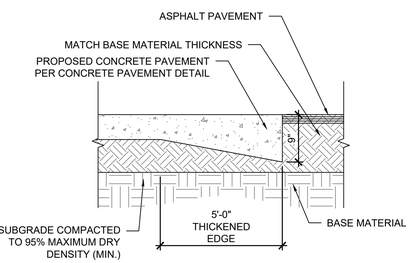
7. MAXIMUM PIPE DIAMETERS ARE 18" INTO SIDE WALLS AND 27" INTO FRONT AND BACK WALLS FOR SINGLE BOX INLETS.

8. STEPS SHALL MEET THE REQUIREMENTS OF ASTM C478, AND SHALL BE INSTALLED WITH A UNIFORM VERTICAL SPACING OF 12" TO 16".

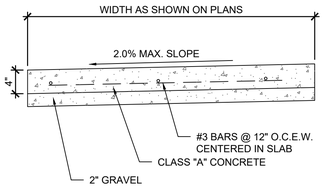
E C-11 CURB INLET DETAIL N.T.S.



F C-11 MONOLITHIC CURB DETAIL N.T.S.



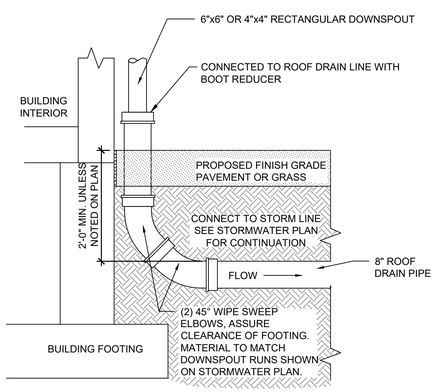
G C-11 PAVEMENT TRANSITION N.T.S.



NOTES:
1. CONCRETE FOR SIDEWALK SHALL BE 3,000 PSI MINIMUM.

2. CONCRETE NOSE SHALL BE DOWELED INTO ADJACENT CURB

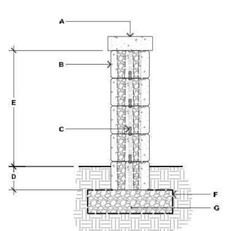
H C-11 CONCRETE CURB NOSE DETAIL N.T.S.



I C-11 EXTERIOR DOWNSPOUT BOOT N.T.S.

INSTALLATION GUIDE

FREESTANDING WALLS - RAFFINATO 90 mm & 180 mm



RAFFINATO 90 mm & 180 mm

- **A.** TECHO-BLOC CAP UNIT SECURED TO UNIT BELOW WITH CONCRETE ADHESIVE
- **B.** RAFFINATO 90 mm AND 180 mm DOUBLE-SIDED WALL UNITS SECURE EACH ROW WITH CONCRETE ADHESIVE
- **C.** CONNECTOR
- **D.** EMBEDMENT DEPTH, 6" (150 mm) MIN.
- **E.** 29 7/8" (750 mm) MAX.
- **F.** GEOTEXTILE
- **G.** COMPACTED GRANULAR LEVELING PAD, 6" (150 mm) THICK MIN. THICKNESS ACCORDING TO PROJECT SPECIFIC CONDITIONS

J C-11 FREESTANDING MODULAR BLOCK WALL WITH CAP UNIT N.T.S.

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REVISION/DATE/DESCRIPTION

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PROJECT

PROPOSED PT20M BUILDING TYPE

1921 W FOXWOOD DR. (MO-58 AND WESTGATE DRIVE) RAYMORE, MO

SHEET TITLE

SITE DETAILS

NOT FOR CONSTRUCTION

DRAWN BY:	DCS
CHECKED BY:	PJK
PROJECT NO:	40497-10

DRAWING

C-11

ADS® Barracuda™ Max

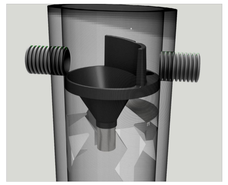
The Barracuda Max is market-changing stormwater quality technology. This high-performance vortex hydrodynamic separator is designed to remove total suspended solids in order to protect our precious receiving waters. The Barracuda Max is also an outstanding value that offers multiple pipe configurations, and quick installation. The "Max" version of the Barracuda is built on the base platform of the original ADS Barracuda with improved removal efficiencies and installation components.

Features

- Single manhole design
- No elevation loss between the inlet and outlet
- Variable inlet/outlet angle configurations (not just 180 degree orientation)
- Internal bypass for inline installation (where applicable)
- Revolutionary, patent-pending "teeth" mitigate turbulence in the sump area to prevent re-suspension of captured contaminants and an added deflector plate and bowl extension enhance the unit's removal capabilities

Benefits

- Internal components are in stock for quick delivery
- The S3, S4, S6, and S8 can be installed in a standard 36" (900 mm), 48" (1200 m), 72" (1800 m), and 96" (2400 m) precast manhole, respectively
- The S3 & S4 can be provided factory installed within a 36" (900 mm) and 48" (1200 mm) ADS HP manhole and delivered to the jobsite
- The Barracuda Max "teeth" and deflector plate apparatus are fabricated and designed for quick and easy field assembly
- Designed for easy maintenance using a vacuum truck or similar equipment.
- Inspection and maintenance are performed from the surface with no confined space entry



Barrucuda Specification

Materials and Design

- Concrete Structures: Designed for H-20 traffic loading and applicable soil loads or as otherwise determined by a Licensed Professional Engineer. The materials and structural design of the devices shall be per ASTM C857 and ASTM C858.
- 36" (900 mm) and 48" (1200 mm) HP Manhole Structures: Made from an impact modified copolymer polypropylene meeting the material requirements of ASTM F2764. The eccentric cone reducer shall be manufactured from polyethylene material meeting ASTM D3350 cell class 213320C. Gaskets shall be made of material meeting the requirements of ASTM F477.
- Separator internals shall be substantially constructed of stainless steel, polyethylene or other thermoplastic material approved by the manufacturer.

Performance

- The stormwater treatment unit shall be an inline unit capable of conveying 100% of the design peak flow. If peak flow rates exceed maximum hydraulic rate, the unit shall be installed offline.
- The Barracuda Max unit shall be designed to remove at least 80% of the suspended solids on an annual aggregate removal basis. Said removal shall be based on full-scale third party testing using OK-110 media gradation or equivalent and 300 mg/L influent concentration. Said full scale testing shall have included sediment capture based on actual total mass collected by the stormwater treatment unit.

  - OR -

  The Barracuda Max unit shall be designed to remove at least 50% of TSS using a media mix with d_{50}=75 micron and 200 mg/L influent concentration.

  - OR -

  The Barracuda Max unit shall be designed to remove at least 50% of TSS per current NJDEP/NJCAT HDS protocol.
- The stormwater treatment unit internals shall consist of (1) separator cone assembly, and (1) sump assembly, which includes the "teeth".

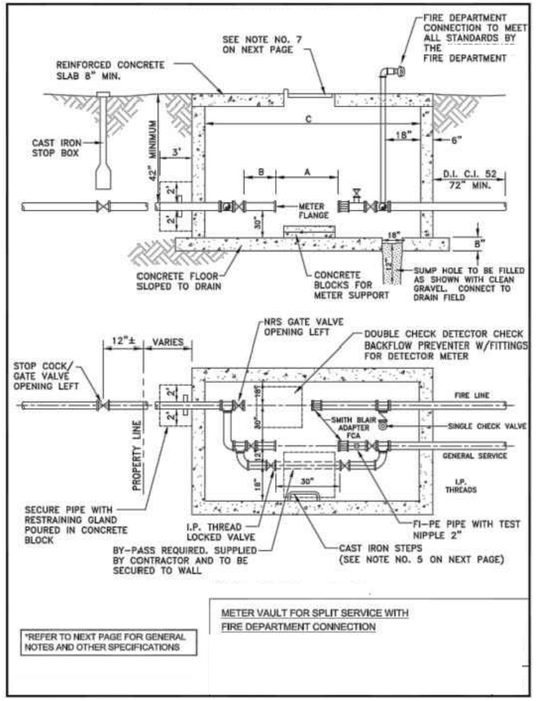
Barracuda Max Model	Manhole Diameter	NJDEP (50% removal)	OK-110 (80% removal)
S3	36" (900 mm)	0.85 CFS (24.1 L/s)	0.86 CFS (24.1 L/s)
S4	48" (1200 mm)	1.52 CFS (43.0 L/s)	1.52 CFS (43.0 L/s)
S6	72" (1800 mm)	3.40 CFS (96.3 L/s)	3.42 CFS (96.8 L/s)
S8	96" (2400 mm)	6.08 CFS (172.2 L/s)	6.08 CFS (172.2 L/s)

* Peak bypass flows are dependent on final design

Installation

Installation of the stormwater treatment unit(s) shall be performed per manufacturer's installation instructions. Such instructions can be obtained by calling Advanced Drainage Systems at 800-821-6710 or by logging on to www.adspipe.com.

adspipe.com
800-821-6710



*REFER TO NEXT PAGE FOR GENERAL NOTES AND OTHER SPECIFICATIONS

METER VAULT FOR SPLIT SERVICE WITH FIRE DEPARTMENT CONNECTION

METER VAULT FOR SPLIT SERVICE WITH FIRE DEPARTMENT CONNECTION

GENERAL RULES:

1. METER VAULT WALLS TO BE POURED CONCRETE, CONCRETE BLOCK OR PRECAST CONCRETE.
2. METER VAULT ROOF TO BE REINFORCED CONCRETE WITH OPENING CENTERED OVER GENERAL SERVICE METER ON FIRE LINE DETECTOR CHECK VALVE.
3. METER VAULT TO BE LOCATED, WHEN POSSIBLE, OUTSIDE TRAFFIC AREA AND WHERE SURFACE WATER WILL NOT DRAIN INTO IT. VAULT MUST BE KEPT FREE OF WATER.
4. DUCTILE IRON CLASS 52 OR TYPE "K" OR "L" COPPER THROUGH VAULT.
5. CAST IRON STEPS CLAY & BAILEY 2104 OR APPROVED EQUAL TO BE ON 16" CENTERS.
6. VALVES ON EACH SIDE OF GENERAL SERVICE METER FOR 1-1/2" OR 2" SERVICE TO HAVE SCREW ENDS. I.P. THREADS: FOR 3" AND ABOVE VALVES MUST HAVE FLANGED ENDS, BE IN ALIGNMENT AND BE ADEQUATELY SECURED TO WITHSTAND WATER THRUST WITH METER REMOVED.
7. NON-TRAFFIC: BILCO "K-1" SINGLE LEAF ALUMINUM, CLAY & BAILEY 2213 OR APPROVED EQUAL. IN TRAFFIC: CLAY & BAILEY 2215, RING AND LID WITH HANDLE AND OUTER LID OR APPROVED EQUAL. NON-TRAFFIC METERS ARE PREFERED; HOWEVER, IF A NON-TRAFFIC AREA IS NOT PROVIDED, VAULTS IN TRAFFIC WILL BE ALLOWED UNDER THE FOLLOWING CIRCUMSTANCES: IF IN PAVED OR CONCRETE AREA WHERE CARS WILL DRIVE OR PARK, THE METER VAULT MUST HAVE 4" STEEL POST BOLLARDS INSTALLED AROUND IT. BOLLARDS ARE TO BE FILLED WITH CONCRETE EXTENDING 48" ABOVE GROUND.
8. A DEPARTMENT OF NATURAL RESOURCES (DNR) APPROVED DOUBLE CHECK DETECTOR CHECK BACKFLOW PREVENTER MUST BE USED. AS OF 1 JANUARY 1987 THE DNR REQUIRES THAT FIRE SPRINKLER SYSTEMS USING CHEMICALS MUST HAVE A DNR APPROVED REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTER INSTALLED. THIS DEVICE CAN BE INSTALLED IN AN UNDERGROUND VAULT ONLY WITH THE WRITTEN APPROVAL OF THE DNR WITH A COPY TO THE ENGINEERING DIVISION OF THE WATER DEPARTMENT
9. CONTACT THE SERVICE DIVISION OF THE WATER DEPARTMENT BEFORE INSTALLING THE VAULT.

SIZE (***)	BY-PASS SIZE (*)	GENERAL SERVICE A	GENERAL SERVICE B	FIRELINE 10" C	FIRELINE 8" C	FIRELINE 6" C	FIRELINE 4" C
1-1/2" (**)	NA	13"	12"	140"	130"	130"	130"
2" (**)	NA	17"	16"	140"	130"	130"	130"
3"	1-1/2"	19-3/4"	24"	159"	157"	156"	155"
4"	2"	23-3/4"	32"	174"	172"	171"	170"
6"	3"	27-3/4"	48"	206"	204"	203"	202"

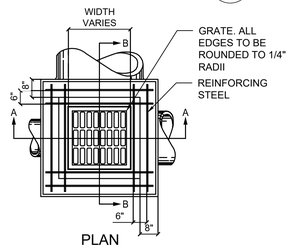
(*) IF HIGH CONTINUOUS RATE OF FLOW IS REQUIRED, A LARGER BY-PASS MAY BE PERMITTED, BUT NOT LARGER THAN PRIMARY DOMESTIC SERVICE

(**) FORD METER SETTER VV866 OR VV877 WITHOUT BY-PASS OR APPROVED EQUAL

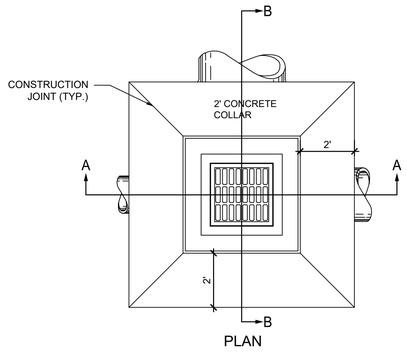
(***) FOR 5/8", 3/4" AND 1" METERS USE FORD YOKE #501, 502 OR 503 OR APPROVED EQUAL. NO BY-PASS REQUIRED.

METER VAULT FOR SPLIT SERVICE WITH FIRE DEPARTMENT CONNECTION

C OUTLET CONTROL STRUCTURE
C-12/N.T.S.



PLAN



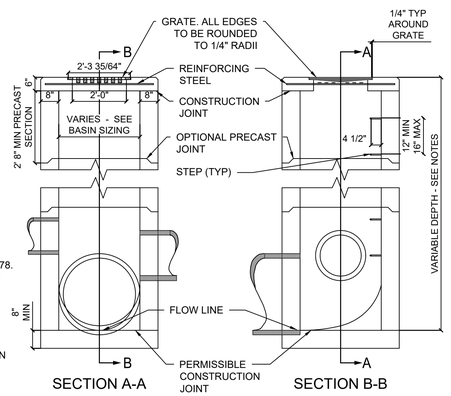
PLAN

BASIN SIZING		
INSIDE DIMENSION	PIPE SIZE	TOP SLAB REINFORCING AT 6" O.C.
3'-0" x 3'-0"	12" TO 33"	(8) #4 BARS
4'-0" x 4'-0"	36" TO 42"	(12) #4 BARS

CONCRETE TABLE					
AGGREGATE	DRY AGGREGATES (LB/C.Y.)			CEMENT CONTENT (LB/C.Y.)	WATER-CEMENT RATIO (MAX)
	FINE	COARSE	TOTAL		
GRAVEL	1160	1735	2895	600	0.5
LIMESTONE	1285	1630	2915	600	0.5
SLAG	1350	1360	2710	600	0.5

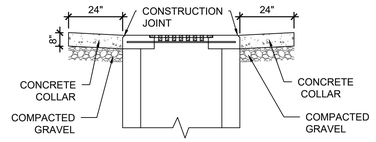
NOTES

A. GRATE: EJ NO. 5115M2, 5115Z OR APPROVED EQUAL.
NEENAH NO. 4852, 1893-0018 OR APPROVED EQUAL.
WALLS: CAST-IN-PLACE WALLS SHALL HAVE A NOMINAL THICKNESS OF 8". PRECAST WALLS SHALL HAVE A MINIMUM THICKNESS OF 6" AND BE REINFORCED SUFFICIENTLY TO SHIPPING AND HANDLING WITHOUT DAMAGE. PRECAST TOPS SHALL BE 8" THICK.
STEPS: STEPS SHALL BE PROVIDED WHERE THE DEPTH OF THE STRUCTURE EXCEEDS 6'.
CONCRETE: CAST-IN-PLACE CONCRETE TO MEET THE COMPOSITION SPECIFIED IN THE CONCRETE TABLE. ALL PRECAST CONCRETE SHALL MEET THE REQUIREMENTS OF ASTM C478.
B. INLETS OVER 12' IN DEPTH SHALL BE PRECAST OR CAST-IN-PLACE CONCRETE; REINFORCED WITH #4 BARS ON 12" CENTERS BOTH VERTICALLY AND HORIZONTALLY WITH 2" CLEARANCE FROM INSIDE WALL FACE.
PRECAST BASE: IF A PRECAST BASE IS USED, IT SHALL BE SET DEEP ENOUGH SO THAT THE TOP CAN BE PLACED ON THE BASE TO PROVIDE THE GRATE ELEVATION SPECIFIED IN THE PLANS. PRECAST GRADE RINGS MAY BE USED TO ADJUST THE TOP ELEVATION. MINIMUM OF TWO COURSES OF BRICK SHALL BE USED TO ADJUST THE TOP ELEVATION.
LOCATION AND ELEVATION: WHEN GIVEN ON THE PLANS, THE LOCATION AND THE ELEVATION ARE AT THE TOP CENTER OF THE GRATE.
MINIMUM DEPTH: THE MINIMUM DEPTH SHALL BE THE OUTSIDE DIAMETER (O.D.) OF THE OUTLET PIPE PLUS 7".
OPENINGS: PIPE OPENINGS SHALL BE THE O.D. OF THE PIPE BEING SUPPLIED PLUS 2" WHEN PREFABRICATED OR FIELD CUT. THE INTERSTITIAL SPACE SHALL BE FILLED WITH GROUT.



A SQUARE CATCH BASIN DETAIL
C-12/N.T.S.

D BACKFLOW PREVENTER METER VAULT FOR SPLIT SERVICE WITH FDC
C-12/N.T.S.

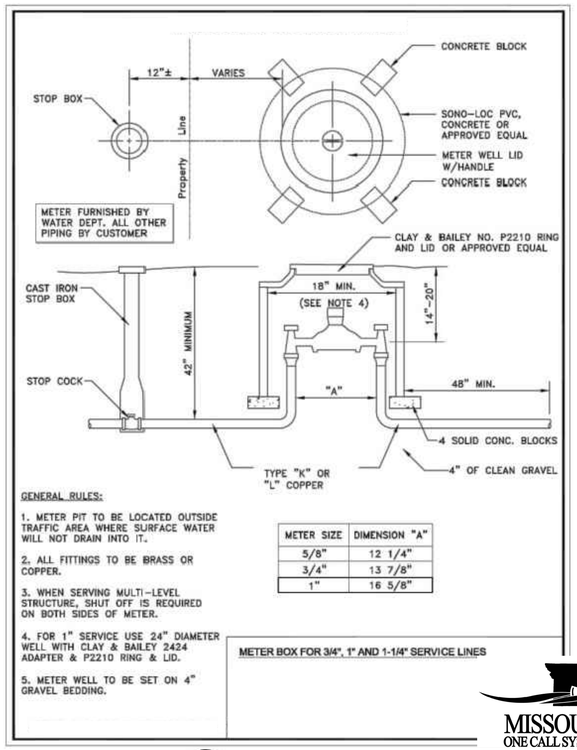


SECTION

NOTES

A. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI
B. CONCRETE COLLAR SHALL SLOPE TO GRATE AT 5.0%

B CATCH BASIN CONCRETE COLLAR
C-12/N.T.S.



GENERAL RULES:

1. METER PIT TO BE LOCATED OUTSIDE TRAFFIC AREA WHERE SURFACE WATER WILL NOT DRAIN INTO IT.
2. ALL FITTINGS TO BE BRASS OR COPPER.
3. WHEN SERVING MULTI-LEVEL STRUCTURE, SHUT OFF IS REQUIRED ON BOTH SIDES OF METER.
4. FOR 1" SERVICE USE 24" DIAMETER WELL WITH CLAY & BAILEY 2424 ADAPTER & P2210 RING & LID.
5. METER WELL TO BE SET ON 4" GRAVEL BEDDING.

METER SIZE	DIMENSION "A"
5/8"	12 1/4"
3/4"	13 7/8"
1"	16 5/8"

METER BOX FOR 3/4", 1" AND 1-1/4" SERVICE LINES

E IRRIGATION METER
C-12/N.T.S.

MISSOURI ONE CALL SYSTEM
1-800-DIG-RITE or 811
MAKE THE CALL . . . IT'S THE LAW

REVISION/DATE/DESCRIPTION

CITY REVIEW 08/06/2021

NOTICE

WHATABURGER

ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

PROJECT

PROPOSED PT20M BUILDING TYPE

1921 W FOXWOOD DR. (MO-58 AND WESTGATE DRIVE) RAYMORE, MO

SHEET TITLE

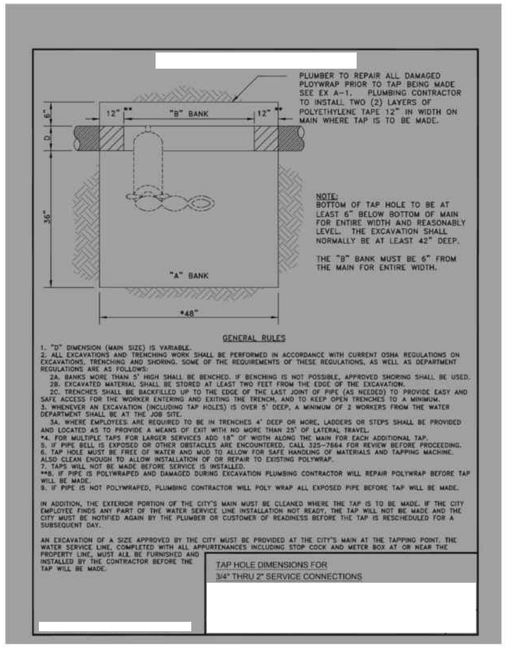
SITE DETAILS

NOT FOR CONSTRUCTION

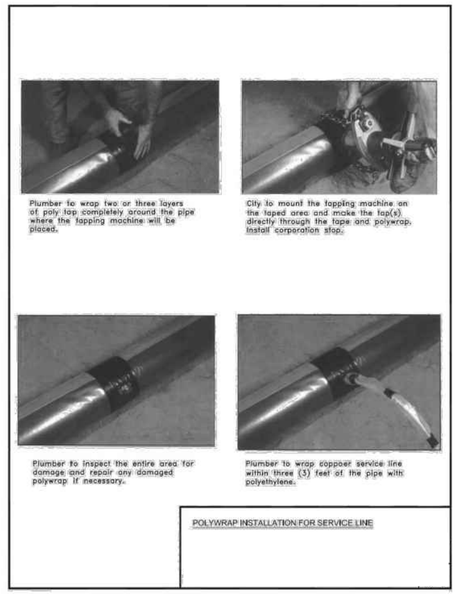
DRAWN BY: DCS
CHECKED BY: PJK
PROJECT NO: 40497-10

DRAWING

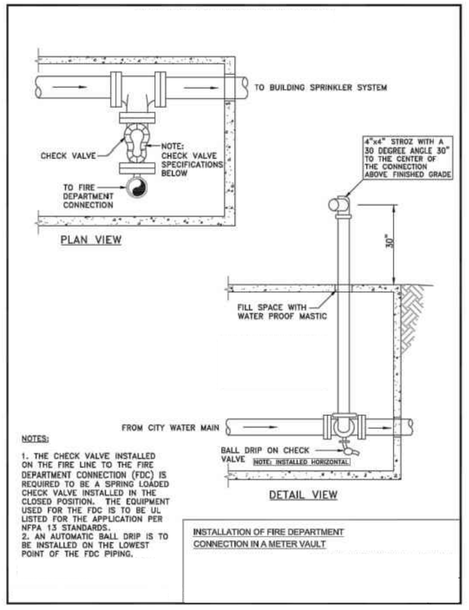
C-12



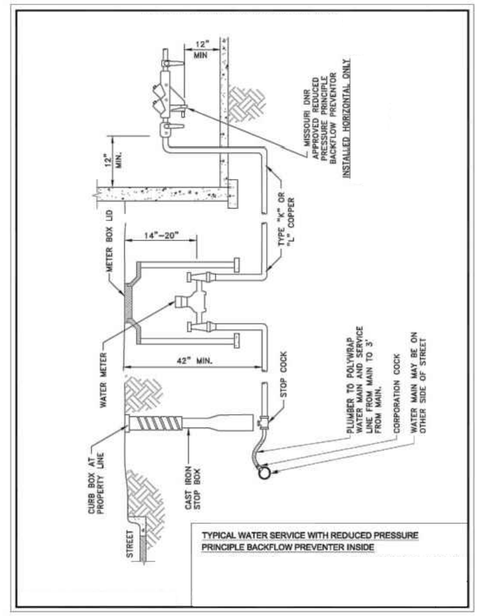
A C-13 TAP HOLE DIMENSIONS FOR SERVICE CONNECTIONS
N.T.S.



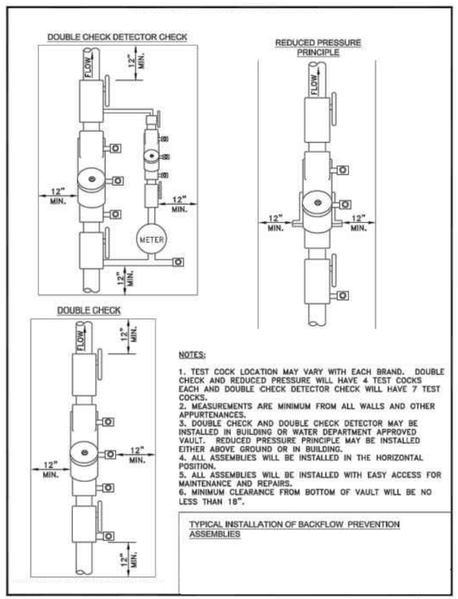
B C-13 INSTALLATION OF A FDC IN A METER VAULT
N.T.S.



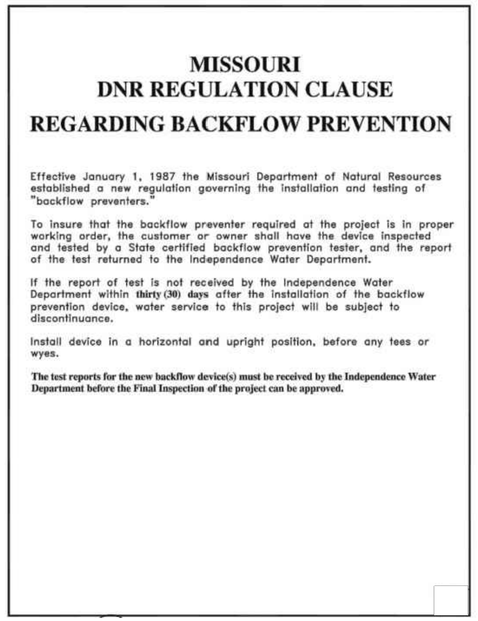
C C-13 INSTALLATION OF A FDC IN A METER VAULT
N.T.S.



D C-13 TYP. WATER W/RED. BACKFLOW PREVENTER INSIDE
N.T.S.



E C-13 BACKFLOW PREVENTER ASSEMBLIES
N.T.S.


MISSOURI
DNR REGULATION CLAUSE
REGARDING BACKFLOW PREVENTION

Effective January 1, 1987 the Missouri Department of Natural Resources established a new regulation governing the installation and testing of "backflow preventers."

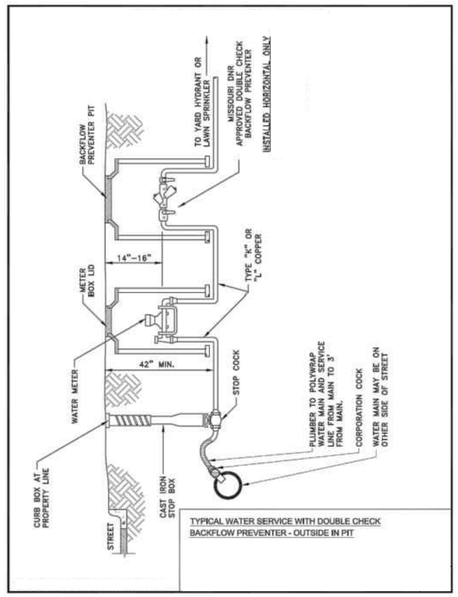
To insure that the backflow preventer required at the project is in proper working order, the customer or owner shall have the device inspected and tested by a State certified backflow prevention tester, and the report of the test returned to the Independence Water Department.

If the report of test is not received by the Independence Water Department within **thirty (30) days** after the installation of the backflow prevention device, water service to this project will be subject to discontinuance.

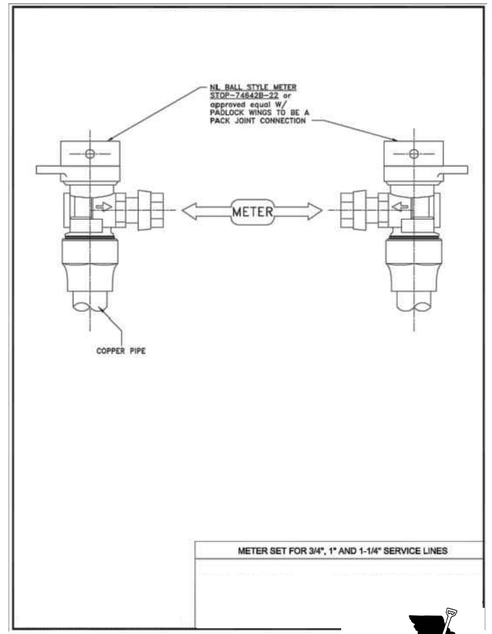
Install device in a horizontal and upright position, before any tees or wyes.

The test reports for the new backflow device(s) must be received by the Independence Water Department before the Final Inspection of the project can be approved.

F C-13 MODNR REGULATION CLAUSE
N.T.S.



G C-13 TYP. WATER SERVICE W/DBL CHECK BACKFLOW PREVENTER OUTSIDE
N.T.S.



H C-13 METER SET FOR SERVICE LINES
N.T.S.

REVISION/DATE/DESCRIPTION

CITY REVIEW 08/06/2021

NOTICE

WHATABURGER

ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

PROJECT

PROPOSED PT20M BUILDING TYPE

1921 W FOXWOOD DR. (MO-58 AND WESTGATE DRIVE) RAYMORE, MO

SHEET TITLE

SITE DETAILS

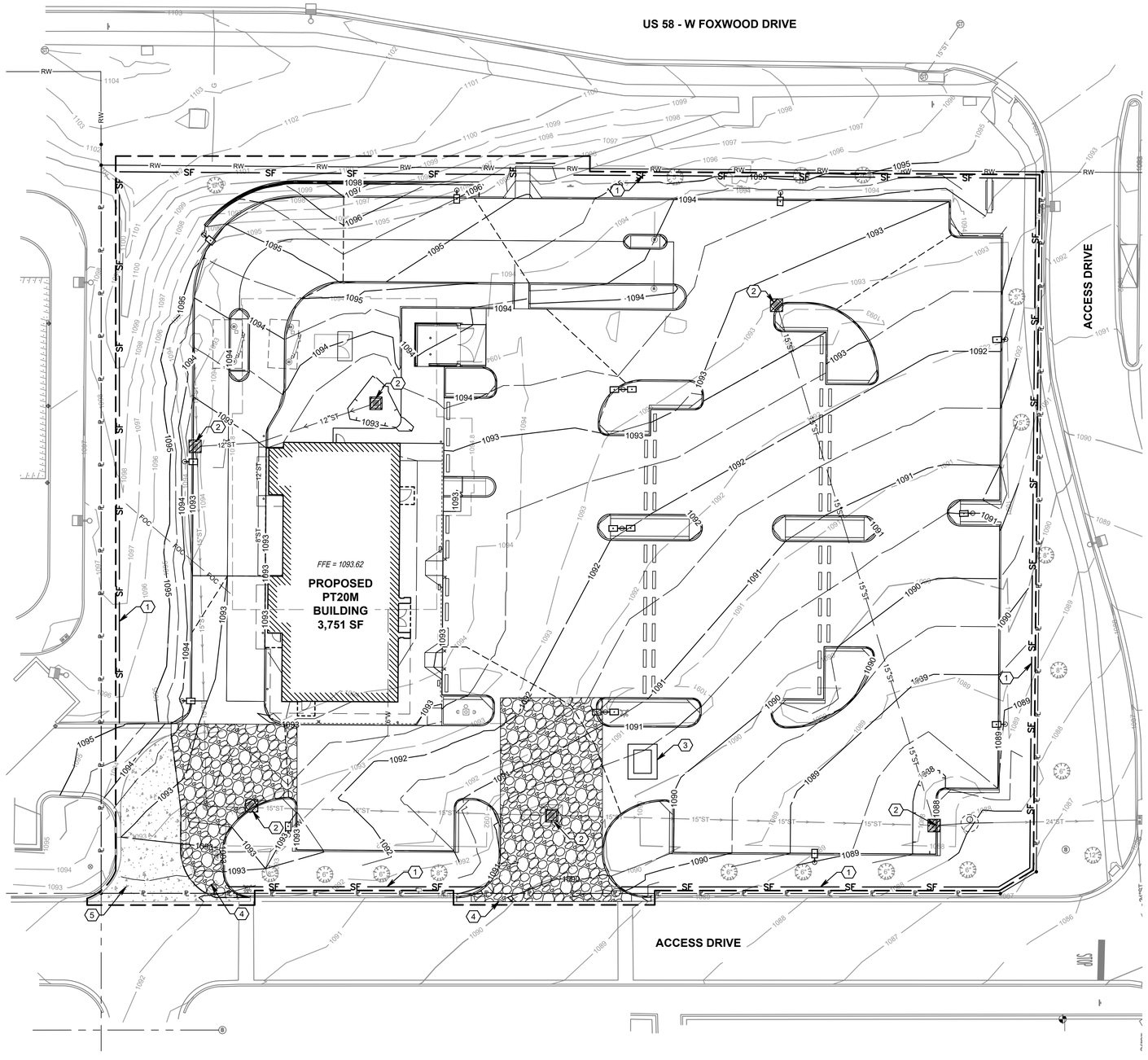
NOT FOR CONSTRUCTION

DRAWN BY: DCS
CHECKED BY: PJK
PROJECT NO: 40497-10

DRAWING

C-13

MISSOURI ONE CALL SYSTEM
1-800-DIG-RITE or 811
MAKE THE CALL . . . IT'S THE LAW



KEYED NOTES:

1. TEMPORARY SILT FENCE, SEE DETAIL A ON THIS SHEET.
2. INLET PROTECTION, SEE DETAIL A ON SHEET C-15.
3. CONCRETE WASHOUT, SEE DETAIL B ON SHEET C-15.
4. CONSTRUCTION ENTRANCE, SEE DETAIL ON SHEET C-16.
5. EXISTING DRIVE PAVEMENT USED TO MAINTAIN VEHICLE ACCESS TO ADJACENT BUSINESSES. SEE DEMOLITION PLAN, SHEET C-3.

LEGEND

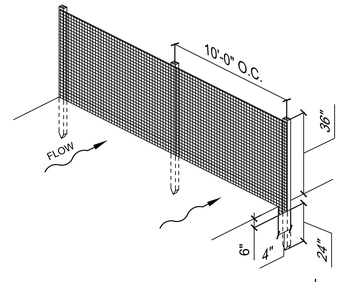
- CONSTRUCTION ENTRANCE
- CONCRETE WASHOUT
- INLET PROTECTION (DANDY BAG)
- CONSTRUCTION LIMIT
- SF — SILT FENCE
- 1094 — EXISTING CONTOUR
- 1094 — PROPOSED CONTOUR

GENERAL NOTES:

1. THIS SEDIMENT BARRIER UTILIZES STANDARD STRENGTH OR EXTRA STRENGTH SYNTHETIC FILTER FABRICS. IT IS DESIGNED FOR SITUATIONS IN WHICH ONLY SHEET OR OVERLAND FLOWS ARE EXPECTED.
2. THE HEIGHT OF A SEDIMENT FENCE SHALL NOT EXCEED 36-INCHES (HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE).
3. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND SECURELY SEALED.
4. POSTS SHALL BE SPACED A MAXIMUM OF 10 FEET APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 12 INCHES). WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 6 FEET.
5. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 4 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
6. WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1-INCH LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
7. THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 8-INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
8. WHEN EXTRA STRENGTH FILTER FABRIC AND CLOSURE POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF ITEM NO. 6 APPLYING.
9. THE TRENCH SHALL BE BACKFILLED AND SOIL COMPACTED OVER THE FILTER FABRIC.
10. SEDIMENT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.

MAINTENANCE:

1. SEDIMENT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
2. SHOULD THE FABRIC ON A SEDIMENT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER IS STILL NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
4. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SEDIMENT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED, AND SEEDED.



A C-14 TEMPORARY SILT FENCE N.T.S.

0 10 20 30 40
SCALE: 1"=20'

MISSOURI ONE CALL SYSTEM
1-800-DIG-RITE or 811
MAKE THE CALL . . . IT'S THE LAW

REVISION/DATE/DESCRIPTION

CITY REVIEW	08/06/2021

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Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

PROJECT

PROPOSED PT20M BUILDING TYPE

1921 W FOXWOOD DR. (MO-58 AND WESTGATE DRIVE) RAYMORE, MO

SHEET TITLE

STORMWATER POLLUTION PROTECTION PLAN

NOT FOR CONSTRUCTION

DRAWN BY:	DCS
CHECKED BY:	PJK
PROJECT NO:	40497-10

DRAWING

C-14

PROJECT NAME AND LOCATION
WHATABURGER
1921 W FOXWOOD DR (US HWY 58 & BANKS RD)
RAYMORE, MO 64083

OWNER NAME AND ADDRESS
WHATABURGER
300 CONCORD PLAZA DR.
SAN ANTONIO, TX 78216
PHONE: (210) 476-6625
CONTACT: MATT BARTHOLOMEW
EMAIL: mbartholomew@wbhq.com

SITE CONTACT
ms consultants, inc.
2221 SCHROCK ROAD
COLUMBUS, OHIO 43229
PHONE: (614) 898-7100
CONTACT: IAN AULTMAN
EMAIL: iaultman@msconsultants.com

GENERAL SCOPE OF PROJECT
THIS PROJECT WILL CONSIST OF A RESTAURANT AND THE CONSTRUCTION OF ASSOCIATED DRAINAGE FACILITIES AND OTHER MISCELLANEOUS SITE WORK.

NATURE OF CONSTRUCTION ACTIVITY (CHECK ALL THAT APPLY)

SUBDIVISION	
COMMERCIAL	X
INDUSTRIAL	
P.U.D.	
OTHER	

SOIL TYPES

RESIDUAL CLAY - FAT CLAY, MEDIUM STIFF TO STIFF, WET
LIMESTONE - HIGHLY TO COMPLETELY WEATHERED, FRACTURED, WITH CLAY (ARGENTINE LIMESTONE MEMBER)

CONSTRUCTION SITE ESTIMATES

TOTAL SITE AREA:	1.839 ACRES
CONSTRUCTION SITE AREA TO BE DISTURBED:	1.839 ACRES
PERCENTAGE IMPERVIOUS AREA BEFORE CONSTRUCTION:	76.90%
RUNOFF COEFFICIENT BEFORE CONSTRUCTION:	0.84
PERCENTAGE IMPERVIOUS AREA AFTER CONSTRUCTION:	73.42%
RUNOFF COEFFICIENT AFTER CONSTRUCTION:	0.86

RECEIVING WATERS

UNIDENTIFIED WATER (460) (RETENTION BASIN/POND)

CONSTRUCTION SEQUENCE
THE ORDER OF MAJOR ACTIVITIES WILL BE AS FOLLOWS:

1. PRE-CONSTRUCTION MEETING
2. BEFORE AND SITE GRADING ACTIVITIES BEGIN
   a. INSTALL PERIMETER SILT FENCES
   b. INSTALL INLET PROTECTION ON EXISTING INLETS
   c. CONSTRUCT TEMPORARY CONSTRUCTION ENTRANCE
3. BEGIN SITE GRADING AND TOPSOIL STRIPPING
   a. ESTABLISH TOPSOIL STOCKPILE WITHIN SILT FENCE PERIMETER
   b. STABILIZE DENUDED AREAS AND STOCKPILES WITHIN 14 DAYS OF LAST CONSTRUCTION ACTIVITY IN THAT AREA
   c. INSTALL EROSION CONTROL MATTING AT LOCATIONS INDICATED ON PLAN
4. INSTALL UTILITIES, SANITARY SEWERS, WATER SERVICES AND STORM SEWERS
6. BEGIN CONSTRUCTION OF BUILDING FOUNDATION AND STRUCTURE
7. INSTALL CURBS, PREPARE PAVEMENT SUBGRADE AND PROVIDE GOOD AGGREGATE BASE TO AREAS TO BE PAVED.
8. PAVE AREAS AND EXTERIOR BUILDING CONSTRUCTION.
9. FINAL GRADING AND PERMANENT SEEDING OF THE NON-PAVED AREAS OF THE SITE WITHIN 7 DAYS OF FINISHING FINAL GRADE
10. ONCE 70% VEGETATIVE COVERAGE IS ACHIEVED, REMOVE EROSION PROTECTION.

POTENTIAL SOURCES OF POLLUTION
CONCRETE
DETERGENTS
WOOD
FERTILIZERS
PAINTS (ENAMEL AND LATEX)
CLEANING SOLVENTS
PETROLEUM BASED PRODUCTS

EROSION AND SEDIMENT CONTROLS

BMP DESCRIPTION:	CLEARING AND GRUBBING
MAINTENANCE AND INSPECTION:	AS NEEDED
REFERENCE:	TECHNICAL SPECIFICATION
BMP DESCRIPTION:	DUST CONTROL
MAINTENANCE AND INSPECTION:	AS NEEDED
REFERENCE:	E&S DETAILS
BMP DESCRIPTION:	TEMPORARY SEEDING AND MULCHING
MAINTENANCE AND INSPECTION:	WEEKLY AND AFTER HEAVY RAIN
REFERENCE:	E&S DETAILS
BMP DESCRIPTION:	PERMANENT SEEDING AND MULCHING
MAINTENANCE AND INSPECTION:	WEEKLY AND AFTER HEAVY RAIN
REFERENCE:	E&S DETAILS
BMP DESCRIPTION:	CONSTRUCTION ENTRANCE
MAINTENANCE AND INSPECTION:	AS NEEDED
REFERENCE:	E&S DETAILS
BMP DESCRIPTION:	ADS - HYDRODYNAMIC SEPARATOR
MAINTENANCE AND INSPECTION:	AS NEEDED
REFERENCE:	O&M MANUAL

POST CONSTRUCTION BMP'S
- 12" SUMPS AT CATCH BASINS
- ADS - HYDRODYNAMIC SEPARATOR
- GREEN SPACE

OTHER SEDIMENT AND EROSION CONTROL NOTES
- TEMPORARY EROSION CONTROLS WILL BE APPLIED PRIOR TO ONSET OF WINTER WEATHER FOR DISTURBED AREAS THAT WILL BE LEFT IDLE OVER WINTER.
- PERMANENT EROSION CONTROLS WILL BE APPLIED WITHIN 7 DAYS FOR DISTURBED AREAS REMAINING DORMANT FOR OVER 1 YEAR OR AT FINAL GRADE.
- SEDIMENT CONTROL DEVICES WILL BE IMPLEMENTED FOR ALL AREAS REMAINING DISTURBED OVER 7 DAYS.

ADDITIONAL BMP'S

OPEN BURNING: NO MATERIALS MAY BE BURNED WHICH CONTAIN RUBBER, GREASE, ASPHALT, OR PETROLEUM PRODUCTS SUCH AS TIRES, CARS, AUTO PARTS, PLASTICS OR PLASTIC COATED WIRE. OPEN BURNING IS NOT ALLOWED IN RESTRICTED AREAS. RESTRICTED AREAS ARE DEFINED AS:

1. WITHIN CORPORATION LIMITS
2. WITHIN 1,000 FEET OF A MUNICIPAL CORPORATION
3. WITHIN A ONE MILE ZONE OUTSIDE OF A CORPORATION OF 10,000 OR MORE

OUTSIDE THE RESTRICTED AREA, NO OPEN BURNING CAN TAKE PLACE WITHIN 1,000 FEET OF AN INHABITED BUILDING LOCATED OFF THE PROPERTY WHERE THE FIRE IS SET. OPEN BURNING IS PERMISSIBLE IN A RESTRICTED AREA FOR THE FOLLOWING ACTIVITIES: HEATING TAR, WELDING AND ACETYLENE TORCHES, SMUDGE POTS AND SIMILAR OCCUPATIONAL NEEDS, AND HEATING OR WARMTH FOR OUTDOOR BARBEQUES. OUTSIDE OF RESTRICTED AREAS, OPEN BURNING IS PERMISSIBLE FOR LANDSCAPE WASTES (PLANT MATERIAL), LAND-CLEARING WASTES (PLANT MATERIAL, WITH PRIOR WRITTEN PERMISSION FROM EPA), AND AGRICULTURAL WASTES (MATERIAL GENERATED BY CROP, HORTICULTURAL, OR LIVESTOCK PRODUCTION PRACTICES.

DUST CONTROL/SUPPRESSANTS: DUST CONTROL IS REQUIRED TO PREVENT NUISANCE CONDITIONS. DUST CONTROLS MUST BE USED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION AND NOT BE APPLIED IN A MANNER, WHICH WOULD RESULT IN A DISCHARGE TO WATERS OF THE STATE. ISOLATION DISTANCES FROM BRIDGES, CATCH BASINS, AND OTHER DRAINAGE WAYS MUST BE OBSERVED. APPLICATION (EXCLUDING WATER) MAY NOT OCCUR WHEN PRECIPITATION IS IMMINENT AS NOTED IN THE SHORT TERM FORECAST. USED OIL MAY NOT BE APPLIED FOR DUST CONTROL.

AIR PERMITTING REQUIREMENTS: ALL CONTRACTORS AND SUB CONTRACTORS MUST BE MADE AWARE THAT CERTAIN ACTIVITIES ASSOCIATED WITH CONSTRUCTION WILL REQUIRE AIR PERMITS. ACTIVITIES INCLUDING BUT NOT LIMITED TO MOBILE CONCRETE BATCH PLANTS, MOBILE ASPHALT PLANTS, CONCRETE CRUSHERS, LARGE GENERATORS, ETC., WILL REQUIRE SPECIFIC MISSOURI EPA AIR PERMITS FOR INSTALLATION AND OPERATION. THESE ACTIVITIES MUST SEE AUTHORIZATION FROM THE CORRESPONDING OF MISSOURI EPA. NOTIFICATION FOR RESTORATION AND DEMOLITION MUST BE SUBMITTED TO MISSOURI EPA FOR ALL COMMERCIAL SITES TO DETERMINE IF ASBESTOS CORRECTIVE ACTIONS ARE REQUIRED.

WASTE DISPOSAL: THE CONTRACTOR SHALL PROVIDE LITTER CONTROL AND COLLECTION OF MATERIALS WITHIN THE PROJECT BOUNDARIES DURING CONSTRUCTION. ALL FERTILIZER, HYDROCARBON, OR OTHER CHEMICAL CONTAINERS SHALL BE DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH THE EPA'S STANDARD PRACTICES. NO SOLID MATERIAL INCLUDING BUILDING AND CONSTRUCTION MATERIAL SHALL BE DISPOSED OF, DISCHARGED OR BURIED ONSITE.

OFFSITE VEHICLE TRACKING: LOADED HAUL TRUCKS SHALL BE COVERED WITH A TARPAULIN. EXCESS DIRT MATERIAL ON THE ROADS SHALL BE REMOVED IMMEDIATELY. HAULING ON UNPAVED SURFACES SHALL BE MONITORED TO MINIMIZE DUST AND CONTROL EROSION. HAUL ROADS SHALL BE WATERED OR OTHER CONTROLS PROVIDED AS NECESSARY TO REDUCE DUST AND CONTROL SEDIMENTS.

SANITARY WASTE: THE CONTRACTOR SHALL PROVIDE PORTABLE SANITARY WASTE FACILITIES. THESE FACILITIES SHALL BE COLLECTED OR EMPTIED BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR AS REQUIRED BY STATE REGULATIONS.

FERTILIZERS AND PESTICIDES: FERTILIZER SHALL BE APPLIED AT A RATE SPECIFIED BY THE SPECIFICATIONS OR THE MANUFACTURER. THE APPLICATION OF FERTILIZERS SHALL BE ACCOMPLISHED IN A MANNER AS DESCRIBED BY THE SPECIFICATION OR MANUFACTURER TO ENSURE THE PROPER INSTALLATION AND TO AVOID OVER FERTILIZING. PESTICIDES ARE NOT ANTICIPATED FOR THIS PROJECT.

MAINTENANCE

THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTENANCE AND REPAIRS OF EROSION AND SEDIMENT CONTROL DEVICES AND THE REMOVAL OF THE EROSION AND SEDIMENT CONTROL DEVICES AFTER THE NOTICE OF TERMINATION IS EXECUTED.

THE CONTRACTOR SHALL REVIEW THE PROJECT AND ALL EROSION AND SEDIMENT CONTROLS ON A DAILY BASIS AND DURING AND FOLLOWING RAINFALL EVENTS. AN INSPECTION FORM HAS BEEN PROVIDED IN THE SPECIFICATIONS. THE CONTRACTOR SHALL BE REQUIRED TO KEEP A LOG OF ALL THE DAILY INSPECTION REPORTS, GRADING AND STABILIZATION ACTIVITIES, AND SWPPP AMENDMENTS AT THE SITE. THE FOLLOWING PRACTICES WILL BE IMPLEMENTED TO MAINTAIN AND MONITOR EROSION AND SEDIMENT CONTROLS.

A. PROJECT REVIEW ON A DAILY BASIS.

B. PROVIDE AND MAINTAIN RAIN GAUGES ONSITE (IF NOT AVAILABLE IN THE AREA) TO RECORD RAINFALL DATA DAILY.

C. REVIEW STABILIZATION PRACTICES AND CONTROLS ON A DAILY BASIS AND MAINTAIN AND REPAIR THESE MEASURES AND CONTROLS AS NECESSARY. TEMPORARY AND/OR PERMANENT SEEDING, MULCHING AND SODDING SHALL BE REPAIRED IN BARE SPOTS AND WASHOUTS, AND HEALTHY GROWTH ESTABLISHED.

D. ONCE HEALTHY GROWTH OF TURF IS ESTABLISHED, THE CONTRACTOR SHALL MAINTAIN THESE AREAS TO INSURE THE HEIGHT OF THE GRASS DOES NOT REACH MORE THAN 6 INCHES ABOVE THE ESTABLISHED GRADE.

E. REVIEW STRUCTURAL PRACTICES ON A DAILY BASIS AND MAINTAIN AND REPAIR THESE MEASURES AND CONTROLS AS NECESSARY. BUILT UP SEDIMENTS SHALL BE REMOVED FROM SILT FENCES AND FILTER CLOTH SHALL BE REPLACED AS NECESSARY AND WHEN THEY HAVE SERVED THEIR USEFULNESS.

F. AN INSPECTION AND MAINTENANCE REPORT SHALL BE COMPLETED WEEKLY AND WITHIN 24 HOURS OF A RAINFALL EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR SHALL CREATE AN INSPECTION AND MAINTENANCE REPORT LOG AND NOTE ANY AMENDMENTS TO THE SWPPP THAT OCCUR DURING CONSTRUCTION.

G. IF THE CONTRACTOR ELECTS TO APPLY FOR PERMITS FOR DISCHARGE OF STORMWATER FROM THE SITE DURING CONSTRUCTION, ALL POINTS OF DISCHARGE OF STORMWATER RUNOFF FROM THE SITE SHALL BE INSPECTED ON A DAILY BASIS AND CONTROLS AND MEASURES REPAIRED AS NECESSARY TO MAINTAIN ACCEPTABLE WATER QUALITY AND DISCHARGE VOLUMES IN ACCORDANCE WITH THE PERMIT.

INSPECTIONS
QUALIFIED PERSONNEL SHALL INSPECT ALL POINTS OF DISCHARGE, AS APPLICABLE, FROM THE PROJECT SITE AND ALL DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN STABILIZED. DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF, OR POTENTIAL FOR POLLUTANTS ENTERING THE STORMWATER MANAGEMENT SYSTEM. THE STORMWATER MANAGEMENT SYSTEM AND EROSION AND SEDIMENT CONTROL MEASURES SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. INSPECTION AND MAINTENANCE REPORTS SHALL BE COMPLETED AT LEAST EVERY WEEK AND FOLLOWING A RAINFALL EVENT OF 0.5 INCHES OF WATER OR GREATER (SEE ATTACHED FORM). THESE FORMS SHALL BE RETAINED FOR A PERIOD OF AT LEAST 3 YEARS FOLLOWING THE DATE THE SITE IS FINALLY STABILIZED.

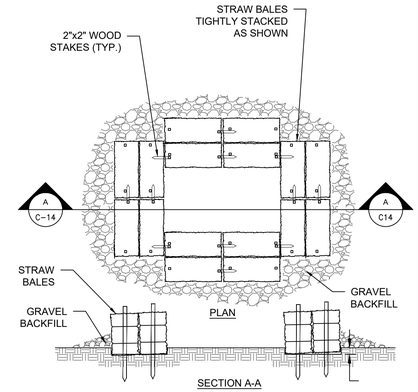
ALLOWABLE NON-STORMWATER DISCHARGE MANAGEMENT
ALLOWABLE NON-STORMWATER DISCHARGES AND THE MEASURES USED TO ELIMINATE OR REDUCE THEM AND TO PREVENT THEM FROM BECOMING CONTAMINATED MAY INCLUDE DEPENDING ON THE PERMIT:

1. WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED
2. WATER USED TO CONTROL DUST
3. POTABLE WATER INCLUDING UNCONTAMINATED WATER LINE FLUSHINGS
4. ROUTINE EXTERNAL BUILDING WASH DOWN THAT DOES NOT USE DETERGENTS
5. PAVEMENT WASH WATER WHERE SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED (UNLESS ALL SPILLED MATERIAL HAS BEEN REMOVED) AND WHERE DETERGENTS ARE NOT USED
6. UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE
7. UNCONTAMINATED GROUND WATER OR SPRING WATER
8. FOUNDATION OR FOOTING DRAINS WHERE FLOWS ARE NOT CONTAMINATED WITH PROCESS MATERIALS SUCH AS SOLVENTS
9. UNCONTAMINATED EXCAVATION DEWATERING
10. LANDSCAPE IRRIGATION

ESTABLISH PROPER EQUIPMENT/VEHICLE FUELING AND MAINTENANCE PRACTICES
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 HOURS OF A 0.5 INCH OR GREATER RAIN EVENT TO ENSURE THERE ARE NO EXPOSED MATERIALS WHICH WOULD CONTAMINATE STORM WATER.
SPILL PREVENTION CONTROL PLAN
SITE OPERATORS MUST BE AWARE THAT SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) REQUIREMENTS APPLY. AN SPCC PLAN IS REQUIRED FOR SITES WITH ONE SINGLE ABOVEGROUND STORAGE OF 1,320 GALLONS OR MORE, OR 42,000 GALLONS OF UNDERGROUND STORAGE. SOILS THAT HAVE BEEN CONTAMINATED MUST BE DISPOSED OF IN ACCORDANCE WITH SECTION "CONTAMINATED SOILS" FOUND BELOW.

SPILLS ON PAVEMENT SHALL BE ABSORBED WITH SAWDUST, CAT LITTER OR OTHER ABSORBENT MATERIAL AND DISPOSED OF WITH THE TRASH AT A LICENSED SANITARY LANDFILL. 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 EPA (1-913-281-0991). SPILLS OF 25 GALLONS OR MORE OF PETROLEUM PRODUCTS SHALL BE REPORTED TO EPA (1-913-281-0991), THE LOCAL FIRE DEPARTMENT, AND THE LOCAL EMERGENCY PLANNING COMMITTEE WITHIN 30 MINUTES OF THE DISCOVERY OF THE RELEASE. ALL SPILLS, WHICH RESULT IN CONTACT WITH WATER OF THE STATE, MUST BE REPORTED TO THE EPA'S HOTLINE.

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 A LICENSED SANITARY LANDFILL OR OTHER APPROVED PETROLEUM CONTAMINATED SOIL REMEDIATION FACILITY (NOT A CONSTRUCTION/DEMOLITION DEBRIS LANDFILL). PLEASE BE AWARE THAT STORM WATER RUN OFF ASSOCIATED WITH CONTAMINATED SOILS ARE NOT BEING AUTHORIZED UNDER THE EPA'S GENERAL STORMWATER PERMIT ASSOCIATED WITH CONSTRUCTION ACTIVITIES. IN THE EVENT THERE ARE LARGE EXTENSIVE AREAS OF CONTAMINATED SOILS ADDITIONAL MEASURES ABOVE AND BEYOND THE CONDITIONS OF THE EPA'S GENERAL CONSTRUCTION STORMWATER PERMIT WILL BE REQUIRED. DEPENDING ON THE EXTENT OF CONTAMINATION, ADDITIONAL TREATMENT AND/OR COLLECTION AND DISPOSAL MAY BE REQUIRED. ALL STORMWATER DISCHARGES ASSOCIATED WITH CONTAMINATED SOILS MUST BE AUTHORIZED UNDER AN ALTERNATE NPDES PERMIT.



NOTES:
A. THE RESIDUE OR CONTENTS OF ALL CONCRETE MIXERS, DUMP TRUCKS, OTHER CONVEYANCE EQUIPMENT AND FINISHING TOOLS SHALL BE WASHED INTO CONCRETE CLEAN-OUT STRUCTURES CONSISTING OF A STRAW BALE BARRIER WITH GRAVEL BACKFILL. THE LENGTH AND WIDTH OF THESE STRUCTURES SHALL BE AS DETERMINED BY THE CONTRACTOR TO FACILITATE THE PARTICULAR EQUIPMENT USED. THESE STRUCTURES SHALL BE CONSTRUCTED ON LEVEL GROUND AT LEAST 100' FROM THE NEAREST WATERCOURSE, DRAINAGE SWALE OR INLET. AT NO TIME SHALL THE STRUCTURE BE ALLOWED TO BE MORE THAN 50% FULL. THE CONTRACTOR SHALL MAINTAIN THESE PONDS UNTIL ALL CONCRETE PLACEMENT IS COMPLETE FOR THE PROJECT.

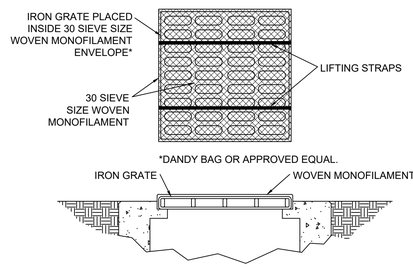
B. EMBED THE STRAW BALES 4" INTO THE SOIL. PROVIDE TWO ROWS OF BALES, AS SHOWN ON THE DETAIL, WITH ENDS AND CORNERS TIGHTLY ABUTING. ORIENT THE STRAW BALES LENGTHWISE WITH BINDINGS AROUND THE SIDES OF THE BALES SO THE WIRE DOES NOT CONTACT THE SOIL. DRIVE 2"X2" WOOD STAKES THROUGH EACH BALE, TO SECURELY ANCHOR THE BALE AND CONNECT ADJACENT BALES. GRAVEL BACKFILL SHALL BE PROVIDED AND TAMPED AROUND THE OUTSIDE PERIMETER OF THE BALES TO PREVENT EROSION AND FLOW AROUND THE BALES.

C. THE INTENT OF THESE STRUCTURES IS TO COLLECT ALL CONCRETE WASH OUT WATER AND ALLOW IT TO DRY TO A SOLID MATERIAL. AFTER DRYING, THE SOLID MATERIAL CAN BE REMOVED WITH A LOADER OR EXCAVATOR FOR PROPER DISPOSAL. WASH OUT WILL NOT BE PERMITTED IN ANY OTHER AREAS.

D. USE THE MINIMUM AMOUNT OF WATER TO WASH THE VEHICLES AND EQUIPMENT. NEVER DISPOSE OF WASH OUT INTO THE STREET, STORM INLET, DRAINAGE SWALE OR WATERCOURSE. DISPOSE OF SMALL AMOUNTS OF EXCESS DRY CONCRETE, GROUT AND MORTAR IN THE TRASH. ANY SOAPS THAT ARE UTILIZED SHALL BE PHOSPHATE-FREE AND BIODEGRADABLE.

E. ADDITIONAL CONCRETE CLEAN-OUT STRUCTURES SHALL BE CONSTRUCTED WITHIN THE SPECIFIED AREA AS NEEDED BASED UPON THE VOLUME OF WASH OUT GENERATED DAILY.

A C-15 CONCRETE WASHOUT N.T.S.



INSTALLATION AND MAINTENANCE GUIDELINES
INSTALLATION:
THE EMPTY BAG SHOULD BE PLACED OVER THE GRATE AS THE GRATE STANDS ON END. IF USING OPTIONAL OIL ABSORBENTS; PLACE ABSORBENT PILLOW IN POUCH, ON THE BOTTOM (BELOW-GRADE SIDE) OF THE UNIT. ATTACH ABSORBENT PILLOW TO TETHER LOOP. TUCK THE ENCLOSURE FLAP INSIDE TO COMPLETELY ENCLOSE THE GRATE. HOLDING THE LIFTING DEVICES (DO NOT RELY ON LIFTING DEVICES TO SUPPORT THE ENTIRE WEIGHT OF THE GRATE), PLACE THE GRATE INTO ITS FRAME.

MAINTENANCE:
REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM SURFACE AND VICINITY OF UNIT AFTER EACH STORM EVENT. REMOVE SEDIMENT THAT HAS ACCUMULATED WITHIN THE CONTAINMENT AREA OF THE BAG AS NEEDED. IF USING OPTIONAL OIL ABSORBENTS; REMOVE AND REPLACE ABSORBENT PILLOW WHEN NEAR SATURATION.

B C-15 INLET PROTECTION N.T.S.

MISSOURI ONE CALL SYSTEM
1-800-DIG-RITE or 811
MAKE THE CALL . . . IT'S THE LAW

REVISION/DATE/DESCRIPTION

CITY REVIEW	08/06/2021

NOTICE

ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

PROJECT
PROPOSED PT20M BUILDING TYPE
1921 W FOXWOOD DR. (MO-58 AND WESTGATE DRIVE)
RAYMORE, MO

SHEET TITLE
SWPPP NOTES AND DETAILS

NOT FOR CONSTRUCTION

DRAWN BY:	DCS
CHECKED BY:	PJK
PROJECT NO:	40497-10

DRAWING
C-15

TEMPORARY SEEDING

DESCRIPTION

TEMPORARY SEEDINGS ESTABLISH TEMPORARY COVER ON DISTURBED AREAS BY PLANTING APPROPRIATE RAPIDLY GROWING ANNUAL GRASSES OR SMALL GRAINS. TEMPORARY SEEDING PROVIDES EROSION CONTROL ON AREAS IN BETWEEN CONSTRUCTION OPERATIONS. GRASSES, WHICH ARE QUICK GROWING, ARE SEEDED AND USUALLY MULCHED TO PROVIDE PROMPT, TEMPORARY SOIL STABILIZATION. IT EFFECTIVELY MINIMIZES THE AREA OF A CONSTRUCTION SITE PRONE TO EROSION AND SHOULD BE USED EVERYWHERE THE SEQUENCE OF CONSTRUCTION OPERATIONS ALLOWS VEGETATION TO BE ESTABLISHED.

SPECIFICATIONS FOR TEMPORARY SEEDING

TEMPORARY SEEDING SPECIES SELECTION

SEEDING DATES	SPECIES	LB/1000 SF	LB/ACREA
MAR 1 TO AUG 15	OATS	3	128-4 BUSHEL
	TALL FESCUE	1	40
	ANNUAL RYEGRASS	1	40
	PERENNIAL RYGRASS	1	40
	TALL FESCUE	1	40
	ANNUAL RYEGRASS	1	40
	ANNUAL RYEGRASS	1.25	55
	PERENNIAL RYEGRASS	3.25	142
	CREEPING RED FESCUE	0.40	17
	KENTUCKY BLUEGRASS	0.40	17
	OATS	3	128-3 BUSHEL
	TALL FESCUE	1	40
	ANNUAL RYEGRASS	1	40
AUG 16 TO NOV	RYE	3	112-3 BUSHEL
	TALL FESCUE	1	40
	ANNUAL RYEGRASS	1	40
	WHEAT	3	120-2 BUSHEL
	TALL FESCUE	1	40
	ANNUAL RYEGRASS	1	40
	PERENNIAL RYE	1	40
	TALL FESCUE	1	40
	ANNUAL RYEGRASS	1	40
	ANNUAL RYEGRASS	1.25	40
	PERENNIAL RYEGRASS	3.25	40
	CREEPING RED FESCUE	0.40	40
	KENTUCKY BLUEGRASS	0.40	
NOV 1 TO FEB 29	USE MULCH ONLY OR DORMANT SEEDING		

1. STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS AND SEDIMENT TRAPS SHALL BE INSTALLED AND STABILIZED WITH TEMPORARY SEEDING PRIOR TO GRADING THE REST OF THE CONSTRUCTION SITE.
2. TEMPORARY SEED SHALL BE APPLIED BETWEEN CONSTRUCTION OPERATIONS ON SOIL THAT WILL NOT BE GRADED OR REWORKED FOR 14 DAYS OR GREATER. THESE IDLE AREAS SHALL BE SEEDED WITHIN 7 DAYS AFTER GRADING.
3. THE SEEDBED SHOULD BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION. TEMPORARY SEEDING SHOULD NOT BE POSTPONED IF IDEAL SEEDBED PREPARATION IS NOT POSSIBLE.
4. SOIL AMENDMENTS—TEMPORARY VEGETATION SEEDING RATES SHALL ESTABLISH ADEQUATE STANDS OF VEGETATION, WHICH MAY REQUIRE THE USE OF SOIL AMENDMENTS. BASE RATES FOR LIME AND FERTILIZER SHALL BE USED.
5. SEEDING METHOD—SEED SHALL BE APPLIED UNIFORMLY WITH A CYCLONE SPREADER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER. WHEN FEASIBLE, SEED THAT HAS BEEN BROADCAST SHALL BE COVERED BY RAKING OR DRAGGING AND THEN LIGHTLY TAMPED INTO PLACE USING A ROLLER OR CULTIPACKER. IF HYDROSEEDING IS USED, THE SEED AND FERTILIZER WILL BE MIXED ON-SITE AND THE SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.

MULCHING TEMPORARY SEEDING:

1. APPLICATIONS OF TEMPORARY SEEDING SHALL INCLUDE MULCH. WHICH SHALL BE APPLIED DURING OR IMMEDIATELY AFTER SEEDING. SEEDINGS MADE DURING OPTIMUM SEEDING DATES ON FAVORABLE, VERY FLAT SOIL CONDITIONS MAY NOT NEED MULCH TO ACHIEVE ADEQUATE STABILIZATION.
2. MATERIALS:
   - 2.1. STRAW—IF STRAW IS USED, IT SHALL BE UNROTTED SMALL-GRAIN STRAW APPLIED AT A RATE OF 2 TONS PER ACRE OR 90 LBS./ 1,000 SQ. FT. (2-3 BALES)
   - 2.2. HYDROSEEDERS—IF WOOD CELLULOSE FIBER IS USED, IT SHALL BE USED AT 2000 LBS./ AC. OR 46 LB./ 1,000-SQ.-FT.
   - 2.3. OTHER—OTHER ACCEPTABLE MULCHES INCLUDE MULCH MATTINGS APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS OR WOOD CHIPS APPLIED AT 6 TON/ AC.
3. STRAW MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR WATER. ANCHORING METHODS:
   - 3.1. MECHANICAL—A DISK, CRIMPER, OR SIMILAR TYPE TOOL SHALL BE SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT LEFT TO A LENGTH OF APPROXIMATELY 6 INCHES.
   - 3.2. MULCH NETTING—NETTING SHALL BE USED ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS. NETTING MAY BE NECESSARY TO HOLD MULCH IN PLACE IN AREAS OF CONCENTRATED RUNOFF AND ON CRITICAL SLOPES.
   - 3.3. SYNTHETIC BINDERS—SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI-TAC), DCA-70, PETROSET, TERRA TRACK OR EQUIVALENT MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER.
   - 3.4. WOOD-CELLULOSE FIBER—WOOD-CELLULOSE FIBER BINDER SHALL BE APPLIED AT A NET DRY WT, OF 750 LB./AC. THE WOOD-CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LB. / 100 GAL.

DUST CONTROL

DESCRIPTION

DUST CONTROL INVOLVES PREVENTING OR REDUCING DUST FROM EXPOSED SOILS OR OTHER SOURCES DURING LAND DISTURBING, DEMOLITION AND CONSTRUCTION ACTIVITIES TO REDUCE THE PRESENCE OF AIRBORNE SUBSTANCES WHICH MAY PRESENT HEALTH HAZARDS, TRAFFIC SAFETY PROBLEMS OR HARM ANIMAL OR PLANT LIFE.

SPECIFICATIONS FOR DUST CONTROL

1. VEGETATIVE COVER AND/MULCH – APPLY TEMPORARY OR PERMANENT SEEDING AND MULCH TO AREAS THAT WILL REMAIN IDLE FOR OVER 21 DAYS. SAVING EXISTING TREES AND LARGE SHRUBS WILL ALSO REDUCE SOIL AND AIR MOVEMENT ACROSS DISTURBED AREAS. SEE TEMPORARY SEEDING; PERMANENT SEEDING; MULCHING PRACTICES; AND TREE AND NATURAL AREA PROTECTION PRACTICES.
2. WATERING – SPRAY SITE WITH WATER UNTIL THE SURFACE IS WET BEFORE AND DURING GRADING AND REPEAT AS NEEDED, ESPECIALLY ON HAUL ROADS AND OTHER HEAVY TRAFFIC ROUTES. WATERING SHALL BE DONE AT A RATE THAT PREVENTS DUST BUT DOES NOT CAUSE SOIL EROSION. WETTING AGENTS SHALL BE UTILIZED ACCORDING TO MANUFACTURERS INSTRUCTIONS.
3. SPRAY-ON ADHESIVES – APPLY ADHESIVE ACCORDING TO THE FOLLOWING TABLE OR MANUFACTURER'S INSTRUCTIONS.
4. STONE – GRADED ROADWAYS AND OTHER SUITABLE AREAS WILL BE STABILIZED USING CRUSHED STONE OR COARSE GRAVEL AS SOON AS PRACTICABLE AFTER REACHING AN INTERIM OR FINAL GRADE. CRUSHED STONE OR COARSE GRAVEL CAN BE USED AS A PERMANENT COVER TO PROVIDE CONTROL OF SOIL EMISSIONS.
5. BARRIERS – EXISTING WINDBREAK VEGETATION SHALL BE MARKED AND PRESERVED. SNOW FENCING OR OTHER SUITABLE BARRIER MAY BE PLACED PERPENDICULAR TO PREVAILING AIR CURRENTS AT INTERVALS OF ABOUT 15 TIMES THE BARRIER HEIGHT TO CONTROL AIR CURRENTS AND BLOWING SOIL.
6. OPERATION AND MAINTENANCE - WHEN TEMPORARY DUST CONTROL MEASURES ARE USED; REPETITIVE TREATMENT SHOULD BE APPLIED AS NEEDED TO ACCOMPLISH CONTROL. STREET CLEANING - PAVED AREAS THAT HAVE ACCUMULATED SEDIMENT FROM CONSTRUCTION SHOULD BE CLEANED DAILY, OR AS NEEDED, UTILIZING A STREET SWEEPER OR BUCKET -TYPE END LOADER OR SCRAPER.

PERMANENT SEEDING

DESCRIPTION

PERENNIAL VEGETATION IS ESTABLISHED ON AREAS THAT WILL NOT BE RE-DISTURBED FOR PERIODS LONGER THAN 12 MONTHS. PERMANENT SEEDING INCLUDES SITE PREPARATION, SEEDBED PREPARATION, PLANTING SEED, MULCHING, IRRIGATION AND MAINTENANCE.

PERMANENT VEGETATION IS USED TO STABILIZE SOIL, REDUCE EROSION, PREVENT SEDIMENT POLLUTION, REDUCE RUNOFF BY PROMOTING INFILTRATION, AND PROVIDE STORMWATER QUALITY BENEFITS OFFERED BY DENSE GRASS COVER.

SPECIFICATION FOR PERMANENT SEEDING

SITE PREPARATION:
1. SUBSOILER, PLOW, OR OTHER IMPLEMENT SHALL BE USED TO REDUCE SOIL COMPACTION AND ALLOW MAXIMUM INFILTRATION. (MAXIMIZING INFILTRATION WILL HELP CONTROL BOTH RUNOFF RATE AND WATER QUALITY.) SUBSOILING SHOULD BE DONE WHEN THE SOIL MOISTURE IS LOW ENOUGH TO ALLOW THE SOIL TO CRACK OR FRACTURE. SUBSOILING SHALL NOT BE DONE ON SLIP-PRONE AREAS WHERE SOIL PREPARATION SHOULD BE LIMITED TO WHAT IS NECESSARY FOR ESTABLISHING VEGETATION.
2. THE SITE SHALL BE GRADED AS NEEDED TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION AND SEEDING.
3. TOPSOIL SHALL BE APPLIED WHERE NEEDED TO ESTABLISH VEGETATION.

SEEDBED PREPARATION:
1. TEST THE SOIL CONDITIONS FOR FEEDING BEFORE STARTING SEEDING AND MULCHING.
2. LIME—AGRICULTURAL GROUND LIMESTONE SHALL BE APPLIED TO ACID SOIL AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL TEST, LIME SHALL BE APPLIED AT THE RATE OF 100 POUNDS PER 1,000-SQ. FT. OR 2 TONS PER ACRE.
3. FERTILIZER—FERTILIZER SHALL BE APPLIED AS RECOMMENDED BY A SOIL TEST. CONTRACTOR SHALL PERFORM LAB TESTING ON SOIL AND PROVIDE A CERTIFIED FERTILIZER RATIO FOR THE SITE SOILS AND SPECIFIED SEED MIX.
4. THE LIME AND FERTILIZER SHALL BE WORKED INTO THE SOIL WITH A DISK HARROW, SPRING-TOOTH HARROW, OR OTHER SUITABLE FIELD IMPLEMENT TO A DEPTH OF 3 INCHES. ON SLOPING LAND, THE SOIL SHALL BE WORKED ON THE CONTOUR.

SEEDING DATES AND SOIL CONDITIONS:
SEEDING SHOULD BE DONE MARCH 1 TO MAY 31 OR AUGUST 1 TO SEPTEMBER 30. IF SEEDING OCCURS OUTSIDE OF THE ABOVE SPECIFIED DATES, ADDITIONAL MULCH AND IRRIGATION MAY BE REQUIRED TO ENSURE A MINIMUM OF 80% GERMINATION. TILLAGE FOR SEEDBED PREPARATION SHOULD BE DONE WHEN THE SOIL IS DRY ENOUGH TO CRUMBLE AND NOT FORM RIBBONS WHEN COMPRESSED BY HAND. FOR WINTER SEEDING, SEE THE FOLLOWING SECTION ON DORMANT SEEDING.

DORMANT SEEDINGS:
1. SEEDINGS SHOULD NOT BE MADE FROM OCTOBER 1 THROUGH NOVEMBER 20. DURING THIS PERIOD, THE SEEDS ARE LIKELY TO GERMINATE BUT PROBABLY WILL NOT BE ABLE TO SURVIVE THE WINTER.
2. THE FOLLOWING METHODS MAY BE USED FOR 'DORMANT SEEDING':
   - 2.1. FROM OCTOBER 1 THROUGH NOVEMBER 20, PREPARE THE SEEDBED, ADD THE REQUIRED AMOUNTS OF LIME AND FERTILIZER, THEN MULCH AND ANCHOR. AFTER NOVEMBER 20, AND BEFORE MARCH 15, BROADCAST THE SELECTED SEED MIXTURE. INCREASE THE SEEDING RATES BY 50% FOR THIS TYPE OF SEEDING.
   - 2.2. FROM NOVEMBER 20 THROUGH MARCH 15, WHEN SOIL CONDITIONS PERMIT, PREPARE THE SEEDBED, LIME AND FERTILIZE, APPLY THE SELECTED SEED MIXTURE, MULCH AND ANCHOR. INCREASE THE SEEDING RATES BY 50% FOR THIS TYPE OF SEEDING.
   - 2.3. APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDRO-SEEDER (SLURRY MAY INCLUDE SEED AND FERTILIZER) ON A FIRM, MOIST SEEDBED.
   - 2.4. WHERE FEASIBLE, EXCEPT WHEN A CULTIPACKER TYPE SEEDER IS USED, THE SEEDBED SHOULD BE FIRMED FOLLOWING SEEDING OPERATIONS WITH A CULTIPACKER, ROLLER, OR LIGHT DRAG. ON SLOPING LAND, SEEDING OPERATIONS SHOULD BE ON THE CONTOUR WHERE FEASIBLE.

MULCHING:
1. MULCH MATERIAL SHALL BE APPLIED IMMEDIATELY AFTER SEEDING. DORMANT SEEDING SHALL BE MULCHED. 100% OF THE GROUND SURFACE SHALL BE COVERED WITH AN APPROVED MATERIAL.
2. MATERIALS:
   - 2.1. STRAW—IF STRAW IS USED IT SHALL BE UNROTTED SMALL-GRAIN STRAW APPLIED AT THE RATE OF 2 TONS PER ACRE OR 90 POUNDS (TWO TO THREE BALES) PER 1,000-SQ. FT. THE MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY APPLIED SO THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000-SQ.-FT. SECTIONS AND SPREAD TWO 45-LB. BALES OF STRAW IN EACH SECTION.
   - 2.2. HYDROSEEDERS—IF WOOD CELLULOSE FIBER IS USED, IT SHALL BE APPLIED AT 2,000 LB./AC. OR 46 LB./1,000 SQ. FT.
   - 2.3. OTHER—OTHER ACCEPTABLE MULCHES INCLUDE ROLLED EROSION CONTROL MATTINGS OR BLANKETS APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS OR WOOD CHIPS APPLIED AT 6 TONS PER ACRE.
3. STRAW AND MULCH ANCHORING METHODS-STRAW MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR WATER:
   - 3.1. MECHANICAL—A DISK, CRIMPER, OR SIMILAR TYPE TOOL SHALL BE SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT, GENERALLY, BE LEFT LONGER THAN 6 INCHES.
   - 3.2. MULCH NETTING—NETTING SHALL BE USED ACCORDING TO THE MANUFACTURERÍS RECOMMENDATIONS. NETTING MAY BE NECESSARY TO HOLD MULCH IN PLACE IN AREAS OF CONCENTRATED RUNOFF AND ON CRITICAL SLOPES.
   - 3.3. ASPHALT EMULSION—ASPHALT SHALL BE APPLIED AS RECOMMENDED BY THE MANUFACTURE OR AT THE RATE OF 160 GALLONS PER ACRE.
   - 3.4. SYNTHETIC BINDERS—SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI-TAC), DCA-70, PETROSET, TERRA TACK OR EQUIVALENT MAY BE USED AT RATES SPECIFIED BY THE MANUFACTURER.
   - 3.5. WOOD CELLULOSE FIBER—WOOD CELLULOSE FIBER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER WITH THE MIXTURE CONTAINING A MAXIMUM OF 50 POUNDS CELLULOSE PER 100 GALLONS OF WATER.

IRRIGATION:
PERMANENT SEEDING SHALL INCLUDE IRRIGATION TO ESTABLISH VEGETATION DURING DRY WEATHER OR ON ADVERSE SITE CONDITIONS, WHICH REQUIRE ADEQUATE MOISTURE FOR SEED GERMINATION AND PLANT GROWTH. IRRIGATION RATES SHALL BE MONITORED TO PREVENT EROSION AND DAMAGE TO SEEDED AREAS FROM EXCESSIVE RUNOFF. CONTRACTOR SHALL MAINTAIN PERMANENT SEEDING FOR UP TO ONE YEAR FROM SUBSTANTIAL COMPLETION TO FIX, REPAIR, WATER, REFERTILIZE AND/OR RESEED GRASSED AREAS.

SEED MIX	SEEDING RATE		NOTES
	LBS/ACRE	LBS/1,000 SF	
GENERAL USE			
CREEPING RED FESCUE	20-40	½-1	FOR CLOSE MOWING AND FOR WATERWAYS WITH <2.0 FT/SEC VELOCITY
DOMESTIC RYEGRASS	10-20	¼-½	
KENTUCKY BLUEGRASS	20-40	½-1	
TALL FESCUE	40-50	1-1¼	
TURF-TYPE (DWARF) FESCUE	90	2¼	
STEEP BANKS OR CUT SLOPES			
TALL FESCUE	40-50	1-1¼	
CROWN VETCH	10-20	¼-½	DO NOT SEED LATER THAN AUGUST
TALL FESCUE	20-30	½-¾	
FLAT PEA	20-25	½-¾	DO NOT SEED LATER THAN AUGUST
TALL FESCUE	20-30	½-¾	
ROAD DITCHES AND SWALES			
TALL FESCUE	40-50	1-1¼	
TURF-TYPE (DWARF) FESCUE	90	2¼	
KENTUCKY BLUE GRASS	5	1/10	
LAWNS			
KENTUCKY BLUEGRASS	100-120	2	
PERENNIAL RYEGRASS		2	
KENTUCKY BLUEGRASS	100-120	2	FOR SHADED AREAS
CREEPING RED FESCUE		1-½	

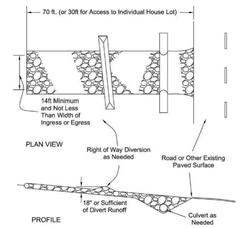
CONSTRUCTION ENTRANCE

DESCRIPTION

A CONSTRUCTION ENTRANCE IS A STABILIZED PAD OF STONE UNDERLAIN WITH GEOTEXTILE AND IS USED TO REDUCE THE AMOUNT OF MUD TRACKED OFF-SITE WITH CONSTRUCTION TRAFFIC. LOCATED AT POINTS OF INGRESS/EGRESS, THE PRACTICE IS USED TO REDUCE THE AMOUNT OF MUD TRACKED OFF-SITE WITH CONSTRUCTION TRAFFIC.

SPECIFICATIONS FOR CONSTRUCTION ENTRANCE

(Not To Scale)



1. STONE SIZE - 1.5-2.5 INCH STONE SHALL BE USED, OR RECYCLED CONCRETE EQUIVALENT.

2. LENGTH- THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABILIZE HIGH TRAFFIC AREAS BUT NOT LESS THAN 70 FT. (EXCEPTION: APPLY30 FT. MINIMUM TO SINGLE RESIDENCE LOTS).

3. THICKNESS - THE STONE LAYER SHALL BE AT LEAST 6 INCHES THICK FOR LIGHT DUTY ENTRANCES OR AT LEAST 10 INCHES FOR HEAVY DUTY USE.

4. WIDTH - THE ENTRANCE SHALL BE AT LEAST 14 FEET WIDE, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.

5. GEOTEXTILE - A GEOTEXTILE SHALL BE LAID OVER THE ENTIRE AREA, PRIOR TO PLACING STONE. IT SHALL BE COMPOSED OF STRONG ROT-PROOF POLYMERIC FIBERS AND MEET THE FOLLOWING SPECIFICATIONS:

FIGURE 7.4.1

GEOTEXTILE SPECIFICATION FOR CONSTRUCTION ENTRANCE	
MINIMUM TENSILE STRENGTH	200 LBS.
MINIMUM PUNCTURE STRENGTH	80 PSI.
MINIMUM TEAR STRENGTH	50 LBS.
MINIMUM BURST STRENGTH	320 PSI.
MINIMUM ELONGATION	20%
EQUIVALENT OPENING SIZE	EOS < 0.6 MM.
PERMITTIVITY	1X10-3 CM/SEC.

6. TIMING - THE CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SOON AS IS PRACTICABLE BEFORE MAJOR GRADING ACTIVITIES.

7. CULVERT - A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEEDED TO PREVENT SURFACE WATER FROM FLOWING ACROSS THE ENTRANCE OR TO PREVENT RUNOFF FROM BEING DIRECTED OUT ONTO PAVED SURFACES.

8. WATER BAR - A WATER BAR SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE IF NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND OUT ONTO PAVED SURFACES.

9. MAINTENANCE - TOP DRESSING OF ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, SHALL BE REMOVED IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.

10. CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF-SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION-SITE SHALL BE RESTRICTED FROM MUDDY AREAS.

11. REMOVAL - THE ENTRANCE SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREA IS STABILIZED OR REPLACED WITH A PERMANENT ROADWAY OR ENTRANCE.

PERMANENT STABILIZATION

AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY AREA THAT WILL LIE DORMANT FOR ONE YEAR OR MORE.	WITHIN 7 DAYS OF THE MOST RECENT DISTURBANCE.
ANY AREA WITHIN 50 FEET OF A STREAM OR A RIPARIAN SETBACK AREA AND AT FINAL GRADE.	WITHIN 2 DAYS OF REACHING FINAL GRADE.
ANY AREA AT FINAL GRADE.	WITHIN 7 DAYS OF REACHING FINAL GRADE WITHIN THAT AREA.

TEMPORARY STABILIZATION

AREA REQUIRING TEMPORARY STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY DISTURBED AREA WITHIN 50 FEET OF A STREAM OR A RIPARIAN SETBACK AREA AND NOT AT FINAL GRADE.	WITHIN 2 DAYS OF THE MOST RECENT DISTURBANCE IF THAT AREA WILL REMAIN IDLE FOR MORE THAN 14 DAYS.
FOR ALL CONSTRUCTION ACTIVITIES, ANY DISTURBED AREA, INCLUDING SOIL STOCKPILES THAT WILL BE DORMANT FOR MORE THAN 14 DAYS BUT LESS THAN ONE YEAR.	WITHIN 7 DAYS OF THE MOST RECENT DISTURBANCE WITHIN THE AREA.
DISTURBED AREAS THAT WILL BE IDLE OVER WINTER.	PRIOR TO NOVEMBER 1.

NOTE: WHERE VEGETATIVE STABILIZATION TECHNIQUES MAY CAUSE STRUCTURAL INSTABILITY OR ARE OTHERWISE UNOBTAINABLE, ALTERNATIVE STABILIZATION TECHNIQUES MUST BE EMPLOYED. THESE TECHNIQUES MAY INCLUDE MULCHING OR EROSION MATTING.

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REVISION/DATE/DESCRIPTION

CITY REVIEW	08/06/2021

WHATABURGER

ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

PROJECT

PROPOSED PT20M BUILDING TYPE

1921 W FOXWOOD DR. (MO-58 AND WESTGATE DRIVE) RAYMORE, MO

SHEET TITLE

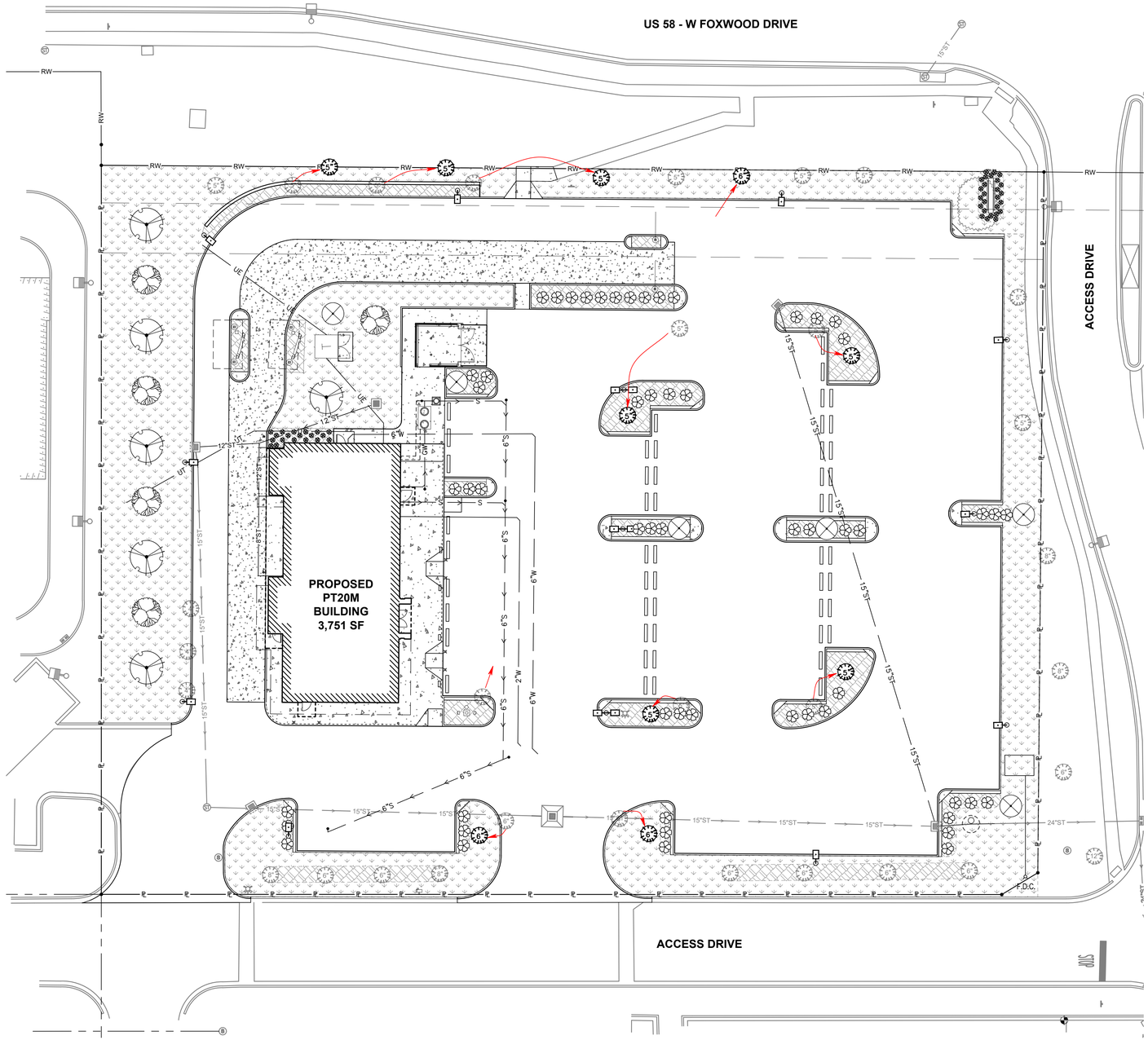
SWPPP NOTES AND DETAILS

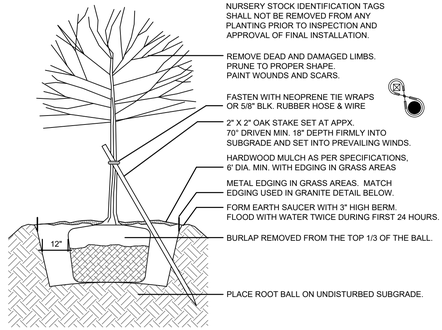
NOT FOR CONSTRUCTION

DRAWN BY:	DCS
CHECKED BY:	PJK
PROJECT NO:	40497-10

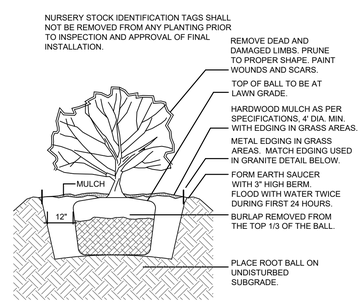
DRAWING

C-16





A C-17 DECIDUOUS TREE PLANTING DETAIL N.T.S.



B C-17 SHRUB PLANTING DETAIL N.T.S.

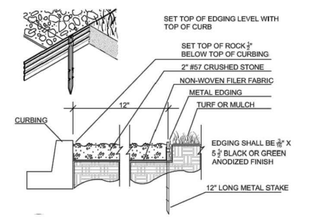
PROPOSED PLANT SCHEDULE

DECIDUOUS TREES	BOTANICAL NAME	COMMON NAME	QTY	CAL	CONT
UP	ULMUS PARVIFOLIA	LACEBARK ELM	6	2.0" MIN.	B+B
AT	ACER TRUNCATUM	SHANTUNG MAPLE	5	1.5" MIN.	B+B
CD	CORNUS DRUMMONDII	ROUGHLEAF DOGWOOD	6	1.5" MIN.	B+B
	RELOCATED EXISTING TREE	(SPECIES UNKNOWN)	10	4"-6"	B+B

SHRUBS/GRASSES	BOTANICAL NAME	COMMON NAME	QTY	HEIGHT
RA	RIBES AUREUM	GOLDEN CURRANT	56	18" MIN.
IV	ITEA VIRGINICA	VIRGINIA SWEETSPIRE	45	18" MIN.

METAL EDGING SHALL BE AS MANUFACTURED BY COL-MET OR EQUAL

CRUSHED STONE SHALL BE INSTALLED ON TOP OF NONWOVEN FILTER FABRIC. INSTALL METAL EDGING BETWEEN CRUSHED STONE AND SOD/MULCH. LAVA ROCK IS UNACCEPTABLE. SUBMIT SAMPLE TO OWNER FOR APPROVAL



C C-17 GRANITE DETAIL N.T.S.

LEGEND

- GRASS SEEDED / SOD AREA
- LANDSCAPED / MULCHED AREA
- STRUCTURAL CONCRETE
- CONCRETE

PROJECT AREAS

	SQFT	ACRES	
PROPERTY	80124	1.8394	
BUILDING	3751	0.0860	4.7%
WALKS & PADS	3785	0.0869	4.7%
PAVING & CURBS	50678	1.1635	63.2%
LANDSCAPING	21910	0.5030	27.3%
TOTALS	80124	1.8394	100.0%

GENERAL NOTES

A. ALL PLANT MATERIALS TO COMPLY WITH THE LATEST EDITION OF A.N.A. STANDARDS FOR NURSERY STOCK AND BE GUARANTEED UNTIL THE CERTIFICATE OF OCCUPANCY IS OBTAINED OR FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE, WHICHEVER IS GREATER. ANY PLANTINGS NEEDING REPLACEMENT WILL BE GUARANTEED FROM THE TIME OF REPLACEMENT IF AFTER FINAL ACCEPTANCE.

B. LANDSCAPE CONTRACTOR IS TO VERIFY LOCATION OF ALL UNDERGROUND UTILITIES AND RECEIVE APPROVAL FROM GENERAL CONTRACTOR OR SITE SUPERVISOR, IF NECESSARY, TO MAKE CHANGES IN PLANT LOCATIONS.

C. LANDSCAPE CONTRACTOR MUST COORDINATE WITH GENERAL CONTRACTOR AND OTHER SITE OPERATIONS.

D. MINOR ADJUSTMENTS TO THE PLANT LOCATIONS ARE TO BE MADE IN THE CASE OF ANY CONFLICTS WITH PROPOSED UTILITIES.

E. ALL PLANTING BEDS AND FREE STANDING TREES TO BE MULCHED WITH 4" OF SHREDDED HARDWOOD MULCH. BEDS ARE TO BE GRADED SMOOTH AND FREE OF SOIL CLODS AND STONES. ALL TREES TO BE STAKED AND WRAPPED WITH KRAFT TREE WRAP.

F. ALL PLANTS ARE TO BE REMOVED FROM CONTAINERS, CAGES AND NON-BIODEGRADABLE MATERIALS.

G. GENERAL CONTRACTOR IS RESPONSIBLE FOR FINISHED GRADES; LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR FINE GRADING AND TO PROVIDE 4" OF AMENDED TOPSOIL FOR PLANTING BEDS.

H. ALL ORGANIC MATTER AND DEBRIS ARE TO BE REMOVED FROM THE SITE BY THE LANDSCAPE CONTRACTOR. LAWN AREAS AND BEDS SHOULD BE FREE OF STONES GREATER THAN 2".

I. PLANT QUANTITIES HAVE BEEN PROVIDED FOR CONVENIENCE ONLY; THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR HIS OWN "TAKE OFFS". DRAWING PREVAILS OVER WRITTEN QUANTITIES.

J. THE LANDSCAPE CONTRACTOR SHALL SUBMIT A ONE (1) YEAR MAINTENANCE CONTRACT FOR CONSIDERATION BY THE OWNER. CONTRACT SHALL BE SEPARATE FROM INSTALLATION CONTRACT.

K. PLANTING BEDS SHALL BE TREATED WITH A PRE-EMERGENT HERBICIDE APPLIED AT PRODUCT SPECIFIED RATE UNLESS OTHERWISE NOTED.

L. PLANTING SHALL BE FERTILIZED UPON INSTALLATION. RECOMMENDED FERTILIZER SHALL BE MIXED WITH BACKFILL AT PRODUCT SPECIFIED RATE.

M. BED EDGE SHALL BE SMOOTH, CONSISTENT 4 1/2" DEEP AND HAND CUT, EDGES TO BE LOCATED BETWEEN ALL BEDS (INCLUDING TREES) AND LAWN AREAS.

N. CONTRACTOR TO SEED ALL DISTURBED AREAS WITH A LOCALLY ADAPTIVE SEED MIX UNLESS OTHERWISE DIRECTED BY THE GENERAL CONTRACTOR.

O. TOPSOIL SHALL BE BACK FILLED TO PROVIDE POSITIVE DRAINAGE OF ALL LANDSCAPE AREAS. SEE GRADING AND DRAINAGE PLAN SHEET C-5.

LANDSCAPING REQUIREMENTS

REQUIREMENT	PROVIDED
1 CANOPY TREE/40' OF STREET FRONTAGE	PROVIDED
1 TREE AND 3 SHRUBS PER PARKING ENDCAP	PROVIDED
20% OF PROPERTY TO BE LANDSCAPED	PROVIDED

0 10 20 30 40

SCALE: 1"=20'

MISSOURI ONE CALL SYSTEM
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REVISION/DATE/DESCRIPTION

CITY REVIEW 08/06/2021

WHATABURGER

ms consultants, inc.
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2221 Schrock Road
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PROJECT

PROPOSED PT20M BUILDING TYPE

1921 W FOXWOOD DR. (MO-58 AND WESTGATE DRIVE) RAYMORE, MO

SHEET TITLE

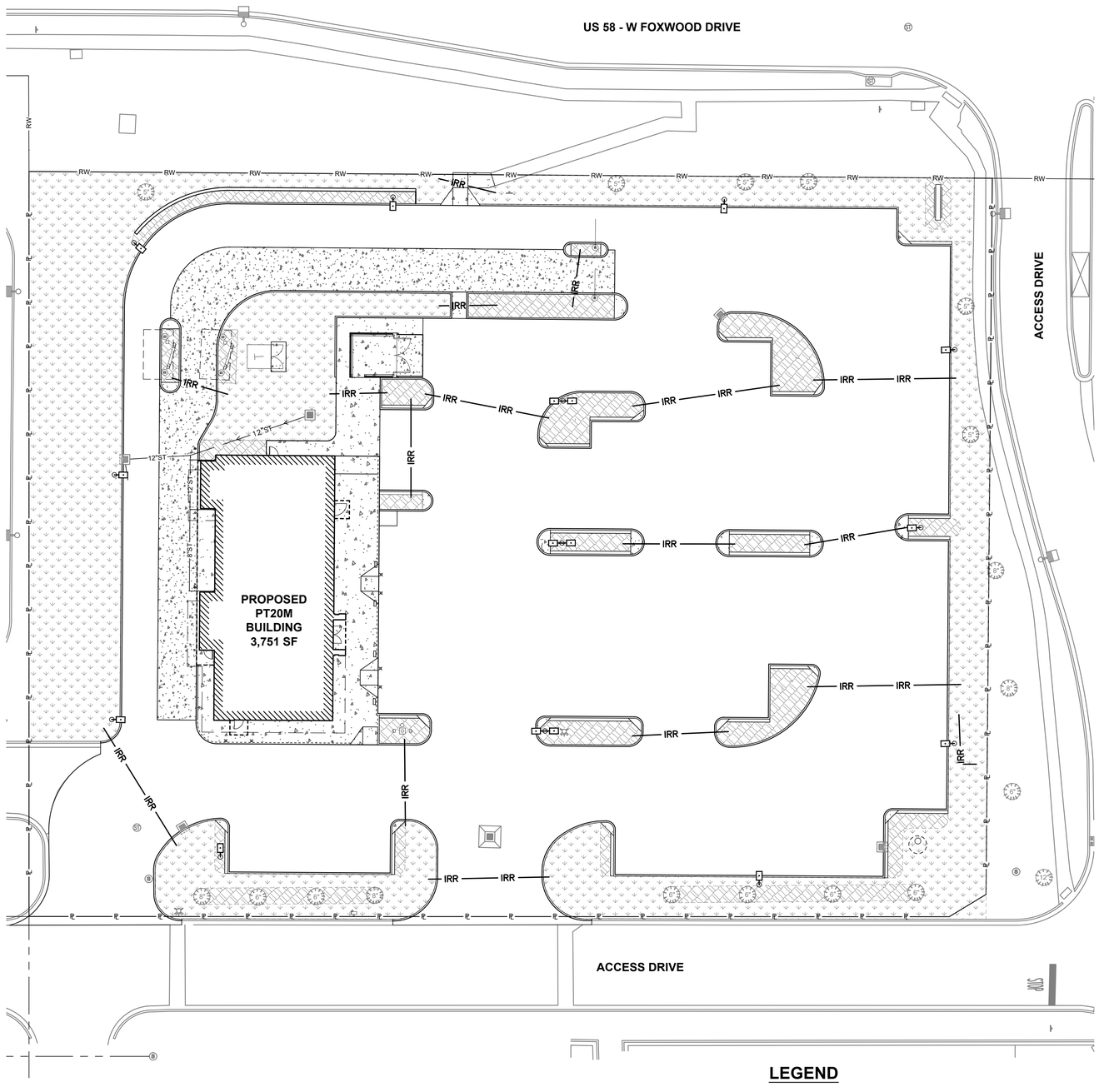
LANDSCAPE PLAN, NOTES & DETAILS

NOT FOR CONSTRUCTION

DRAWN BY:	DCS
CHECKED BY:	PJK
PROJECT NO:	40497-10

DRAWING

C-17



LEGEND

- GRASS SEEDED / SOD AREA
- LANDSCAPED / MULCHED AREA
- STRUCTURAL CONCRETE
- CONCRETE
- IRR — IRRIGATION LINE UNDER PAVEMENT
- W — PROPOSED WATERLINE
- W — EXISTING WATERLINE

GENERAL

A. THE LANDSCAPE IRRIGATION SYSTEM SHALL IRRIGATE ALL PROPOSED LANDSCAPE AND GRASS AREAS ON THE PROPERTY. THE DESIGN, PERMITTING, AND INSTALLATION OF THE SYSTEM SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE/IRRIGATION CONTRACTOR (CONTRACTOR).
B. THE CONTRACTOR IS TO INSTALL EQUIPMENT NECESSARY TO PROVIDE A COMPLETE, FUNCTIONAL SYSTEM THAT IS IN COMPLIANCE WITH APPLICABLE CODES AND REGULATIONS.
C. THE IRRIGATION CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE OWNER'S REPRESENTATIVE FOR APPROVAL, PRIOR TO CONSTRUCTION, WHICH WILL ILLUSTRATE TYPE OF HEADS, VALVES, CONTROLLER, PIPING AND ACCESSORIES. IRRIGATION HEADS, VALVES AND CONTROLLER ARE TO BE FROM A SINGLE MANUFACTURER. ALL EQUIPMENT MUST HAVE A MANUFACTURERS FIVE YEAR WARRANTY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND FIELD ADJUSTMENT OF THE ABOVE ITEMS.
D. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE OWNER THE FINAL LOCATION OF THE CONTROL PANEL(S). NO ADDITIONAL COSTS SHALL BE ALLOWED FOR ANY ADJUSTMENTS MADE TO THE FINAL LOCATION OF ALL EQUIPMENT.
E. THE IRRIGATION CONTRACTOR SHALL SUBMIT A WARRANTY POLICY TO THE OWNER WHICH SHALL COVER THE FUNCTION OF THE ENTIRE SYSTEM FOR A PERIOD OF ONE YEAR AFTER THE ACCEPTANCE OF THE SYSTEM BY THE OWNER.
F. CONTRACTOR WILL VERIFY STATIC PRESSURE AND VOLUME OF SITE WATER SUPPLY AND ADJUST ENTIRE IRRIGATION SYSTEM ACCORDINGLY. EACH ZONE OF IRRIGATION SYSTEM IS TO BE DESIGNED WITH A MINIMUM OPERATING PRESSURE OF 45 PSI. IF THE PRESSURE IS BELOW 45 PSI, A PROPERLY SIZED BOOSTER PUMP WILL BE REQUIRED. AS PART OF THE SHOP DRAWINGS, THE IRRIGATION CONTRACTOR WILL PROVIDE CALCULATIONS SHOWING PRESSURE LOSS FROM THE POINT OF CONNECTION TO THE FURTHEST HEAD (AND FOR THE FURTHEST HEAD ON THE LARGEST ZONE). ADJUST DESIGN TO MEET AVAILABLE PRESSURES AND VOLUMES. A CURRENT STATIC PRESSURE READING AT THE POINT OF CONNECTION WAS NOT AVAILABLE PRIOR TO DESIGN.
G. THE CONTRACTOR IS TO INSTALL ALL EQUIPMENT SUCH THAT THE BUILDING, PARKING AREAS, AND SIDEWALKS ARE NOT SPRAYED OR SUBJECT TO EXCESSIVE RUNOFF. FIELD ADJUSTMENTS MAY BE NECESSARY TO AVOID UNFORESEEN OBSTACLES AND SIMPLIFY INSTALLATION. IRRIGATION SYSTEM ACCESSORIES SUCH AS QUICK COUPLER VALVES, ISOLATION VALVES, AND MANUAL DRAIN VALVES ARE TO BE LOCATED AS NECESSARY TO COMPLETE THE SYSTEM.
H. THE IRRIGATION CONTROLLER IS TO BE A HYBRID SOLID STATE TYPE WITH PLASTIC LOCKABLE CABINET. CONTROLLER MUST HAVE DUAL PROGRAMMING FOR TURF SPRAY ZONES AND SHRUB SPRAY ZONES AND BE CAPABLE OF OPERATING MULTIPLE VALVES PER STATION.
I. PROVIDE DESIGNATED PVC SLEEVES FOR IRRIGATION PIPES AND WIRING THAT CROSSES UNDER WALKS, STREETS AND CONCRETE PADS. COMBINE PIPING WHENEVER POSSIBLE TO REDUCE QUANTITY OF SLEEVING MATERIALS. WHEN INSTALLING IRRIGATION PIPE ALONG CURBS OR IN ISLANDS, PLACE PIPE AS CLOSE TO CURB AS POSSIBLE TO ALLOW FOR PLANTING OF FUTURE TREES AND SHRUBS.

PART 1 GENERAL

1.1 REFERENCES
A. ASTM INTERNATIONAL:
1. ASTM B32 - STANDARD SPECIFICATION FOR SOLDER METAL.
2. ASTM B42 - STANDARD SPECIFICATION FOR SEAMLESS COPPER PIPE, STANDARD SIZES.
3. ASTM B88 - STANDARD SPECIFICATION FOR SEAMLESS COPPER WATER TUBE.
4. ASTM D2235 - STANDARD SPECIFICATION FOR SOLVENT CEMENT FOR ACRYLONITRILE-BUTADIENE-STYRENE (ABS) PLASTIC PIPE AND FITTINGS.
5. ASTM D2241 - STANDARD SPECIFICATION FOR POLYETHYLENE (PE) PLASTIC PIPE (SIDR-PR) BASED ON CONTROLLED INSIDE DIAMETER.
6. ASTM D2564 - STANDARD SPECIFICATION FOR SOLVENT CEMENTS FOR POLY (VINYL CHLORIDE) (PVC) PLASTIC PIPING SYSTEMS.
B. NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION:
1. NEMA 250 - ENCLOSURES FOR ELECTRICAL EQUIPMENT (1000 VOLTS MAXIMUM).
1.2 SYSTEM DESCRIPTION
C. HYBRID SOLID STATE CONTROLLED UNDERGROUND IRRIGATION SYSTEM, WITH PRESSURE BLOW-OUT DRAIN.
D. SOURCE POWER: 120 VOLT.
1.3 SUBMITTALS
A. SHOP DRAWINGS: INDICATE PIPING LAYOUT TO WATER SOURCE, LOCATION OF SLEEVES UNDER PAVEMENT, LOCATION AND COVERAGE OF SPRINKLER HEADS, COMPONENTS, PLANT AND LANDSCAPING FEATURES, SITE STRUCTURES, SCHEDULE OF OUTLETS AND FITTINGS TO BE USED.
B. PRODUCT DATA: SUBMIT COMPONENT AND CONTROL SYSTEM AND WIRING DIAGRAMS.
1.4 CLOSEOUT SUBMITTALS
A. PROJECT RECORD DOCUMENTS: RECORD ACTUAL LOCATIONS OF CONCEALED COMPONENTS BY NORTHING AND EASTING.
B. OPERATION AND MAINTENANCE DATA TO OWNER:
1. SUBMIT INSTRUCTIONS FOR OPERATION AND MAINTENANCE OF SYSTEM AND CONTROLS, SEASONAL ACTIVATION AND SHUTDOWN, AND MANUFACTURER'S PARTS CATALOG.
2. SUBMIT SCHEDULE INDICATING LENGTH OF TIME EACH VALVE IS REQUIRED TO BE OPEN TO DELIVER DETERMINED AMOUNT OF WATER.
1.5 QUALITY ASSURANCE
A. PERFORM WORK IN ACCORDANCE WITH MANUFACTURER'S STANDARDS.
1.6 COORDINATION
A. COORDINATE THE WORK WITH SITE BACKFILLING, PAVING, LANDSCAPE GRADING AND DELIVERY OF PLANT LIFE.

PART 2 PRODUCTS

2.1 PIPE MATERIALS
A. PVC PIPE: ASTM D2241, SDR 26; 160 PSI SOLVENT WELDED SOCKETS.
B. HDPE PIPE: ASTM D-2239, SDR-15, 100 PSI.
C. COPPER TUBING: ASTM B88 TYPE K.
D. FITTINGS: TYPE AND STYLE OF CONNECTION TO MATCH PIPE.
E. SOLVENT CEMENT: [ASTM D2564 FOR PVC PIPE AND FITTINGS] [ASTM D2235 FOR ABS PIPE AND FITTINGS].
F. SLEEVE MATERIAL: PVC SCH 40.
2.2 OUTLETS
A. OUTLETS: BRASS CONSTRUCTION.
B. ROTARY TYPE SPRINKLER HEAD: POP-UP TYPE WITH SCREENS; FULLY ADJUSTABLE FOR FLOW AND PRESSURE; WITH LETTER OR SYMBOL DESIGNATING DEGREE OF ARC AND ARROW INDICATING CENTER OF SPRAY PATTERN.
C. SPRAY TYPE SPRINKLER HEAD: POP-UP HEAD WITH FULL CIRCLE PATTERN.
D. QUICK COUPLER: GALVANIZED.
2.3 MANUAL VALVES
A. VALVES: HIGHLY CORROSION RESISTANT CONSTRUCTION (BRASS, STAINLESS STEEL, ETC.). ALL VALVES SHALL BE ACCESSIBLE FROM ABOVE THROUGH A VALVE BOX.
B. BACKFLOW PREVENTERS: BRONZE BODY CONSTRUCTION, REDUCED PRESSURE TYPE OR AS DESIGNATED BY LOCAL PLUMBING CODE REQUIREMENTS.
C. VALVE BOX AND COVER: HDPE RESIN THAT IS RESISTANT TO UV LIGHT, CORROSION, MOISTURE, AND CHEMICALS.
2.4 CONTROLS AND CONTROL VALVES
A. CONTROLLER: MUST WORK WITH MANUFACTURER FLOW SENSOR, RAIN SENSOR, AND ****** [OR] ******
B. CONTROLLER: AUTOMATIC CONTROLLER, MICROPROCESSOR SOLID STATE CONTROL WITH VISIBLE READOUT DISPLAY, TEMPORARY OVERRIDE FEATURE TO BYPASS CYCLE FOR INCLEMENT WEATHER, PROGRAMMABLE FOR 7 DAYS IN QUARTER HOUR INCREMENTS, WITH AUTOMATIC START AND SHUTDOWN.
C. CONTROLLER HOUSING: NEMA 250 TYPE 3R; WEATHERPROOF, WATERTIGHT, WITH LOCKABLE ACCESS DOOR.
D. VALVES: HYDRAULIC; NORMALLY CLOSED, INCLUDING REQUIRED FITTINGS AND ACCESSORIES.
E. WIRE CONDUCTORS: COPPER CONDUCTOR, DIRECT BURIAL TYPE.
F. RAIN SENSORS: PER SELECTED MANUFACTURER.
2.5 ELECTRICAL CHARACTERISTICS AND COMPONENTS
A. ELECTRICAL CHARACTERISTICS:
1. 120 VOLTS, SINGLE PHASE, 60 HZ.
B. DISCONNECT SWITCH: FACTORY MOUNT DISCONNECT SWITCH IN CONTROL PANEL.

PART 3 EXECUTION

3.1 EXAMINATION
A. VERIFY LOCATION OF EXISTING UTILITIES.
B. VERIFY REQUIRED UTILITIES ARE AVAILABLE, IN PROPER LOCATION, AND READY FOR USE.
3.2 PREPARATION
A. ROUTE PIPING TO AVOID PLANTS, GROUND COVER, AND STRUCTURES.
B. LAYOUT AND STAKE LOCATIONS OF SYSTEM COMPONENTS.
C. REVIEW LAYOUT REQUIREMENTS WITH OTHER AFFECTED WORK. COORDINATE LOCATIONS OF SLEEVES UNDER PAVING TO ACCOMMODATE SYSTEM.
3.3 TRENCHING
A. TRENCH SIZE:
1. MINIMUM COVER OVER INSTALLED SUPPLY PIPING: 18 INCHES.
2. MINIMUM COVER OVER INSTALLED BRANCH PIPING: 15 INCHES.
B. TRENCH TO ACCOMMODATE GRADE CHANGES AND SLOPE TO DRAIN(S).
C. MAINTAIN TRENCHES FREE OF DEBRIS, MATERIAL, OR OBSTRUCTIONS DAMAGING TO PIPE.
3.4 INSTALLATION
A. CONNECT TO UTILITIES.
B. SET OUTLETS AND BOX COVERS AT FINISH GRADE ELEVATIONS.
C. PROVIDE FOR THERMAL MOVEMENT OF COMPONENTS IN SYSTEM.
D. SLOPE PIPING FOR SELF DRAINAGE TO DAYLIGHT.
E. USE THREADED NIPPLES FOR RISERS TO EACH OUTLET.
F. INSTALL CONTROL WIRING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED INSTALLATION PRACTICES. PROVIDE 10 INCH EXPANSION COIL AT EACH CONTROL VALVE, AND AT 100 FT INTERVALS. BURY WIRE BESIDE PIPE. MARK VALVES WITH NEOPRENE VALVE MARKERS CONTAINING LOCKING DEVICE. SET VALVE MARKERS IN VALVE BOXES SET TO FINISH GRADE.
G. AFTER PIPING IS INSTALLED, BUT BEFORE OUTLETS ARE INSTALLED AND BACKFILLING COMMENCES, OPEN VALVES AND FLUSH SYSTEM WITH FULL HEAD OF WATER.
3.5 BACKFILLING
A. BACKFILL WITH COMPACTED BACKFILL IN ACCORDANCE WITH DETAIL A ON SHEET C-10.
B. INSTALL 3 INCH SAND BEDDING BELOW AND COVER OVER PIPING.
C. PROTECT PIPING FROM DISPLACEMENT.
3.6 FIELD QUALITY CONTROL
A. PRIOR TO BACKFILLING, TEST SYSTEM FOR LEAKAGE FOR WHOLE SYSTEM TO MAINTAIN 100 PSI PRESSURE FOR ONE HOUR.
B. SYSTEM IS ACCEPTABLE WHEN NO LEAKAGE OR LOSS OF PRESSURE OCCURS DURING TEST PERIOD.
C. PROVIDE ONE COMPLETE SPRING SEASON START-UP AND FALL SEASON SHUTDOWN.
3.7 ADJUSTING
A. ADJUST CONTROL SYSTEM TO ACHIEVE TIME CYCLES REQUIRED
B. ADJUST HEAD TYPES FOR FULL WATER COVERAGE AS DIRECTED BY OWNER'S REPRESENTATIVE.
3.8 DEMONSTRATION AND TRAINING
A. INSTRUCT OWNER'S PERSONNEL IN OPERATION AND MAINTENANCE OF SYSTEM, INCLUDING ADJUSTING OF SPRINKLER HEADS. USE OPERATION AND MAINTENANCE MATERIAL AS BASIS FOR DEMONSTRATION.

0 10 20 30 40
SCALE: 1"=20'

MISSOURI ONE CALL SYSTEM
1-800-DIG-RITE or 811
MAKE THE CALL . . . IT'S THE LAW

REVISION/DATE/DESCRIPTION

CITY REVIEW	08/06/2021

WHATABURGER

ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

PROJECT

PROPOSED PT20M BUILDING TYPE

1921 W FOXWOOD DR. (MO-58 AND WESTGATE DRIVE) RAYMORE, MO

SHEET TITLE

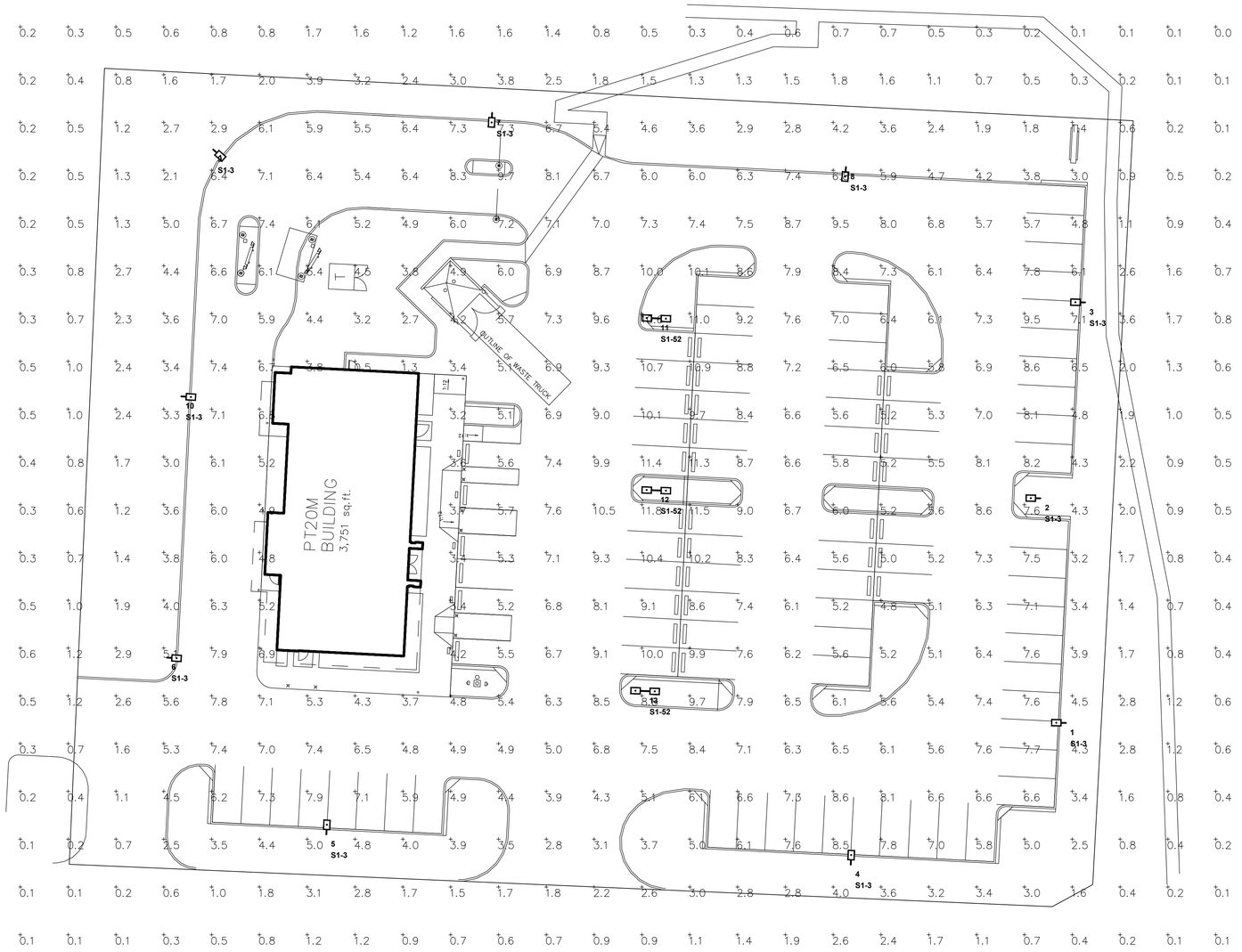
SITE IRRIGATION PLAN

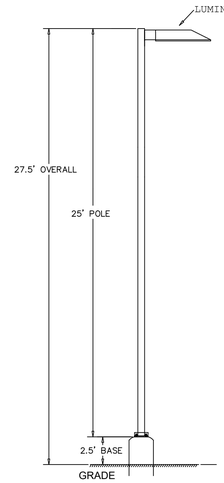
NOT FOR CONSTRUCTION

DRAWN BY:	DCS
CHECKED BY:	PJK
PROJECT NO:	40497-10

DRAWING

C-18





POLE DETAIL
(NOT TO SCALE)

FOR PRICING CONTACT:
DOUG KILE 214-957-5304
OR dkile@techlight.com

Notes:
1. Calculation 3' AFG.
2. Pole luminaire color to be white.
3. wb-raymore.agi

Luminaire Schedule						
Symbol	Qty	Label	Lumens/Lamp	Arrangement	LLF	Description
	10	S1-3	N.A.	SINGLE	0.900	CTL-N-35L-T3-35,000 LUMEN TYPE 3 LED
	3	S1-52	N.A.	D180	0.900	CTL-N-35L-T5W-35,000 LUMEN TYPE 5 LED

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
SITE	Illuminance	Fc	4.20	11.8	0.0	N.A.	N.A.

Luminaire Location Summary			
LumNo	Label	Z-luminaire height	Tilt
1	S1-3	27.5	0
2	S1-3	27.5	0
3	S1-3	27.5	0
4	S1-3	27.5	0
5	S1-3	27.5	0
6	S1-3	27.5	0
7	S1-3	27.5	0
8	S1-3	27.5	0
9	S1-3	27.5	0
10	S1-3	27.5	0
11	S1-52	27.5	0
12	S1-52	27.5	0
13	S1-52	27.5	0

TECHLIGHT INC.
- DUE TO CHANGING LIGHTING ORDINANCES IT IS THE CONTRACTORS RESPONSIBILITY TO SUBMIT THE SITE PHOTOMETRICS AND LUMINAIRE SPECS TO THE LOCAL INSPECTOR BEFORE ORDERING TO ENSURE THIS PLAN COMPLIES WITH LOCAL LIGHTING ORDINACES.
- THIS LIGHTING DESIGN IS BASED ON INFORMATION SUPPLIED BY OTHERS. CHANGES IN ELECTRICAL SUPPLY, AREA GEOMETRY AND OBJECTS WITHIN THE LIGHTED AREA MAY PRODUCE ILLUMINATION VALUES DIFFERENT FROM THE PREDICTED RESULTS SHOWN ON THIS LAYOUT.
- THIS LAYOUT IS BASED ON .IES FILES THAT WERE LAB TESTED OR COMPUTER GENERATED. ACTUAL RESULTS MAY VARY.

SCALE
0 20 40 60

REVISIONS: DESCRIPTION BY

PROJECT:
WHATABURGER
RAYMORE, MO

WHATABURGER
300 CONCORD PLAZA DR.
SAN ANTONIO, TEXAS
210-476-6000 ZIP 78216

SHEET TITLE:
Photometric Plan

UNIT NO.
DATE: 7-8-21
SCALE:
DRAWN BY:
APPROVED BY:

SHEET NO:
PH1.0
FILE:
C-19

WHATABURGER