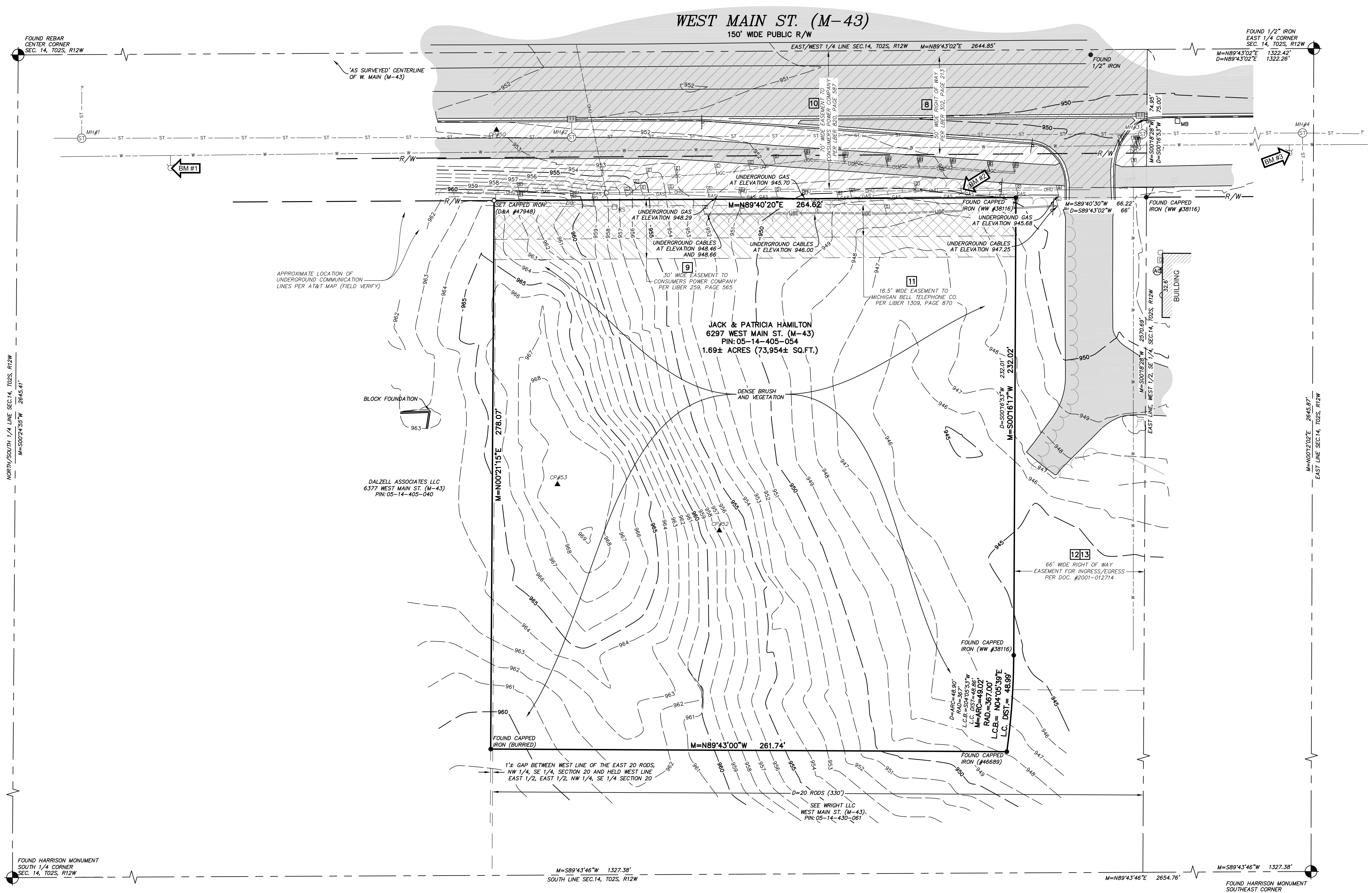
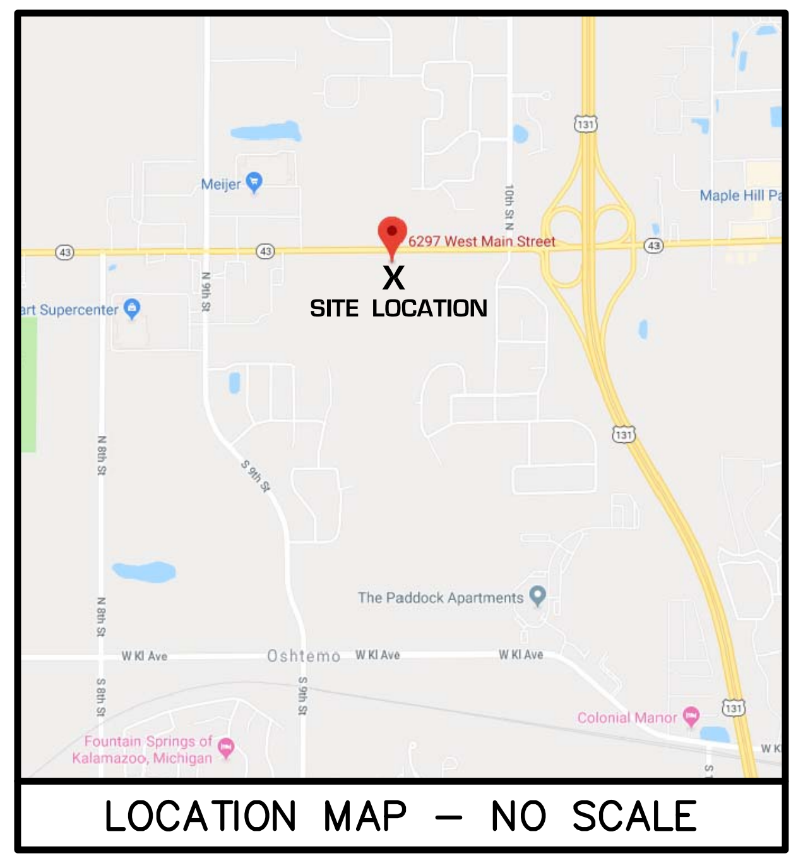
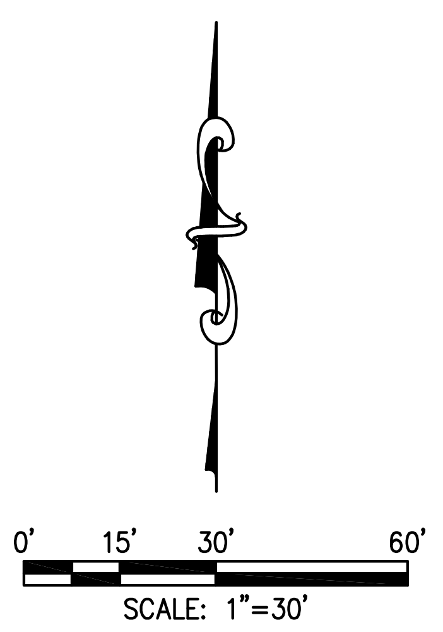
TOPOGRAPHIC / BOUNDARY SURVEY





LOCATION MAP – NO SCALE



STORM STRUCTURE DATA

MH #1 - 4'Ø BLOCK
RIM = 954.88
INV (E) 18" RCP = 947.78
INV (N) 12" RCP = 948.68
INV (W) 15" RCP = 948.23
SUMP = 947.58

MH #2 - 4'Ø CONCRETE
RIM = 952.53
INV (N) 12" RCP = 946.18
INV (E) 18" RCP = 945.63
INV (W) 18" RCP = 945.73
SUMP = 945.53

MH #3 - 4'Ø BLOCK
RIM = 950.55
INV (N) 18" RCP = 943.55
INV (E) 24" RCP = 941.85
INV (W) 18" RCP = 942.55
SUMP = 941.70

MH #4 - 4'Ø BLOCK
RIM = 949.96
INV (W) 24" RCP = 940.61
INV (E) NA = NA
INV (S) NA = NA

UNABLE TO ACCESS OTHER STRUCTURES ON WEST MAIN

LEGEND

	EXISTING
BENCHMARK	BM #1
SET CONCRETE MONUMENT	☐
MONUMENT FOUND	■
SET CAPPED REBAR #47948	○
FOUND IRON	●
SET CHISELED "X"	☒
FOUND CHISELED "X"	☒
CONTROL POINT	▲
PLATTED	P=
DESCRIBED	D=
MEASURED	M=
RECORD	R=
STORM SEWER MANHOLE	ST
CATCH BASIN	⊕ ▦
ROOF DRAIN	○
SANITARY SEWER MANHOLE	SN
CLEANOUT	○CO
WELL HEAD	W
FIRE HYDRANT	
FIRE DEPARTMENT CONNECTION	
SPRINKLER CONTROL VALVE	SCV
SPRINKLER HEAD	
VALVE (WATER & GAS)	WV GV
GAS METER	G
UTILITY RISERS	E RS G RS T RS F RS C RS
UTILITY POLE	
LIGHT POLE	
GUY ANCHOR	
TRANSFORMER	TR
HAND HOLE (ELECTRIC)	H
ELECTRIC METER	E
GROUND MOUNTED LIGHT	◀
SIGN	
SOIL BORING	SB #1
BOLLARD POST	⊗
POST	☐
UNDERGROUND COMMUNICATIONS LINE MARKER	C
UNDERGROUND ELECTRIC LINE MARKER	E
UNDERGROUND GAS LINE MARKER	G
GATE	☒
FENCE LINE	—x—x—
OVERHEAD UTILITIES	— OHU —
UNDERGROUND ELECTRIC	E — UGE — UGE —
COMMUNICATIONS	— UGC — UGC —
TELEPHONE	T — TEL —
FIBER OPTIC	FO — FO —
GAS LINE	G — GAS —
EXISTING WATER LINE	W — W —
EXISTING STORM SEWER	ST — ST — ST —
EXISTING SANITARY SEWER	SN — SAN —

BITUMINOUS SURFACE	CONCRETE SURFACE	GRAVEL SURFACE
▨	▨	▨

CONIFEROUS TREE	DECIDUOUS TREE	ORNAMENTAL BUSH
✸	✿	✳

SURVEY CONTROL

POINT NUMBER	NORTHING (ASSUMED)	EASTING (ASSUMED)	ELEVATION (NAVD '88)
50	9965.6495'	10992.4062'	952.45'
51	9958.9283'	11324.5938'	950.49'
52	9762.5595'	11105.3921'	957.37'
53	9785.9935'	11023.3287'	968.39'

SCHEDULE "A" LEGAL DESCRIPTION
FROM: CHICAGO TITLE OF MICHIGAN, INC.
TITLE NO.: 391054196CML - REVISION 1 (COMMITMENT DATE: JUNE 22, 2018)

LAND SITUATED IN THE STATE OF MICHIGAN, COUNTY OF KALAMAZOO, TOWNSHIP OF OSHTEMO.

THE EAST 20 RODS OF THE NORTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 14, TOWN 2 SOUTH, RANGE 12 WEST, EXCEPTING THEREFROM THAT PART OF THE EAST 20 RODS OF THE NORTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 14, TOWN 2 SOUTH, RANGE 12 WEST THAT LIES NORTHERLY OF A LINE 75.00 FEET SOUTHERLY OF, WHEN MEASURED AT RIGHT ANGLES AND PARALLEL TO THE SURVEY LINE OF M-43 RELOCATED.

THE SURVEY LINE OF M-43 RELOCATED IS DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE NORTH AND SOUTH 1/4 LINE THAT IS SOUTH 5.46 FEET FROM THE CENTER CORNER OF SECTION 14, TOWN 2 SOUTH, RANGE 12 WEST; THENCE NORTH 89° 29' 34" EAST 2,645.81 FEET TO THE EASTERN 1/4 CORNER OF SAID SECTION 14 AND POINT OF ENDING.

ALSO EXCEPT: PART OF THE SOUTHEAST 1/4 OF SECTION 14, TOWN 2 SOUTH, RANGE 12 WEST, DESCRIBED AS: COMMENCING AT THE EAST 1/4 POST OF SAID SECTION 14; THENCE SOUTH 89° 43' 02" WEST ON THE EAST AND WEST 1/4 LINE OF SAID SECTION 14, A DISTANCE OF 1,322.26 FEET TO THE WEST LINE OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SAID SECTION 14; THENCE SOUTH 00° 16' 53" WEST ON SAID WEST LINE 75.00 FEET TO THE POINT OF BEGINNING OF THE LAND HEREIN DESCRIBED; THENCE CONTINUING SOUTH 00° 16' 53" WEST ON SAID WEST LINE 1,247.82 FEET TO THE SOUTH LINE OF THE NORTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SAID SECTION 14; THENCE SOUTH 89° 43' 13" WEST ON SAID SOUTH LINE 331.38 FEET TO THE WEST LINE OF THE EAST 1/2 OF THE EAST 1/2 OF THE NORTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SAID SECTION 14; THENCE NORTH 00° 18' 55" EAST ON SAID WEST LINE 969.81 FEET; THENCE SOUTH 89° 41' 05" EAST PERPENDICULAR TO SAID WEST LINE 261.53 FEET; THENCE NORTHEASTERLY 48.90 FEET ON A 367.00 FOOT RADIUS CURVE TO THE LEFT WHOSE CHORD BEARS NORTH 04° 05' 53" EAST 48.86 FEET; THENCE NORTH 00° 16' 53" EAST 232.01 FEET TO THE SOUTH RIGHT-OF-WAY LINE OF HIGHWAY M-43; THENCE NORTH 89° 43' 02" EAST ON SAID SOUTH RIGHT-OF-WAY LINE 66.00 FEET TO THE POINT OF BEGINNING.

TOGETHER WITH AN EASEMENT FOR INGRESS AND EGRESS AS DESCRIBED IN DOCUMENT NO. 2001-012714

SCHEDULE B-II EXCEPTIONS
FROM: CHICAGO TITLE OF MICHIGAN, INC.
TITLE NO.: 391054196CML - REVISION 1 (COMMITMENT DATE: JUNE 22, 2018)

8 TERMS, COVENANTS, CONDITIONS, PROVISIONS AND RESTRICTIONS OF RELEASE OF RIGHT OF WAY SET FORTH AS LIBER 302, PAGE 213. (RIGHT OF WAY SHOWN ON DRAWING)

9 RIGHT(S) OF WAY AND/OR EASEMENT(S) AND RIGHTS INCIDENTAL THERETO, AS GRANTED TO CONSUMERS POWER COMPANY (NOW KNOWN AS CONSUMERS ENERGY) IN A DOCUMENT RECORDED AS LIBER 259, PAGE 565. (SHOWN ON DRAWING)

10 RIGHT(S) OF WAY AND/OR EASEMENT(S) AND RIGHTS INCIDENTAL THERETO, AS GRANTED TO CONSUMERS POWER COMPANY (NOW KNOWN AS CONSUMERS ENERGY) IN A DOCUMENT RECORDED AS LIBER 820, PAGE 587. (SHOWN ON DRAWING)

11 RIGHT(S) OF WAY AND/OR EASEMENT(S) AND RIGHTS INCIDENTAL THERETO, AS GRANTED TO MICHIGAN BELL TELEPHONE COMPANY IN A DOCUMENT RECORDED AS LIBER 1309, PAGE 870. (SHOWN ON DRAWING)

12 TERMS, COVENANTS, AND CONDITIONS OF DECLARATION OF EASEMENT SET FORTH AS DOCUMENT NO. 2001-012714. (SHOWN ON DRAWING)

13 RIGHTS OF OTHERS IN AND TO THE USE OF THE EASEMENT(S) DESCRIBED IN SCHEDULE A. (SHOWN ON DRAWING)

BENCHMARK DATA

NAVD '88 AS DERIVED FROM GPS OBSERVATIONS UTILIZING VRS CONUS 12B

BM #1 EL= 956.08' (NAVD '88 DATUM)
CUT 'X' IN SOUTHEAST UPPER FLANGE BOLT OF FIRE HYDRANT ON SOUTH SIDE OF WEST MAIN 163'± NORTHWESTERLY FROM NORTHWEST PROPERTY CORNER OF SUBJECT PARCEL.

BM #2 EL= 951.43' (NAVD '88 DATUM)
SET RAILROAD SPIKE ON EAST SIDE OF POWER POLE 26'± SOUTH OF WEST MAIN TURN LANE BACK OF CURB AND 26'± NORTHWESTERLY FROM NORTHEAST PROPERTY CORNER OF SUBJECT PARCEL.

BM #3 EL= 951.30' (NAVD '88 DATUM)
CUT 'X' IN SOUTHEAST UPPER FLANGE BOLT OF FIRE HYDRANT ON SOUTH SIDE OF WEST MAIN AND 218'± EASTERLY OF NORTHEAST PROPERTY CORNER OF SUBJECT PARCEL.

SURVEYOR'S NOTES

1. UTILITIES SHOWN ARE APPROXIMATE LOCATIONS DERIVED FROM ACTUAL FIELD MEASUREMENTS AND AVAILABLE RECORDS. THIS MAP IS NOT TO BE INTERPRETED AS SHOWING EXACT LOCATIONS OR SHOWING ALL UTILITIES IN THE AREA.
2. NOTE TO CONTRACTORS: THREE WORKING DAYS BEFORE YOU DIG - CALL MISS DIG AT 811.
3. CONTOUR INTERVAL = 1 FOOT.

Alan E Dahl
ALAN E. DAHL P.S. NO. 47948

ALAN E. DAHL
PROFESSIONAL SURVEYOR
No. 47948

THE DESCRIPTION WAS GIVEN TO US BY THE PERSON CERTIFIED TO, OR WAS PREPARED BY US FROM INFORMATION OR DOCUMENTS GIVEN TO US BY THE PERSON CERTIFIED TO, AND SHOULD BE COMPARED WITH THE ABSTRACT OF TITLE OR TITLE INSURANCE POLICY FOR ACCURACY, EASEMENTS OR EXCEPTIONS.

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

MISS DIG INFORMATION

MISS DIG SURVEY TICKET #B82122674-00B

- ATT - DESIGN MEMBER (FORMERLY SBC) - 08/09/2018 (MAP PROVIDED)
- CONSUMERS ENERGY - DESIGN MEMBER - 08/02/2018 (MAP PROVIDED)
- CLIMAX TELEPHONE (CTS) - 08/01/2018 (MAP PROVIDED)
- KALAMAZOO CITY PUBLIC SERVICES - 08/01/2018 (MAP PROVIDED)

File Name: N:\Kalamazoo\Projects\2018\1850566.5A – O'Reilly's Auto Parts\dwg\1850566-BNDY-TOPO.dwg Last Saved: 12/6/2018 2:16:25 PM

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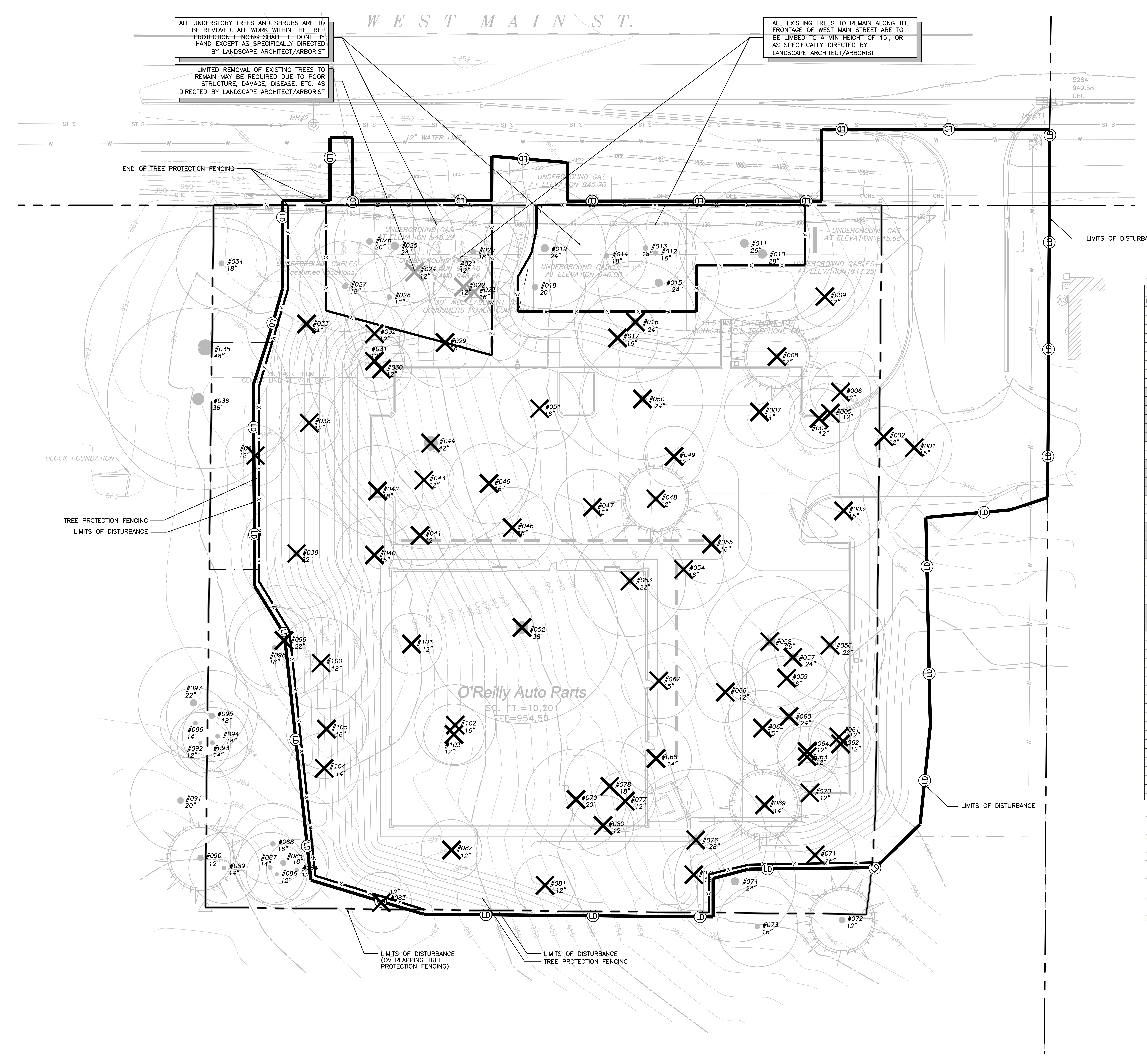
Detroit, MI – 734-368-9483

REVISIONS	
1	ADDED ADDITIONAL TOPO NE CORNER 09-12-2018

6297 W. MAIN–O'REILLY'S AUTO PARTS
SEC. 14, T02S, R12W OSHTEMO TWP., KALAMAZOO CO.
MARKETPLACE DEVELOPMENT
700 COLONIAL RD., SUITE 101
MEMPHIS, TENNESSEE 38117

TOPOGRAPHIC / BOUNDARY SURVEY

Designed By:
Drawn By: VEF
Checked By:
Date:
Plot:
Scale: 1"=30'
Date: 08-27-2018
Job No.: 1850566.5A
Sheet No.: V-101
1 of 1



ALL UNDERSTORY TREES AND SHRUBS ARE TO BE REMOVED. ALL WORK WITHIN THE TREE PROTECTION FENCING SHALL BE DONE BY HAND EXCEPT AS SPECIFICALLY DIRECTED BY LANDSCAPE ARCHITECT/ARBORIST

LIMITED REMOVAL OF EXISTING TREES TO REMAIN MAY BE REQUIRED DUE TO POOR STRUCTURE, DAMAGE, DISEASE, ETC. AS DIRECTED BY LANDSCAPE ARCHITECT/ARBORIST

ALL EXISTING TREES TO REMAIN ALONG THE FRONTAGE OF WEST MAIN STREET ARE TO BE LIMBED TO A MIN HEIGHT OF 15', OR AS SPECIFICALLY DIRECTED BY LANDSCAPE ARCHITECT/ARBORIST

TREE INVENTORY PREPARED BY:
CHARLES R. WALKER
ISA CERTIFIED ARBORIST
SO-6611A
EXPIRATION DATE: DEC. 31, 2020

LEGEND:

—x—x—	TREE PROTECTION FENCING
—(LD)—	LIMITS OF DISTURBANCE
⌒⌒	TREE LINE
○ XXX	EXISTING TREE – INVENTORIED
☒ XXX	EXISTING TREE – TO BE REMOVED
☒ XXX	EXISTING TREE – MAY BE REMOVED DUE TO OUTSTANDING CIRCUMSTANCES (SUBJECT TO CHANGE)

TOTAL NUMBER OF TREES TO REMAIN:

TREE INVENTORY LEGEND

INV.#	D.B.H.	TYPE OF TREE:	REMARKS:
001	15''	DECIDUOUS	TREE OFFSITE – TO BE REMOVED
002	12''	DECIDUOUS	TREE OFFSITE – TO BE REMOVED
003	15''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
004	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
005	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
006	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
007	14''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
008	12''	CONIFEROUS	TREE ONSITE – TO BE REMOVED
009	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
010	*28''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
011	*26''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
012	*16''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
013	*18''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
014	*18''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
015	*24''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
016	24''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
017	16''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
018	*20''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
019	*24''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
020	*18''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
021	*12''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
022	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
023	16''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
024	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
025	*24''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
026	*20''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
027	*18''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
028	*16''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
029	18''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
030	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
031	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
032	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
033	24''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
034	*18''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
035	*48''*	*DECIDUOUS*	*TREE OFFSITE – TO REMAIN*
036	*36''*	*DECIDUOUS*	*TREE OFFSITE – TO REMAIN*
037	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
038	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
039	22''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
040	15''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
041	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
042	18''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
043	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
044	42''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
045	16''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
046	16''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
047	15''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
048	12''	CONIFEROUS	TREE ONSITE – TO BE REMOVED
049	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
050	24''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
051	16''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
052	38''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
053	22''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
054	16''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
055	16''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
056	22''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
057	24''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
058	26''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
059	16''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
060	24''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
061	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
062	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
063	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
064	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
065	15''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
066	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
067	15''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
068	14''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
069	14''	CONIFEROUS	TREE ONSITE – TO BE REMOVED
070	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
071	16''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
072	*12''*	*CONIFEROUS*	*TREE OFFSITE – TO REMAIN*
073	*16''*	*DECIDUOUS*	*TREE OFFSITE – TO REMAIN*
074	*24''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
075	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
076	28''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
077	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
078	18''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
079	20''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
080	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
081	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
082	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
083	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
084	*12''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
085	*18''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
086	*12''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
087	*14''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
088	*16''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
089	*14''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
090	*12''*	*CONIFEROUS*	*TREE OFFSITE – TO REMAIN*
091	*20''*	*DECIDUOUS*	*TREE OFFSITE – TO REMAIN*
092	*12''*	*DECIDUOUS*	*TREE OFFSITE – TO REMAIN*
093	*14''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
094	*14''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
095	*18''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
096	*14''*	*DECIDUOUS*	*TREE OFFSITE – TO REMAIN*
097	*22''*	*DECIDUOUS*	*TREE OFFSITE – TO REMAIN*
098	*16''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
099	22''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
100	18''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
101	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
102	16''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
103	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
104	14''	DECIDUOUS	TREE ONSITE – TO BE REMOVED

TOTAL NUMBER OF TREES REMOVED:	70
TOTAL NUMBER OF CALIPER-INCHES REMOVED:	1,128 CALIPER-INCHES
TOTAL NUMBER OF TREES:	96
ONSITE TREES: (INCLUDED IN TOTALS)	94
OFFSITE TREES: (INCLUDED IN TOTALS)	2
OFFSITE TREES: (INVENTORIED, BUT NOT IN TOTALS)	9
TOTAL NUMBER OF TREES REMOVED UNDER 12": (UNKNOWN)	0
TOTAL NUMBER OF TREES REMOVED 12-24:	66

SURVEY OF TREE SIZE, TYPE, AND LOCATION PERFORMED BY LOCAL MICHIGAN SURVEYOR. IMPACTS AND QUANTITIES PERFORMED BY: C. R. WALKER, CERTIFIED ARBORIST #SO-6611A

TREE INVENTORY AND IMPACT PLAN

PROJECT NAME:
O'REILLY AUTO PARTS

PREPARED BY:
CARLSON CONSULTING ENGINEERS
7068 LEDGESTONE COMMONS
BARTLETT, TN, 38133
(901) 384-0404

NO	REVISIONS

APPLICANT/DEVELOPER:
MARKETPLACE DEVELOPMENT, LLC
700 COLONIAL ROAD, SUITE 101
MEMPHIS, TN 38117
(901) 210-2922

O'REILLY
AUTO PARTS
OSHTEMO TOWNSHIP, MI

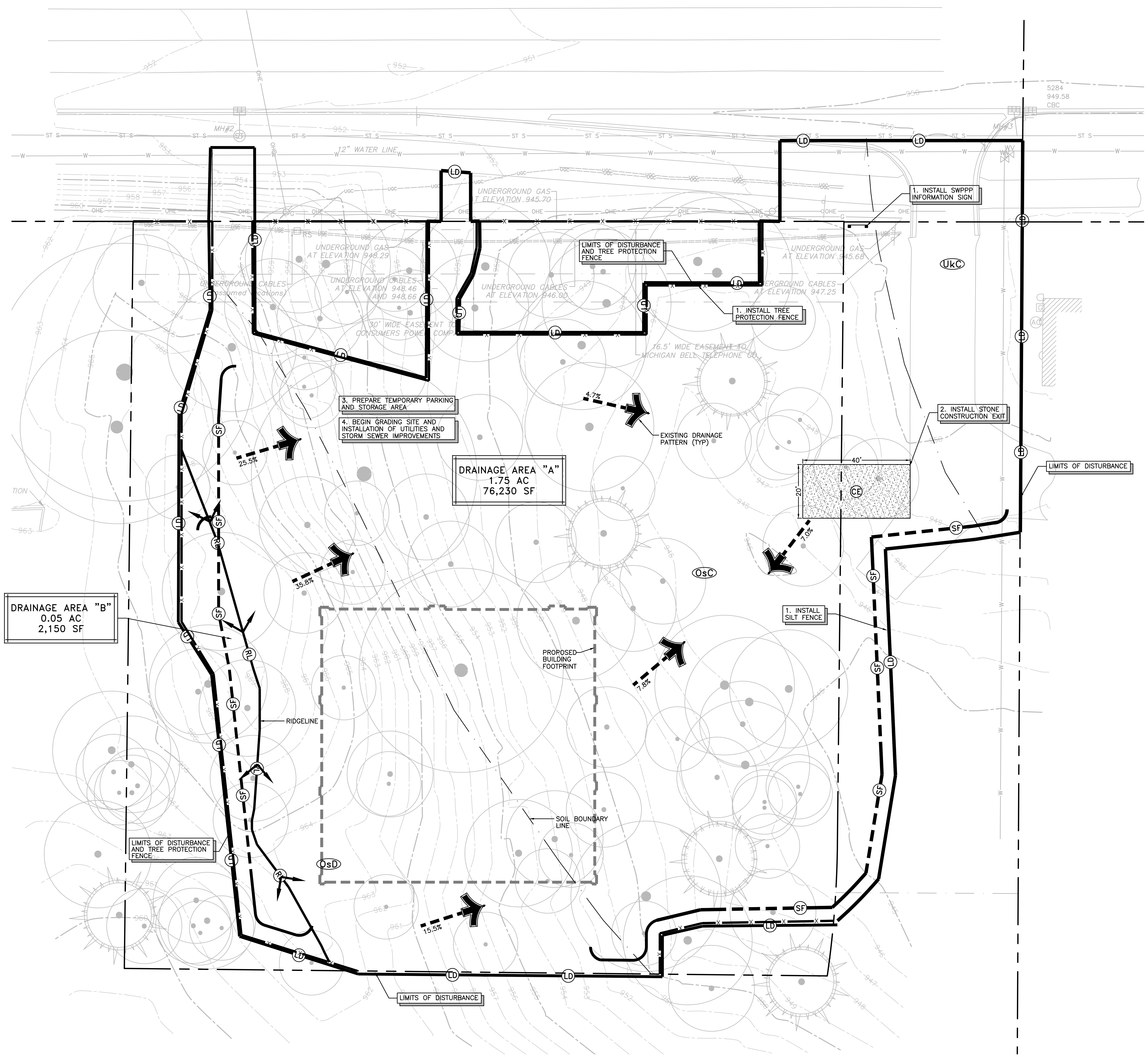
CARLSON
CONSULTING
ENGINEERS, INC.
7068 Ledgestone Commons
Bartlett, TN 38133
Phone (901) 384-0404
Fax (901) 384-0710
Michigan Registered Engineering Firm Qualified

CHARLES WALKER
LANDSCAPE ARCHITECT

DRAWN TGH
CHECKED JSP
DATE 05/20/19
SCALE 1" = 20'
JOB NAME O'REILLY AUTO PARTS
SHEET 3 OF 20 SHEETS

NO	REVISIONS

EROSION & SEDIMENTATION CONTROL PLAN/SITE MAP SHEET 1 OF 4, MUST BE KEPT ON SITE.



TEMPORARY SEEDING:

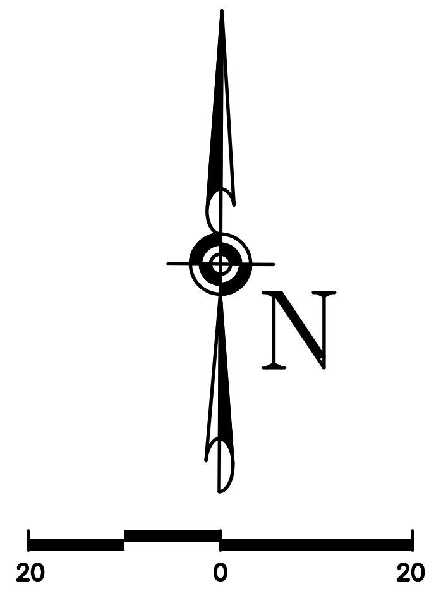
- SEED: MIXTURE 70% RYEGRASS/30% WINTER WHEAT – 4 LB / 1,000 SQ FT

PERMANENT STABILIZATION:

- REFER TO PLANTING PLAN, THIS SET.

ACREAGE SUMMARY

TOTAL PROJECT AREA	1.70 ACRES
ON–SITE DISTURBED AREA	1.30 ACRES
OFF–SITE DISTURBED AREA	0.30 ACRES
TOTAL DISTURBED AREA	1.60 ACRES



LEGEND

—(LD)—	– LIMITS OF DISTURBANCE	(OsD)	– SOIL TYPE: OSHTEMO SANDY LOAM
- -(SF)- -	– SEDIMENTATION/SILT FENCE	(OsC)	– SOIL TYPE: OSHTEMO SANDY LOAM
▨ (CE)	– CONSTRUCTION EXIT (STONE/ASPHALT)	(UkC)	– SOIL TYPE: URBAN LAND – KALAMAZOO
⊔	– SWPPP INFORMATION SIGN	←(RL)—	– RIDGELINES
← - - -	– EXISTING DRAINAGE PATTERN	—— · ——	– APPROXIMATE SOIL TYPE BOUNDARY
		——x——	– TREE PROTECTION FENCE

EROSION CONTROL SEQUENCING – PHASE I

1. INSTALL SWPPP INFORMATION SIGN, TREE PROTECTION, AND PERIMETER SEDIMENT CONTROLS.
2. INSTALL STONE CONSTRUCTION EXIT
3. PREPARE PARKING AND STAGING AREA.
4. BEGIN GRADING SITE AND INSTALLATION OF UTILITIES AND STORM SEWER IMPROVEMENTS.

–CAUTION NOTICE TO CONTRACTOR–

IF PROPERLY IMPLEMENTED, THIS PLAN WILL PROVIDE AN EFFECTIVE MEANS FOR CONTROLLING EROSION. HOWEVER, IT IS ACKNOWLEDGED THAT NO ONE PLAN CAN BE PREPARED THAT WILL DEPICT ALL POSSIBLE CONTROL MEASURES NECESSARY FOR VARIOUS STAGES OF CONSTRUCTION. THE CONTRACTOR SHALL INCLUDE IN THE BASE BID ADEQUATE FUNDS TO PROVIDE ALL EROSION CONTROL MEASURES NECESSARY TO COMPLY WITH CODES FOR THE DURATION OF THE CONSTRUCTION PROJECT. ALL ITEMS AND WORK SHOWN ON THESE PLANS AND ALL MAINTENANCE THROUGHOUT THE DURATION OF CONSTRUCTION SHALL BE INCLUDED IN THE BASE BID.

SPECIFICATIONS REQUIREMENTS

THE REQUIREMENTS SHOWN ON THIS PLAN ARE SUPPLEMENTED BY THE SWPPP CONTAINED WITHIN THE PROJECT SPECIFICATIONS. IN CASE OF CONFLICTS BETWEEN THE PLANS, SWPPP SPECIFICATIONS AND THE ACTUAL GENERAL PERMIT, THE MOST STRINGENT REQUIREMENTS SHALL APPLY.

LIMITS OF DISTURBANCE

CONTRACTOR TO LIMIT DISTURBANCE OF SITE IN STRICT ACCORDANCE WITH THE EROSION CONTROL SEQUENCING SHOWN ON THIS PLAN. NO UNNECESSARY OR IMPROPERLY SEQUENCED CLEARING AND/OR GRADING SHALL BE PERMITTED.

SILT FENCE LOCATION

SILT FENCE LOCATION SHOWN ON PLAN HAS BEEN OFFSET FOR CLARITY. WHERE SILT FENCE IS SHOWN ADJACENT TO LIMITS OF DISTURBANCE IT IS THE INTENTION THAT SILT FENCE BE INSTALLED ALONG LIMITS OF DISTURBANCE (NO DISTURBANCE BEYOND SILT FENCE). SILT FENCE SHALL FOLLOW CONTOURS.

BMP NOTICE

THE CONTRACTOR MUST CONTINUALLY INSPECT BMP'S TO ENSURE ANY PONDING DOES NOT PRESENT HAZARDS TO THE PUBLIC. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MODIFY BMP'S AS NEEDED TO PROTECT THE PUBLIC AT ALL TIMES AND PROVIDE PROTECTION FROM SEDIMENT RELEASE.

CAUTION – NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE IMPROVEMENTS SHOWN BY THESE PLANS.

MISS DIG System, Inc.

APPLICANT/DEVELOPER:
MARKETPLACE DEVELOPMENT, LLC
700 COLONIAL ROAD, SUITE 101
MEMPHIS, TN 38117
(901) 210-2922

O'REILLY
AUTO PARTS
OSHTEMO TOWNSHIP, MI

CARLSON
CONSULTING
ENGINEERS, INC.
7068 Ledgestone Commons
Bartlett, TN 38133
Phone (901) 384-0404
Fax (901) 384-0710
Michigan Registered Engineering Firm Qualified

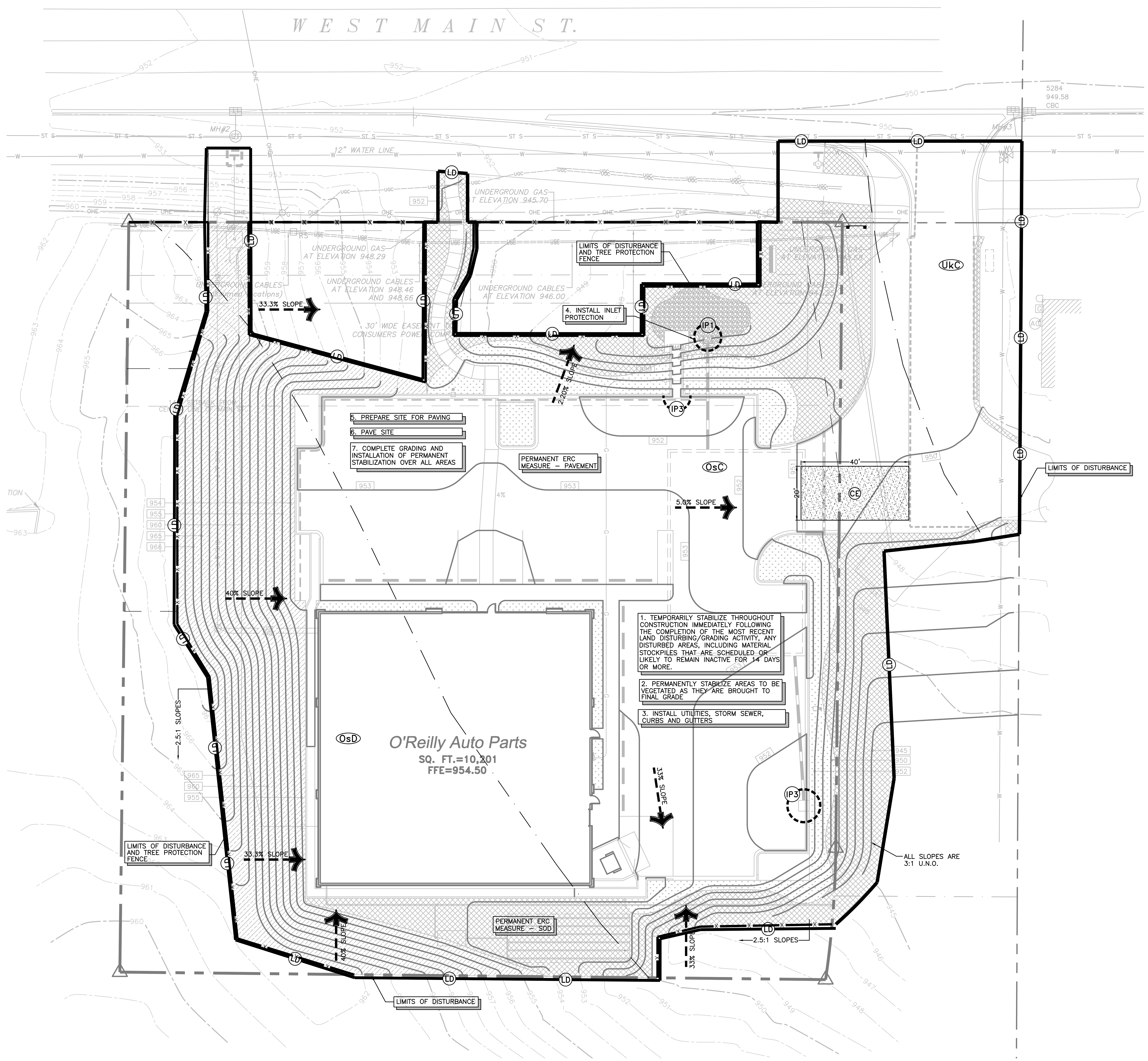
STATE OF MICHIGAN
JOSEPH PARSLEY
ENGINEER
No. 6201066218
LICENSED PROFESSIONAL ENGINEER
6/4/19

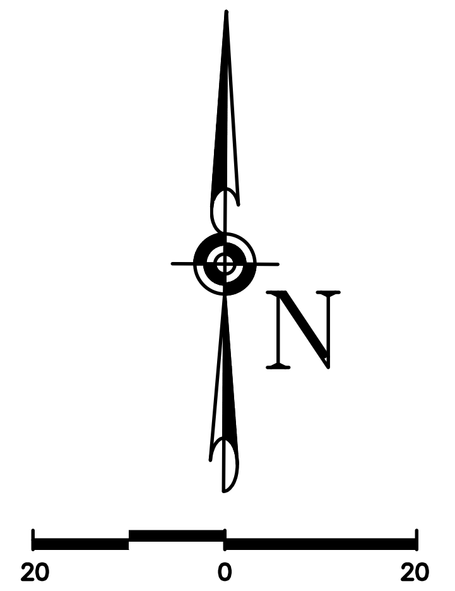
PROJECT NAME:	O'REILLY AUTO PARTS
PREPARED BY:	CARLSON CONSULTING ENGINEERS 7068 LEDGESTONE COMMONS BARTLETT, TN, 38133 (901) 384–0404

DRAWN	TGH
CHECKED	JSP
DATE	05/20/19
SCALE	1"=20'
JOB NAME	O'REILLY AUTO PARTS
SHEET	4 OF 20 SHEETS

EROSION & SEDIMENTATION CONTROL PLAN/SITE MAP – PHASE I

EROSION & SEDIMENTATION CONTROL PLAN/SITE MAP
SHEET 2 OF 4, MUST BE KEPT ON SITE.





LEGEND

LD	– LIMITS OF DISTURBANCE
SF	– SEDIMENTATION/SILT FENCE
CE	– CONSTRUCTION EXIT (STONE/ASPHALT)
IP1	– BLOCK AND AGGREGATE CURB INLET PROTECTION
IP3	– BLOCK AND AGGREGATE FLUME PROTECTION
IP7	– INLET HEADWALL SEDIMENTATION FILTER
➔	– DRAINAGE PATTERN
—x—	– TREE PROTECTION FENCE
▩	– SODDED AREA. SEE PLANTING PLAN FOR ADDITIONAL INFORMATION
░	– PLANTING BED. SEE PLANTING PLAN FOR ADDITIONAL INFORMATION
▨	– 'NATIVE RESTORATION' SEED MIX
▒	– RIVER COBBLE LANDSCAPE STONE
▬	– SWPPP INFORMATION SIGN
OsD	– SOIL TYPE: OSHTEMO SANDY LOAM
OsC	– SOIL TYPE: OSHTEMO SANDY LOAM
UkC	– SOIL TYPE: URBAN LAND – KALAMAZOO

EROSION CONTROL SEQUENCING – PHASE II

1. TEMPORARILY STABILIZE THROUGHOUT CONSTRUCTION IMMEDIATELY FOLLOWING THE COMPLETION OF THE MOST RECENT LAND DISTURBING/GRADING ACTIVITY, ANY DISTURBED AREAS, INCLUDING MATERIAL STOCKPILES THAT ARE SCHEDULED OR LIKELY TO REMAIN INACTIVE FOR 14 DAYS OR MORE.
2. PERMANENTLY STABILIZE AREAS TO BE VEGETATED AS THEY ARE BROUGHT TO FINAL GRADE.
3. INSTALL UTILITIES, STORM SEWER, CURBS AND GUTTERS.
4. INSTALL INLET PROTECTION AT ALL STORM SEWER STRUCTURES AS EACH INLET STRUCTURE IS INSTALLED.
5. PREPARE SITE FOR PAVING.
6. PAVE SITE.
7. COMPLETE GRADING AND INSTALLATION OF PERMANENT STABILIZATION OVER ALL AREAS.
8. REMOVE AND DISPOSE OF ANY REMAINING BMPS AND STABALIZE ANY DISTURBED AREAS.

UNDERGROUND RETENTION

IF SEDIMENT ACCUMULATES WITHIN THE UNDERGROUND RETENTION AREA, SEDIMENT SHALL BE REMOVED.

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MISS DIG System, Inc.

PROJECT NAME:
O'REILLY AUTO PARTS
PREPARED BY:
CARLSON CONSULTING ENGINEERS
7068 LEDGESTONE COMMONS
BARTLETT, TN, 38133
(901) 384-0404

EROSION & SEDIMENTATION CONTROL PLAN/SITE MAP – PHASE II

NO	REVISIONS

APPLICANT/DEVELOPER:
MARKETPLACE DEVELOPMENT, LLC
700 COLONIAL ROAD, SUITE 101
MEMPHIS, TN 38117
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JOSEPH PARSLEY
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No. 6201066218
6/4/19

DRAWN	TGH
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SCALE	1"=20'
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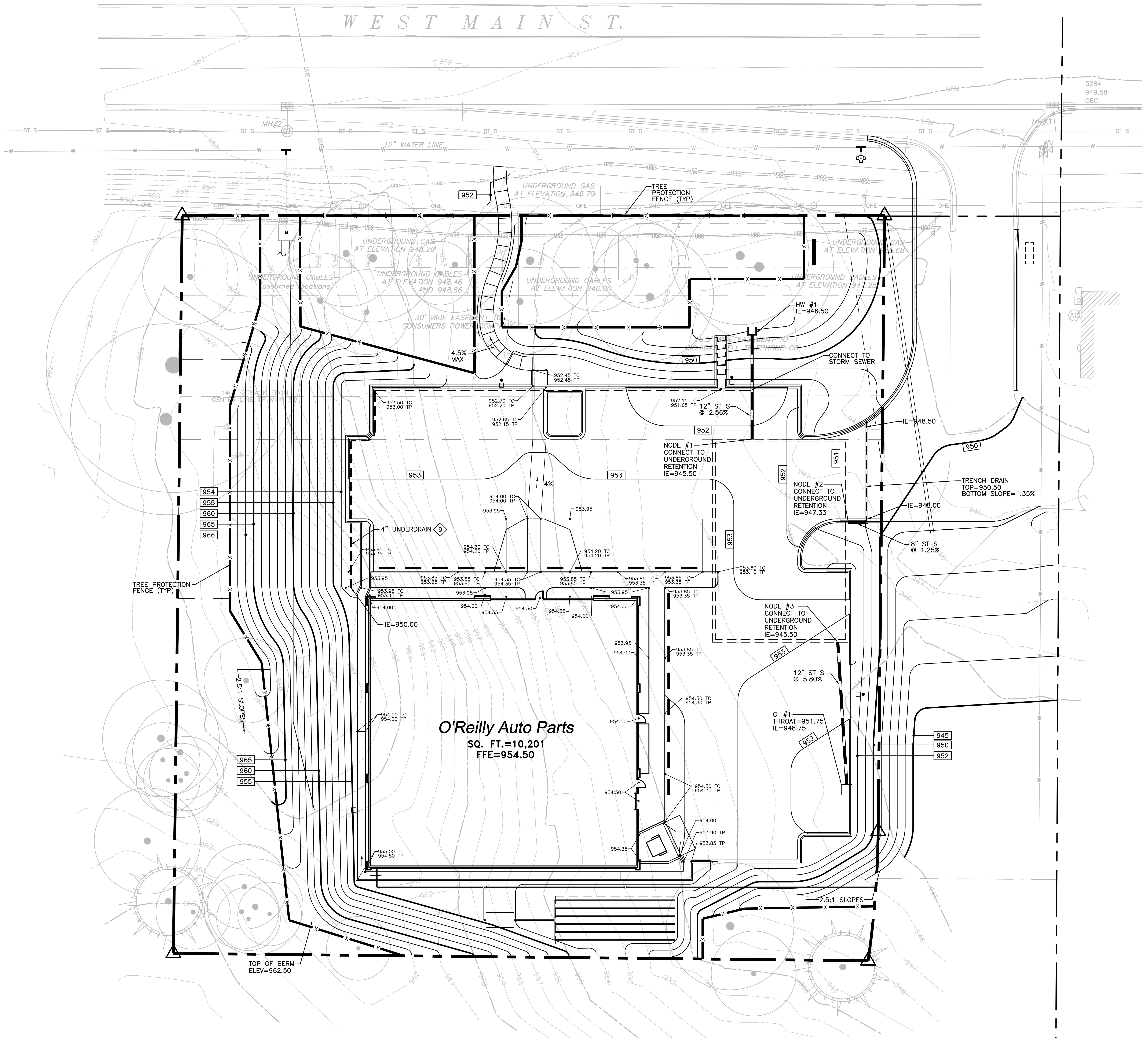

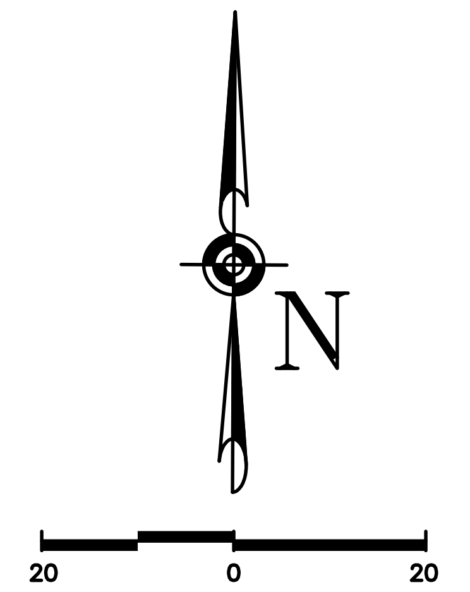

LEGEND

—x—	FENCE LINE
═══	STORM SEWER
⊐	HEADWALL
xxx.xx	SPOT ELEVATION
TC	TOP OF CONCRETE
TP	TOP OF PAVEMENT

◇ NOTES:

1. ALL DISTURBED AREAS ARE TO RECEIVE TWO INCHES OF TOPSOIL SOD AND/OR LANDSCAPING. WATER UNTIL A HEALTHY STAND OF GRASS IS OBTAINED. REFER TO PLANTING PLAN, THIS SET, FOR ADDITIONAL INFORMATION.
2. ACCEPTABLE STORM SEWER MATERIALS:
   1) CORRUGATED POLYETHYLENE (N–12)
   2) POLYVINYL CHLORIDE (PVC)
3. SLOPES WITHIN ALL ADA STALLS AND ACCESS AISLES SHALL NOT EXCEED 1:50 IN ALL DIRECTIONS.
4. SLOPE ON ALL ADA ACCESSIBLE ROUTES SHALL NOT EXCEED 1:20. CROSS SLOPE OF ADA ROUTES SHALL NOT EXCEED 1:50.
5. ELEVATION OF NEW PAVEMENT TO MATCH EXISTING.
6. THE CONTRACTOR SHALL HAVE ANY RIGHT–OF–WAY MONUMENTS LOCATED BY A LICENSED SURVEYOR PRIOR TO COMMENCEMENT OF GRADING ACTIVITIES WITHIN THE RIGHT–OF–WAY. ANY MONUMENTS WHICH ARE DESTROYED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED.
7. CONTRACTOR SHALL PLACE PRECAST CONCRETE SPLASH BLOCKS AT ALL DOWNSPOUT LOCATIONS.
8. BOTTOM OF POND SHALL BE FLAT AT ELEVATION 944 AND COVERED WITH 4" OF WASHED GRAVEL. IF CLAYEY SANDS HAVE NOT BEEN REMOVED AT ELEVATION 943.66, THE CONTRACTOR SHALL CONTINUE EXCAVATING UNTIL SANDS HAVE BEEN REACHED. EXCAVATED MATERIAL SHALL BE REPLACED WITH CLEAN SAND BACK TO ELEVATION 943.66. HEAVY EQUIPMENT SHALL NOT BE ALLOWED IN THE BOTTOM OF THE POND TO PREVENT COMPACTION OF THE NATIVE MATERIAL AND TO ALLOW STORMWATER TO INFILTRATE. SCARIFY 6" PRIOR TO PLACING 4" OF WASHED GRAVEL
9. 4" UNDERDRAIN AT A MINIMUM OF 0.50%. REFER TO DETAIL FOR ADDITIONAL INFORMATION.

PROPOSED DRAINAGE STRUCTURES

NODE	TOP ELEV.	THROAT	DRAIN AREAS (acres)	Q100 (cfs)
HW #1	NA	NA	0.84	2.99
TRENCH DRAIN	950.50	NA	0.10	0.79
CI #1	NA	951.75	0.61	4.43

DRAIN PIPE TABLE

PROPOSED STORMWATER PIPE TABLE

FROM NODE	INVERT	TO NODE	INVERT	LENGTH (feet)	SIZE (inches)	SLOPE (%)	Σ D.A. (acres)	ΣQ100 (cfs)	Qcap (cfs)	VELOCITY (fps)
HW #1	946.50	NODE #1	945.50	39'	12"	2.56%	0.84	2.99	5.70	7.34
TRENCH DRAIN	948.00	NODE #2	947.33	8'	8"	8.38%	0.10	0.79	3.50	10.02
CI #1	948.75	NODE #3	945.50	56'	12"	5.80%	0.61	4.43	8.17	10.63

MISS DIG System, Inc.

GRADING PLAN

PROJECT NAME:
O'REILLY AUTO PARTS
PREPARED BY:
CARLSON CONSULTING ENGINEERS
7068 LEDGESTONE COMMONS
BARTLETT, TN, 38133
(901) 384–0404

NO	REVISIONS

APPLICANT/DEVELOPER:
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700 COLONIAL ROAD, SUITE 101
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(901) 210–2922

O'REILLY AUTO PARTS

OSHTEMO TOWNSHIP, MI

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JOSEPH PARSLEY
No. 6201066218
6/4/19

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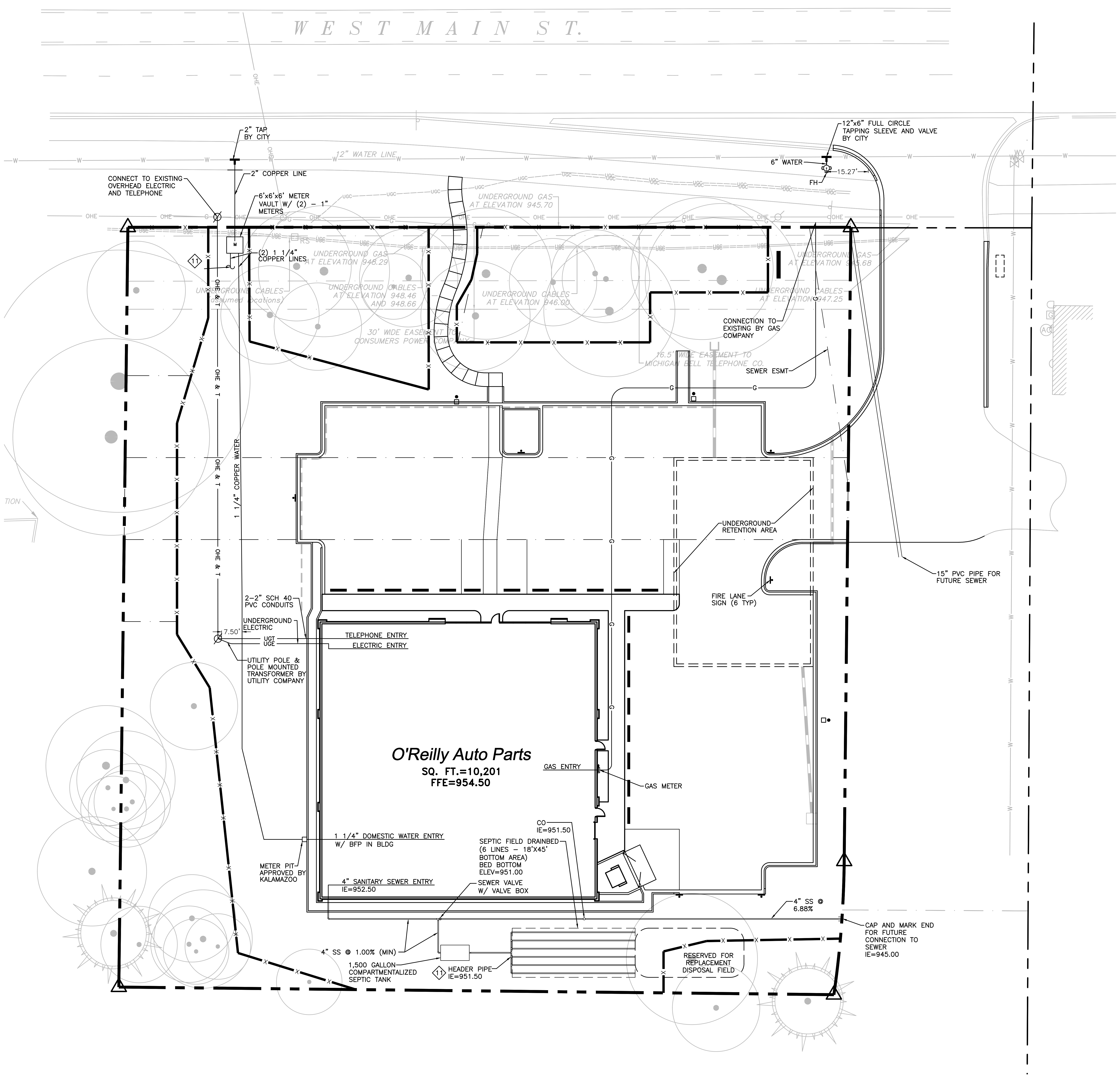
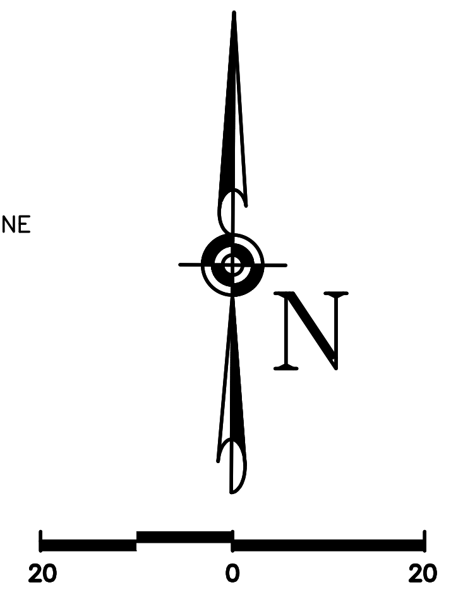
SHEET	9 OF 20 SHEETS



LEGEND

——UGE & T——	– UNDERGROUND ELECTRIC & TELEPHONE
——G——	– GAS LINE
——	– WATER LINE
═══	– SANITARY SEWER
○	– CLEANOUT
▬	– GAS METER
M	– WATER METER



◇ NOTES:

1. CONTRACTOR SHALL VERIFY AS-BUILT INVERT ELEVATION AND AND ADVISE ENGINEER OF ANY DISCREPANCIES.
2. CONSTRUCTION SHALL NOT START ON ANY PUBLIC UTILITY SYSTEM UNTIL WRITTEN APPROVAL HAS BEEN RECEIVED FROM APPROPRIATE UTILITY COMPANIES AND CONTRACTOR HAS BEEN NOTIFIED.
3. CONTRACTOR SHALL NOT OPEN, TURN OFF, INTERFERE WITH, OR ATTACH ANY PIPE OR HOSE TO OR TAP ANY WATER MAIN BELONGING TO THE CITY UNLESS DULY AUTHORIZED TO DO SO BY THE CITY. ANY ADVERSE CONSEQUENCES OF ANY SCHEDULED OR UNSCHEDULED DISRUPTIONS OF SERVICE TO THE PUBLIC ARE TO BE THE LIABILITY OF THE CONTRACTOR.
4. ALL NECESSARY INSPECTIONS, APPROVALS, AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR AUTHORITIES SHALL BE COMPLETED PRIOR TO ANNOUNCED BUILDING POSSESSION POSSESSION AND THE FINAL CERTIFICATION OF SERVICES.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING CONDUIT FOR UNDERGROUND UTILITIES AND APPURTENANCES AS PER THE UTILITY COMPANY REQUIREMENTS.
6. CONTRACTOR SHALL COORDINATE WITH WATER COMPANY FOR REQUIREMENTS OF DOMESTIC ENTRY. ALL APPURTENANCES SUCH AS VALVES, BACKFLOW PREVENTION DEVICES, METER BOXES AND/OR METERS REQUIRED BUT NOT PROVIDED BY THE WATER COMPANY SHALL BE PURCHASED BY THE CONTRACTOR AND INSTALLED PER THE WATER COMPANY'S REQUIREMENTS.
7. MAINTAIN A MINIMUM 10' HORIZONTAL AND 18" VERTICAL SEPARATION AT ALL WATER AND SEWER CROSSINGS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ANY UTILITY COMPANY WHICH MAINTAINS A UTILITY LINE WITHIN THE BOUNDARIES OF THE PROJECT PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL ASSUME THE RESPONSIBILITY FOR ANY DAMAGE, INCURRED BY ANY UTILITY COMPANY, TO THEIR LINES AS A RESULT OF HIS ACTIVITIES, WHETHER THESE LINES ARE SHOWN ON THE CONSTRUCTION PLANS OR NOT.
9. ALL UTILITY CONSTRUCTION SHALL CONFORM WITH THE MOST STRINGENT REQUIREMENTS OF THE UTILITY COMPANY OR THE PROJECT SPECIFICATIONS.
10. CONTRACTOR SHALL REFER TO BUILDING PLAN FOR EXACT BUILDING UTILITY ENTRY LOCATIONS.
11. REFER TO IRRIGATION PLAN FOR CONTINUATION OF THESE LINES.
12. VALVE ON SEWER EXTENTION SHALL REMAIN CLOSED UNTIL CONNECTED TO GRAVITY SEWER.
13. ELECTRIC POLE LOCATION CAN BE ADJUSTED SLIGHTLY TO AVOID DAMAGING EXISTING GAS MAIN.

UTILITY SERVICE NOTES:

GAS SERVICE

- CONSUMERS ENERGY TO PROVIDE NEW GAS LINE FROM EXISTING SERVICE UP TO AND INCLUDING SETTING OF GAS METERS.

CONTACT: JACOB TONEY, CONSUMERS ENERGY
TELEPHONE: (269) 969-8629

ELECTRIC SERVICE

- CONSUMERS ENERGY TO PROVIDE AND INSTALL NEW POLES AND POLE MOUNTED TRANSFORMER
- CONTRACTOR SHALL PROVIDE AND INSTALL ALL CONDUITS AND CABLES FROM RISER POLE UP TO THE BUILDING ENTRY LOCATION.

CONTACT: JACOB TONEY, CONSUMERS ENERGY
TELEPHONE: (269) 969-8629

TELEPHONE SERVICE

- AT&T TO PROVIDE CABLES, APPURTENANCES, ETC. FROM CONNECTION TO EXISTING SERVICE UP TO PHONE PANEL BOARD INSIDE BUILDINGS.
- PROVIDE AND INSTALL 2-2" SCHEDULE 40 PVC CONDUITS WITH PULL ROPE, INCLUDING ALL TRENCHING AND BACKFILLING, FROM THE NEW POLE TO THE BUILDING.

CONTACT: CHRIS O'BRIEN, AT&T
TELEPHONE: (269) 926-0232

WATER SERVICE

- CITY OF KALAMAZOO PUBLIC WORKS WILL INSTALL THE TAPS FOR THE DOMESTIC, IRRIGATION, AND FOR THE FIRE HYDRANT.
- CITY OF KALAMAZOO PUBLIC WORKS WILL INSTALL THE METERS FOR THE DOMESTIC AND IRRIGATION.
- CONTRACTOR WILL BE RESPONSIBLE FOR ALL EXCAVATION, INSTALLATION OF WATER LINES, BACKFLOW PREVENTERS, AND APPURTENANCES. CONTRACTOR SHALL ALSO PROVIDE ALL BACKFILL AND COMPACTION REQUIRED TO MEET THE PLANS AND SPECIFICATIONS.

CONTACT: ANNA CRANDALL
TELEPHONE: (269) 337-8055

SANITARY SEWER

- CONTRACTOR TO PROVIDE AND INSTALL ALL SANITARY SEWER LINE, SEPTIC TANK, AND APPURTENANCES SHOWN
- KALAMAZOO COUNTY HEALTH AND COMMUNITY SERVICES DEPARTMENT WILL BE REQUIRED TO INSPECT THE FOLLOWING ITEMS IN ORDER TO APPROVE THE INSTALLATION:
  - -ALL SEWER LINES
  - -SEPTIC TANK
  - -ABSORPTION DRAINBED
  - -FINAL COVER OVER ENTIRE SYSTEM

CONTACT: MARK THOMAS, KALAMAZOO COUNTY GOVERNMENT
TELEPHONE: (269) 373-5342

MISS DIG System, Inc.

UTILITY PLAN

PROJECT NAME:
O'REILLY AUTO PARTS

PREPARED BY:
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NO	REVISIONS

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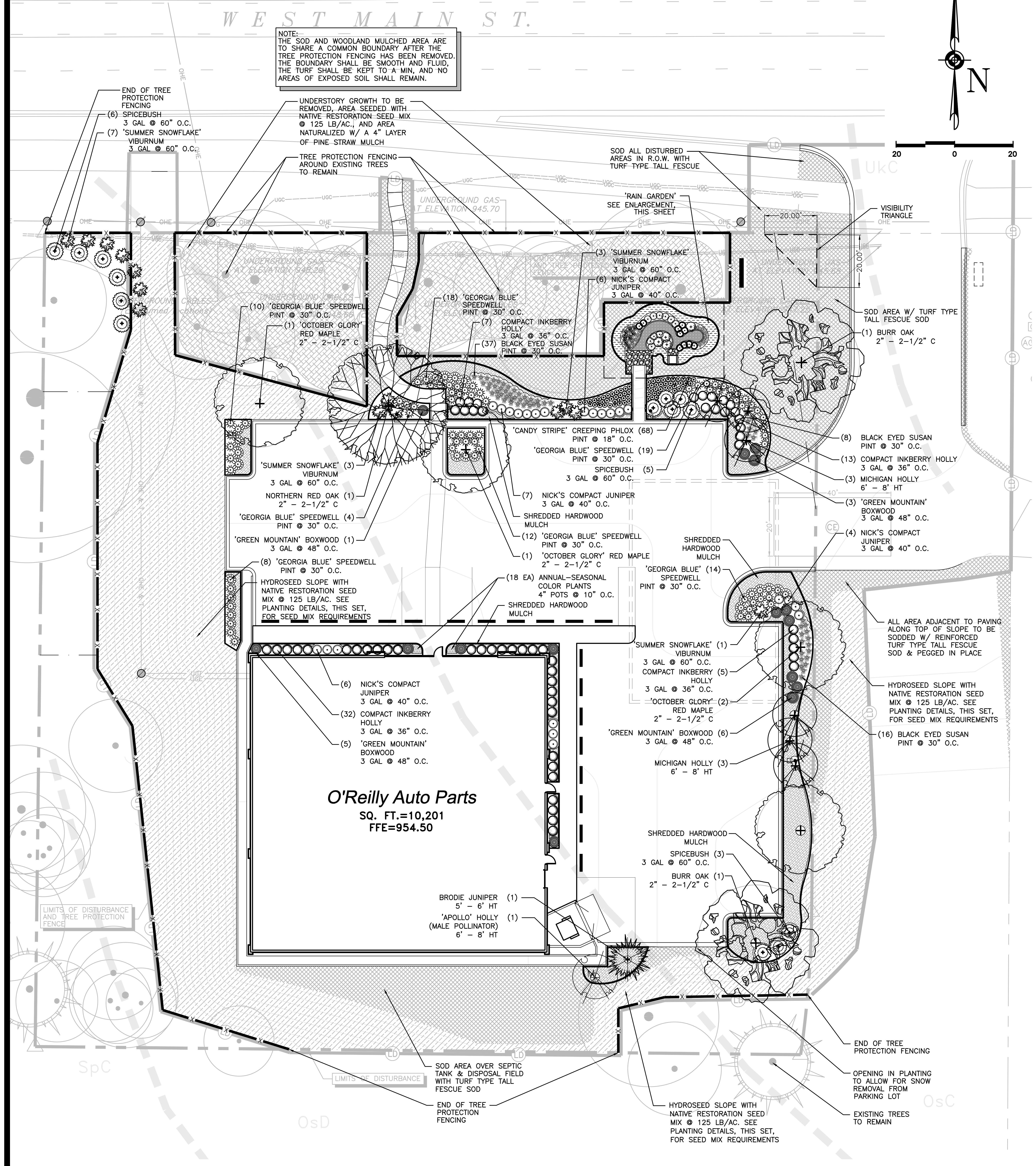


NOTE:
THE SOD AND WOODLAND MULCHED AREA ARE TO SHARE A COMMON BOUNDARY AFTER THE TREE PROTECTION FENCING HAS BEEN REMOVED. THE BOUNDARY SHALL BE SMOOTH AND FLUID, THE TURF SHALL BE KEPT TO A MIN, AND NO AREAS OF EXPOSED SOIL SHALL REMAIN.

NOTICE TO CONTRACTOR:

TESTING OF ALL TOPSOIL SHALL BE APPROVED BY THE CEC AND LANDSCAPE ARCHITECT PRIOR TO ANY FINAL PLACEMENT OF MATERIAL ONSITE. TOPSOIL THAT DOES NOT COMPLY WITH THE PROJECT SPECIFICATIONS SHALL NOT BE APPROVED. CONTRACTOR SHALL AMEND OR REPLACE TOPSOIL AS NECESSARY TO ENSURE COMPLIANCE WITH PROJECT SPECIFICATIONS.

SOD SHALL BE PEGGED ON ALL SLOPES IN ORDER TO HOLD SOD IN PLACE. SEE SITEWORK SPECIFICATIONS FOR OTHER REQUIREMENTS.

ALL UNSURFACED AREAS SHALL RECEIVE A 4" LAYER OF SUITABLE TOPSOIL AND GRASS SEED. WATER UNTIL A HEALTHY STAND OF GRASS IS OBTAINED

UNLESS SHOWN OTHERWISE, ALL LARGE CANOPY TREES SHALL MAINTAIN 25' HORIZONTAL CLEARANCE FROM ALL OVERHEAD UTILITY LINES AND 6' HORIZONTAL CLEARANCE FROM ALL UNDERGROUND UTILITY LINES.

DESIGN NOTES:

PRESERVATION OF EXISTING TREES:

ROUGHLY 10,850 S.F OF EXISTING NATIVE VEGETATION (14.7% OF SITE) ALONG THE ENTIRE WESTERN BOUNDARY HAS BEEN PRESERVED. INCLUDED WITHIN THIS BUFFER ARE (13) TREES BETWEEN 12" DBH AND 18" DBH. THE PRESERVED TREES TOTAL 190 CAILPER INCHES. THE TREE PRESERVATION CREDITS FOR ALLOTTED FOR THE TREES WITHIN THIS BUFFER MEET THE STREET FRONTAGE AND SIDE BUFFER TREE REQUIREMENTS FOR THE ENTIRE PROJECT.

STREET FRONT PLANTING:

THE ENTIRE WIDTH OF THE TYPE–C FRONTAGE BUFFER IS WITHIN A DEDICATED 30' WIDE 'CONSUMERS POWER COMPANY' ELECTRICAL EASEMENT. THIS CONFLICTS 30' WIDE 'CONSUMERS POWER COMPANY' ELECTRICAL EASEMENT. THIS CONFLICTS PLACEMENT WAS PROVIDED IN COORDINATION WITH THE EXISTING TREE PRESERVATION. NATIVE SHRUB PLANTINGS WERE INCLUDED WITHIN THE BUFFER.

UNDULATIONS TO THE PROPOSED TOPOGRAPHY WERE ADDED AS POSSIBLE TO PROPOSED GRADING OF THE STREET FRONTAGE AND TO SOFTEN THE EDGES OF THE DETENTION BASIN.

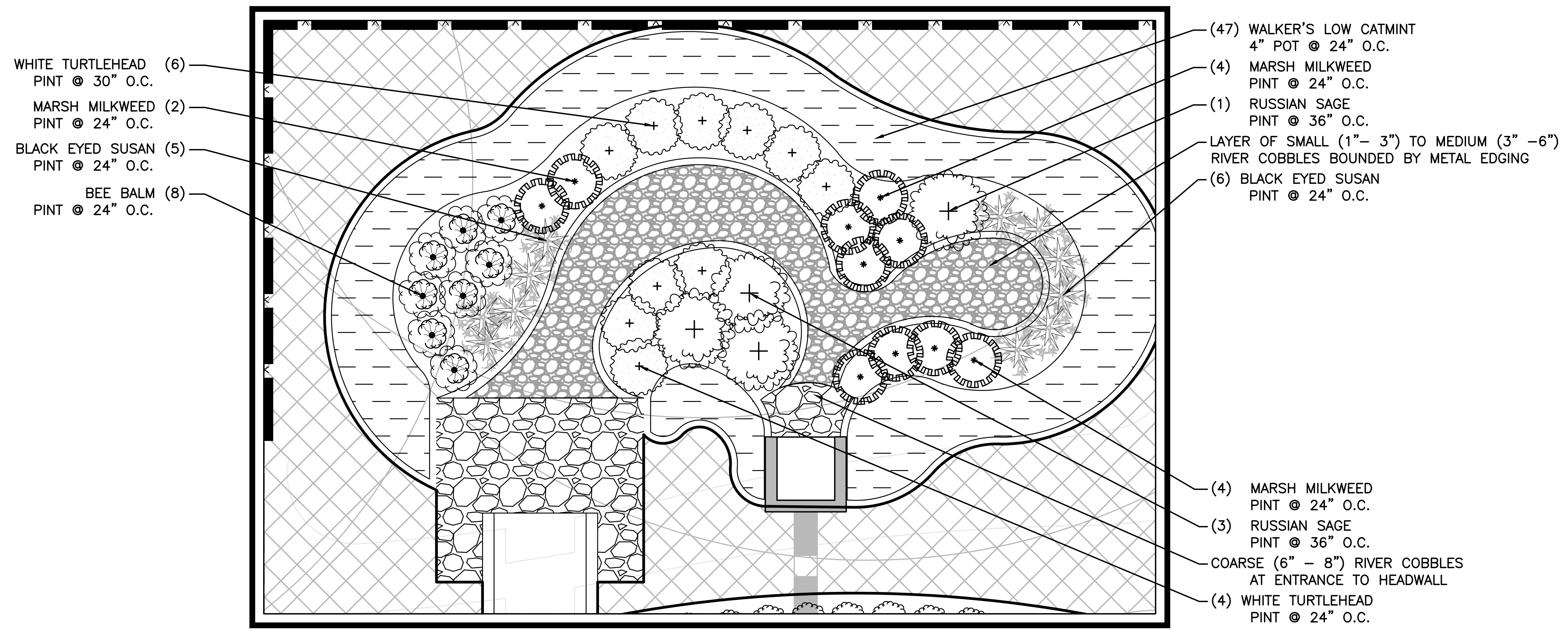
KALAMAZOO COUNTY PRE–SETTLEMENT VEGETATION:

THE KALAMAZOO COUNTY/PRE–SETTLEMENT VEGETATION FOR THE SITE WAS AN: "OAK SAVANNAH". DOMINANT SPECIES WAS BURR OAK, WHICH IS INCLUDED. ALL OF THE EIGHT TREE SPECIES USED (100%) ARE NATIVE OR NATIVE DERIVATIVES OF THE TREES INDIGENOUS TO MICHIGAN AND/OR WITHIN THE "OAK SAVANNAH" COMPLEX.

3 OF THE 5 SHRUB SPECIES USED (60.0%) ARE NATIVE OR NATIVE DERIVATIVES TO SOUTHWEST MICHIGAN.

3 OF THE 3 GROUND COVER SPECIES USED (100.0%) ARE NATIVE OR NATIVE DERIVATIVES TO SOUTHWEST MICHIGAN.

THE NATIVE RESTORATION SEED MIX INCLUDES 25 INDIVIDUAL SPECIES OF GRASSES AND WILDFLOWERS THAT ARE NATIVE TO THE MIDWEST AND TO SOUTHWEST MICHIGAN.



RAINGARDEN ENLARGEMENT

SCALE= 1" = 5'–0"

PLANT SCHEDULE

NOTE: ALL SIZES AND CONDITION OF NURSERY STOCK SHALL MEET THE STANDARDS ESTABLISHED IN THE LATEST EDITION OF "AMERICAN STANDARD FOR NURSERY STOCK" PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.

QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE (BOTH MIN'S TO BE MET)	SPACING	CONDITION	REMARKS
TREES:							
4		ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	2" – 2-1/2" C / 12' – 14' HT	AS SHOWN	B&B/CONT	FULL HEAD w/UNIFORM GROWTH
6		ILEX VERTICILLATA	MICHIGAN HOLLY	MULTI–TRUNKED / 6' – 8' HT	AS SHOWN	B&B/CONT	FULL HEAD w/UNIFORM GROWTH
1		ILEX VERTICILLATA 'APOLLO'	'APOLLO' (MALE POLLINATOR) HOLLY	MULTI–TRUNKED / 6' – 8' HT	AS SHOWN	B&B/CONT	FULL HEAD w/UNIFORM GROWTH
1		JUNIPERUS VIRGINIANA 'BRODIE'	'BRODIE' JUNIPER	5' – 6' HT/ FULL TO GROUND	AS SHOWN	B&B/CONT	FULL HEAD w/UNIFORM GROWTH
2		QUERCUS MACROCARPA	BURR OAK	2" – 2-1/2" C / 12' – 14' HT	AS SHOWN	B&B/CONT	STRONG CENTRAL LEADER, FULL ROUND HEAD
1		QUERCUS RUBRA	NORTHERN RED OAK	2" – 2-1/2" C / 12' – 14' HT	AS SHOWN	B&B/CONT	STRONG CENTRAL LEADER, FULL ROUND HEAD
SHRUBS:							
15		BUXUS X 'GREEN MOUNTAIN'	'GREEN MOUNTAIN' BOXWOOD	3 GAL / 18" HT MIN	48" O.C.	B&B/CONT	ROUND, FULL HEAD
57		ILEX GLABRA 'COMPACTA'	COMPACT INKBERRY HOLLY	3 GAL / 18" HT MIN	36" O.C.	CONT	ROUND, FULL HEAD
23		JUNIPERUS CHINENSIS 'PFITZERIANA NICK'S COMPACTA'	NICK'S COMPACT JUNIPER	3 GAL / 18" HT MIN	40" O.C.	CONT	ROUND, FULL HEAD
14		LINDERA BENZOIN	SPICEBUSH	3 GAL / 18" HT MIN	60" O.C.	CONT	ROUND, FULL HEAD
14		VIBURNUM PLICATUM TOMENTOSUM 'SUMMER SNOWFLAKE'	'SUMMER SNOWFLAKE' VIBURNUM	3 GAL / 18" HT MIN	60" O.C.	CONT	ROUND, FULL HEAD
RAIN GARDEN:							
10		ASCLEPIAS	MARSH MILKWEED	PINT	24" O.C.	CONT	ROUNDED, FULL, UNIFORM GROWTH
11		RUDBECKIA FULGIDA 'GOLDSTURM'	BLACK EYED SUSAN	PINT	30" O.C.	CONT	ROUND, FULL HEAD
4		PEROVSKIA ATRIPLICIFOLIA	RUSSIAN SAGE	PINT	36" O.C.	CONT	ROUNDED, FULL, UNIFORM GROWTH
8		MONARDA	BEE BALM	PINT	24" O.C.	CONT	ROUNDED, FULL, UNIFORM GROWTH
10		CHELONE GLABRA	WHITE TURTLEHEAD	PINT	30" O.C.	CONT	ROUNDED, FULL, UNIFORM GROWTH
47		NEPETA X FAASSENII 'WALKER'S LOW'	WALKER'S LOW CATMINT	4" POT / 3 – 4 " HT	24" O.C.	CONT	ROUNDED, FULL, UNIFORM GROWTH
GROUNDCOVER:							
36		ANNUAL COLOR – (PANSY/VINCA – BLUE–PUR/WHT) SELECTION TO BE BASED UPON SEASON	SEASONAL COLOR	4" – 6" HT/ 4" POTS OR CELL PACKS	10" O.C.	CELL PACK	COLOR TO BE LAYERED AT TIME OF INSTALLATION. WHITE IN FRONT, MIXED BLUE COLOR BLEND BEHIND.
FILL AREA		FESTUCA ARUNDINACEA	TALL FESCUE SOD	SOLID SOD	SOLID	SLAB/ROLL	WEED FREE & ACTIVELY GROWING
68		PHLOX SUBULATA 'CANDY STRIPE'	'CANDY STRIPE' CREEPING PHLOX	PINT	18" O.C.	CONT	FULL CONTAINER, UNBROKEN RUNNERS
FILL AREA		3" LAYER OF (2" – 4") RIVER COBBLE LANDSCAPE STONE (LOCATED IN RAIN GARDEN)					
61		RUDBECKIA FULGIDA 'GOLDSTURM'	BLACK EYED SUSAN	PINT	30" O.C.	CONT	ROUND, FULL HEAD
85		VERONICA PENDUNCULARIS 'GEORGIA BLUE'	'GEORGIA BLUE' SPEEDWELL	PINT	30" O.C.	CONT	FULL CONTAINER, UNBROKEN RUNNERS
FILL AREA		'NATIVE RESTORATION' SEED MIX	CUSTOM BLEND – SLOPES	MIX – 125#/AC	SOLID	SEED	SEE NOTES FOR SEE MIX
FILL AREA		SHREDDED HARDWOOD MULCH	DOUBLE HAMMERED	4" MINIMUM DEPTH AFTER SETTLING	FILL AREA	BULK	BROWN COLOR

NOTE: SYMBOLS SHOWN IN TABLE ABOVE ARE FOR SPECIES IDENTIFICATION ONLY. PLANT SIZE SHOWN IN THE TABLE IS NOT INTENDED TO BE REPRESENTATIVE OF THE PLANT AT EITHER INSTALLATION OR MATURITY. SIZE OF SYMBOL SHOWN IN TABLE ABOVE MAY VARY FROM THOSE SHOWN ON PLANS.

NOTE: NO SUBSTITUTIONS OF PLANT MATERIALS ARE ALLOWED WITHOUT THE PRIOR APPROVAL OF THE LANDSCAPE ARCHITECT.

SOIL TYPE DESCRIPTIONS:

OsC:	OSHTEMO SANDY LOAM	6% – 12% SLOPES	NON–HYDRIC
OsD:	OSHTEMO SANDY LOAM	12% – 18% SLOPES	NON–HYDRIC
SpC:	SPINKS LOAMY SAND	6% – 12% SLOPES	NON–HYDRIC
UkC:	URBAN LAND–KALAMAZOO COMPLEX	6% – 12% SLOPES	NON–HYDRIC

MISS DIG System, Inc.

PLANTING PLAN

PROJECT NAME:
O'REILLY AUTO PARTS
PREPARED BY:
CARLSON CONSULTING ENGINEERS
7068 LEDGESTONE COMMONS
BARTLETT, TN, 38133
(901) 384–0404

NO	REVISIONS

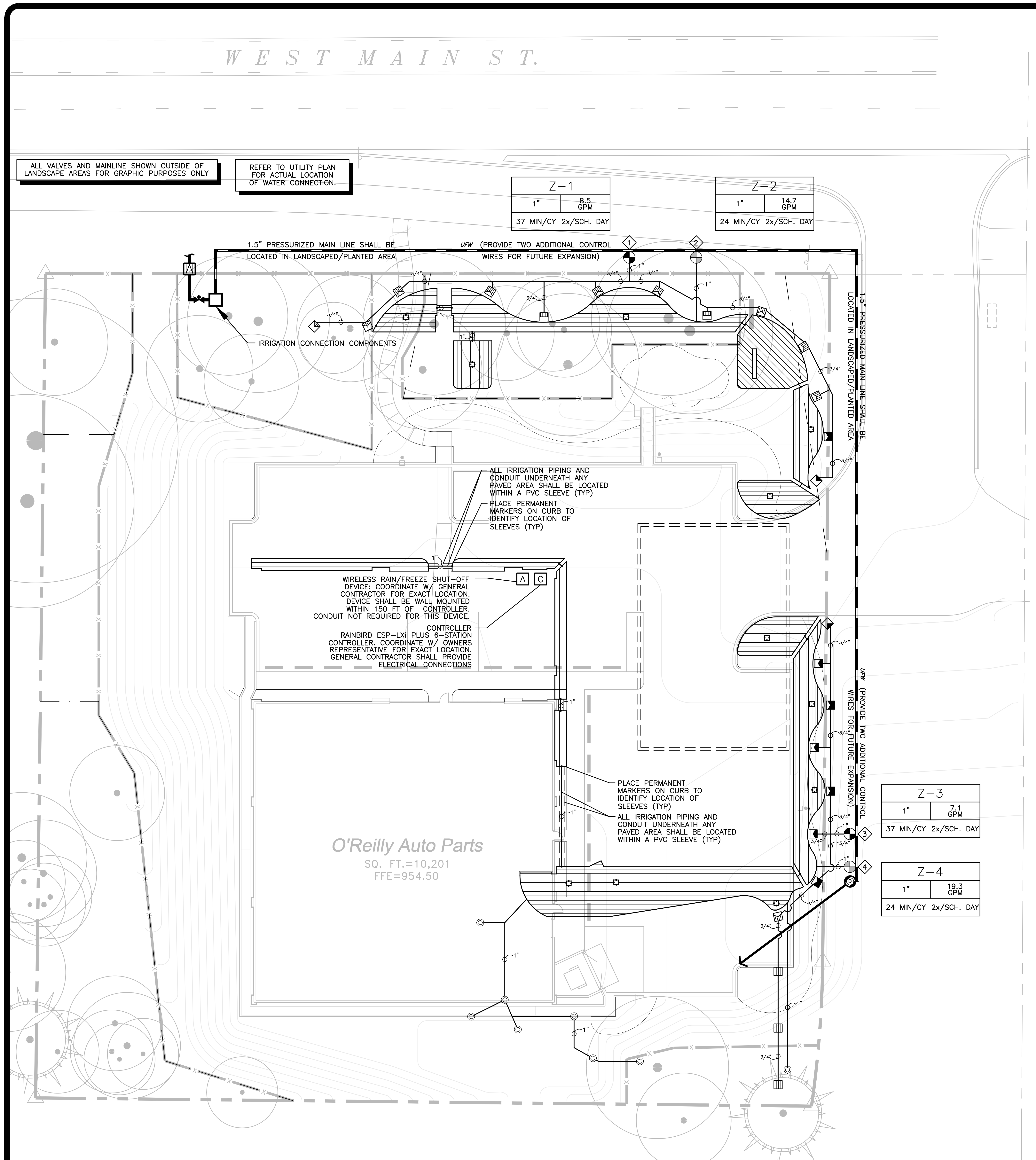
APPLICANT/DEVELOPER:
MARKETPLACE DEVELOPMENT, LLC
700 COLONIAL ROAD, SUITE 101
MEMPHIS, TN 38117
(901) 210–2922

O'REILLY
AUTO PARTS
OSHTEMO TOWNSHIP, MI

CARLSON
CONSULTING
ENGINEERS, INC.
7068 Ledgestone Commons
Bartlett, TN 38133
Phone (901) 384-0404
Fax (901) 384-0710
Michigan Registered Engineering Firm Qualified

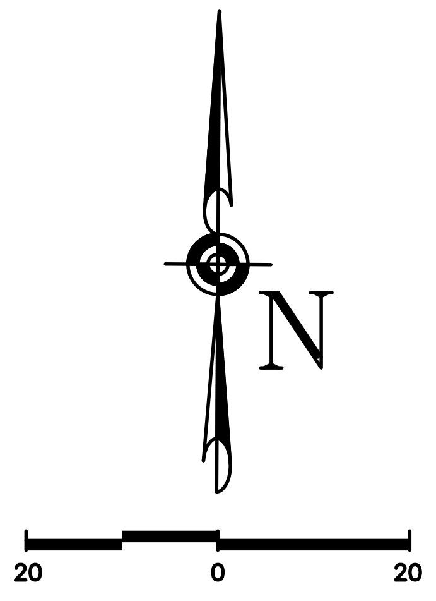
CHARLES WALKER
3901001739
Jan 4-19

DRAWN
TGH
CHECKED
JSP
DATE
05/20/19
SCALE
1" = 20'
JOB NAME
O'REILLY AUTO PARTS
SHEET
11 OF 20 SHEETS



ALL VALVES AND MAINLINE SHOWN OUTSIDE OF LANDSCAPE AREAS FOR GRAPHIC PURPOSES ONLY

REFER TO UTILITY PLAN FOR ACTUAL LOCATION OF WATER CONNECTION.



STATIC WATER PRESSURE FROM CITY	???	PSI
+ BOOSTER PUMP	00.0	PSI
TOTAL AVAILABLE WATER PRESSURE FOR IRRIGATION	???	PSI
PRESSURE DEMAND ON SYSTEM	59.8	PSI

MAINLINE FOR IRRIGATION SYSTEM SHALL BE BEDDED WITHIN TRENCH AS PER WATERLINE SPECIFICATIONS. LATERIAL LINES MAY BE AND SHALL BE BACKFILLED AS PER SPECIFICATIONS IN A COMMON TRENCH WITH THE MAIN LINE PROVIDED MINIMIUM SEPARATION IS PROVIDED

MAINLINE FOR IRRIGATION SYSTEM SHALL NOT ENCROACH UPON R.O.W. OR OTHER LOTS. ALL COMPONENTS OF THE IRRIGATION SYSTEM SHALL REMAIN ON CVS PROPERTY.

ALL IRRIGATION HEADS SHALL BE LOCATED SO THAT OTHER SITE FEATURES DO NOT OBSTRUCT SPRAY OF IRRIGATION HEADS.

GENERAL CONTRACTOR SHALL ENSURE THAT SLEEVES INSTALLED ARE LARGE ENOUGH TO ACCOMMODATE ALL NECESSARY PIPING, AS PER SPECIFICATIONS.

PERMANENT MARKERS SHALL BE PLACED ON CURBS TO IDENTIFY LOCATIONS OF ALL IRRIGATION SLEEVES.

CONTRACTOR SHALL CONTACT 811 FOR LOCATION OF ALL UTILITIES AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION

CONTROLLER (RAINBIRD ESP–LXi PLUS 6 STATION CONTROLLER) PROGRAMMING SCHEDULE

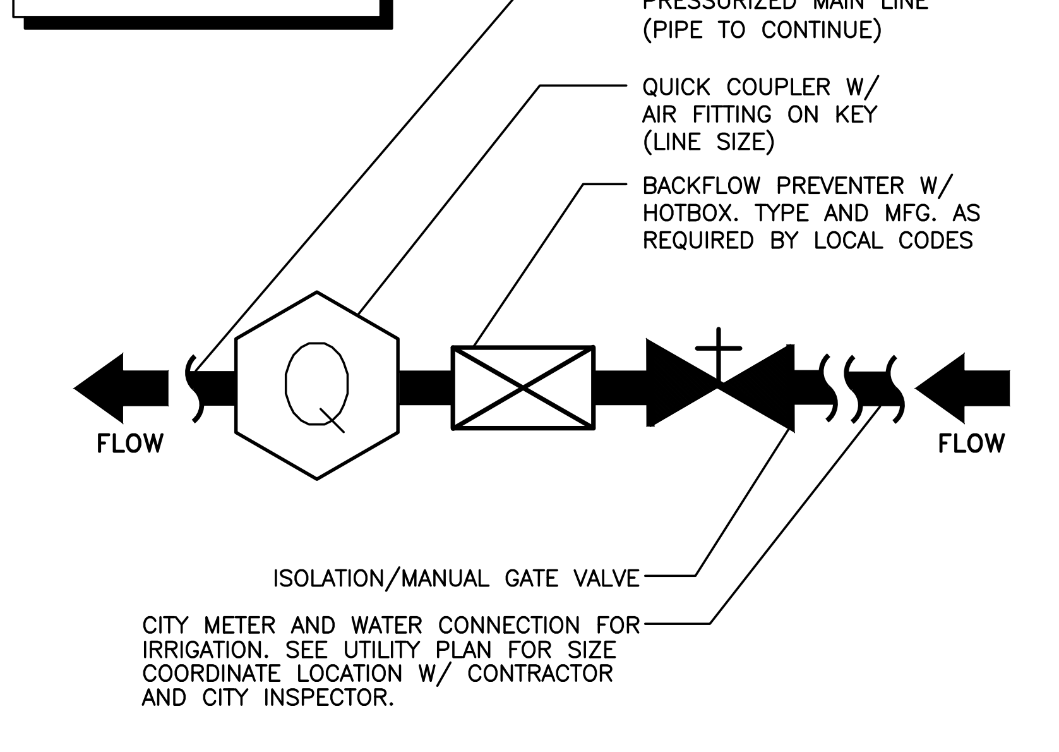
IRRIGATION INTERVAL			EVERY DAY M 1, T 2, W 3, T 4, F 5, S 6, S 7
# OF START TIMES/SCHEDULED DAY			2
SCHEDULED START TIMES FOR PROGRAM			12:00 AM 2:00 AM
ZONE	ZONE DESCRIPTION	RUN TIME	TOTAL RUN TIME/ SCHEDULED DAY
Z–1	TURF–NE PARKING	37 MIN/CYCLE	74 MIN
Z–2	DRIP–NE PARKING	24 MIN/CYCLE	48 MIN
Z–3	TURF–SE BASIN	37 MIN/CYCLE	74 MIN
Z–4	DRIP–SE BASIN AND NE FRONT OF BUILDING	24 MIN/CYCLE	48 MIN
Z–5	OPEN	–	–
Z–6	OPEN	–	–
RUN TIME TOTALS		2 HRS 2 MIN PER CYCLE	4 HRS 4 MIN PER SCHEDULED DAY

CONTROLLER PROGRAMMING SCHEDULE IS BASED UPON THE BEST KNOWLEDGE OF THE ANTICIPATED POST CONSTRUCTION SITE CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR MONITORING SITE CONDITIONS AND ADJUSTING IRRIGATION WATERING SCHEDULE AS NECESSARY TO MAINTAIN PLANT HEALTH.

PLANT WATER REQUIREMENTS

TREES	ETc = 0.14"/DAY	0.98"/WEEK
TURFGRASS	ETc = 0.14"/DAY	0.98"/WEEK
SHRUB PLANTER	ETc = 0.20"/DAY	1.40"/WEEK

REFER TO UTILITY PLAN FOR ACTUAL LOCATION OF WATER CONNECTION FOR WATER METER

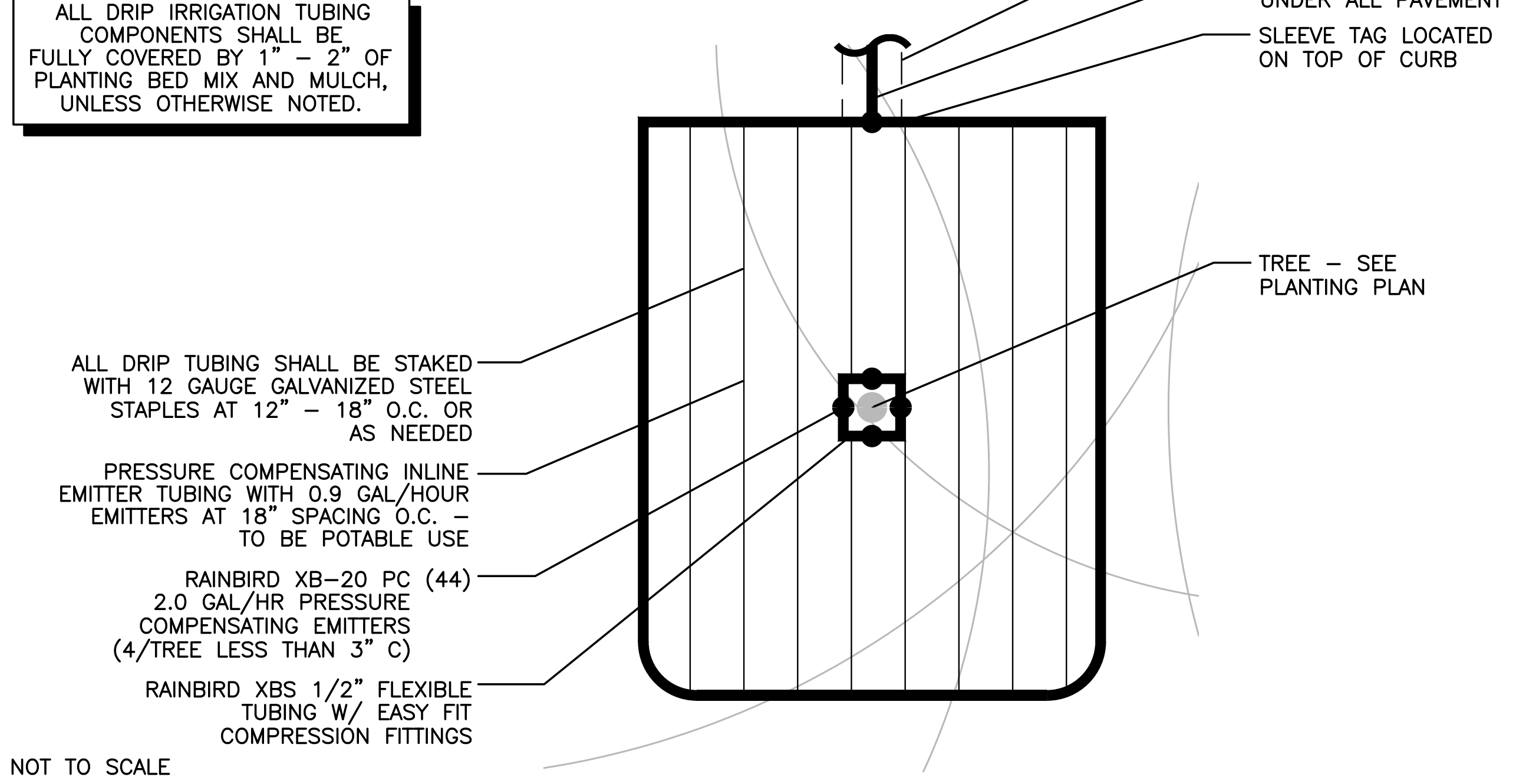


NOT TO SCALE

IRRIGATION CONNECTION DETAIL

ALL PVC TO DRIP TUBING CONNECTIONS SHALL BE LOCATED WITHIN CURBED ISLANDS.

ALL DRIP IRRIGATION TUBING COMPONENTS SHALL BE FULLY COVERED BY 1" – 2" OF PLANTING BED MIX AND MULCH, UNLESS OTHERWISE NOTED.



NOT TO SCALE

IRRIGATION ENLARGEMENT

MP ROTATOR INFORMATION

SYM	MANUFAC.	HEAD	NOZZLE	PSI	GPM	ARC	RADIUS
▣	HUNTER	PRS40	MP1000–90°	35	0.18	90°	13'
▣	HUNTER	PRS40	MP1000–180°	35	0.35	180°	13'
▣	HUNTER	PRS40	MP1000–210°	35	0.41	210°	13'
▣	HUNTER	PRS40	MP1000–270° IS NOT AVAILABLE IN THE MP1000				
▥	HUNTER	PRS40	MP1000–360°	35	0.71	360°	13'
NOTE: MP ROTATORS USED IN LAWN AREAS LESS THAN 30' IN WIDTH							
SYM	MANUFAC.	HEAD	NOZZLE	PSI	GPM	ARC	RADIUS
▣	HUNTER	PRS40	MP2000–90°	35	0.40	90°	19'
▣	HUNTER	PRS40	MP2000–120°	35	0.52	120°	18'
▣	HUNTER	PRS40	MP2000–180°	35	0.71	180°	18'
▪	HUNTER	PRS40	MP2000–210°	35	0.81	210°	18'
▣	HUNTER	PRS40	MP2000–270°	35	1.03	270°	18'
▥	HUNTER	PRS40	MP2000–360°	35	1.37	360°	18'

IRRIGATION LEGEND

CONTRACTOR PROVIDED COMPONENTS

C	12–STATION IRRIGATION CONTROLLER, WALL MOUNTED IN LOCKING CABINET–RAINBIRD ESP–LXi PLUS
A	WIRELESS RAIN/FREEZE SENSOR – HUNTER MINI–CLIK
□	IRRIGATION CONNECTION COMPONENTS
W	IRRIGATION WATER TAP AND CITY WATER METER ON POTABLE WATER UTILITY LINE WITH BACKFLOW PREVENTER. PROVIDED BY CONTRACTOR. COORDINATE SOURCE LOCATION WITH GENERAL CONTRACTOR. SEE UTILITY PLAN FOR SIZE.
⊠	REDUCED PRESSURE BACKFLOW DEVICE (LINE SIZE), PER LOCAL CODES. PROVIDE GREEN FIBERGLASS INSULATED ENCLOSURE, VERIFY EXACT LOCATION IN FIELD. FEBCO 825Y, OR EQUAL.
⋈	ISOLATION VALVE (LINE SIZE). PROVIDE 15" VALVE BOX WITH EXTENSIONS. BRONZE THREAD ON TYPE WITH WHEEL HANDLE.
Q	BRONZE QUICK COUPLER VALVE (LINE SIZE). MOUNT ON SPEARS PVC OR RAINBIRD O–RING TYPE PVC SWING JOINT. MOUNT IN 15" RECTANGULAR VALVE BOX. PROVIDE ONE (SIZE APPROPRIATE) QC KEY PER FOUR QUICK COUPLER VALVES. RAINBIRD 4 RC.
◈	VALVE OPERATION MONITOR – CAPPED IRRIGATION SPRAY HEAD
D	MANUAL DRAIN–VALVE: MAIN LINE SIZE
A	AIR RELIEF VALVES WITH REMOVABLE FLUSH CAPS TO BE LOCATED AT ALL ZONES WHERE INLINE EMITTER TUBING IS USED.
◐ X	ELECTRIC IRRIGATION VALVE. PLASTIC BODY WITH FLOW CONTROL MOUNTED IN 15" STANDARD PLASTIC VALVE BOX. SIZE INDICATED ON DRAWING RAINBIRD PEB SERIES. "X" IS ZONE DESIGNATION. **FOR USE IN TURF ZONES.**
◐ X	1–1/2" ELECTRIC IRRIGATION VALVE. PLASTIC BODY WITH FLOW CONTROL MOUNTED IN 15" STANDARD PLASTIC VALVE BOX. "X" IS ZONE DESIGNATION. **FOR USE IN DRIP ZONES WHERE THE FLOW RATE IS BETWEEN 15.0 GPM AND 35.0 GPM.**
⊕ X	1" MEDIUM FLOW VALVE WITH 40 PSI PRESSURE REDUCER MOUNTED IN 15" STANDARD PLASTIC VALVE BOX. "X" IS ZONE DESIGNATION. **FOR USE IN ZONES WHERE THE FLOW RATE IS BETWEEN 4.0 GPM AND 15.0 GPM.**
UFW	UNDERGROUND FEEDER WIRE NO. 14 AWG DIRECT BURIAL RUN IN CONDUIT.
= = =	PVC SLEEVE SCHEDULE 40 PVC UNDER ALL PAVED SURFACES. SEE SCHEDULE FOR SIZE. PLACE PERMANENT MARKERS ON CURB TO IDENTIFY LOCATION.
SIZE	PVC MAINLINE PIPE. SCHEDULE 40, PVC PIPE. 2.5" AND SMALLER– SOLVENT WELD PIPE AND PVC SOLVENT WELD FITTINGS. PVC SLEEVES SHALL BE REQUIRED UNDER SIDEWALKS, CURBS, OR ANY PAVED SURFACES. REFER TO SPECIFICATIONS FOR SIZES OF SLEEVES.
SIZE	PVC LATERAL PIPE. CLASS 200, SOLVENT WELD, PVC PIPE FOR PIPE OVER 1" IN DIAMETER. SIZE LATERAL PIPE AS SHOWN AT VELOCITIES OF 5 FEET PER SECOND OR LESS. PVC SLEEVES SHALL BE REQUIRED UNDER SIDEWALKS, CURBS, OR ANY PAVED SURFACES. REFER TO SPECIFICATIONS FOR SIZES OF SLEEVES.
SIZE	PVC LATERAL PIPE. CLASS 315, SOLVENT WELD, PVC PIPE FOR PIPE 1" IN DIAMETER OR LESS. SIZE LATERAL PIPE AS SHOWN AT VELOCITIES OF 5 FEET PER SECOND OR LESS. PVC SLEEVES SHALL BE REQUIRED UNDER SIDEWALKS, CURBS, OR ANY PAVED SURFACES. REFER TO SPECIFICATIONS FOR SIZES OF SLEEVES.
—	RAINBIRD 1/2" POLYETHYLENE TUBING TO BE EITHER: • PRESSURE COMPENSATING INLINE EMITTER TUBING WITH 0.9 GAL/HOUR EMITTERS AT 18" SPACING O.C. OR • XBS 1/2" BLANK TUBING, AS LABELED ON PLANS.
1"	PIPE SIZE – UNLABELED PIPE BETWEEN 2 SIZES SHALL BE THE LARGER SIZE.
┬	PIPE JOINT
┼	PIPES CROSS. DO NOT INTERSECT
Z–3 1" 3.2 GPM 12 MIN/CY 4x/SCH. DAY	XX.XX – CONTROLLER STATION NUMBER X – GALLONS PER MINUTE X – SIZE OF VALVE XX.XX XX.XX – FREQUENCY AND DURATION OF ZONE RUN TIME
⅃	1. THE POINT OF CONNECTION IS A WATERLINE STUBBED AT THE NORTHEAST CORNER OF THE SITE. SERVICE COMES FROM METER AND BACKFLOW PREVENTER. 2. REFER TO UTILITY PLAN, THIS SET, FOR ADDITIONAL INFORMATION.

MISS DIG System, Inc.

IRRIGATION PLAN

PROJECT NAME:
O'REILLY AUTO PARTS
PREPARED BY:
CARLSON CONSULTING ENGINEERS
7068 LEDGESTONE COMMONS
BARTLETT, TN. 38133
(901) 384-0404

NO	REVISIONS

APPLICANT/DEVELOPER:
MARKETPLACE DEVELOPMENT, LLC
700 COLONIAL ROAD, SUITE 101
MEMPHIS, TN 38117
(901) 210–2922

O'REILLY AUTO PARTS

OSHTEMO TOWNSHIP, MI

CARLSON CONSULTING ENGINEERS, INC.
7068 Ledgestone Commons
Bartlett, TN 38133
Phone (901) 384-0404
Fax (901) 384-0710
Michigan Registered Engineering Firm Qualified

CHARLES WALKER
Jan-4-19

DRAWN	TGH
CHECKED	JSP
DATE	05/20/19
SCALE	1"=20'
JOB NAME	O'REILLY AUTO PARTS
SHEET	13 OF 20 SHEETS

EXTERIOR LIGHT FIXTURE SCHEDULE

ALL ITEMS LISTED ON THE "LIGHT FIXTURE SCHEDULE" WILL BE SUPPLIED BY THE OWNER (O'REILLY). ITEMS SHALL BE DIRECT ORDERED AND OR RELEASED FROM THE LISTED ELECTRICAL EQUIPMENT DISTRIBUTOR:

GRAYBAR ELECTRIC CO. INC.
11885 LACKLAND ROAD
ST. LOUIS, MO 63146

GRAYBAR OREILLY TEAM
EMAIL: oreilly@graybar.com
TOLL FREE: (314) 573-2080

					MOUNTING			LAMPS						
								TYPE						
MARK	MFR.	CATALOG NUMBER	SUPPLY VOLTAGE	FINISH	SURFACE WALL	SURF. CEILING	OTHER	FLOURESCENT	LED	OTHER	QUANTITY	WATTAGE	NOTES	FIXTURE QUANTITY
LED EXTERIOR LIGHTS														
WS1	LSI	XWM-FT-LED-06L-50-UE-BRZ NO SUBSTITUTIONS	120	DARK BRONZE	X				X		1	59	FULL CUT-OFF, BUG RATING B1-U0-G1. ARCHITECTURAL ELEVATIONS SHOW DIMENSIONED LOCATIONS.	5
WS2	LSI	XWM-FT-LED-03L-50-UE-BRZ NO SUBSTITUTIONS	120	DARK BRONZE	X				X		1	29	FULL CUT-OFF, BUG RATING B1-U0-G1 ARCHITECTURAL ELEVATIONS SHOW DIMENSIONED LOCATIONS.	1
LED POLE LIGHTS														
P1	LSI LSI	MRM-LED-18L-SIL-FT-UNV-DIM-50-80CRI-BRZ-IL 5SQB3-S11G-**22**-S-BRZ-LAB-5BC	120	DARK BRONZE			X		X		1	154	**22'** POLE LENGTH, ADVANCE BALLASTS, FULL CUT-OFF, NO SUBSTITUTIONS. ANCHOR BOLTS W/HARDWARE & TEMPLATE. WITH INTERNAL LOUVER HOUSE SIDE SHIELD BUG RATING B2-U0-G3	1
P2	LSI LSI	MRM-LED-18L-SIL-3-UNV-DIM-50-80CRI-BRZ-IL 5SQB3-S11G-**22**-S-BRZ-LAB-5BC	120	DARK BRONZE			X		X		1	154	**22'** POLE LENGTH, ADVANCE BALLASTS, FULL CUT-OFF, NO SUBSTITUTIONS. ANCHOR BOLTS W/HARDWARE & TEMPLATE. WITH INTERNAL LOUVER HOUSE SIDE SHIELD BUG RATING B1-U0-G3	2

FIXTURE QUANTITY TO BE VERIFIED WITH SITE PLAN QUANTITY

AUTOMATIC LIGHTING CONTROL

COMPLIANCE WITH ENERGY CODE IS ACHIEVED BY:

1. ONCE THE EMS HAS BEEN PROGRAMMED, THE INTERIOR AND EXTERIOR LIGHTS WILL TURN ON AND OFF USING THE FOLLOWING LOGIC: SEE EM SHEETS.

   INTERIOR WORK LIGHTS WILL TURN ON WITH FIRST MOTION IN THE STORE AND WILL TURN OFF 15 MINUTES AFTER LAST MOTION ONCE THE STORE IS CLOSED.

   INTERIOR SALES LIGHTS WILL TURN ON AT STORE OPENING AND TURN OFF 15 MINUTES AFTER STORE CLOSING.

   EXTERIOR SIGN LIGHTS WILL TURN ON WHEN ITS DARK ENOUGH OUTSIDE ANYTIME DURING STORE HOURS, AND WILL TURN OFF AT STORE CLOSING.

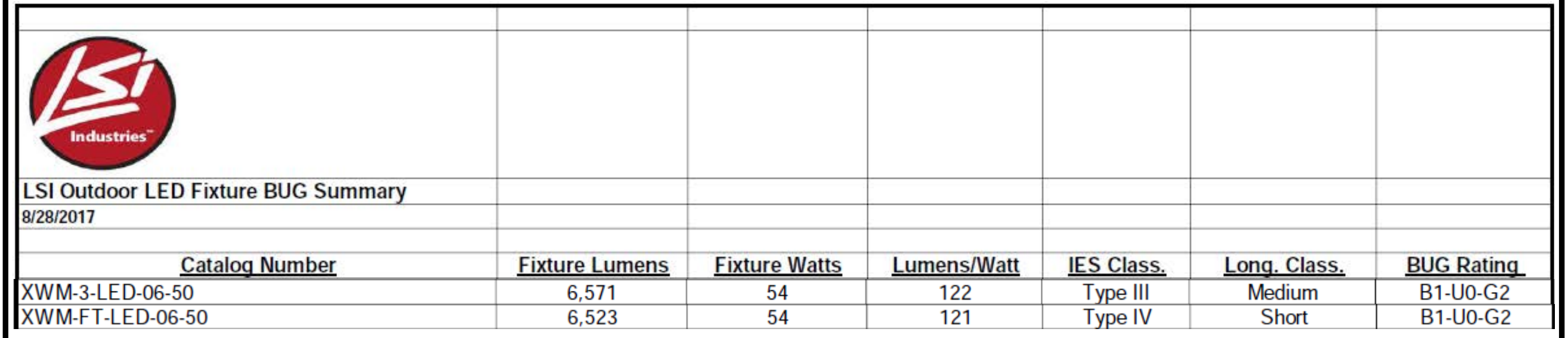
   EXTERIOR SITE LIGHTS WILL TURN ON WHEN IT IS DARK ENOUGH OUTSIDE AND IT IS WITHIN STORE HOURS OR THERE IS MOTION IN THE STORE. THEY WILL TURN OFF 30 MINUTES AFTER LAST MOTION ONCE THE STORE IS CLOSED.

   FOR NEW CONSTRUCTION LOCATIONS ONLY, THERE IS A TEMPORARY PROGRAM TO KEEP SIGN AND SITE LIGHTS ON UNTIL MIDNIGHT RATHER THAN THE TIMES INDICATED ABOVE. O'REILLY WILL DISABLE THIS PROGRAM ONE YEAR AFTER STORE OPENING.

2. RESTROOMS AND OFFICES: ALL LIGHTING IN THESE AREAS ARE CONTROLLED BY OCCUPANT-SENSING DEVICES.

BACKLIGHT-UPLIGHT-GLARE (BUG) RATING / FULL CUTOFF

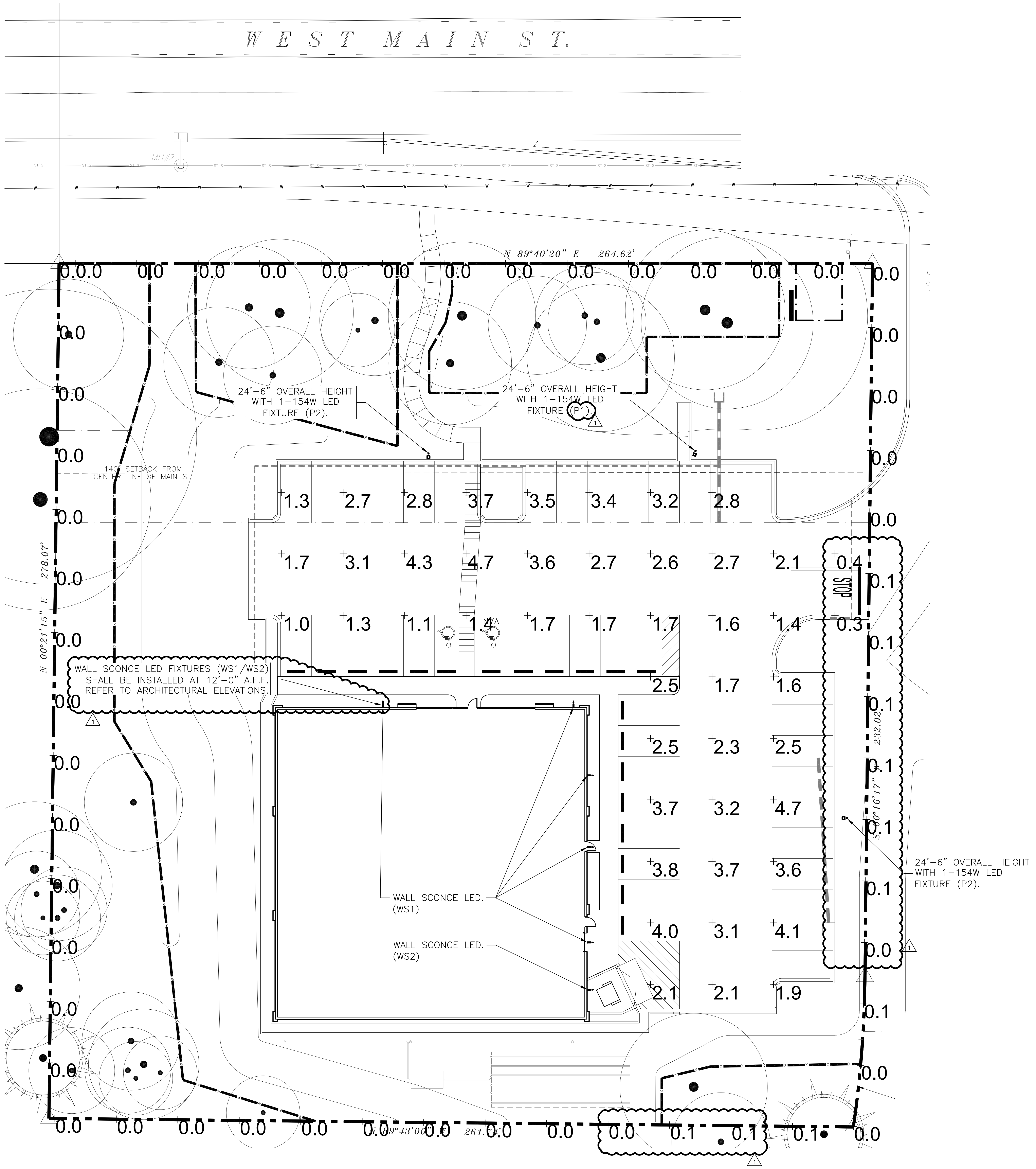
SEE CUT-SHEET ON SP SHEETS AND SCHEDULE BELOW FOR EXTERIOR LIGHT FIXTURES. ALL OF THE LSI MRM & XWM LED FIXTURES HAVE ZERO UPLIGHT AND ARE CONSIDERED "FULL CUT OFF" AND DARKSKY COMPLIANT". SP SHEETS AND BELOW DELIVERED LUMENS SCHEDULE HAS "BUG" RATINGS, AS TESTED TO IDENTIFY HOW MUCH OF THE LIGHT GOES BACKWARDS, UPWARDS AND TO THE GROUND. THE CHART SHOWS THAT THESE FIXTURES HAVE BUG RATINGS WITH (UPLIGHT) U = 0.



LSI Industries™

LSI Outdoor LED Fixture BUG Summary
8/28/2017

Catalog Number	Fixture Lumens	Fixture Watts	Lumens/Watt	IES Class.	Long. Class.	BUG Rating
XWM-3-LED-06-50	6,571	54	122	Type III	Medium	B1-U0-G2
XWM-FT-LED-06-50	6,523	54	121	Type IV	Short	B1-U0-G2



SITE LIGHTING PHOTOMETRICS

SCALE: 1"=20'

N

STATE OF MICHIGAN
BRENT L. COURTER
No. 6201059955
5/15/19

ENGINEER OF RECORD
BRENT L. COURTER
ENGINEER LICENSE NUMBER
6201059955

SHEETS BEARING THIS SEAL ARE AUTHENTICATED, RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS OR INSTRUMENTS ARE DISCLAIMED.

SGE
SMITH-GOTH ENGINEERS, INC.
3855 S. JEFFERSON AVE.
SPRINGFIELD, MO 65807
P: 417-882-2200
F: 417-882-1188
WWW.SMITHGOTH.COM

PROJECT:
NEW O'REILLY AUTO PARTS STORE
6297 W. MAIN ST.
OSHTEMO TOWNSHIP, MI 49009

SITE LIGHTING PHOTOMETRICS

O'Reilly AUTO PARTS
CORPORATE OFFICES
233 SOUTH PATTERSON
SPRINGFIELD, MISSOURI 65802
(417) 862-2674 TELEPHONE

DRAWN BY:	CHECKED BY:
CEV	AT/BC
DATE: 02/12/19	
REVISION: △1 ADD001 5/15/19	
PROJECT NUMBER:	
SHEET NUMBER **SP1**	

STEEL SQUARE POLES

Use ONLY with "Wind Speed Map for ASCE7-10

STEEL SQUARE POLES - ASCE7-10

POLE	110 MPH	115 MPH	120 MPH	130 MPH	140 MPH	150 MPH	160 MPH	170 MPH	180 MPH	Bolt Circle
4" 11GA 14'	12.5	11.3	10.2	8.5	6.8	5.8	4.9	4.1	3.6	B
4" 11GA 16'	9.8	8.6	7.9	6.5	5.4	4.4	3.5	2.9	2.2	B
4" 11GA 18'	8.1	7.4	6.7	5.4	4.2	3.4	2.8	2.2	1.7	B
4" 11GA 20'	7.1	6.3	5.6	4.4	3.4	2.7	2.1	1.6	1.1	B
4" 11GA 22'	9.9	8.8	7.9	6.3	5.1	4.0	3.1	2.5	2.0	B
4" 11GA 24'	8.6	7.5	6.8	5.3	4.2	3.3	2.5	1.9	1.3	B
4" 11GA 26'	6.8	6.1	5.5	4.2	3.2	2.3	1.6	1.0	0.6	B
4" 7GA 20'	10.7	9.7	8.7	7.0	5.7	4.6	3.8	3.1	2.5	B
4" 7GA 22'	11.3	10.2	9.1	7.3	5.8	4.7	3.5	2.7	2.1	B
4" 7GA 24'	9.8	8.9	7.8	6.0	4.5	3.5	2.8	2.1	1.6	B
4" 7GA 26'	7.9	7.1	6.1	4.7	3.6	2.8	1.9	1.2	0.7	B
5" 11GA 16'	18.1	16.4	14.8	12.3	10.3	8.7	7.3	6.3	5.3	C
5" 11GA 18'	15.7	14.2	12.8	10.5	8.7	7.3	6.1	5.1	4.3	C
5" 11GA 20'	13.5	12.3	11.1	9.0	7.4	6.0	4.8	3.8	3.1	C
5" 11GA 22'	15.8	14.3	12.6	10.2	8.3	6.5	5.4	4.2	3.5	C
5" 11GA 24'	13.8	12.5	10.8	8.6	6.7	5.2	3.9	3.0	2.1	C
5" 11GA 26'	11.3	10.3	8.9	6.9	5.3	4.0	3.0	2.2	1.5	C
5" 7GA 20'	20.7	18.8	17.0	14.0	11.7	9.8	7.9	7.0	5.9	D
5" 7GA 22'	25.8	23.3	21.0	17.5	14.6	12.3	10.4	8.8	7.5	D
5" 7GA 24'	23.3	21.0	19.0	15.6	12.9	10.7	9.0	7.5	6.3	D
5" 7GA 26'	20.0	18.0	16.2	13.2	10.7	8.9	7.3	6.0	4.8	D
5" 7GA 30'	16.4	14.6	13.0	10.3	7.9	6.5	5.2	4.0	3.1	D
6" 7GA 24'	35.0	30.8	28.5	23.7	19.6	16.7	14.0	11.8	10.2	J
6" 7GA 26'	29.2	26.2	23.7	19.3	15.9	13.2	11.0	8.9	7.5	J
6" 7GA 30'	23.6	21.2	19.0	15.2	12.3	9.9	8.0	6.4	5.0	J
6" 7GA 35'	17.6	15.2	13.6	10.7	8.2	6.2	4.6	3.2	2.1	J
6" 7GA 39'	13.9	11.9	10.4	7.7	5.5	3.8	2.4	1.2	0.2	J

All LSI Industries' poles are guaranteed to meet the EPA requirements listed. LSI Industries is not responsible if a pole order has a lower EPA rating than the indicated wind-loading zone where the pole will be located.
CAUTION: This guarantee does not apply if the pole/bracket/fixture combination is used to support any other items such as flags, pennants, or signs, which would add stress to the pole. LSI Industries cannot accept responsibility for harm or damage caused in these situations.

STEEL SQUARE POLES

POLE ORDERING INFORMATION

TYPICAL ORDER EXAMPLE: **5SQB5 S07G 24 S PLP SF DGP**

Pole Series	Material	Height[2]	Mounting Configuration	Pole Finish	Options
Bolt-on Arm Mount - See pole selection guide for patterns and fixture matches. **4SQB3** - 3" Reduced drilling pattern **5SQB3** - 3" Reduced drilling pattern **4SQB5** - 5" Traditional drilling pattern **5SQB5** - 5" Traditional drilling pattern **6SQB5** - 5" Traditional drilling pattern	S11G – 11 Ga. Steel S07G – 07 Ga. Steel	14' 16' 18' 20' 22' 24' 26' 28' 30' 35' 39'	S – Single/Parallel D180° – Double D90°– Double DN90°– Double T90°– Triple TN120°– Triple Q90°– Quad QN90°– Quad	BRZ – Bronze BLK – Black PLP – Platinum Plus WHT – White SVG - Satin Verde Green GPT - Graphite MSV - Metallic Silver	GA – Galvanized Anchor Bolts SF – Single Flood[3] DF – Double Flood[3] DGP – DuraGrip® Plus LAB – Less Anchor Bolts OSXX - Pole preparation for PMOS Occupancy Sensor[4]
Tenon Mount - See pole selection guide for tenon and fixture/bracket matches. **4SQN** **5SQN** **6SQN**	**Consult Pole Selection Chart on opposite page**		N – Tenon Mount (Standard tenon size is 2-3/8" O.D.)	**Standard SF and DF pole preparations are located 3/4 of the height of the pole from the base, unless otherwise specified.**	
No Mounting Holes - Use with: • BKA 4ISF & BKA 5ISF • BKA X4ISF & BKA X5ISF			*		
Internal Slip-fitter[1] **4SQI** **5SQI**					

ACCESSORY ORDERING INFORMATION (Accessories are field installed)

Description	Order Number		Order Number
4BC – 4" Square Base Cover	122559CLR	Vibration Damper - 4" Square Pole (bolt-on mount only)	172539
5BC – 5" Square Base Cover	122561CLR	Vibration Damper - 5" Square Pole (bolt-on mount only)	172538
6BC – 6" Square Base Cover	122563CLR	Vibration Damper - 6" Square Pole (bolt-on mount only)	178361
ER2 – Weatherproof Duplex Receptacle	122566CLR	PMOS120 - 120V Occupancy Sensor	518030CLR[5]
GFI – Ground Fault Circuit Interrupter	122567CLR	PMOS208/240 - 208, 240V Occupancy Sensor	534239CLR[5]
MHP – Mounting Hole Plugs (3 plugs)-for use with 5" traditional drill pattern	132336	PMOS277 - 277V Occupancy Sensor	518029CLR[5]
MHD – Mounting Hole Weatherproof Decal-for use with 3" reduced drill pattern	340120	PMOS480 - 480V Occupancy Sensor	534240CLR[5]

FOOTNOTES:

1 - See Area Lighting Brackets 3" Reduced Drill Pattern and Area Lighting Brackets - Bolt-on 5" Traditional Drill Pattern spec sheets for Internal Slip-fitter brackets.

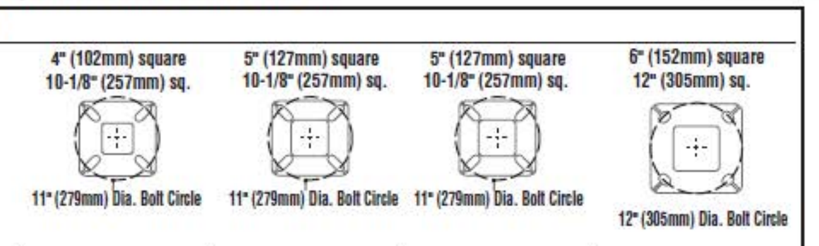
2 - Pole heights will have +/- 1/2" tolerance.

3 - See Flood Lighting Brackets section for choice of FBO brackets.

4 - Order PMOS separately. Change "XX" to indicate height and side of pole location for pole preparation. EX: OS18A indicates preparation is to be 18ft. up from pole base on side A. Optimal distance from ground to sensor is 20ft.

5 - OSXX option required. Not for use with Metal Halide fixtures

BOLT CIRCLE

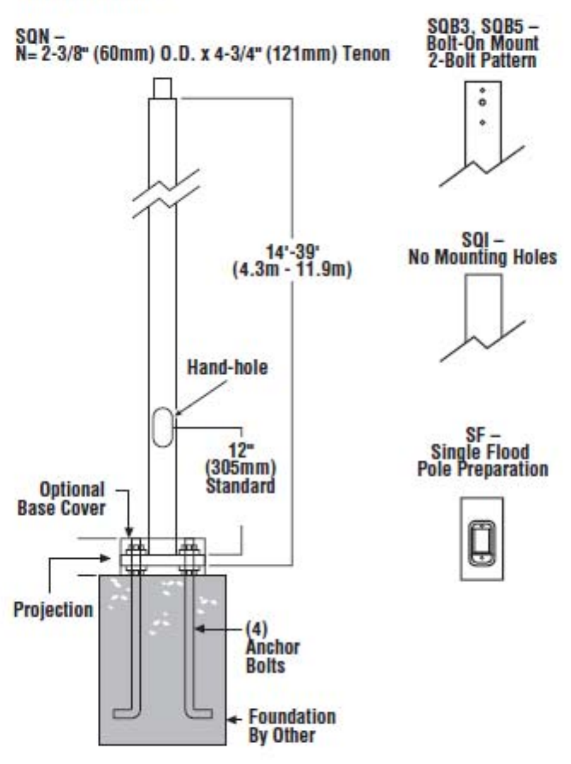


	B	C	D	J
Bolt Circle	Slotted 8"-11" (203mm-279mm)	Slotted 9"-11" (229mm-279mm)	Slotted 9"-11" (229mm-279mm)	Slotted 12" (305mm)
Anchor Bolt Size	3/4" x 30" (19mm x 762mm)	3/4" x 30" (19mm x 762mm)	1" x 36" (25mm x 914mm)	1" x 36" (25mm x 914mm)
Anchor Bolt Projection	3-1/4" (83mm)	3-1/4" (83mm)	4" (102mm)	4" (102mm)
Base Plate Opening for Wireway Entry	3-5/8" (92mm)	4-3/4" (121mm)	4-5/8" (117mm)	5-5/8" (143mm)
Base Plate Dimensions	10-1/8" sq. x 3/4" thk. (257mm x 19mm)	10-1/8" sq. x 3/4" thk. (257mm x 19mm)	10-1/8" sq. x 1" thk. (257mm x 25mm)	12" sq. x 1-1/8" thk. (305mm x 29mm)

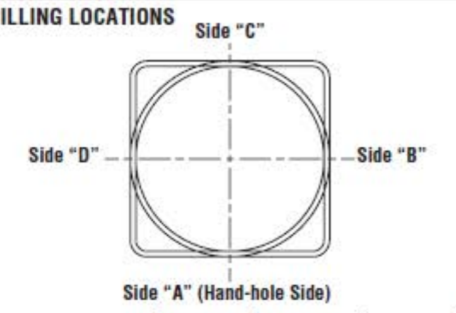
Note: Base plate illustrations may change without notice. Do not use for setting anchor bolts. Consult factory for the base plate templates.

STEEL SQUARE POLES

DIMENSIONS



DRILLING LOCATIONS



Sides	A	B	C	D
Hand-hole	X			
Single	X			
D180°		X		X
D90°	X			X
T90°	X	X		X
TN120°*	X			
Q90°	X	X	X	X
Single FBO	X			
Double FBO		X		X

*Other two locations will be 120° to the left and right of Side A.

Note: Standard SF and DF pole preparations are located 3/4 of the height of the pole from the base, unless otherwise specified.

SHIPPING WEIGHTS - Steel Square Poles

4"(102mm) sq. 11 Ga. is approximately	7.50 lbs./ft.
4"(102mm) sq. 07 Ga. is approximately	10.00 lbs./ft.
5"(127mm) sq. 11 Ga. is approximately	9.00 lbs./ft.
5"(127mm) sq. 07 Ga. is approximately	12.50 lbs./ft.
6"(152mm) sq. 07 Ga. is approximately	15.40 lbs./ft.
Anchor Bolts (3/4" x 30")(19mm x 762mm)	15 lbs. (7kg)/set
Anchor Bolts (1" x 36")(25mm x 914mm)	30 lbs. (14kg)/set

ARRA
Funding Compliant

CLASSIFIED UL

POLE SHAFT - Pole shaft is electro-welded ASTM-A500 Grade C steel tubing with a minimum yield strength of 50,000 psi. On Tenon Mount steel poles, tenon is 2-3/8" O.D. high-strength pipe. Tenon is 4-3/4" in length. Straight poles are 4", 5", and 6" square.

HAND-HOLE - Standard hand-hole location is 12" above pole base. Poles 22' and above have a 3" x 6" reinforced hand-hole. Shorter poles have a 2" x 4" non-reinforced hand-hole.

BASE - Pole base is ASTM-A36 hot-rolled steel plate with a minimum yield strength of 36,000 psi. Two-piece square base cover is optional.

ANCHOR BOLTS - Poles are furnished with anchor bolts featuring zinc-plated double nuts and washers. Galvanized anchor bolts are optional. Anchor bolts conform to ASTM F 1554-07a Grade 55 with a minimum yield strength of 55,000 psi.

GROUND LUG - Ground lug is standard.

DUPLEX RECEPTACLE - Weatherproof duplex receptacle is optional.

GROUND FAULT CIRCUIT INTERRUPTER - Self-testing ground fault circuit interrupter is optional.

FINISHES - Each pole is finished with DuraGrip®, LSI's baked-on polyester-powder finishing process which electrostatically applies and fuses a polyester powder to the pole. Provides an extremely smooth and uniform finish to withstand extreme weather changes without cracking or peeling, and features a five-year limited warranty. Optional DuraGrip® Plus features the added protection of a 3.0 to 5.0 mil thickness of polyester-powder finish plus an inner coating, as well as a seven-year limited warranty.

DETERMINING THE LUMINAIRE/POLE COMBINATION FOR YOUR APPLICATION:

- Select luminaire from luminaire ordering information
- Select bracket configuration if required
- Determine EPA value from luminaire/bracket EPA chart
- Select pole height
- Select MPH to match wind speed in the application area (See windspeed maps).
- Confirm pole EPA equal to or exceeding value from note above
- Consult factory for special wind load requirements and banner brackets

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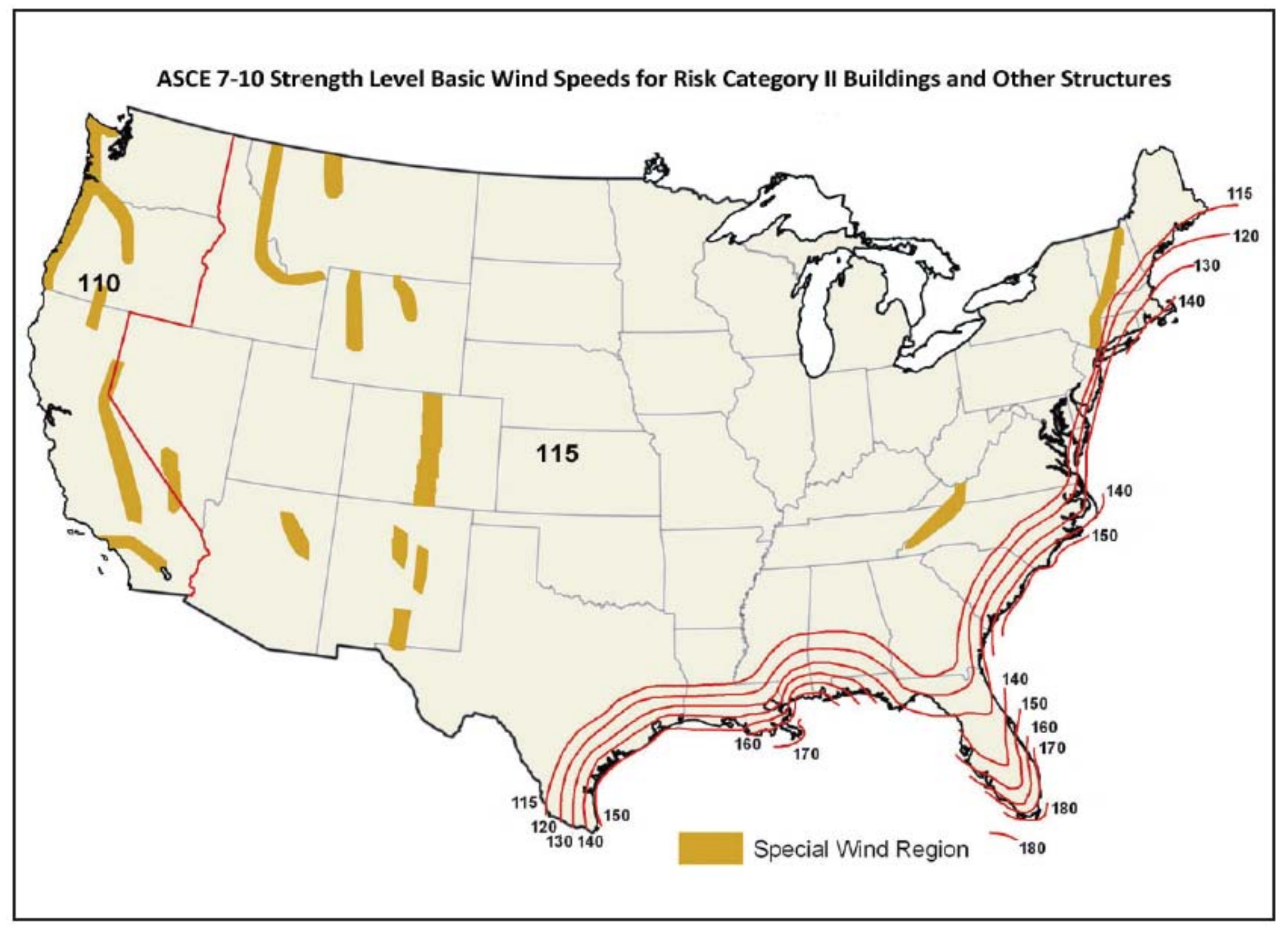
WINDSPEED MAP FOR ASCE7-10

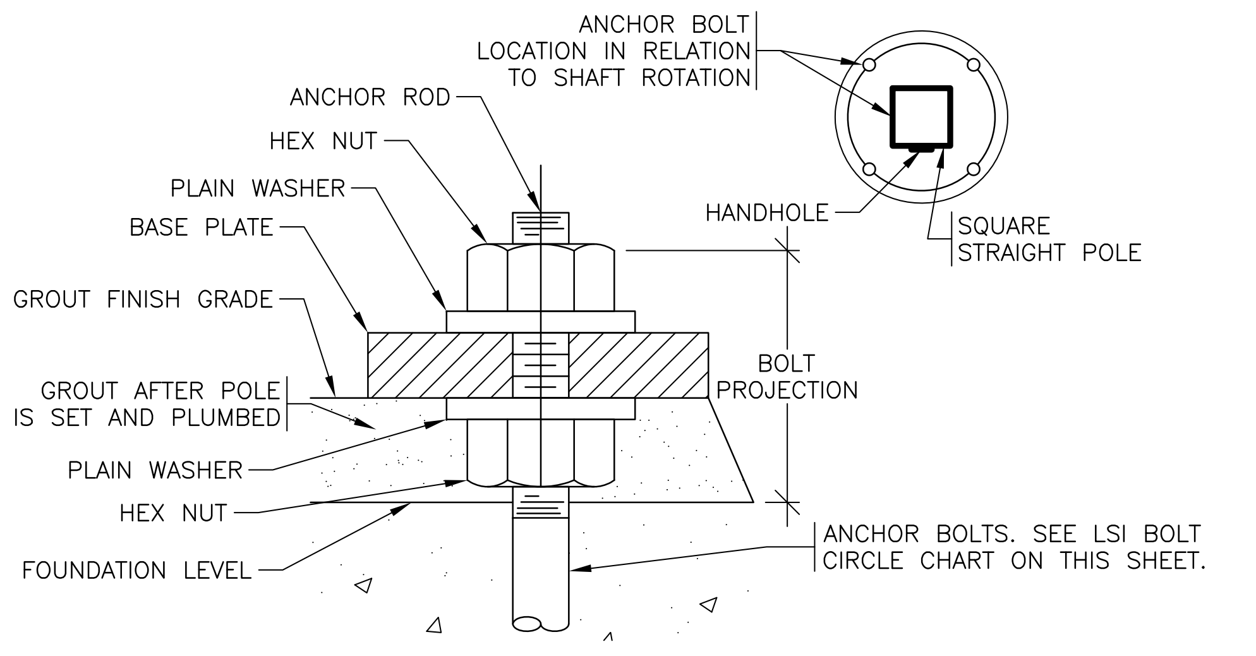


Wind Speed Map and Pole EPAs are based on ANSI/ASCE 7-10. Please inform LSI if your local code requirements differ; LSI can supply calculations to your code requirements.

NOTES:

1. Values are the fastest-mile speeds at 33 ft. (10 m) above ground for exposure Category 2.
2. Linear interpolation between wind speed contours is acceptable.
3. When using this map to determine EPA readings, always use high end of range.
4. Fixture and pole EPA values are based on wind pressures and forces specified in ANSI/ASCE 7-10.
5. Local code may require wind speeds other than those shown on map.

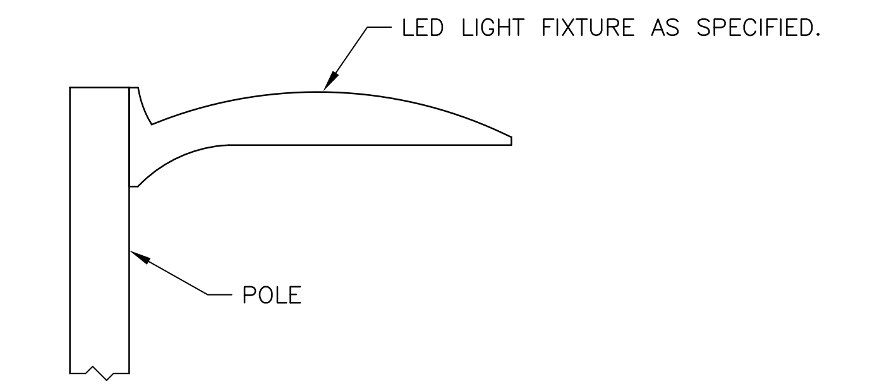
All LSI Industries' poles are guaranteed to meet the EPA requirements listed. Pole manufacturer is not responsible if a pole order has a lower EPA rating than the indicated wind-loading zone where the pole will be located. **CAUTION:** This guarantee does not apply if the pole/bracket/ fixture combination is used to support any other items such as flags, pennants, or signs, which would add stress to the pole. LSI Industries cannot accept responsibility for harm or damage caused in these situations.



ANCHOR BOLT DETAIL BASE DIAGRAM

N.T.S.

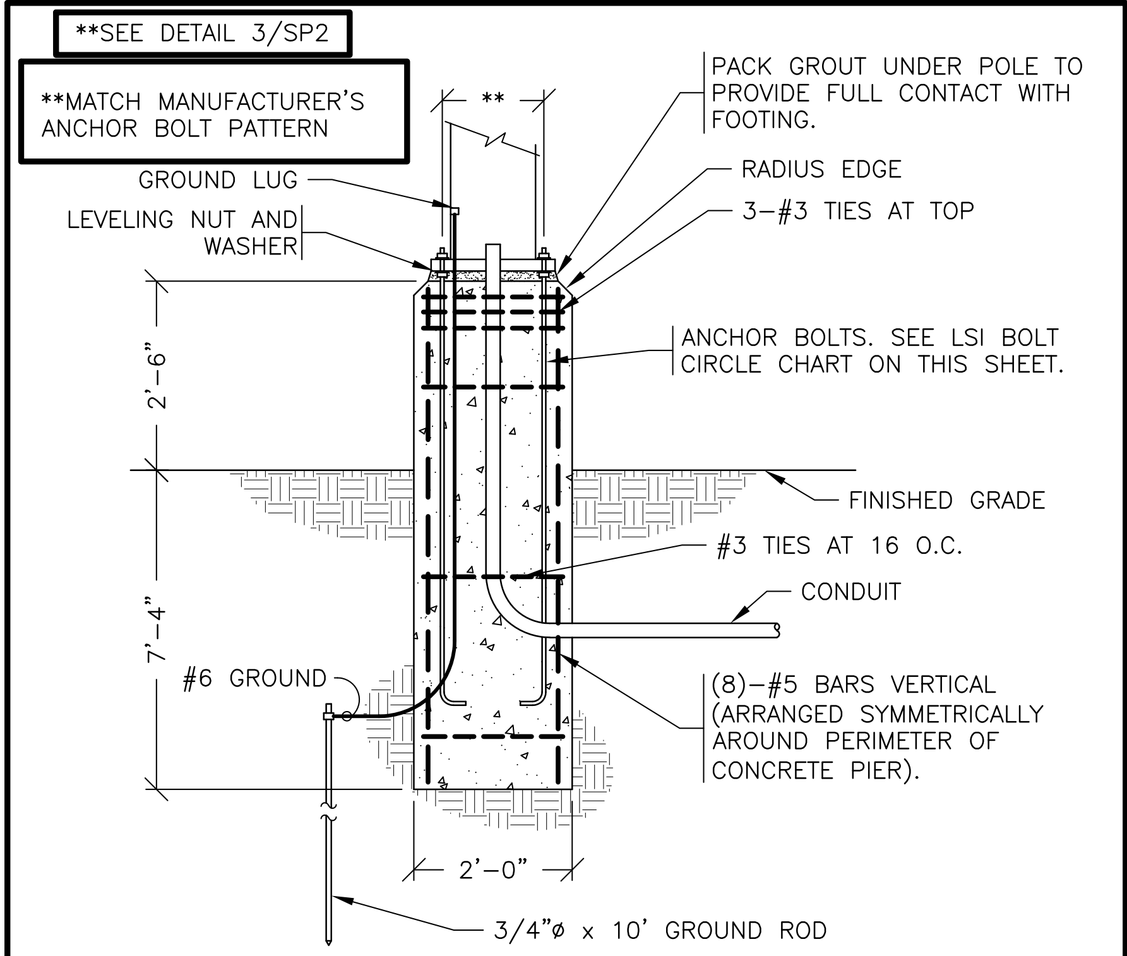
3
SP2



LED LIGHT MOUNTING DETAIL

N.T.S.

1
SP2



CONCRETE POLE LIGHT BASE DETAIL

N.T.S.

2
SP2

LICENSED PROFESSIONAL ENGINEER
BRENT L. COURTER
No. 6201059955
4/12/19

ENGINEER OF RECORD
BRENT L. COURTER
ENGINEER LICENSE NUMBER
6201059955
SHEETS BEARING THIS SEAL ARE AUTHENTICATED, RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS OR INSTRUMENTS ARE DISCLAIMED.

SGE
SMITH-GOTH ENGINEERS, INC.
3855 S. JEFFERSON AVE.
SPRINGFIELD, MO 65807
P: 417-882-2200
F: 417-882-1188
WWW.SMITHGOTH.COM

PROJECT:
NEW O'REILLY AUTO PARTS STORE
6297 W. MAIN ST.
OSHTEMO TOWNSHIP, MI 49009

SITE LIGHTING DETAILS

O'Reilly AUTO PARTS
CORPORATE OFFICES
233 SOUTH PATTERSON
SPRINGFIELD, MISSOURI 65802
(417) 862-2674 TELEPHONE

DRAWN BY: CEV	CHECKED BY: AT/BC
DATE: 02/12/19	
REVISION:	
PROJECT NUMBER:	
SHEET NUMBER: SP2	

Catalog # : MRM LED 18L SIL FT UNV DIM 50 80CRI BRZ IL	Project : O'Reilly Auto Parts
Prepared By : Graybar	Date : 8/24/2018

Mirada Medium - MRM
Outdoor LED Area Light

The Mirada's sleek design makes it perfectly-suited for architectural & commercial applications, while its cost-effective die-cast aluminum housing makes its acquisition cost very competitive. The Mirada offers high performance factory-rotatable silicone optics, 5 standard CCTs, 42,000+ delivered lumens, and is available with integral Airlink™ Wireless Controls.

Features & Specifications

WIRELESS CONTROLS IP66 RoHS COMPLIANT ARRA Funding Compliant c UL us LISTED USA TITLE 24 COMPLIANT ida DARK SKY APPROVED

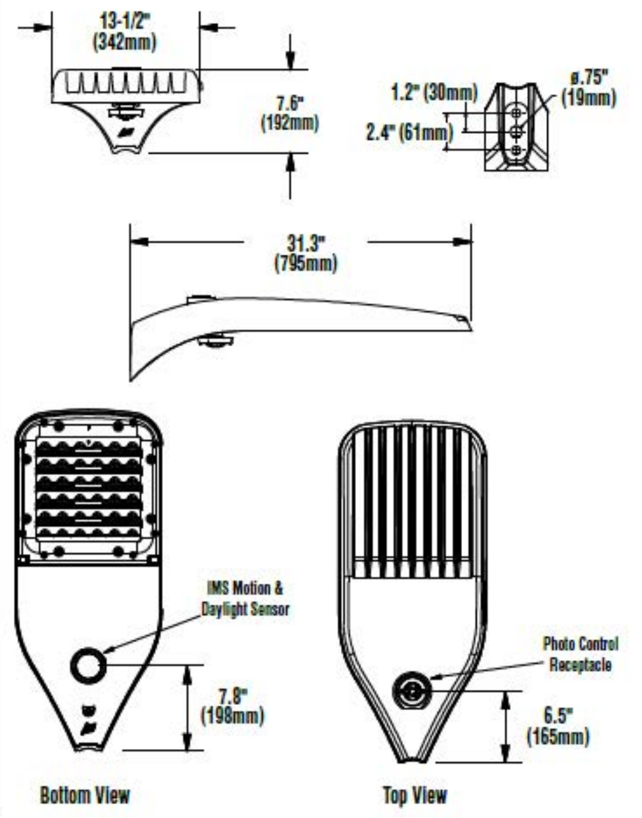
Optical System

- State-of-the-Art one piece silicone optic sheet delivers industry leading optical control with an integrated gasket to provide IP66 rated sealed optical chamber in 1 component.
- Proprietary silicone refractor optics provide exceptional coverage and uniformity in IES Types 2, 3, 5W, FT and FTA.
- Silicone optical material does not yellow or crack with age and provides a typical light transmittance of 93%.
- Zero uplight.
- Available in 5000K, 4000K, 3000K, and 2700K color temperatures per ANSI C78.377. Also available in Phosphor Converted Amber, consult factory for availability.
- Minimum CRI of 70. Optional 80 CRI available, consult factory for lead time.
- Integral Louver (IL) option available for improved back-light control without sacrificing street side performance. See page 5 for more details.

Electrical

- High-performance driver features over-voltage, under-voltage, short-circuit and over temperature protection.
- 0-10V dimming (10% - 100%) standard.
- Standard Universal Voltage (120-277 Vac) Input 50/60 Hz or optional High Voltage (347-480 Vac).
- L80 Calculated Life: >100k Hours (See Lumen Maintenance on Page 3)
- Total harmonic distortion: <20%
- Operating temperature: -40°C to +50°C (-40°F to +122°F). 42L lumen package rated to +40°C.
- Power factor: >.90
- Input power stays constant over life.
- Field replaceable surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
- High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation
- Terminal block provided accepts up to 10ga wire.
- Components are fully encased in potting material for moisture resistance. Driver complies with FCC standards. Driver and key electronic components can easily be accessed.

Product Dimensions



Mirada Medium - MRM
Outdoor LED Area Light

Features & Specifications (Cont.)

Construction

- Rugged die-cast aluminum housing contains factory prewired driver and optical unit. Cast aluminum wiring access door located underneath.
- Designed to mount to square or round poles.
- Luminaire is proudly manufactured in the U.S.of U.S. and imported parts.
- IP66 rated luminaire protects integral components from harsh environments.
- 3G rated for ANSI C136.31 high vibration applications
- Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory.
- Shipping weight: 30 lbs in carton.

Controls

Wireless Controls System

To make this fixture AirLink ready, simply order one of the following options:

a. The integrated Wireless Lighting Controller: ALSC or ALSCH (see ordering guide) as the controls option, or

b. Integrated Wireless Controller option (above) with integrated motion sensor: ALSCS (ordering guide for mounting heights) or

c. The 7-Pin Photoelectric Control Receptacle: CR7P as the controls option; and either the 5-Pin or 7-Pin Twist Lock Controller: ALSC UNV TL5 or ALSC UNV TL7 as an accessory

To see how the components of AirLink system work together, reference the diagram in the controls section of this specsheet. For more information on our AirLink products, visit our website: www.lsi-airlink.com/airlink-synapse/

Stand-Alone Controls

- The integral passive infrared motion sensor (IMS) activates switching of luminaire light levels (see the controls section for more details).
- The 7-pin ANSI C136.41-2013 photocontrol receptacle option (CR7P) is available for twist lock photocontrols or wireless control modules.
- The Button Type Photocells (PCI) are capable of switching luminaires ON/OFF in response to the amount of available daylight.

Installation

- A single fastener secures the hinged door, underneath the housing and provides quick & easy access to the electrical compartment for installing/servicing.
- Included terminal block provides quick and easy on-site wiring.
- Utilizes LSI's traditional 3" drill pattern for easy fastening of LSI products. (See drawing on page 1)

Warranty

- LSI LED Fixtures carry a 5-year warranty.

Listings

- Listed to UL 1598 and UL 8750.
- RoHS Compliant.
- American Recovery and Reinvestment Act Funding Compliant.
- IDA compliant; with 3000K color temperature selection.
- Title 24 Compliant; see local ordinance for qualification information.
- Suitable For wet Locations.
- IP66 rated Luminaire. IP66 rated optical chamber.
- 3G rated for ANSI C136.31 high vibration applications

Performance

ELECTRICAL DATA (AMPS)*

Lumens	Watts	120V	208V	240V	277V	347V	480V
7L	53	0.4A	0.3A	0.2A	0.2A	0.2A	0.1A
9L	69	0.6A	0.3A	0.3A	0.2A	0.2A	0.1A
12L	94	0.8A	0.5A	0.4A	0.3A	0.3A	0.2A
18L	150	1.2A	0.7A	0.6A	0.5A	0.4A	0.3A
24L	187	1.6A	0.9A	0.8A	0.7A	0.5A	0.4A
30L	247	2.1A	1.2A	1.0A	0.9A	0.7A	0.5A
36L	317	2.6A	1.5A	1.3A	1.1A	0.9A	0.7A
42L	390	3.2A	1.9A	1.6A	1.4A	1.1A	0.8A

*Electrical data at 25C (77F). Actual wattage may differ by +/-10%

ELECTRICAL DATA - PHOSPHOR CONVERTED AMBER (AMPS)*

Lumens	Watts	120V	208V	240V	277V	347V	480V
9L	74.3	0.6A	0.4A	0.3A	0.3A	0.2A	0.2A
12L	102.9	0.9A	0.5A	0.4A	0.4A	0.3A	0.2A

*Electrical data at 25C (77F). Actual wattage may differ by +/-10%

RECOMMENDED LUMEN MAINTENANCE[1](24-42L)

Ambient	Initial[2]	25 hr[2]	50 hr[2]	75 hr[3]	100 hr[3]
0-40 C	100%	100%	97%	94%	92%

RECOMMENDED LUMEN MAINTENANCE[1](7-18L)

Ambient	Initial[2]	25 hr[2]	50 hr[2]	75 hr[3]	100 hr[3]
0-50 C	100%	96%	92%	88%	84%

1- Lumen maintenance values at 25C are calculated per TM-21 based on LM-80 data and in-situ testing.
2- In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times the IESNA LM-80-08 total test duration for the device under testing.
3- In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times the IESNA LM-80-08 total test duration for the device under testing

DELIVERED LUMENS*

Lumen Package	Distribution	Phosphor Converted Amber Delivered Lumens	Efficacy	BUG Rating	Wattage
9L	2	5848	80	B2-U0-G2	74
	2 - IL	3644	50	B0-U0-G1	
	3	6018	82	B1-U0-G2	
	3 - IL	4468	61	B0-U0-G2	
	5W	5471	74	B3-U0-G1	
	FT	5801	79	B1-U0-G2	
	FT - IL	3649	50	B0-U0-G1	
	FTA	5924	81	B1-U0-G1	
	FTA - IL	4243	58	B1-U0-G1	
12L	2	7530	74	B2-U0-G2	102
	2 - IL	4692	46	B0-U0-G1	
	3	7749	76	B1-U0-G2	
	3 - IL	5753	57	B0-U0-G2	
	5W	7045	69	B3-U0-G2	
	FT	7470	73	B2-U0-G2	
	FT - IL	4699	46	B0-U0-G2	
	FTA	7628	75	B2-U0-G2	
	FTA - IL	5464	54	B1-U0-G1	

*LED Chips are frequently updated therefore values are nominal

LUMINAIRE EPA CHART - MRM

Single	0.6
D180°	1.1
D90°	0.9
T90°	1.9
TN120°	1.9
Q90°	2.1

Specifications and dimensions subject to change without notice.

Mirada Medium - MRM
Outdoor LED Area Light

DELIVERED LUMENS*

Lumen Package	Distribution	CRI	2700K CCT Delivered Lumens	2700K CCT Efficacy	2700K CCT BUG Rating	3000K CCT Delivered Lumens	3000K CCT Efficacy	3000K CCT BUG Rating	4000K CCT Delivered Lumens	4000K CCT Efficacy	4000K CCT BUG Rating	5000K CCT Delivered Lumens	5000K CCT Efficacy	5000K CCT BUG Rating	Wattage
7L	2	70	6550	124	B2-U0-G1	6711	127	B2-U0-G1	7208	137	B2-U0-G2	7596	144	B2-U0-G2	53
	2 - IL	70	4068	77	B0-U0-G1	4167	79	B0-U0-G1	4476	85	B0-U0-G1	4717	89	B0-U0-G1	
	3	70	6724	127	B1-U0-G2	6889	130	B1-U0-G2	7400	140	B1-U0-G2	7798	148	B1-U0-G2	
	3 - IL	70	4929	93	B0-U0-G2	5050	96	B0-U0-G2	5424	103	B0-U0-G2	5716	108	B0-U0-G2	
	5W	70	6400	121	B3-U0-G1	6557	124	B3-U0-G1	7043	133	B3-U0-G2	7422	141	B3-U0-G2	
	FT	70	6540	124	B1-U0-G2	6701	127	B1-U0-G2	7197	136	B1-U0-G2	7584	144	B2-U0-G2	
	FT - IL	70	4231	80	B0-U0-G2	4334	82	B0-U0-G2	4656	88	B0-U0-G2	4906	93	B0-U0-G2	
	FTA	70	6636	126	B1-U0-G1	6799	129	B2-U0-G1	7303	138	B2-U0-G1	7696	146	B2-U0-G1	
	FTA - IL	70	4864	92	B1-U0-G1	4984	94	B1-U0-G1	5353	101	B1-U0-G1	5641	107	B1-U0-G1	
9L	2	70	8349	122	B2-U0-G2	8576	125	B2-U0-G2	9396	137	B2-U0-G2	9784	143	B2-U0-G2	69
	2 IL	70	5185	76	B0-U0-G1	5326	78	B0-U0-G1	5835	85	B0-U0-G1	6076	89	B0-U0-G1	
	3	70	8571	125	B1-U0-G2	8804	129	B1-U0-G2	9646	141	B2-U0-G2	10044	147	B2-U0-G2	
	3 IL	70	6283	92	B0-U0-G2	6454	94	B0-U0-G2	7071	103	B0-U0-G2	7363	107	B0-U0-G2	
	5W	70	8158	119	B3-U0-G2	8380	122	B3-U0-G2	9181	134	B3-U0-G2	9560	140	B4-U0-G2	
	FT	70	8337	122	B2-U0-G2	8563	125	B2-U0-G2	9382	137	B2-U0-G2	9769	143	B2-U0-G2	
	FT IL	70	5393	79	B0-U0-G2	5540	81	B0-U0-G2	6069	89	B0-U0-G2	6320	92	B0-U0-G2	
	FTA	70	8459	123	B2-U0-G2	8689	127	B2-U0-G2	9520	139	B2-U0-G2	9913	145	B2-U0-G2	
	FTA IL	70	6200	91	B1-U0-G1	6369	93	B1-U0-G1	6978	102	B1-U0-G1	7266	106	B1-U0-G1	
12L	2	70	11157	119	B2-U0-G2	11461	122	B2-U0-G2	12556	134	B3-U0-G2	13075	139	B3-U0-G2	94
	2 IL	70	6929	74	B1-U0-G1	7117	76	B1-U0-G2	7798	83	B1-U0-G2	8119	86	B1-U0-G2	
	3	70	11454	122	B2-U0-G2	11766	125	B2-U0-G2	12890	137	B2-U0-G2	13423	143	B2-U0-G2	
	3 IL	70	8396	89	B0-U0-G2	8625	92	B0-U0-G2	9449	101	B0-U0-G2	9839	105	B0-U0-G2	
	5W	70	10902	116	B4-U0-G2	11199	119	B4-U0-G2	12269	131	B4-U0-G2	12775	136	B4-U0-G2	
	FT	70	11141	119	B2-U0-G2	11444	122	B2-U0-G2	12538	133	B2-U0-G3	13055	139	B2-U0-G3	
	FT IL	70	7207	77	B0-U0-G2	7403	79	B0-U0-G2	8110	86	B0-U0-G2	8445	90	B0-U0-G2	
	FTA	70	11304	120	B2-U0-G2	11612	124	B2-U0-G2	12722	135	B2-U0-G2	13247	141	B2-U0-G2	
	FTA IL	70	8286	88	B1-U0-G1	8511	91	B1-U0-G1	9325	99	B1-U0-G1	9710	103	B1-U0-G1	
18L	2	70	16714	112	B3-U0-G3	17168	115	B3-U0-G3	18809	126	B3-U0-G3	19586	131	B3-U0-G3	150
	2 IL	70	10379	69	B1-U0-G2	10662	71	B1-U0-G2	11681	78	B1-U0-G2	12163	81	B1-U0-G2	
	3	70	17158	115	B2-U0-G3	17625	118	B2-U0-G3	19310	129	B3-U0-G3	20107	134	B3-U0-G3	
	3 IL	70	12578	84	B1-U0-G3	12920	86	B1-U0-G3	14155	95	B1-U0-G3	14739	99	B1-U0-G3	
	5W	70	16331	109	B4-U0-G2	16776	112	B4-U0-G2	18379	123	B4-U0-G2	19138	128	B5-U0-G3	
	FT	70	16689	112	B3-U0-G3	17143	115	B3-U0-G3	18781	126	B3-U0-G4	19557	131	B3-U0-G4	
	FT IL	70	10795	72	B1-U0-G2	11089	74	B1-U0-G2	12149	81	B1-U0-G3	12651	85	B1-U0-G3	
	FTA	70	16934	113	B3-U0-G3	17395	116	B3-U0-G3	19058	127	B3-U0-G3	19844	133	B3-U0-G3	
	FTA IL	70	12412	83	B1-U0-G1	12750	85	B1-U0-G2	13969	93	B1-U0-G2	14546	97	B1-U0-G2	
24L	2	70	20880	112	B3-U0-G3	22701	121	B4-U0-G3	24276	130	B4-U0-G3	24784	133	B4-U0-G3	187
	2 IL	70	13100	70	B1-U0-G2	14243	76	B1-U0-G2	15231	81	B1-U0-G2	15550	83	B1-U0-G2	
	3	70	21739	116	B3-U0-G3	23636	126	B3-U0-G4	25275	135	B3-U0-G4	25804	138	B3-U0-G4	
	3 IL	70	15828	85	B1-U0-G3	17209	92	B1-U0-G3	18403	98	B1-U0-G4	18788	100	B1-U0-G4	
	5W	70	20632	110	B5-U0-G3	22432	120	B5-U0-G3	23988	128	B5-U0-G3	24490	131	B5-U0-G3	
	FT	70	21611	116	B3-U0-G4	23496	126	B3-U0-G4	25126	134	B3-U0-G4	25652	137	B3-U0-G4	
	FT IL	70	13692	73	B1-U0-G3	14886	80	B1-U0-G3	15919	85	B1-U0-G3	16252	87	B1-U0-G3	
	FTA	70	21496	115	B3-U0-G3	23371	125	B3-U0-G3	24992	134	B3-U0-G3	25515	136	B3-U0-G3	
	FTA IL	70	15226	81	B1-U0-G2	16555	89	B1-U0-G2	17703	95	B2-U0-G2	18073	97	B2-U0-G2	
30L	2	70	26581	108	B4-U0-G3	28900	117	B4-U0-G3	30905	125	B4-U0-G3	31551	128	B4-U0-G3	247
	2 IL	70	16677	68	B1-U0-G2	18132	73	B1-U0-G2	19390	79	B1-U0-G2	19796	80	B1-U0-G2	
	3	70	27675	112	B3-U0-G4	30089	122	B3-U0-G4	32176	130	B3-U0-G4	32850	133	B3-U0-G4	
	3 IL	70	20150	82	B1-U0-G4	21908	89	B1-U0-G4	23428	95	B1-U0-G4	23918	97	B1-U0-G4	
	5W	70	26266	106	B5-U0-G3	28557	116	B5-U0-G3	30538	124	B5-U0-G4	31177	126	B5-U0-G4	
	FT	70	27512	111	B3-U0-G4	29912	121	B3-U0-G4	31987	130	B3-U0-G4	32656	132	B3-U0-G5	
	FT IL	70	17430	71	B1-U0-G3	18951	77	B1-U0-G4	20266	82	B1-U0-G4	20690	84	B1-U0-G4	
	FTA	70	27365	111	B3-U0-G3	29752	120	B4-U0-G3	31816	129	B4-U0-G3	32482	132	B4-U0-G3	
	FTA IL	70	19384	78	B2-U0-G2	21075	85	B2-U0-G2	22537	91	B2-U0-G2	23008	93	B2-U0-G2	
36L	2	70	32214	102	B4-U0-G3	35025	111	B4-U0-G3	37454	118	B4-U0-G3	38238	121	B4-U0-G4	317
	2 IL	70	20212	64	B1-U0-G2	21975	69	B1-U0-G3	23499	74	B2-U0-G3	23991	76	B2-U0-G3	
	3	70	33540	106	B3-U0-G4	36466	115	B3-U0-G5	38996	123	B3-U0-G5	39812	126	B3-U0-G5	
	3 IL	70	24421	77	B1-U0-G4	26551	84	B1-U0-G4	28393	90	B1-U0-G4	28987	92	B1-U0-G5	
	5W	70	31832	101	B5-U0-G4	34609	109	B5-U0-G4	37010	117	B5-U0-G4	37785	119	B5-U0-G4	
	FT	70	33342	105	B3-U0-G5	36251	114	B3-U0-G5	38766	122	B4-U0-G5	39577	125	B4-U0-G5	
	FT IL	70	21125	67	B1-U0-G4	22968	73	B1-U0-G4	24561	78	B1-U0-G4	25075	79	B1-U0-G4	
	FTA	70	33164	105	B4-U0-G3	36058	114	B4-U0-G4	38559	122	B4-U0-G4	39366	124	B4-U0-G3	
	FTA IL	70	23492	74	B2-U0-G2	25541	81	B2-U0-G2	27313	86	B2-U0-G2	27885	88	B2-U0-G2	
42L	2	70	36785	94	B4-U0-G3	39994	103	B5-U0-G4	42768	110	B5-U0-G4	43663	112	B5-U0-G4	390
	2 IL	70	23079	59	B1-U0-G3	25093	64	B2-U0-G3	26833	69	B2-U0-G3	27395	70	B2-U0-G3	
	3	70	38299	98	B3-U0-G5	41640	107	B4-U0-G5	44528	114	B4-U0-G5	45460	117	B4-U0-G5	
	3 IL	70	27886	72	B1-U0-G4	30319	78	B1-U0-G5	32422	83	B1-U0-G5	33100	85	B1-U0-G5	
	5W	70	36349	93	B5-U0-G4	39520	101	B5-U0-G4	42261	108	B5-U0-G4	43145	111	B5-U0-G4	
	FT	70	38073	98	B4-U0-G5	41395	106	B4-U0-G5	44266	114	B4-U0-G5	45192	116	B4-U0-G5	
	FT IL	70	24122	62	B1-U0-G4	26226	67	B1-U0-G4	28045	72	B1-U0-G4	28632	73	B1-U0-G4	
	FTA	70	37870	97	B4-U0-G4	41174	106	B4-U0-G4	44030	113	B4-U0-G4	44951	115	B4-U0-G4	
	FTA IL	70	26825	69	B2-U0-G2	29165	75	B2-U0-G2	31188	80	B2-U0-G2	31841	82	B2-U0-G2	

*LED Chips are frequently updated therefore values are nominal

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MIRADA WALL SCONCE (XWM)

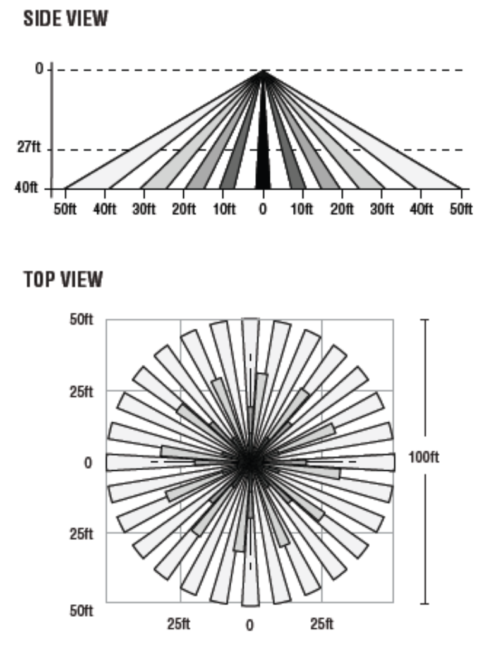
DOE LIGHTING FACTS
Department of Energy has verified representative product test data and results in accordance with its Lighting Facts Program. Visit www.lightingfacts.com for specific catalog strings.

LIGHT OUTPUT - XWM - 3 5000K CCT

	Lumens	Wattage	LPW
03	3410	29	117
04	4417	40	111
06	6609	59	113
08	8610	82	105

LED Chips are frequently updated therefore values may increase.

COVERAGE DIAGRAM



US & Int'l. patents pending

SMARTTEC™ -LSI drivers feature integral sensor which reduces drive current, when ambient temperatures exceed rated temperature

ENERGY SAVING CONTROL OPTIONS - DIM - 0-10 volt dimming enabled with LSI wireless controls.

OPTIONAL INTEGRAL MOTION SENSOR - Passive infrared motion sensor activates switching of luminaire light levels. High level light is activated when passersby enter target zone and increased to full bright in 1-2 seconds. Low light level (30% of maximum drive current) is activated when target zone is absent of motion activity for 5 minutes and is gradually ramped down (10 seconds) to low level. Sensor detection range 110° horizontal x 93° vertical x 10 meters maximum distance.

LEDS - Available with 5000K, 4000K or 3000K color temperature, 70 CRI min.

OPTICS/DISTRIBUTIONS - Ultra-high efficiency reflectors provide three distributions. Choose from Type 2, Type 3 or Type FT.

HOUSING - Three-piece die-cast aluminum housing is smoothly contoured low-profile shape. Mounting hardware is stainless steel or electro-zinc plated steel. Housing and optical unit are sealed with extruded silicone gasket; supply conductors with molded EPDM bushing.

OPTICAL UNIT - Proprietary silicone refractor optics provide exceptional coverage and uniformity. Pressure stabilizing breather allows super-tight protection while preventing cycling from building up internal pressures and vacuums that can stress optical unit seals

WALL MOUNTING - Galvanized-steel universal wall mounting plate easily mounts directly to 4" octagonal or square junction box. EPDM gasket is supplied to be installed between mounting plate and junction box, sealing junction box from entrance of water. Universal plate permits fixture to be mounted in uplighting (indoor only) or downlighting position. Optional pole-mounting bracket permits mounting to standard poles (XPMA).

ELECTRICAL - Two-stage surge protection (including separate surge protection built into electronic driver) meets IEEE C62.41.2-2002, Location Category C. Available with universal voltage power supply 120-277VAC (50/60Hz input) or 347-480VAC.

DRIVER - Drivers are dimming, standard. Components are fully encased in potting material for IP65 moisture resistance. Driver complies with IEC and FCC standards. Driver can be easily accessed.

EMERGENCY OPTIONS - Optional integral emergency battery-back-up options are available. BB option operates in 0°C to 60°C ambient temperature and CWBB operates in -20°C to 60°C ambient temperature. When primary AC power failure occurs, both options operate 10 LEDs for minimum of 90 minutes.

OPERATING TEMPERATURE - -40°C to +50°C (-40°F to +122°F)

FINISH - Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling.

WARRANTY - LSI LED fixtures carry a limited 5-year warranty.

PHOTOMETRICS - Please visit our web site at www.lsi-industries.com for detailed photometric data.

SHIPPING WEIGHT (in carton) - 30 lbs./13.6Kg

LISTING - UL listed to ANSI/UL1598, UL8750 and other U.S. and international safety standards. Suitable for wet locations in downlight position.

This product, or selected versions of this product, meet the standards listed below. Please consult factory for your specific requirements.

RoHS COMPLIANT c UL us LISTED wet location CE ARRA Funding Compliant IP65 FC

Project Name ______________________ Fixture Type ______________
Catalog # ______________________

MIRADA WALL SCONCE (XWM)

LUMINAIRE ORDERING INFORMATION

TYPICAL ORDER EXAMPLE: **XWM FT LED 08L 50 UE WHT IMS**

Prefix	Distribution	Light Source	Output[8]	Color Temperature	Input Voltage	Finish	Optional Controls	Optional Sensor/Options
XWM - Mirada Wall Sconce	2 - Type 2 3 - Type 3 (Wide Throw) FT - Type 4 (Forward Throw)	LED	03L - 3,400 Lumens 04L - 4,400 Lumens 06L - 6,600 Lumens 08L - 8,600 Lumens	50 - 5000K 40 - 4000K 30 - 3000K	UE - Universal Voltage (120-277) HV - 347-480	BLK - Black BRZ - Bronze GPT - Graphite MSV - Metalic Silver PLP - Platinum Plus WHT - White	**Wireless Control System**[1,2] (blank) - None PCM - Platinum Control System GCM - Gold Control System DIM - 0-10 volt dimming (required for satellite fixtures) ALSC - AirLink Synapse Control System **Stand-Alone Control** (blank) - None DIM - 0-10 volt dimming[3] (from external signal)	**Sensor** IMS - Integral Motion Sensor[4,7] **Options** BB - Battery Back-up[5] CWBB - Cold Weather Battery Back-up[5] XPMA - Pole Mounting Bracket

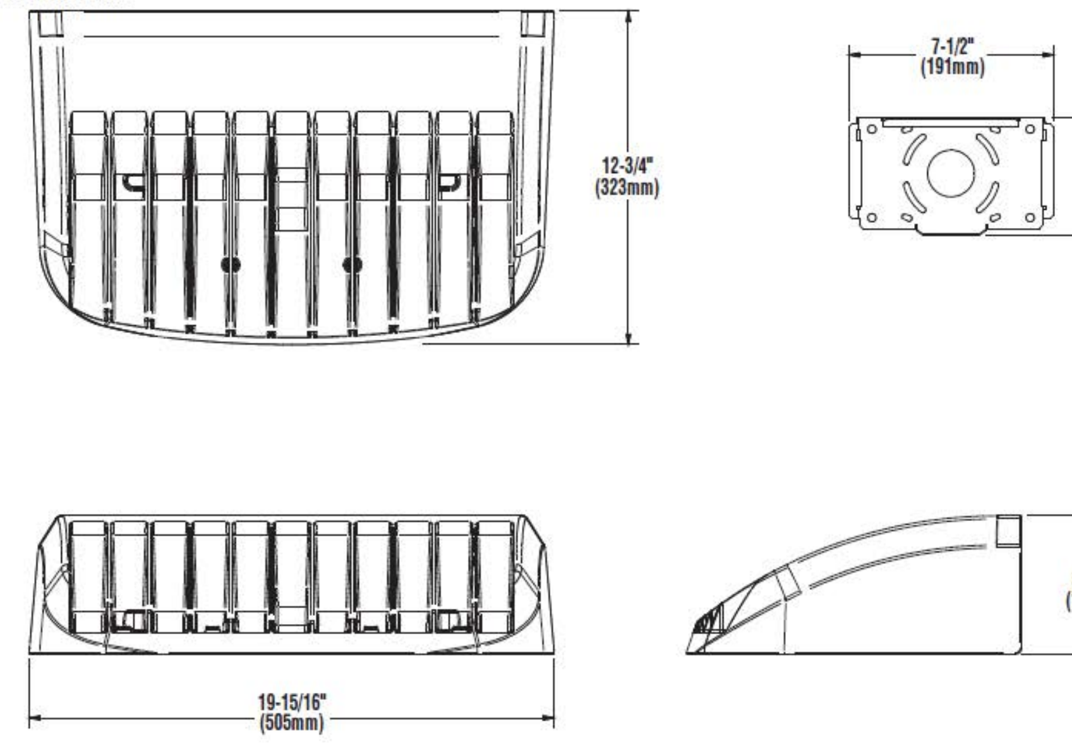
ACCESSORY ORDERING INFORMATION[1] (Accessories are field installed)

Description	Order Number	Description	Order Number
XWM SW BLK - Surface Wiring Box (Available in black only)	356915BLK	DFK208 - Double Fusing	DFK208
FK120 - Single Fusing	FK120	DFK240 - Double Fusing	DFK240
FK277 - Single Fusing	FK277	DFK480 - Double Fusing	DFK480
FK347 - Single Fusing	FK347	IMS/PC Remote Configurator Tool[7]	584929

FOOTNOTES:

1 - For wireless controls information and accessories, see Controls Section.
2 - Requires a SiteManager and override switch. Not compatible with battery back-up, IMS or HL Option.
3 - Not compatible with IMS Option
4 - Not compatible with DIM or Wireless Control System
5 - Not compatible with Wireless Control System
6 - Not available with BB, CWBB, IMS Option or Wireless Control System
7 - IMS is the WattStopper Dual Sensor (Daylight & Motion) which is field adjustable, via a handheld remote configurator tool*
8 - Output based on type 3 optics in cool white color temperature, see IES files for exact delivered lumens

DIMENSIONS

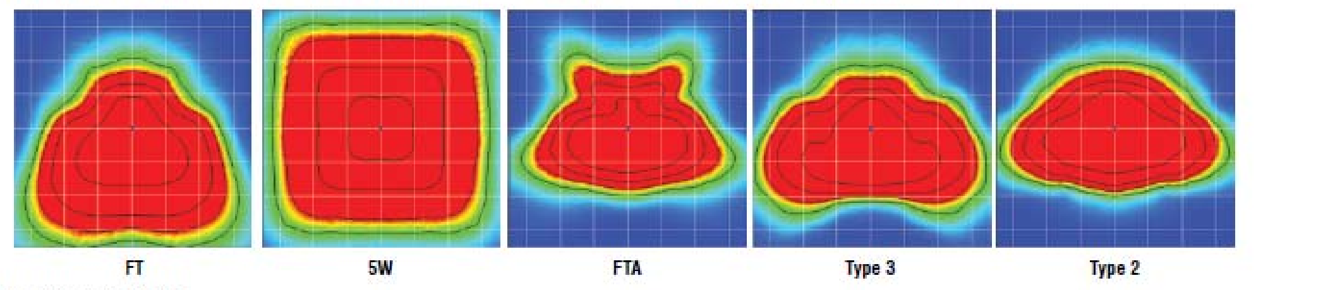


Project Name ______________________ Fixture Type ______________
Catalog # ______________________

Mirada Medium - MRM
Outdoor LED Area Light

Performance (Cont.)

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



Ordering Guide

TYPICAL ORDER EXAMPLE: **MRM LED 36L SIL FTA UNV DIM 50 70CRI ALSCS04 BRZ IL**

Luminaire Prefix	Light Source	Lumen Package*	Light Output	Distribution	Orientation[1]	Voltage	Driver
MRM Mirada	**LED**	**7L** - 7,000 lms **9L** - 9,000 lms **12L** - 12,000 lms **18L** - 18,000 lms **24L** - 24,000 lms **30L** - 30,000 lms **36L** - 36,000 lms **42L** - 42,000 lms *Consult factory for programmable wattages and lumen packages	**SIL** - Silicone	**2** - Type 2 **3** - Type 3 **5W** - Type 5 Wide **FT** - Forward Throw **FTA** - Forward Throw Automotive	**(blank)** - standard **L** - Optics rotated left 90 **R** - Optics rotated right 90	**UNV** - Universal Voltage (120-277V) **HV** - High Voltage (347-480V)	**DIM** - 0-10V Dimming (0-10%)

Color Temp	Color Rendering	Controls (Choose One)	Finish	Options
50 - 5,000 CCT **40** - 4,000 CCT **30** - 3,000 CCT[2] **27** - 2,700 CCT[2] **AMB** - Phosphor Converted Amber[2,3]	**70CRI** - 70 CRI **80CRI** - 80 CRI[2]	(Blank) - None **Wireless Controls System** **ALSC** - AirLink Synapse Control System[4] **ALSCH** - AirLink Synapse Control System Host / Satellite[4,5] **ALSCS01** - AirLink Synapse Control System with 8-12' Motion Sensor[4] **ALSCHS01** - AirLink Synapse Control System Host / Satellite with 8-12' Motion Sensor[4,5] **ALSCS02** - AirLink Synapse Control System with 12-20' Motion Sensor[4] **ALSCHS02** - AirLink Synapse Control System Host / Satellite with 12-20' Motion Sensor[4,5] **ALSCS04** - AirLink Synapse Control System with 20-40' Motion Sensor[4] **ALSCHS04** - AirLink Synapse Control System Host / Satellite with 20-40' Motion Sensor[4,5] **Stand-Alone Controls** **EXT** - 0-10v Dimming (from external signal) **IMSOM1** - Integral Motion Sensor 8-12' 120-277V[4,6] **IMSOM2** - Integral Motion Sensor 12-20' 120-277V[4,6] **IMSOM4** - Integral Motion Sensor 20-40' 120-277V[4,6] **IMS01HV** - Integral Motion Sensor 8-12' 347-480V[6,12] **IMS02HV** - Integral Motion Sensor 12-20' 347-480V[6,12] **IMS04HV** - Integral Motion Sensor 20-40' 347-480V[6,12] **CR7P** - 7 Pin Control Receptacle ANSI C136.41[7] **Button Type Photocells** **PCI120** - 120V **PCI208-277** - 208 -277V **PCI347** - 347V	**BRZ** - Bronze **BLK** - Black **GPT** - Graphite **MSV** - Metallic Silver **WHT** - White **PLP** - Platinum Plus **SVG** - Satin Verde Green	(Blank) - None **IL** - Integral Louver HSS[1]

BRENT L. COURTER
ENGINEER
No. 6201059955
4/12/19

ENGINEER OF RECORD
BRENT L. COURTER
ENGINEER LICENSE NUMBER
6201059955
SHEETS BEARING THIS SEAL ARE AUTHENTICATED, RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS OR INSTRUMENTS ARE DISCLAIMED.

SGE
SMITH-GOTH ENGINEERS, INC.
3855 S. JEFFERSON AVE.
SPRINGFIELD, MO 65807
P: 417-882-2200
F: 417-882-1188
WWW.SMITHGOTH.COM

PROJECT:
NEW O'REILLY AUTO PARTS STORE
6297 W. MAIN ST.
OSHTEMO TOWNSHIP, MI 49009

SITE LIGHTING DETAILS

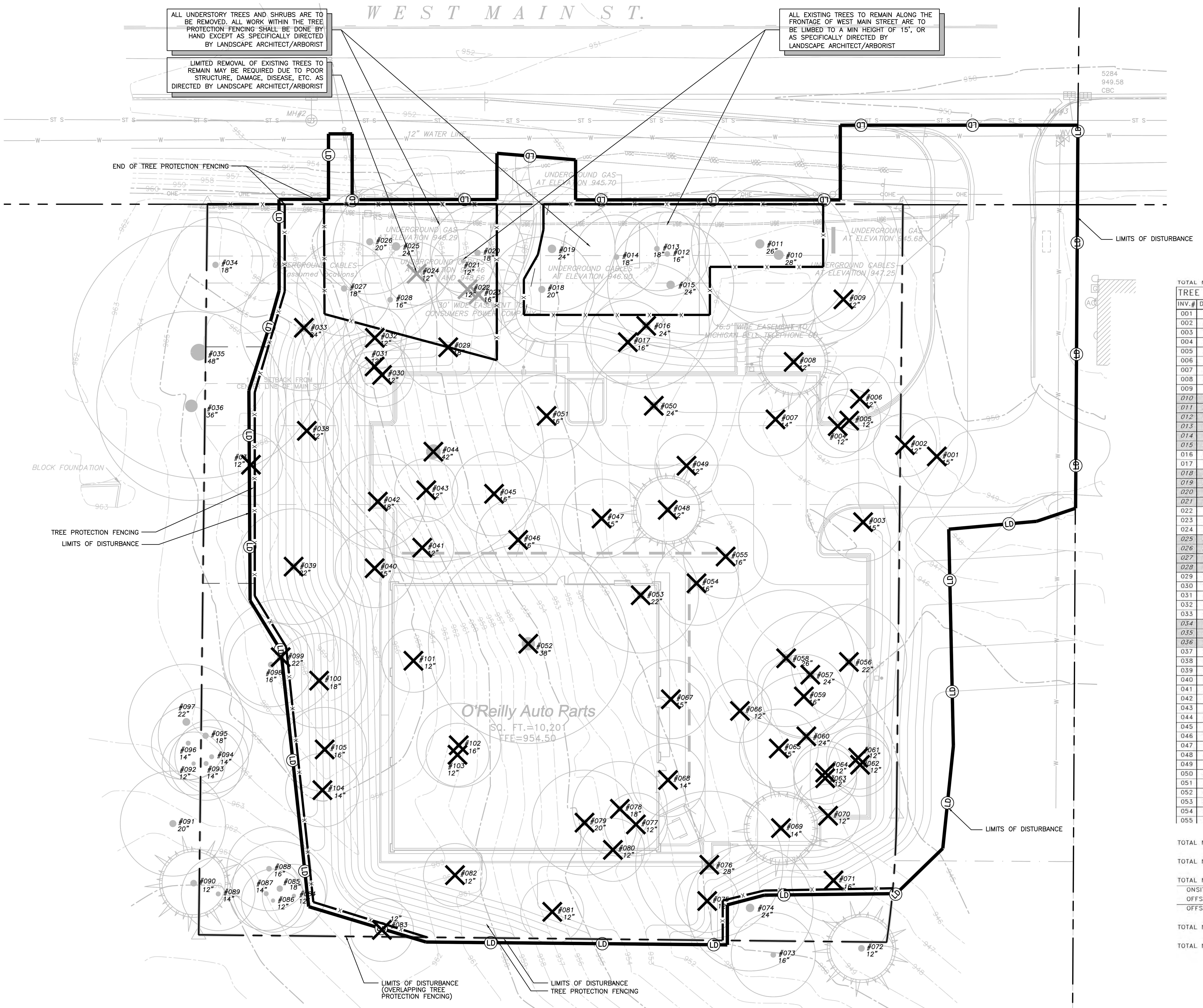
O'Reilly AUTO PARTS
CORPORATE OFFICES
233 SOUTH PATTERSON
SPRINGFIELD, MISSOURI 65802
(417) 862-2674 TELEPHONE

DRAWN BY: CEV	CHECKED BY: AT/BC
DATE: 02/12/19	
REVISION:	
PROJECT NUMBER:	
SHEET NUMBER: SP3	

ALL UNDERSTORY TREES AND SHRUBS ARE TO BE REMOVED. ALL WORK WITHIN THE TREE PROTECTION FENCING SHALL BE DONE BY HAND EXCEPT AS SPECIFICALLY DIRECTED BY LANDSCAPE ARCHITECT/ARBORIST

LIMITED REMOVAL OF EXISTING TREES TO REMAIN MAY BE REQUIRED DUE TO POOR STRUCTURE, DAMAGE, DISEASE, ETC. AS DIRECTED BY LANDSCAPE ARCHITECT/ARBORIST

ALL EXISTING TREES TO REMAIN ALONG THE FRONTAGE OF WEST MAIN STREET ARE TO BE LIMBED TO A MIN HEIGHT OF 15', OR AS SPECIFICALLY DIRECTED BY LANDSCAPE ARCHITECT/ARBORIST



END OF TREE PROTECTION FENCING

TREE PROTECTION FENCING

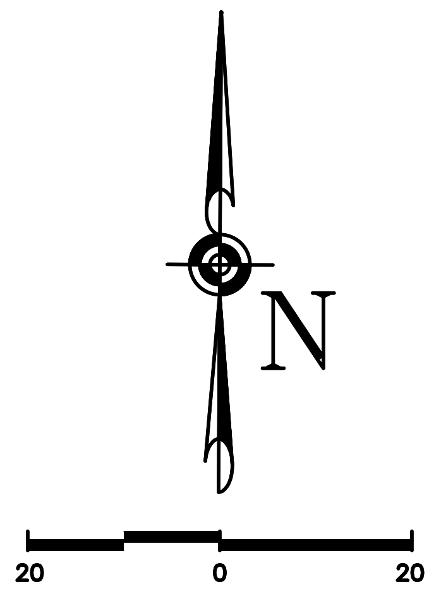
LIMITS OF DISTURBANCE

LIMITS OF DISTURBANCE

LIMITS OF DISTURBANCE

LIMITS OF DISTURBANCE (OVERLAPPING TREE PROTECTION FENCING)

LIMITS OF DISTURBANCE
TREE PROTECTION FENCING



TREE INVENTORY PREPARED BY:
CHARLES R. WALKER
ISA CERTIFIED ARBORIST
SO-6611A
EXPIRATION DATE: DEC. 31, 2020

LEGEND:

—x——x—	TREE PROTECTION FENCING
—(LD)—	LIMITS OF DISTURBANCE
⌒⌒	TREE LINE
○ XXX	EXISTING TREE – INVENTORIED
⊗ XXX	EXISTING TREE – TO BE REMOVED
⊗ XXX	EXISTING TREE – MAY BE REMOVED DUE TO OUTSTANDING CIRCUMSTANCES (SUBJECT TO CHANGE)

TOTAL NUMBER OF TREES TO REMAIN:

TREE INVENTORY LEGEND

INV.#	D.B.H.	TYPE OF TREE:	REMARKS:
001	15''	DECIDUOUS	TREE OFFSITE – TO BE REMOVED
002	12''	DECIDUOUS	TREE OFFSITE – TO BE REMOVED
003	15''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
004	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
005	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
006	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
007	14''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
008	12''	CONIFEROUS	TREE ONSITE – TO BE REMOVED
009	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
010	*28''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
011	*26''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
012	*16''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
013	*18''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
014	*18''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
015	*24''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
016	24''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
017	16''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
018	*20''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
019	*24''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
020	*18''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
021	*12''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
022	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
023	16''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
024	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
025	*24''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
026	*20''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
027	*18''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
028	*16''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
029	18''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
030	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
031	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
032	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
033	24''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
034	*18''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
035	*48''*	*DECIDUOUS*	*TREE OFFSITE – TO REMAIN*
036	*36''*	*DECIDUOUS*	*TREE OFFSITE – TO REMAIN*
037	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
038	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
039	22''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
040	15''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
041	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
042	18''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
043	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
044	42''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
045	16''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
046	16''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
047	15''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
048	12''	CONIFEROUS	TREE ONSITE – TO BE REMOVED
049	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
050	24''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
051	16''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
052	38''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
053	22''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
054	16''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
055	16''	DECIDUOUS	TREE ONSITE – TO BE REMOVED

TREE INVENTORY LEGEND

INV.#	D.B.H.	TYPE OF TREE:	REMARKS:
056	22''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
057	24''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
058	26''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
059	16''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
060	24''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
061	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
062	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
063	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
064	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
065	15''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
066	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
067	15''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
068	14''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
069	14''	CONIFEROUS	TREE ONSITE – TO BE REMOVED
070	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
071	16''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
072	*12''*	*CONIFEROUS*	*TREE OFFSITE – TO REMAIN*
073	*16''*	*DECIDUOUS*	*TREE OFFSITE – TO REMAIN*
074	*24''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
075	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
076	28''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
077	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
078	18''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
079	20''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
080	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
081	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
082	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
083	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
084	*12''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
085	*18''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
086	*12''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
087	*14''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
088	*16''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
089	*14''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
090	*12''*	*CONIFEROUS*	*TREE OFFSITE – TO REMAIN*
091	*20''*	*DECIDUOUS*	*TREE OFFSITE – TO REMAIN*
092	*12''*	*DECIDUOUS*	*TREE OFFSITE – TO REMAIN*
093	*14''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
094	*14''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
095	*18''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
096	*14''*	*DECIDUOUS*	*TREE OFFSITE – TO REMAIN*
097	*22''*	*DECIDUOUS*	*TREE OFFSITE – TO REMAIN*
098	*16''*	*DECIDUOUS*	*TREE ONSITE – TO REMAIN*
099	22''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
100	18''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
101	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
102	16''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
103	12''	DECIDUOUS	TREE ONSITE – TO BE REMOVED
104	14''	DECIDUOUS	TREE ONSITE – TO BE REMOVED

TOTAL NUMBER OF TREES REMOVED:	70
TOTAL NUMBER OF CALIPER-INCHES REMOVED:	1,128 CALIPER-INCHES
TOTAL NUMBER OF TREES:	96
ONSITE TREES: (INCLUDED IN TOTALS)	94
OFFSITE TREES: (INCLUDED IN TOTALS)	2
OFFSITE TREES: (INVENTORIED, BUT NOT IN TOTALS)	9
TOTAL NUMBER OF TREES REMOVED UNDER 12": (UNKNOWN)	0
TOTAL NUMBER OF TREES REMOVED 12-24:	66

SURVEY OF TREE SIZE, TYPE, AND LOCATION PERFORMED BY LOCAL MICHIGAN SURVEYOR. IMPACTS AND QUANTITIES PERFORMED BY: C. R. WALKER, CERTIFIED ARBORIST #SO-6611A

TREE INVENTORY AND IMPACT PLAN

PROJECT NAME:
O'REILLY AUTO PARTS

PREPARED BY:
CARLSON CONSULTING ENGINEERS
7068 LEDGESTONE COMMONS
BARTLETT, TN, 38133
(901) 384-0404

NO	REVISIONS

APPLICANT/DEVELOPER:
MARKETPLACE DEVELOPMENT, LLC
700 COLONIAL ROAD, SUITE 101
MEMPHIS, TN 38117
(901) 210-2922

O'REILLY
AUTO PARTS
OSHTEMO TOWNSHIP, MI

CARLSON
CONSULTING
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7068 Ledgestone Commons
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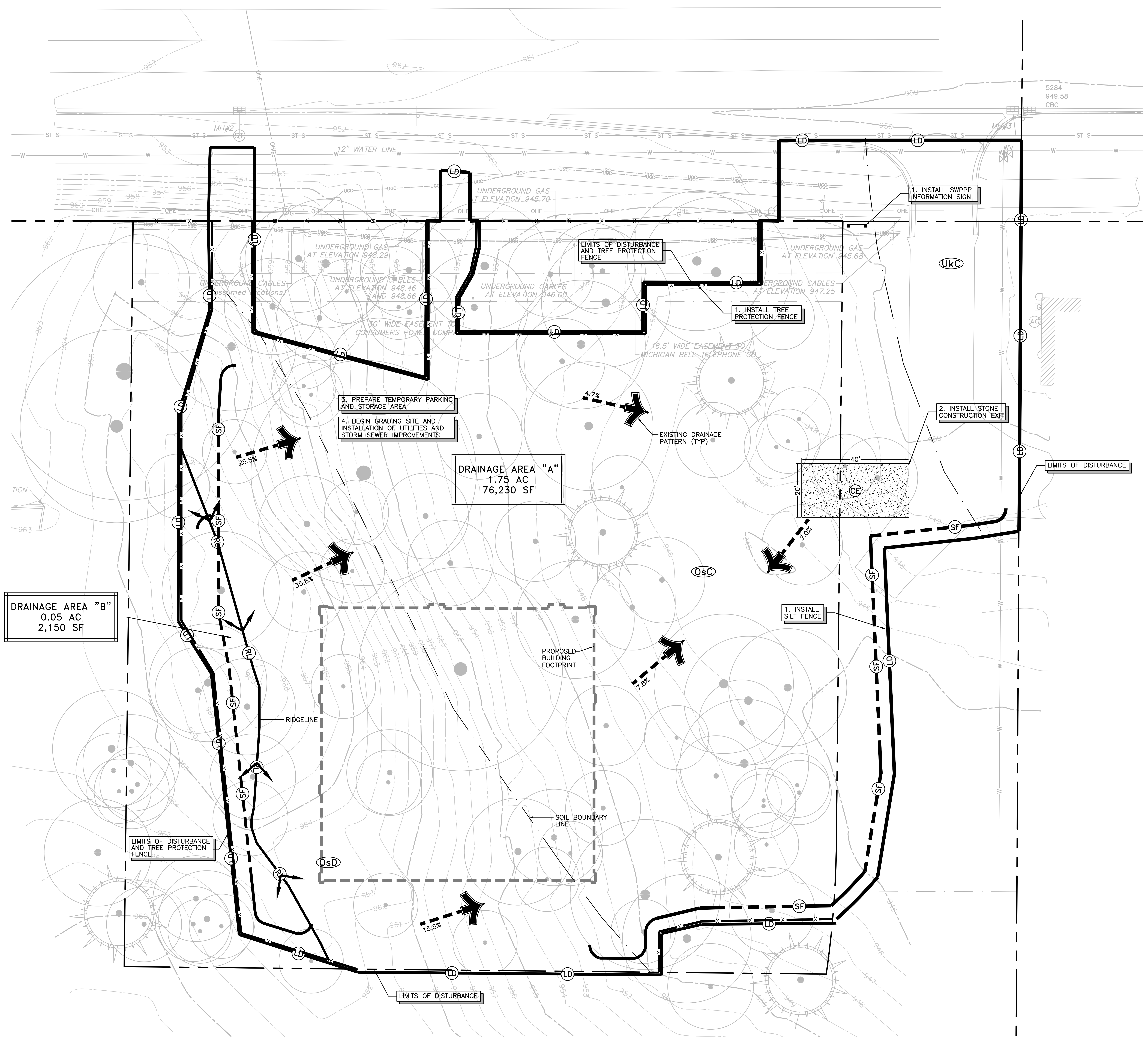
Phone (901) 384-0404
Fax (901) 384-0710
Michigan Registered Engineering Firm Qualified

CHARLES WALKER

DRAWN
TGH
CHECKED
JSP
DATE
05/20/19
SCALE
1" = 20'
JOB NAME
O'REILLY AUTO PARTS
SHEET
3 OF 20 SHEETS

EROSION & SEDIMENTATION CONTROL PLAN/SITE MAP SHEET 1 OF 4, MUST BE KEPT ON SITE.



TEMPORARY SEEDING:

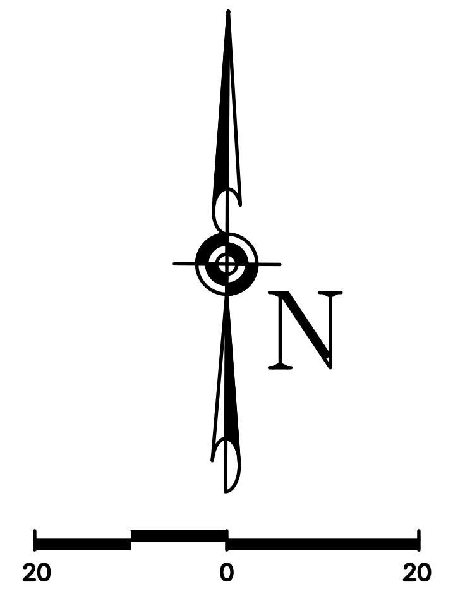
– SEED: MIXTURE 70% RYEGRASS/30% WINTER WHEAT – 4 LB / 1,000 SQ FT

PERMANENT STABILIZATION:

– REFER TO PLANTING PLAN, THIS SET.

ACREAGE SUMMARY

TOTAL PROJECT AREA	1.70 ACRES
ON–SITE DISTURBED AREA	1.30 ACRES
OFF–SITE DISTURBED AREA	0.30 ACRES
TOTAL DISTURBED AREA	1.60 ACRES



LEGEND

LD	– LIMITS OF DISTURBANCE
SF	– SEDIMENTATION/SILT FENCE
CE	– CONSTRUCTION EXIT (STONE/ASPHALT)
⊔	– SWPPP INFORMATION SIGN
←	– EXISTING DRAINAGE PATTERN
OsD	– SOIL TYPE: OSHTEMO SANDY LOAM
OsC	– SOIL TYPE: OSHTEMO SANDY LOAM
UkC	– SOIL TYPE: URBAN LAND – KALAMAZOO
RL	– RIDGELINES
— · —	– APPROXIMATE SOIL TYPE BOUNDARY
—X—	– TREE PROTECTION FENCE

EROSION CONTROL SEQUENCING – PHASE I

1. INSTALL SWPPP INFORMATION SIGN, TREE PROTECTION, AND PERIMETER SEDIMENT CONTROLS.
2. INSTALL STONE CONSTRUCTION EXIT
3. PREPARE PARKING AND STAGING AREA.
4. BEGIN GRADING SITE AND INSTALLATION OF UTILITIES AND STORM SEWER IMPROVEMENTS.

–CAUTION NOTICE TO CONTRACTOR–

IF PROPERLY IMPLEMENTED, THIS PLAN WILL PROVIDE AN EFFECTIVE MEANS FOR CONTROLLING EROSION. HOWEVER, IT IS ACKNOWLEDGED THAT NO ONE PLAN CAN BE PREPARED THAT WILL DEPICT ALL POSSIBLE CONTROL MEASURES NECESSARY FOR VARIOUS STAGES OF CONSTRUCTION. THE CONTRACTOR SHALL INCLUDE IN THE BASE BID ADEQUATE FUNDS TO PROVIDE ALL EROSION CONTROL MEASURES NECESSARY TO COMPLY WITH CODES FOR THE DURATION OF THE CONSTRUCTION PROJECT. ALL ITEMS AND WORK SHOWN ON THESE PLANS AND ALL MAINTENANCE THROUGHOUT THE DURATION OF CONSTRUCTION SHALL BE INCLUDED IN THE BASE BID.

SPECIFICATIONS REQUIREMENTS

THE REQUIREMENTS SHOWN ON THIS PLAN ARE SUPPLEMENTED BY THE SWPPP CONTAINED WITHIN THE PROJECT SPECIFICATIONS. IN CASE OF CONFLICTS BETWEEN THE PLANS, SWPPP SPECIFICATIONS AND THE ACTUAL GENERAL PERMIT, THE MOST STRINGENT REQUIREMENTS SHALL APPLY.

LIMITS OF DISTURBANCE

CONTRACTOR TO LIMIT DISTURBANCE OF SITE IN STRICT ACCORDANCE WITH THE EROSION CONTROL SEQUENCING SHOWN ON THIS PLAN. NO UNNECESSARY OR IMPROPERLY SEQUENCED CLEARING AND/OR GRADING SHALL BE PERMITTED.

SILT FENCE LOCATION

SILT FENCE LOCATION SHOWN ON PLAN HAS BEEN OFFSET FOR CLARITY. WHERE SILT FENCE IS SHOWN ADJACENT TO LIMITS OF DISTURBANCE IT IS THE INTENTION THAT SILT FENCE BE INSTALLED ALONG LIMITS OF DISTURBANCE (NO DISTURBANCE BEYOND SILT FENCE). SILT FENCE SHALL FOLLOW CONTOURS.

BMP NOTICE

THE CONTRACTOR MUST CONTINUALLY INSPECT BMP'S TO ENSURE ANY PONDING DOES NOT PRESENT HAZARDS TO THE PUBLIC. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MODIFY BMP'S AS NEEDED TO PROTECT THE PUBLIC AT ALL TIMES AND PROVIDE PROTECTION FROM SEDIMENT RELEASE.

CAUTION – NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE IMPROVEMENTS SHOWN BY THESE PLANS.

MISS DIG System, Inc.

EROSION & SEDIMENTATION CONTROL PLAN/SITE MAP – PHASE I

PROJECT NAME:
O'REILLY AUTO PARTS

PREPARED BY:
CARLSON CONSULTING ENGINEERS
7068 LEDGESTONE COMMONS
BARTLETT, TN, 38133
(901) 384-0404

NO	REVISIONS

APPLICANT/DEVELOPER:
MARKETPLACE DEVELOPMENT, LLC
700 COLONIAL ROAD, SUITE 101
MEMPHIS, TN 38117
(901) 210–2922

O'REILLY
AUTO PARTS
OSHTEMO TOWNSHIP, MI

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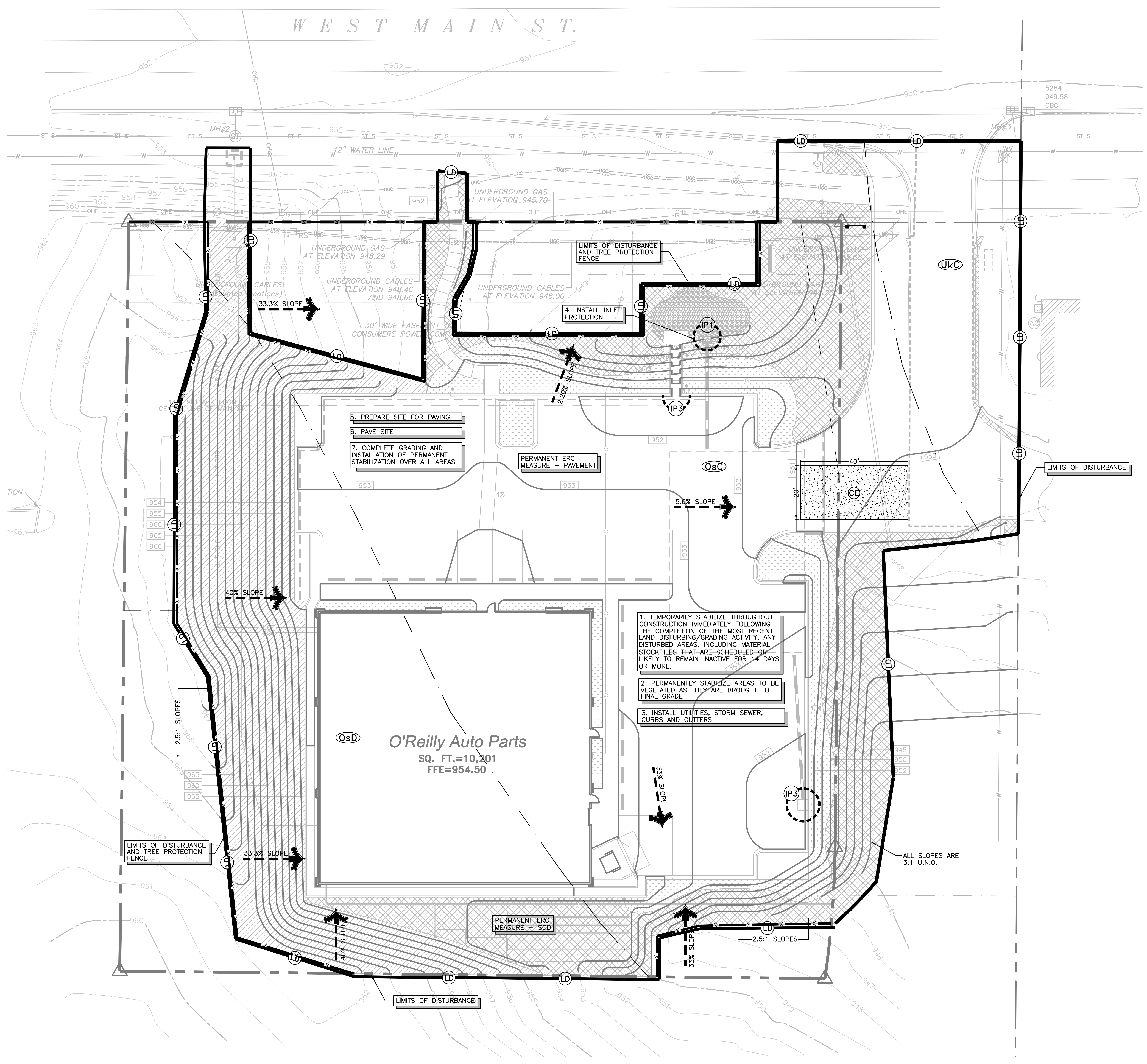
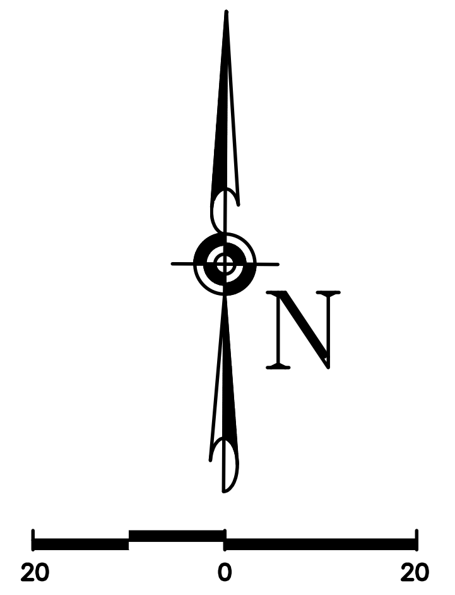
Bartlett, TN 38133
Phone (901) 384-0404
Fax (901) 384-0710
Michigan Registered Engineering Firm Qualified

JOSEPH PARSLEY
No. 6201066218
6/4/19

DRAWN	TGH
CHECKED	JSP
DATE	05/20/19
SCALE	1"=20'
JOB NAME	O'REILLY AUTO PARTS
SHEET	4 OF 20 SHEETS

EROSION & SEDIMENTATION CONTROL PLAN/SITE MAP
SHEET 2 OF 4, MUST BE KEPT ON SITE.





LEGEND

LD	– LIMITS OF DISTURBANCE
SF	– SEDIMENTATION/SILT FENCE
CE	– CONSTRUCTION EXIT (STONE/ASPHALT)
IP1	– BLOCK AND AGGREGATE CURB INLET PROTECTION
IP3	– BLOCK AND AGGREGATE FLUME PROTECTION
IP7	– INLET HEADWALL SEDIMENTATION FILTER
→	– DRAINAGE PATTERN
X	– TREE PROTECTION FENCE
▨	– SODDED AREA. SEE PLANTING PLAN FOR ADDITIONAL INFORMATION
▨	– PLANTING BED. SEE PLANTING PLAN FOR ADDITIONAL INFORMATION
▨	– 'NATIVE RESTORATION' SEED MIX
▨	– RIVER COBBLE LANDSCAPE STONE
▬	– SWPPP INFORMATION SIGN
OsD	– SOIL TYPE: OSHTEMO SANDY LOAM
OsC	– SOIL TYPE: OSHTEMO SANDY LOAM
UkC	– SOIL TYPE: URBAN LAND – KALAMAZOO

EROSION CONTROL SEQUENCING – PHASE II

1. TEMPORARILY STABILIZE THROUGHOUT CONSTRUCTION IMMEDIATELY FOLLOWING THE COMPLETION OF THE MOST RECENT LAND DISTURBING/GRADING ACTIVITY, ANY DISTURBED AREAS, INCLUDING MATERIAL STOCKPILES THAT ARE SCHEDULED OR LIKELY TO REMAIN INACTIVE FOR 14 DAYS OR MORE.
2. PERMANENTLY STABILIZE AREAS TO BE VEGETATED AS THEY ARE BROUGHT TO FINAL GRADE.
3. INSTALL UTILITIES, STORM SEWER, CURBS AND GUTTERS.
4. INSTALL INLET PROTECTION AT ALL STORM SEWER STRUCTURES AS EACH INLET STRUCTURE IS INSTALLED.
5. PREPARE SITE FOR PAVING.
6. PAVE SITE.
7. COMPLETE GRADING AND INSTALLATION OF PERMANENT STABILIZATION OVER ALL AREAS.
8. REMOVE AND DISPOSE OF ANY REMAINING BMPS AND STABALIZE ANY DISTURBED AREAS.

UNDERGROUND RETENTION

IF SEDIMENT ACCUMULATES WITHIN THE UNDERGROUND RETENTION AREA, SEDIMENT SHALL BE REMOVED.

–CAUTION NOTICE TO CONTRACTOR–

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SILT FENCE LOCATION

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MISS DIG System, Inc.

EROSION & SEDIMENTATION CONTROL PLAN/SITE MAP – PHASE II

PROJECT NAME:
O'REILLY AUTO PARTS

PREPARED BY:
CARLSON CONSULTING ENGINEERS
7068 LEDGESTONE COMMONS
BARTLETT, TN, 38133
(901) 384-0404

NO	REVISIONS

APPLICANT/DEVELOPER:
MARKETPLACE DEVELOPMENT, LLC
700 COLONIAL ROAD, SUITE 101
MEMPHIS, TN 38117
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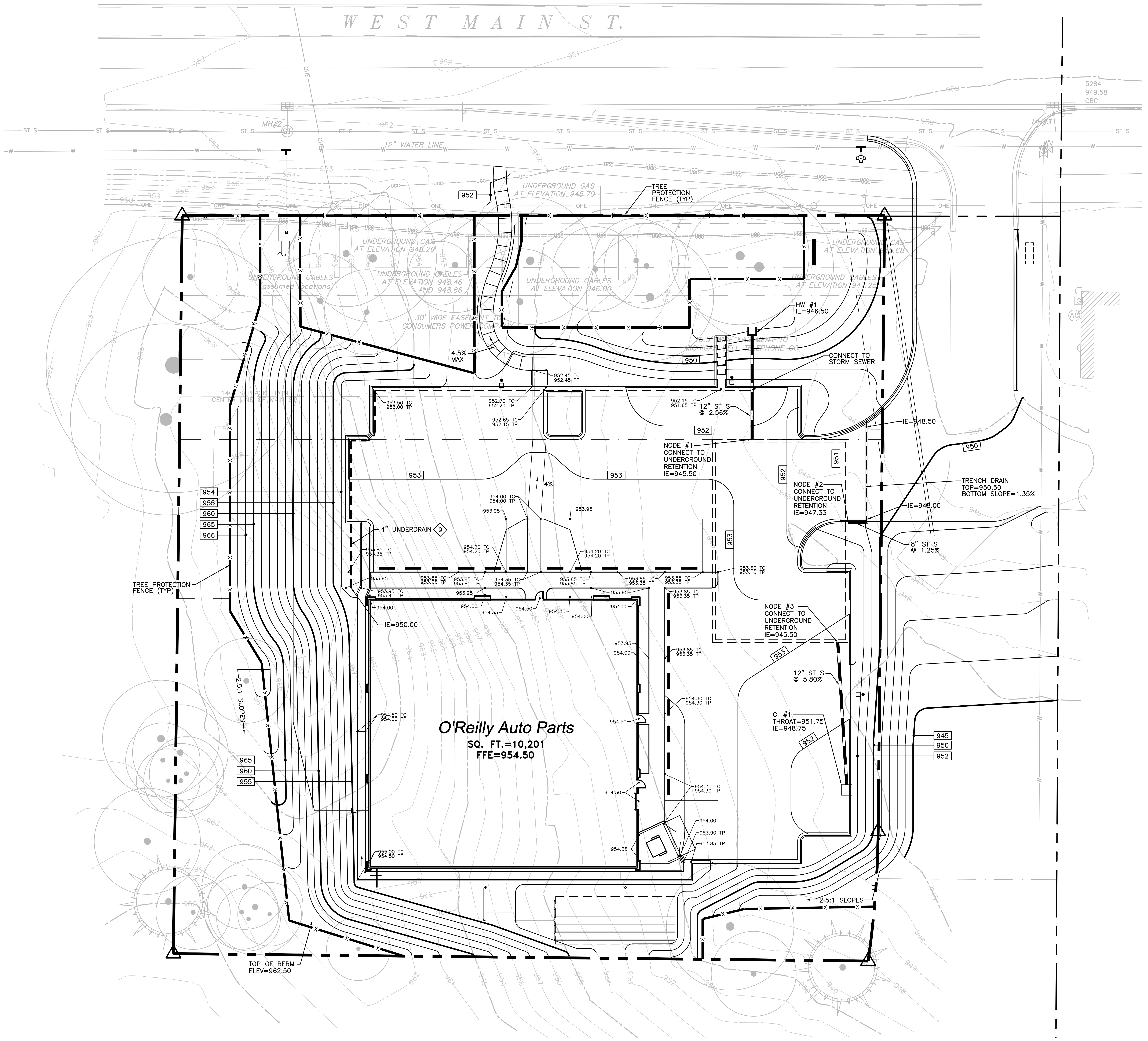
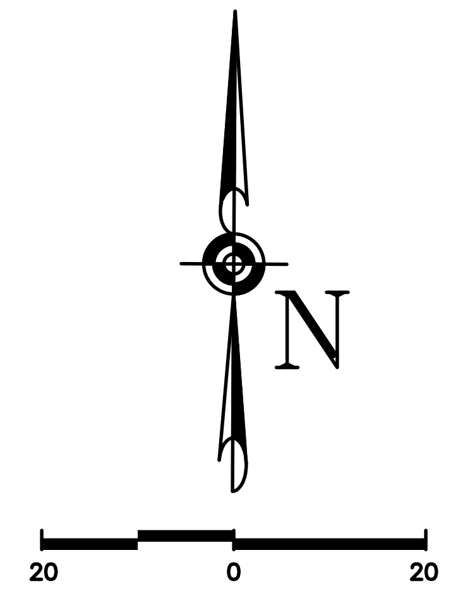
JOSEPH
PARSLEY
No.
6201066218
6/4/19

DRAWN	TGH
CHECKED	JSP
DATE	05/20/19
SCALE	1"=20'
JOB NAME	O'REILLY AUTO PARTS
SHEET	5 OF 20 SHEETS





LEGEND

—x—	– FENCE LINE
▬▭▬	– STORM SEWER
⊐	– HEADWALL
●XXX.XX	– SPOT ELEVATION
TC	– TOP OF CONCRETE
TP	– TOP OF PAVEMENT

◇ NOTES:

1. ALL DISTURBED AREAS ARE TO RECEIVE TWO INCHES OF TOPSOIL SOD AND/OR LANDSCAPING. WATER UNTIL A HEALTHY STAND OF GRASS IS OBTAINED. REFER TO PLANTING PLAN, THIS SET, FOR ADDITIONAL INFORMATION.
2. ACCEPTABLE STORM SEWER MATERIALS:
   1) CORRUGATED POLYETHYLENE (N–12)
   2) POLYVINYL CHLORIDE (PVC)
3. SLOPES WITHIN ALL ADA STALLS AND ACCESS AISLES SHALL NOT EXCEED 1:50 IN ALL DIRECTIONS.
4. SLOPE ON ALL ADA ACCESSIBLE ROUTES SHALL NOT EXCEED 1:20. CROSS SLOPE OF ADA ROUTES SHALL NOT EXCEED 1:50.
5. ELEVATION OF NEW PAVEMENT TO MATCH EXISTING.
6. THE CONTRACTOR SHALL HAVE ANY RIGHT–OF–WAY MONUMENTS LOCATED BY A LICENSED SURVEYOR PRIOR TO COMMENCEMENT OF GRADING ACTIVITIES WITHIN THE RIGHT–OF–WAY. ANY MONUMENTS WHICH ARE DESTROYED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED.
7. CONTRACTOR SHALL PLACE PRECAST CONCRETE SPLASH BLOCKS AT ALL DOWNSPOUT LOCATIONS.
8. BOTTOM OF POND SHALL BE FLAT AT ELEVATION 944 AND COVERED WITH 4" OF WASHED GRAVEL. IF CLAYEY SANDS HAVE NOT BEEN REMOVED AT ELEVATION 943.66, THE CONTRACTOR SHALL CONTINUE EXCAVATING UNTIL SANDS HAVE BEEN REACHED. EXCAVATED MATERIAL SHALL BE REPLACED WITH CLEAN SAND BACK TO ELEVATION 943.66. HEAVY EQUIPMENT SHALL NOT BE ALLOWED IN THE BOTTOM OF THE POND TO PREVENT COMPACTION OF THE NATIVE MATERIAL AND TO ALLOW STORMWATER TO INFILTRATE. SCARIFY 6" PRIOR TO PLACING 4" OF WASHED GRAVEL
9. 4" UNDERDRAIN AT A MINIMUM OF 0.50%. REFER TO DETAIL FOR ADDITIONAL INFORMATION.

PROPOSED DRAINAGE STRUCTURES

NODE	TOP ELEV.	THROAT	DRAIN AREAS (acres)	Q100 (cfs)
HW #1	NA	NA	0.84	2.99
TRENCH DRAIN	950.50	NA	0.10	0.79
CI #1	NA	951.75	0.61	4.43

DRAIN PIPE TABLE

PROPOSED STORMWATER PIPE TABLE

FROM NODE	INVERT	TO NODE	INVERT	LENGTH (feet)	SIZE (inches)	SLOPE (%)	Σ D.A. (acres)	ΣQ100 (cfs)	Qcap (cfs)	VELOCITY (fps)
HW #1	946.50	NODE #1	945.50	39'	12"	2.56%	0.84	2.99	5.70	7.34
TRENCH DRAIN	948.00	NODE #2	947.33	8'	8"	8.38%	0.10	0.79	3.50	10.02
CI #1	948.75	NODE #3	945.50	56'	12"	5.80%	0.61	4.43	8.17	10.63

MISS DIG System, Inc.

GRADING PLAN

PROJECT NAME:
O'REILLY AUTO PARTS

PREPARED BY:
CARLSON CONSULTING ENGINEERS
7068 LEDGESTONE COMMONS
BARTLETT, TN, 38133
(901) 384–0404

NO	REVISIONS

APPLICANT/DEVELOPER:
MARKETPLACE DEVELOPMENT, LLC
700 COLONIAL ROAD, SUITE 101
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O'REILLY AUTO PARTS

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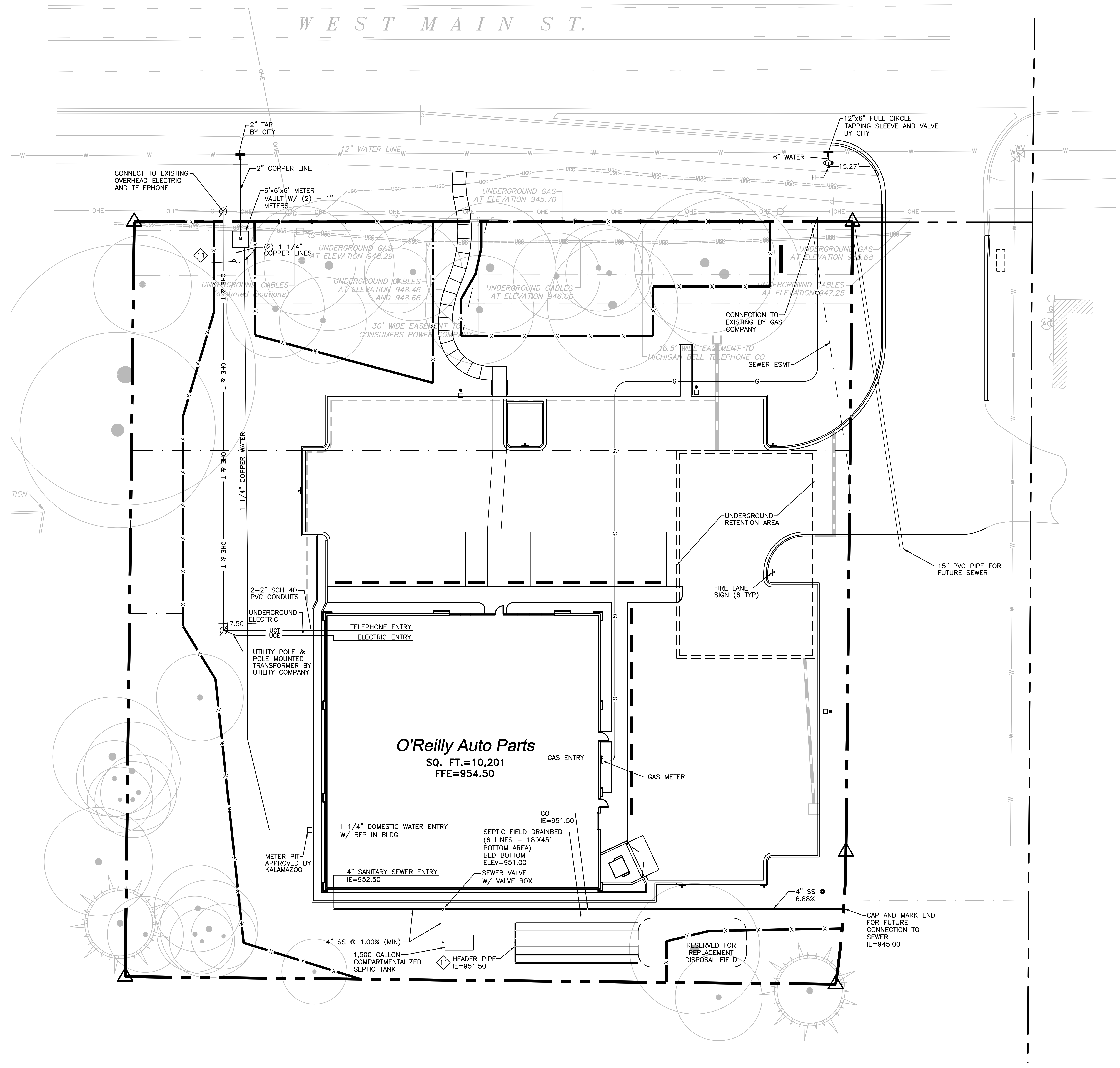
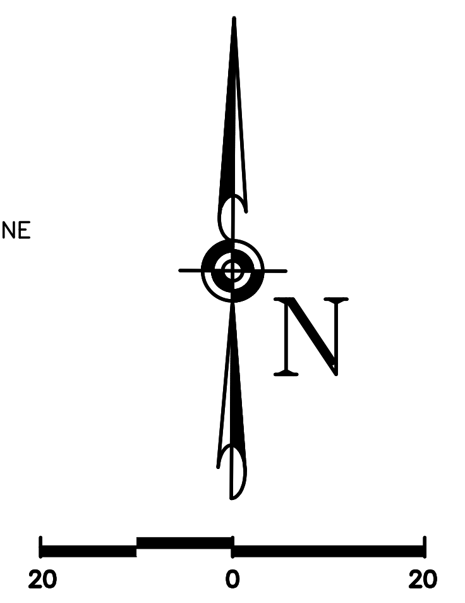


LEGEND

UGE & T — UNDERGROUND ELECTRIC & TELEPHONE
G — GAS LINE
— WATER LINE
═ — SANITARY SEWER
○ — CLEANOUT
— GAS METER
M — WATER METER



◇ NOTES:

1. CONTRACTOR SHALL VERIFY AS-BUILT INVERT ELEVATION AND AND ADVISE ENGINEER OF ANY DISCREPANCIES.
2. CONSTRUCTION SHALL NOT START ON ANY PUBLIC UTILITY SYSTEM UNTIL WRITTEN APPROVAL HAS BEEN RECEIVED FROM APPROPRIATE UTILITY COMPANIES AND CONTRACTOR HAS BEEN NOTIFIED.
3. CONTRACTOR SHALL NOT OPEN, TURN OFF, INTERFERE WITH, OR ATTACH ANY PIPE OR HOSE TO OR TAP ANY WATER MAIN BELONGING TO THE CITY UNLESS DULY AUTHORIZED TO DO SO BY THE CITY. ANY ADVERSE CONSEQUENCES OF ANY SCHEDULED OR UNSCHEDULED DISRUPTIONS OF SERVICE TO THE PUBLIC ARE TO BE THE LIABILITY OF THE CONTRACTOR.
4. ALL NECESSARY INSPECTIONS, APPROVALS, AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR AUTHORITIES SHALL BE COMPLETED PRIOR TO ANNOUNCED BUILDING POSSESSION POSSESSION AND THE FINAL CERTIFICATION OF SERVICES.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING CONDUIT FOR UNDERGROUND UTILITIES AND APPURTENANCES AS PER THE UTILITY COMPANY REQUIREMENTS.
6. CONTRACTOR SHALL COORDINATE WITH WATER COMPANY FOR REQUIREMENTS OF DOMESTIC ENTRY. ALL APPURTENANCES SUCH AS VALVES, BACKFLOW PREVENTION DEVICES, METER BOXES AND/OR METERS REQUIRED BUT NOT PROVIDED BY THE WATER COMPANY SHALL BE PURCHASED BY THE CONTRACTOR AND INSTALLED PER THE WATER COMPANY'S REQUIREMENTS.
7. MAINTAIN A MINIMUM 10' HORIZONTAL AND 18" VERTICAL SEPARATION AT ALL WATER AND SEWER CROSSINGS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ANY UTILITY COMPANY WHICH MAINTAINS A UTILITY LINE WITHIN THE BOUNDARIES OF THE PROJECT PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL ASSUME THE RESPONSIBILITY FOR ANY DAMAGE, INCURRED BY ANY UTILITY COMPANY, TO THEIR LINES AS A RESULT OF HIS ACTIVITIES, WHETHER THESE LINES ARE SHOWN ON THE CONSTRUCTION PLANS OR NOT.
9. ALL UTILITY CONSTRUCTION SHALL CONFORM WITH THE MOST STRINGENT REQUIREMENTS OF THE UTILITY COMPANY OR THE PROJECT SPECIFICATIONS.
10. CONTRACTOR SHALL REFER TO BUILDING PLAN FOR EXACT BUILDING UTILITY ENTRY LOCATIONS.
11. REFER TO IRRIGATION PLAN FOR CONTINUATION OF THESE LINES.
12. VALVE ON SEWER EXTENTION SHALL REMAIN CLOSED UNTIL CONNECTED TO GRAVITY SEWER.
13. ELECTRIC POLE LOCATION CAN BE ADJUSTED SLIGHTLY TO AVOID DAMAGING EXISTING GAS MAIN.

UTILITY SERVICE NOTES:

GAS SERVICE

- CONSUMERS ENERGY TO PROVIDE NEW GAS LINE FROM EXISTING SERVICE UP TO AND INCLUDING SETTING OF GAS METERS.

CONTACT: JACOB TONEY, CONSUMERS ENERGY
TELEPHONE: (269) 969-8629

ELECTRIC SERVICE

- CONSUMERS ENERGY TO PROVIDE AND INSTALL NEW POLES AND POLE MOUNTED TRANSFORMER
- CONTRACTOR SHALL PROVIDE AND INSTALL ALL CONDUITS AND CABLES FROM RISER POLE UP TO THE BUILDING ENTRY LOCATION.

CONTACT: JACOB TONEY, CONSUMERS ENERGY
TELEPHONE: (269) 969-8629

TELEPHONE SERVICE

- AT&T TO PROVIDE CABLES, APPURTENANCES, ETC. FROM CONNECTION TO EXISTING SERVICE UP TO PHONE PANEL BOARD INSIDE BUILDINGS.
- PROVIDE AND INSTALL 2-2" SCHEDULE 40 PVC CONDUITS WITH PULL ROPE, INCLUDING ALL TRENCHING AND BACKFILLING, FROM THE NEW POLE TO THE BUILDING.

CONTACT: CHRIS O'BRIEN, AT&T
TELEPHONE: (269) 926-0232

WATER SERVICE

- CITY OF KALAMAZOO PUBLIC WORKS WILL INSTALL THE TAPS FOR THE DOMESTIC, IRRIGATION, AND FOR THE FIRE HYDRANT.
- CITY OF KALAMAZOO PUBLIC WORKS WILL INSTALL THE METERS FOR THE DOMESTIC AND IRRIGATION.
- CONTRACTOR WILL BE RESPONSIBLE FOR ALL EXCAVATION, INSTALLATION OF WATER LINES, BACKFLOW PREVENTERS, AND APPURTENANCES. CONTRACTOR SHALL ALSO PROVIDE ALL BACKFILL AND COMPACTION REQUIRED TO MEET THE PLANS AND SPECIFICATIONS.

CONTACT: ANNA CRANDALL
TELEPHONE: (269) 337-8055

SANITARY SEWER

- CONTRACTOR TO PROVIDE AND INSTALL ALL SANITARY SEWER LINE, SEPTIC TANK, AND APPURTENANCES SHOWN
- KALAMAZOO COUNTY HEALTH AND COMMUNITY SERVICES DEPARTMENT WILL BE REQUIRED TO INSPECT THE FOLLOWING ITEMS IN ORDER TO APPROVE THE INSTALLATION:
  - ALL SEWER LINES
  - SEPTIC TANK
  - ABSORPTION DRAINBED
  - FINAL COVER OVER ENTIRE SYSTEM

CONTACT: MARK THOMAS, KALAMAZOO COUNTY GOVERNMENT
TELEPHONE: (269) 373-5342

MISS DIG System, Inc.

UTILITY PLAN

PROJECT NAME:
O'REILLY AUTO PARTS

PREPARED BY:
CARLSON CONSULTING ENGINEERS
7068 LEDGESTONE COMMONS
BARTLETT, TN, 38133
(901) 384-0404

NO	REVISIONS

APPLICANT/DEVELOPER:
MARKETPLACE DEVELOPMENT, LLC
700 COLONIAL ROAD, SUITE 101
MEMPHIS, TN 38117
(901) 210-2922

O'REILLY
AUTO PARTS
OSHTEMO TOWNSHIP, MI

CARLSON
CONSULTING
ENGINEERS, INC.
7068 Ledgestone Commons
Bartlett, TN 38133
Phone (901) 384-0404
Fax (901) 384-0710
Michigan Registered Engineering Firm Qualified

JOSEPH PARSLEY
ENGINEER
No. 6201066218
6/4/19

DRAWN
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CHECKED
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DATE
05/20/19
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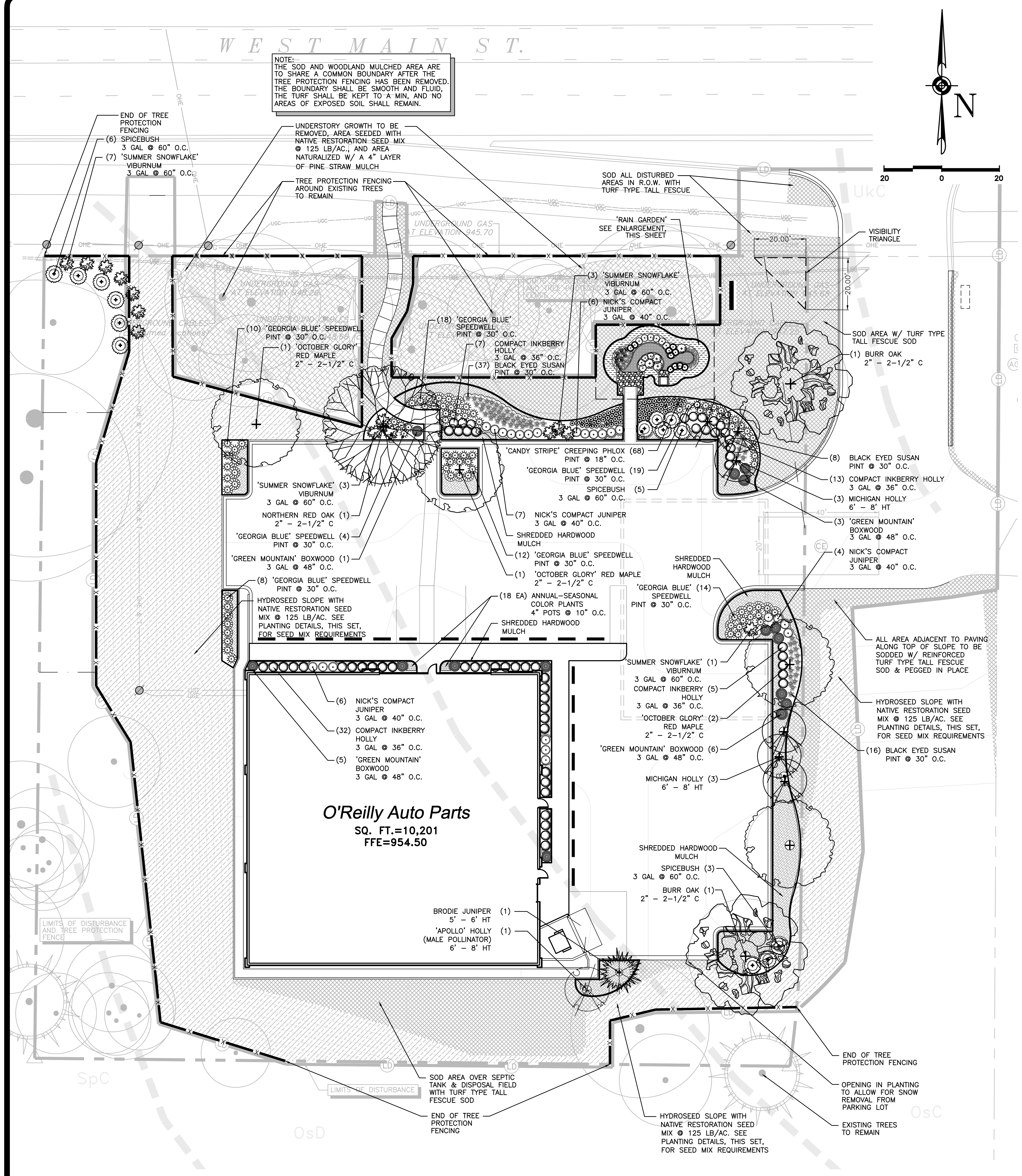
1"=20'
JOB NAME
O'REILLY AUTO PARTS
SHEET
10 OF 20 SHEETS



NOTICE TO CONTRACTOR:

TESTING OF ALL TOPSOIL SHALL BE APPROVED BY THE CEC AND LANDSCAPE ARCHITECT PRIOR TO ANY FINAL PLACEMENT OF MATERIAL ONSITE. TOPSOIL THAT DOES NOT COMPLY WITH THE PROJECT SPECIFICATIONS SHALL NOT BE APPROVED. CONTRACTOR SHALL AMEND OR REPLACE TOPSOIL AS NECESSARY TO ENSURE COMPLIANCE WITH PROJECT SPECIFICATIONS.

SOD SHALL BE PEGGED ON ALL SLOPES IN ORDER TO HOLD SOD IN PLACE. SEE SITEWORK SPECIFICATIONS FOR OTHER REQUIREMENTS.

ALL UNSURFACED AREAS SHALL RECEIVE A 4" LAYER OF SUITABLE TOPSOIL AND GRASS SEED. WATER UNTIL A HEALTHY STAND OF GRASS IS OBTAINED

UNLESS SHOWN OTHERWISE, ALL LARGE CANOPY TREES SHALL MAINTAIN 25' HORIZONTAL CLEARANCE FROM ALL OVERHEAD UTILITY LINES AND 6' HORIZONTAL CLEARANCE FROM ALL UNDERGROUND UTILITY LINES.

DESIGN NOTES:

PRESERVATION OF EXISTING TREES:

ROUGHLY 10,850 S.F OF EXISTING NATIVE VEGETATION (14.7% OF SITE) ALONG THE ENTIRE WESTERN BOUNDARY HAS BEEN PRESERVED. INCLUDED WITHIN THIS BUFFER ARE (13) TREES BETWEEN 12" DBH AND 18" DBH. THE PRESERVED TREES TOTAL 190 CAILPER INCHES. THE TREE PRESERVATION CREDITS FOR ALLOTTED FOR THE TREES WITHIN THIS BUFFER MEET THE STREET FRONTAGE AND SIDE BUFFER TREE REQUIREMENTS FOR THE ENTIRE PROJECT.

STREET FRONT PLANTING:

THE ENTIRE WIDTH OF THE TYPE-C FRONTAGE BUFFER IS WITHIN A DEDICATED 30' WIDE 'CONSUMERS POWER COMPANY' ELECTRICAL EASEMENT. THIS CONFLICTS 30' WIDE 'CONSUMERS POWER COMPANY' ELECTRICAL EASEMENT. THIS CONFLICTS PLACEMENT WAS PROVIDED IN COORDINATION WITH THE EXISTING TREE PRESERVATION. NATIVE SHRUB PLANTINGS WERE INCLUDED WITHIN THE BUFFER.

UNDULATIONS TO THE PROPOSED TOPOGRAPHY WERE ADDED AS POSSIBLE TO PROPOSED GRADING OF THE STREET FRONTAGE AND TO SOFTEN THE EDGES OF THE DETENTION BASIN.

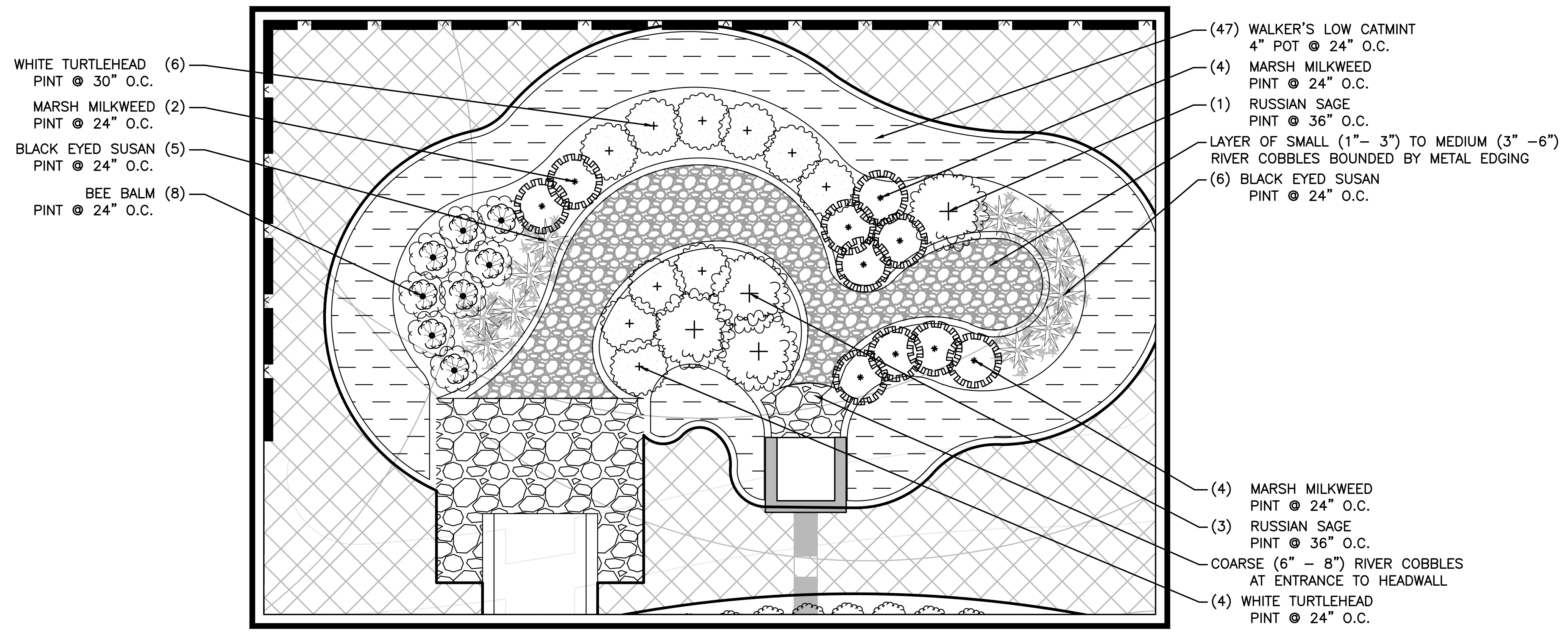
KALAMAZOO COUNTY PRE-SETTLEMENT VEGETATION:

THE KALAMAZOO COUNTY/PRE-SETTLEMENT VEGETATION FOR THE SITE WAS AN: "OAK SAVANNAH". DOMINANT SPECIES WAS BURR OAK, WHICH IS INCLUDED. ALL OF THE EIGHT TREE SPECIES USED (100%) ARE NATIVE OR NATIVE DERIVATIVES OF THE TREES INDIGENOUS TO MICHIGAN AND/OR WITHIN THE "OAK SAVANNAH" COMPLEX.

3 OF THE 5 SHRUB SPECIES USED (60.0%) ARE NATIVE OR NATIVE DERIVATIVES TO SOUTHWEST MICHIGAN.

3 OF THE 3 GROUND COVER SPECIES USED (100.0%) ARE NATIVE OR NATIVE DERIVATIVES TO SOUTHWEST MICHIGAN.

THE NATIVE RESTORATION SEED MIX INCLUDES 25 INDIVIDUAL SPECIES OF GRASSES AND WILDFLOWERS THAT ARE NATIVE TO THE MIDWEST AND TO SOUTHWEST MICHIGAN.



RAINGARDEN ENLARGEMENT

SCALE= 1" = 5'-0"

PLANT SCHEDULE

NOTE: ALL SIZES AND CONDITION OF NURSERY STOCK SHALL MEET THE STANDARDS ESTABLISHED IN THE LATEST EDITION OF "AMERICAN STANDARD FOR NURSERY STOCK" PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.

QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE (BOTH MIN'S TO BE MET)	SPACING	CONDITION	REMARKS
TREES:							
4	⊙	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	2" – 2-1/2" C / 12' – 14' HT	AS SHOWN	B&B/CONT	FULL HEAD w/UNIFORM GROWTH
6		ILEX VERTICILLATA	MICHIGAN HOLLY	MULTI-TRUNKED / 6' – 8' HT	AS SHOWN	B&B/CONT	FULL HEAD w/UNIFORM GROWTH
1		ILEX VERTICILLATA 'APOLLO'	'APOLLO' (MALE POLLINATOR) HOLLY	MULTI-TRUNKED / 6' – 8' HT	AS SHOWN	B&B/CONT	FULL HEAD w/UNIFORM GROWTH
1		JUNIPERUS VIRGINIANA 'BRODIE'	'BRODIE' JUNIPER	5' – 6' HT/ FULL TO GROUND	AS SHOWN	B&B/CONT	FULL HEAD w/UNIFORM GROWTH
2		QUERCUS MACROCARPA	BURR OAK	2" – 2-1/2" C / 12' – 14' HT	AS SHOWN	B&B/CONT	STRONG CENTRAL LEADER, FULL ROUND HEAD
1		QUERCUS RUBRA	NORTHERN RED OAK	2" – 2-1/2" C / 12' – 14' HT	AS SHOWN	B&B/CONT	STRONG CENTRAL LEADER, FULL ROUND HEAD
SHRUBS:							
15	◎	BUXUS X 'GREEN MOUNTAIN'	'GREEN MOUNTAIN' BOXWOOD	3 GAL / 18" HT MIN	48" O.C.	B&B/CONT	ROUND, FULL HEAD
57	○	ILEX GLABRA 'COMPACTA'	COMPACT INKBERRY HOLLY	3 GAL / 18" HT MIN	36" O.C.	CONT	ROUND, FULL HEAD
23	⊙	JUNIPERUS CHINENSIS 'PFITZERIANA NICK'S COMPACTA'	NICK'S COMPACT JUNIPER	3 GAL / 18" HT MIN	40" O.C.	CONT	ROUND, FULL HEAD
14	◉	LINDERA BENZOIN	SPICEBUSH	3 GAL / 18" HT MIN	60" O.C.	CONT	ROUND, FULL HEAD
14		VIBURNUM PLICATUM TOMENTOSUM 'SUMMER SNOWFLAKE'	'SUMMER SNOWFLAKE' VIBURNUM	3 GAL / 18" HT MIN	60" O.C.	CONT	ROUND, FULL HEAD
RAIN GARDEN:							
10	⊙	ASCLEPIAS	MARSH MILKWEED	PINT	24" O.C.	CONT	ROUNDED, FULL, UNIFORM GROWTH
11		RUDBECKIA FULGIDA 'GOLDSTURM'	BLACK EYED SUSAN	PINT	30" O.C.	CONT	ROUND, FULL HEAD
4	⊕	PEROVSKIA ATRIPLICIFOLIA	RUSSIAN SAGE	PINT	36" O.C.	CONT	ROUNDED, FULL, UNIFORM GROWTH
8		MONARDA	BEE BALM	PINT	24" O.C.	CONT	ROUNDED, FULL, UNIFORM GROWTH
10	⊙	CHELONE GLABRA	WHITE TURTLEHEAD	PINT	30" O.C.	CONT	ROUNDED, FULL, UNIFORM GROWTH
47	▤	NEPETA X FAASSENII 'WALKER'S LOW'	WALKER'S LOW CATMINT	4" POT / 3 – 4 " HT	24" O.C.	CONT	ROUNDED, FULL, UNIFORM GROWTH
GROUNDCOVER:							
36	▨	ANNUAL COLOR – (PANSY/VINCA – BLUE-PUR/WHT) SELECTION TO BE BASED UPON SEASON	SEASONAL COLOR	4" – 6" HT/ 4" POTS OR CELL PACKS	10" O.C.	CELL PACK	COLOR TO BE LAYERED AT TIME OF INSTALLATION. WHITE IN FRONT, MIXED BLUE COLOR BLEND BEHIND.
FILL AREA	▨	FESTUCA ARUNDINACEA	TALL FESCUE SOD	SOLID SOD	SOLID	SLAB/ROLL	WEED FREE & ACTIVELY GROWING
68	⊙	PHLOX SUBULATA 'CANDY STRIPE'	'CANDY STRIPE' CREEPING PHLOX	PINT	18" O.C.	CONT	FULL CONTAINER, UNBROKEN RUNNERS
FILL AREA	▨	3" LAYER OF (2" – 4") RIVER COBBLE LANDSCAPE STONE (LOCATED IN RAIN GARDEN)					
61		RUDBECKIA FULGIDA 'GOLDSTURM'	BLACK EYED SUSAN	PINT	30" O.C.	CONT	ROUND, FULL HEAD
85		VERONICA PENDUNCULARIS 'GEORGIA BLUE'	'GEORGIA BLUE' SPEEDWELL	PINT	30" O.C.	CONT	FULL CONTAINER, UNBROKEN RUNNERS
FILL AREA	▨	'NATIVE RESTORATION' SEED MIX	CUSTOM BLEND – SLOPES	MIX – 125#/AC	SOLID	SEED	SEE NOTES FOR SEE MIX
FILL AREA	▨	SHREDDED HARDWOOD MULCH	DOUBLE HAMMERED	4" MINIMUM DEPTH AFTER SETTLING	FILL AREA	BULK	BROWN COLOR

NOTE: SYMBOLS SHOWN IN TABLE ABOVE ARE FOR SPECIES IDENTIFICATION ONLY. PLANT SIZE SHOWN IN THE TABLE IS NOT INTENDED TO BE REPRESENTATIVE OF THE PLANT AT EITHER INSTALLATION OR MATURITY. SIZE OF SYMBOL SHOWN IN TABLE ABOVE MAY VARY FROM THOSE SHOWN ON PLANS.

NOTE: NO SUBSTITUTIONS OF PLANT MATERIALS ARE ALLOWED WITHOUT THE PRIOR APPROVAL OF THE LANDSCAPE ARCHITECT.

SOIL TYPE DESCRIPTIONS:

OsC:	OSHTEMO SANDY LOAM	6% – 12% SLOPES	NON-HYDRIC
OsD:	OSHTEMO SANDY LOAM	12% – 18% SLOPES	NON-HYDRIC
SpC:	SPINKS LOAMY SAND	6% – 12% SLOPES	NON-HYDRIC
UkC:	URBAN LAND-KALAMAZOO COMPLEX	6% – 12% SLOPES	NON-HYDRIC

MISS DIG System, Inc.

PLANTING PLAN

PROJECT NAME:
O'REILLY AUTO PARTS
PREPARED BY:
CARLSON CONSULTING ENGINEERS
7068 LEDGESTONE COMMONS
BARTLETT, TN, 38133
(901) 384-0404

NO	REVISIONS

APPLICANT/DEVELOPER:
MARKETPLACE DEVELOPMENT, LLC
700 COLONIAL ROAD, SUITE 101
MEMPHIS, TN 38117
(901) 210-2922

O'REILLY
AUTO PARTS
OSHTEMO TOWNSHIP, MI

CARLSON
CONSULTING
ENGINEERS, INC.
7068 Ledgestone Commons
Bartlett, TN 38133
Phone (901) 384-0404
Fax (901) 384-0710
Michigan Registered Engineering Firm Qualified

CHARLES WALKER
3901001739
Jan 4.19

DRAWN
TGH
CHECKED
JSP
DATE
05/20/19
SCALE
1" = 20'
JOB NAME
O'REILLY AUTO PARTS
SHEET
11 OF 20 SHEETS

EXTERIOR LIGHT FIXTURE SCHEDULE

ALL ITEMS LISTED ON THE "LIGHT FIXTURE SCHEDULE" WILL BE SUPPLIED BY THE OWNER (O'REILLY). ITEMS SHALL BE DIRECT ORDERED AND OR RELEASED FROM THE LISTED ELECTRICAL EQUIPMENT DISTRIBUTOR:

GRAYBAR ELECTRIC CO. INC.
11885 LACKLAND ROAD
ST. LOUIS, MO 63146

GRAYBAR OREILLY TEAM
EMAIL: oreilly@graybar.com
TOLL FREE: (314) 573–2080

MARK	MFR.	CATALOG NUMBER	SUPPLY VOLTAGE	FINISH	MOUNTING			LAMPS				WATTAGE	NOTES	FIXTURE QUANTITY
								TYPE						
					SURFACE WALL	SURF. CEILING	OTHER	FLOURESCENT	LED	OTHER	QUANTITY			
LED EXTERIOR LIGHTS														
WS1	LSI	XWM–FT–LED–06L–50–UE–BRZ NO SUBSTITUTIONS	120	DARK BRONZE	X				X		1	59	FULL CUT–OFF, BUG RATING B1–U0–G1. ARCHITECTURAL ELEVATIONS SHOW DIMENSIONED LOCATIONS.	5
WS2	LSI	XWM–FT–LED–03L–50–UE–BRZ NO SUBSTITUTIONS	120	DARK BRONZE	X				X		1	29	FULL CUT–OFF, BUG RATING B1–U0–G1 ARCHITECTURAL ELEVATIONS SHOW DIMENSIONED LOCATIONS.	1
LED POLE LIGHTS														
P1	LSI LSI	MRM–LED–18L–SIL–FT–UNV–DIM–50–80CRI–BRZ–IL 5SQB3–S11G–**22**–S–BRZ–LAB–5BC	120	DARK BRONZE			X		X		1	154	**22'** POLE LENGTH, ADVANCE BALLASTS, FULL CUT–OFF, NO SUBSTITUTIONS. ANCHOR BOLTS W/HARDWARE & TEMPLATE. WITH INTERNAL LOUVER HOUSE SIDE SHIELD BUG RATING B2–U0–G3	1
P2	LSI LSI	MRM–LED–18L–SIL–3–UNV–DIM–50–80CRI–BRZ–IL 5SQB3–S11G–**22**–S–BRZ–LAB–5BC	120	DARK BRONZE			X		X		1	154	**22'** POLE LENGTH, ADVANCE BALLASTS, FULL CUT–OFF, NO SUBSTITUTIONS. ANCHOR BOLTS W/HARDWARE & TEMPLATE. WITH INTERNAL LOUVER HOUSE SIDE SHIELD BUG RATING B1–U0–G3	2

FIXTURE QUANTITY TO BE VERIFIED WITH SITE PLAN QUANTITY

AUTOMATIC LIGHTING CONTROL

COMPLIANCE WITH ENERGY CODE IS ACHIEVED BY:

1. ONCE THE EMS HAS BEEN PROGRAMMED, THE INTERIOR AND EXTERIOR LIGHTS WILL TURN ON AND OFF USING THE FOLLOWING LOGIC: SEE EM SHEETS.

   INTERIOR WORK LIGHTS WILL TURN ON WITH FIRST MOTION IN THE STORE AND WILL TURN OFF 15 MINUTES AFTER LAST MOTION ONCE THE STORE IS CLOSED.

   INTERIOR SALES LIGHTS WILL TURN ON AT STORE OPENING AND TURN OFF 15 MINUTES AFTER STORE CLOSING.

   EXTERIOR SIGN LIGHTS WILL TURN ON WHEN ITS DARK ENOUGH OUTSIDE ANYTIME DURING STORE HOURS, AND WILL TURN OFF AT STORE CLOSING.

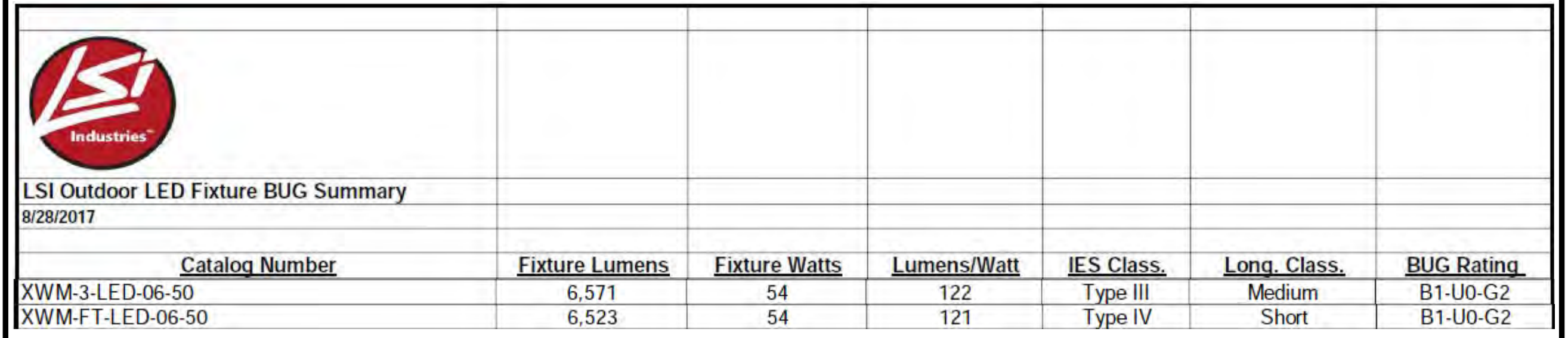
   EXTERIOR SITE LIGHTS WILL TURN ON WHEN IT IS DARK ENOUGH OUTSIDE AND IT IS WITHIN STORE HOURS OR THERE IS MOTION IN THE STORE. THEY WILL TURN OFF 30 MINUTES AFTER LAST MOTION ONCE THE STORE IS CLOSED.

   FOR NEW CONSTRUCTION LOCATIONS ONLY, THERE IS A TEMPORARY PROGRAM TO KEEP SIGN AND SITE LIGHTS ON UNTIL MIDNIGHT RATHER THAN THE TIMES INDICATED ABOVE. O'REILLY WILL DISABLE THIS PROGRAM ONE YEAR AFTER STORE OPENING.

2. RESTROOMS AND OFFICES: ALL LIGHTING IN THESE AREAS ARE CONTROLLED BY OCCUPANT–SENSING DEVICES.

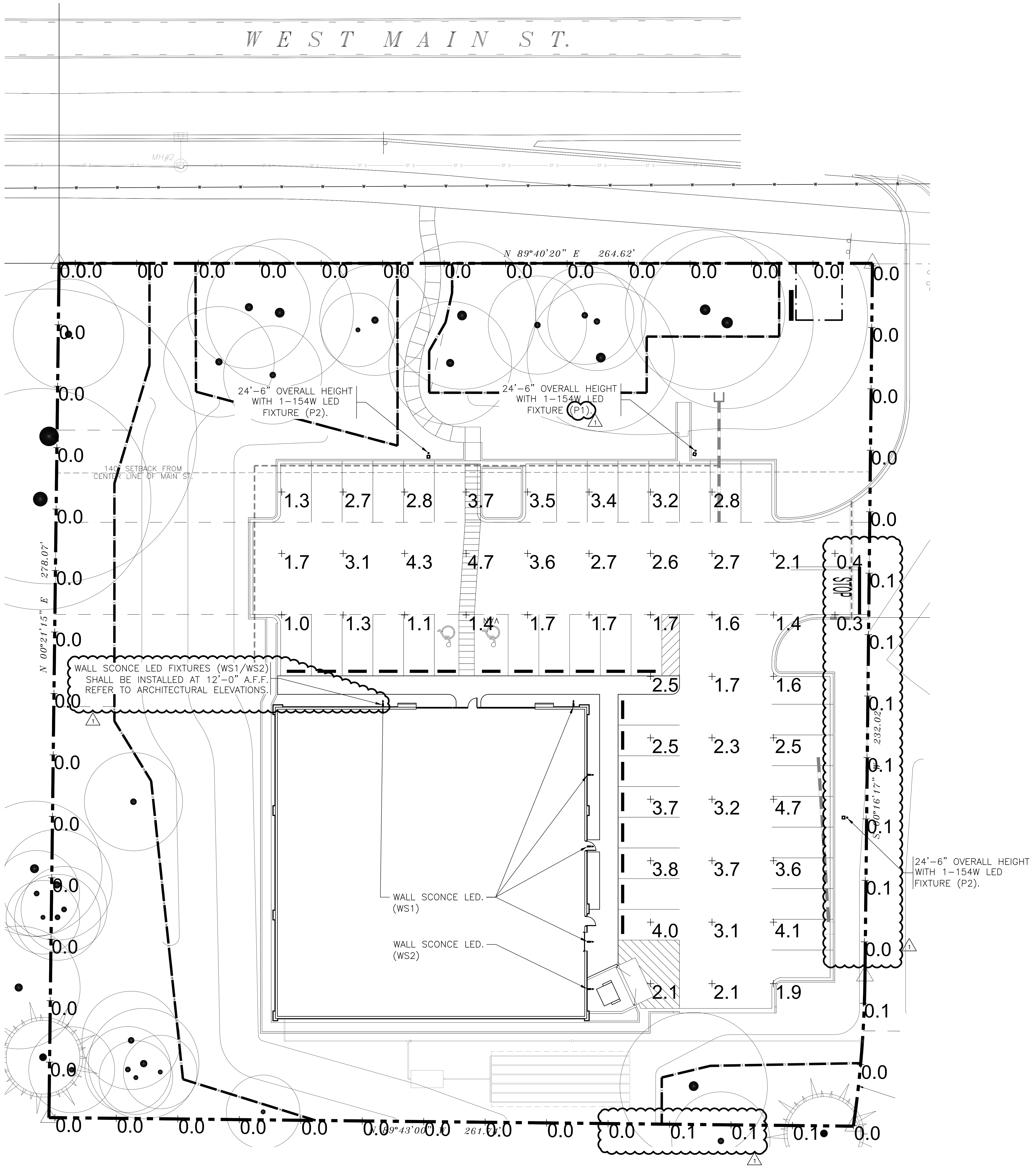
BACKLIGHT-UPLIGHT-GLARE (BUG) RATING / FULL CUTOFF

SEE CUT–SHEET ON SP SHEETS AND SCHEDULE BELOW FOR EXTERIOR LIGHT FIXTURES. ALL OF THE LSI MRM & XWM LED FIXTURES HAVE ZERO UPLIGHT AND ARE CONSIDERED "FULL CUT OFF" AND DARKSKY COMPLIANT". SP SHEETS AND BELOW DELIVERED LUMENS SCHEDULE HAS "BUG" RATINGS, AS TESTED TO IDENTIFY HOW MUCH OF THE LIGHT GOES BACKWARDS, UPWARDS AND TO THE GROUND. THE CHART SHOWS THAT THESE FIXTURES HAVE BUG RATINGS WITH (UPLIGHT) U = 0.



LSI Outdoor LED Fixture BUG Summary
8/28/2017

Catalog Number	Fixture Lumens	Fixture Watts	Lumens/Watt	IES Class.	Long. Class.	BUG Rating
XWM-3-LED-06-50	6,571	54	122	Type III	Medium	B1-U0-G2
XWM-FT-LED-06-50	6,523	54	121	Type IV	Short	B1-U0-G2



SITE LIGHTING PHOTOMETRICS

SCALE: 1"=20'

N

ENGINEER OF RECORD
BRENT L. COURTER
ENGINEER LICENSE NUMBER
6201059955
5/15/19

SHEETS BEARING THIS SEAL ARE AUTHENTICATED, RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS OR INSTRUMENTS ARE DISCLAIMED.

SGE
SMITH-GOTH ENGINEERS, INC.
3855 S. JEFFERSON AVE. P: 417-882-2200
SPRINGFIELD, MO 65807 F: 417-882-1188
WWW.SMITHGOTH.COM

PROJECT:
NEW O'REILLY AUTO PARTS STORE
6297 W. MAIN ST.
OSHTEMO TOWNSHIP, MI 49009

SITE LIGHTING PHOTOMETRICS

O'Reilly AUTO PARTS
CORPORATE OFFICES
233 SOUTH PATTERSON
SPRINGFIELD, MISSOURI 65802
(417) 862-2674 TELEPHONE

DRAWN BY:	CHECKED BY:
CEV	AT/BC

DATE:
02/12/19

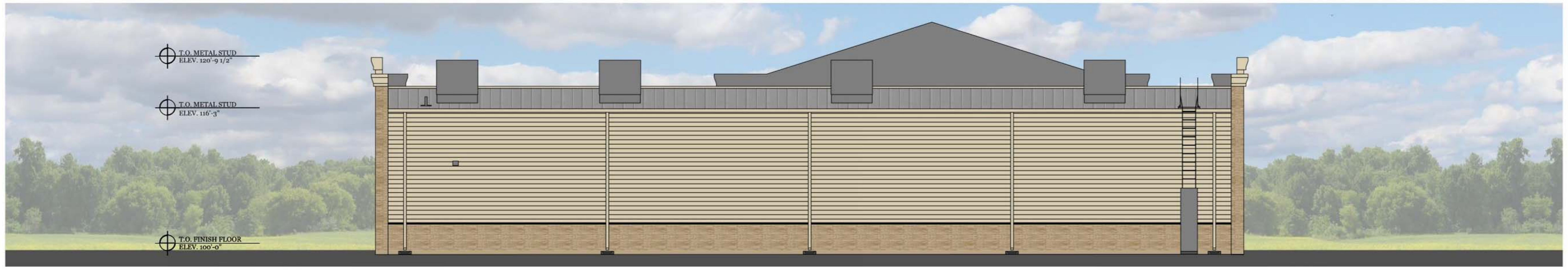
REVISION:
△1 **ADD001 5/15/19**

PROJECT NUMBER:

SHEET NUMBER
SP1

1 FRONT ELEVATION

2 RIGHT SIDE ELEVATION



3 BACK ELEVATION

4 LEFT SIDE ELEVATION

Exterior Finish Legend

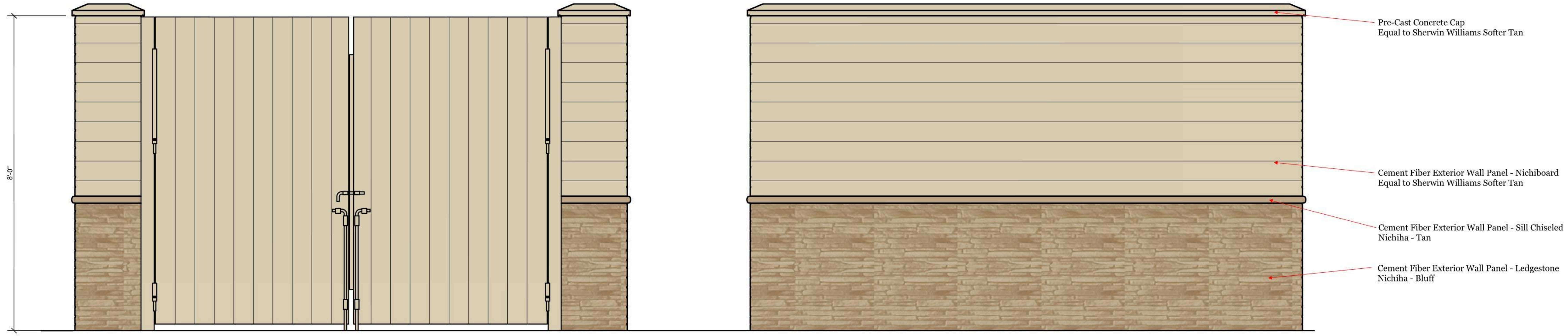
🟥	EIFS (Exterior Insulation and Finish System) Sherwin Williams "Positive Red" SW6871
🟨	EIFS (Exterior Insulation and Finish System) Sherwin Williams "Softer Tan" SW6141
🟥	Sheet Metal Cap Flashing Sherwin Williams "Positive Red" SW6871
🟨	Sheet Metal Cap Flashing Sherwin Williams "Softer Tan" SW6141
⬛	Standing Seam Metal Roof System Galvalume
🟨	Egress Doors, Overhead Door, and Frames Sherwin Williams "Softer Tan" SW6141
⬜	Sheet Metal Cap Flashing, Trim, Gutters, and Downspouts "Cool Birch White"
🟥	Bollards Sherwin Williams "Hunt Club" SW6468
1014	Aluminum and Glass Storefront System Efco "Ivy", Kawneer "Dark Ivy", or Vista Wall Sherwin Williams "Interstate Green" SW6468 (6" Address Number - White)
▤	Fiber Cement Lap Siding
🟫	Cement Fiber Exterior Wall Panel - Ledgestone Nichiha - Bluff

tdp torgerson DESIGN partners
ARCHITECTURE PLANNING MANAGEMENT
116 NORTH 2ND AVENUE ~ OZARK, MISSOURI 65721
PHONE: 417-581-8889 ~ FAX: 417-581-9002

OSHTEMO TOWNSHIP, MI (OTP)
O'REILLY BTS

ELEVATION RENDERINGS - NOT TO SCALE

O'Reilly AUTO PARTS®



5 MASONRY SCREEN FENCE REFUSE ENCLOSURE ELEVATIONS

SCALE: 3/4" = 1'-0"

torgerson
DESIGN
partners

ARCHITECTURE PLANNING MANAGEMENT
116 NORTH 2ND AVENUE ~ OZARK, MISSOURI 65721
PHONE: 417-581-8889 ~ FAX: 417-581-9002

Oshemo Township, MI (OTP)
O'REILLY BTS

ELEVATION RENDERINGS - NOT TO SCALE

O'Reilly AUTO PARTS®