

PLANT 12 NEW BUILDING & PARKING LOT

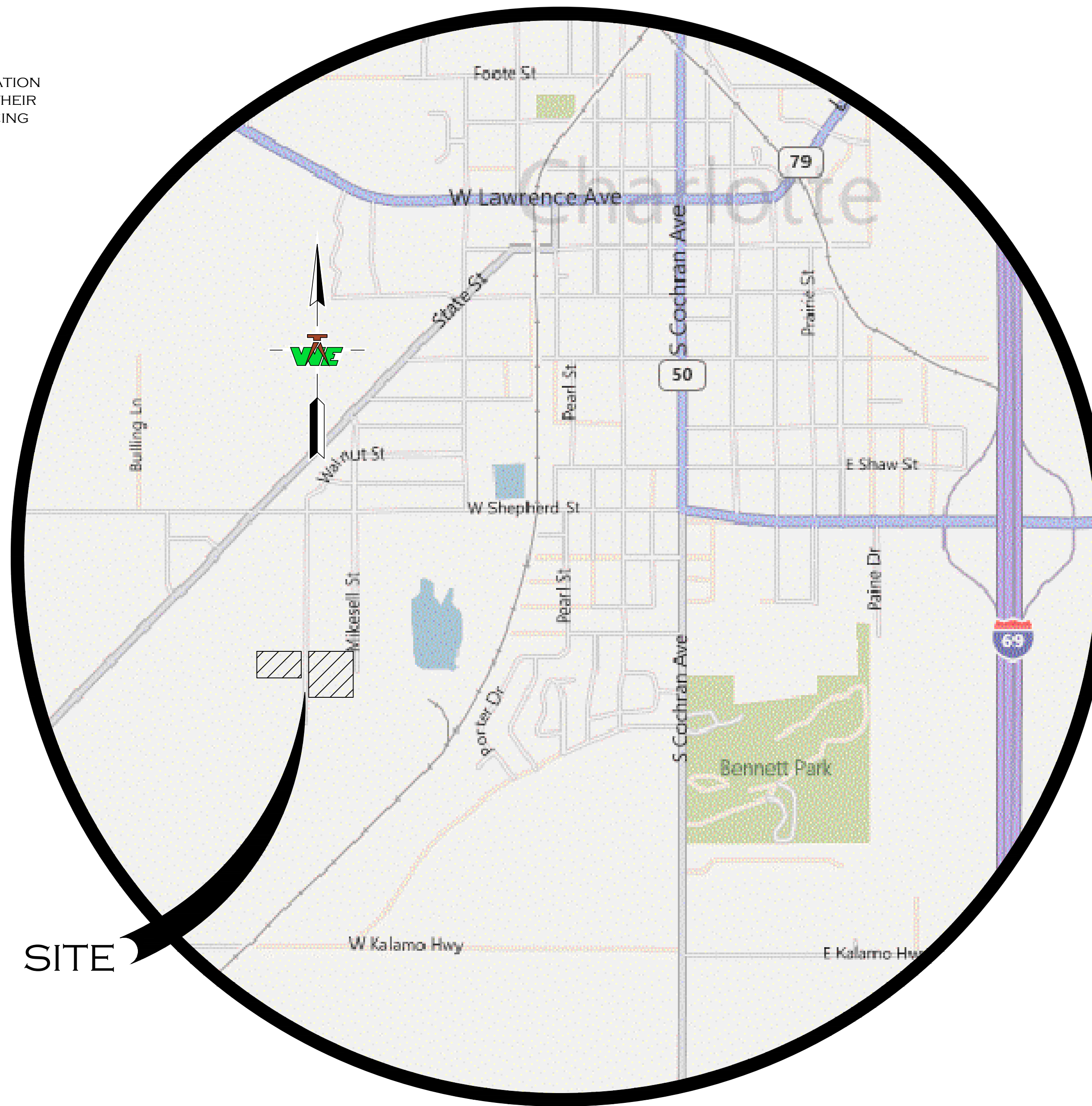
SECTION 24, CITY OF CHARLOTTE EATON COUNTY, MICHIGAN

PUBLIC UTILITIES

THE EXISTING UTILITIES LISTED BELOW AND SHOWN REPRESENT THE BEST INFORMATION AVAILABLE AS OBTAINED FROM SERVICE PROVIDER AND FIELD OBSERVATION. THIS INFORMATION DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO SATISFY HIMSELF AS TO THEIR ACCURACY OR OF HIS RESPONSIBILITY TO NOTIFY THE PROPER UTILITIES BEFORE COMMENCING WORK. THE FOLLOWING UTILITIES ARE LOCATED IN OR NEAR THE RIGHT OF WAY FOR THIS PROJECT.

NAME AND ADDRESS OF UTILITY	TYPE OF UTILITY
CONSUMERS ENERGY 530 W WILLOW ST LANSING MI 48909 (517)374-2255 TOM BARNHILL	GAS, ELECTRIC
AT & T - ENGINEERING 337 N. ABBOTT ROAD EAST LANSING, MI 48823 (517)337-3509 DARNELL TAYLOR	TELEPHONE LINES
MILLENNIUM DIGITAL MEDIA 2512 LANSING RD CHARLOTTE, MI 48813 (517)543-4963 JAMES SCOTT	CABLE TELEVISION, HIGH SPEED INTERNET
CITY OF CHARLOTTE 111 E. LAWRENCE AVENUE CHARLOTTE MI. 48813 (517)543-8858 AMY GILSON	SANITARY SEWER, WATER
EATON COUNTY DRAIN COMMISSION 1045 INDEPENDENCE BLVD CHARLOTTE, MI. 48813-1095 (517)543-3809 RICHARD WAGNER	STORM SEWER

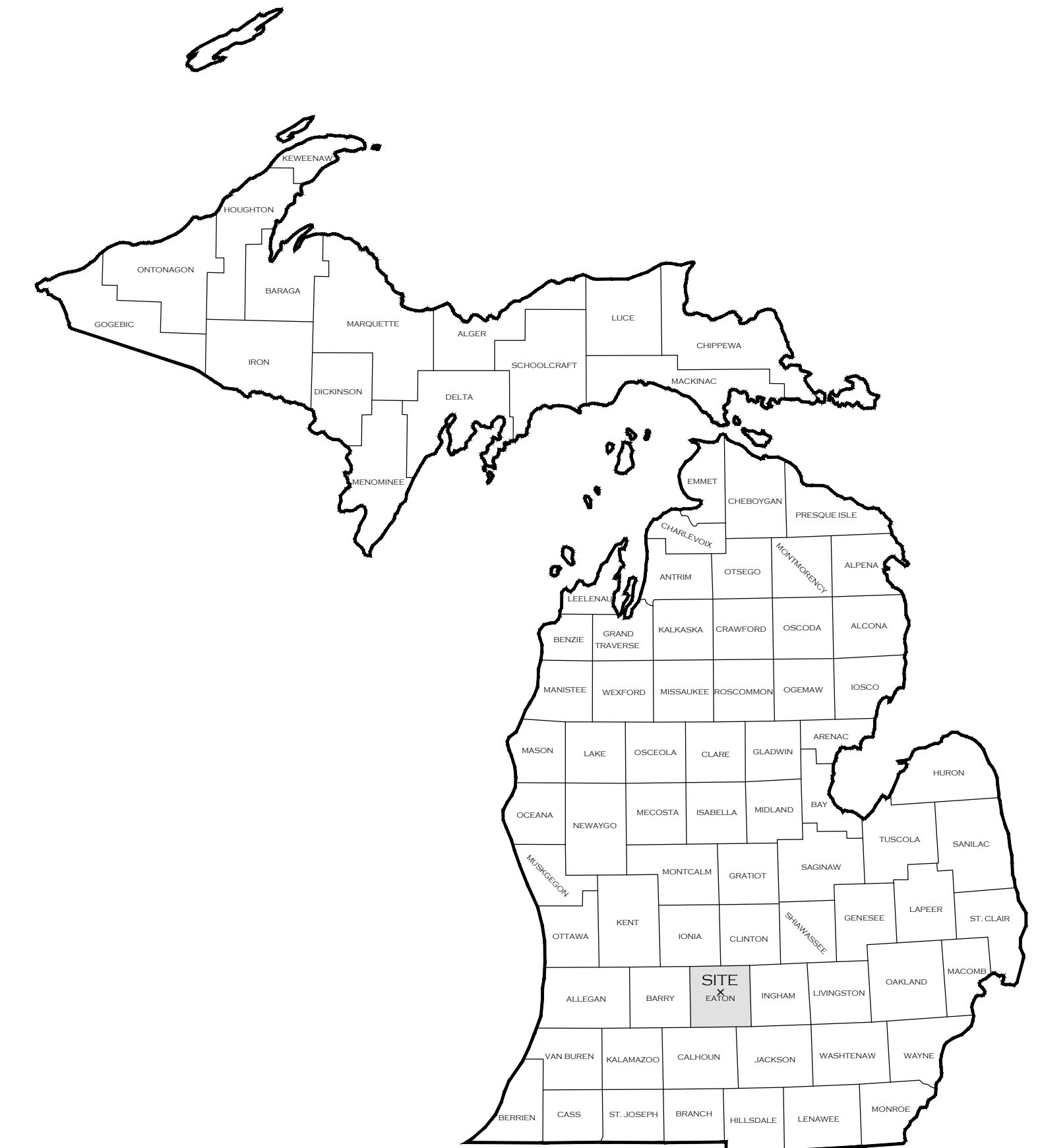
OWNERS OF PUBLIC UTILITIES WILL NOT BE REQUIRED TO MOVE POLES OR STRUCTURES THAT ARE NOT WITHIN GRADING OR STRUCTURE LIMITS IN ORDER TO FACILITATE THE OPERATION OF CONSTRUCTION EQUIPMENT, UNLESS IT IS DETERMINED BY THE ENGINEER THAT SUCH LINES OR STRUCTURES CONSTITUTE A HAZARD TO THE PUBLIC OR ARE EXTRA-ORDINARILY DANGEROUS TO THE CONTRACTOR'S OPERATIONS. (SEE SPECIAL PROVISIONS FOR UTILITY COORDINATION)



LOCATION MAP

NOT TO SCALE

TAX ID NUMBER: 23-200-024-100-081-00



Sheet List Table

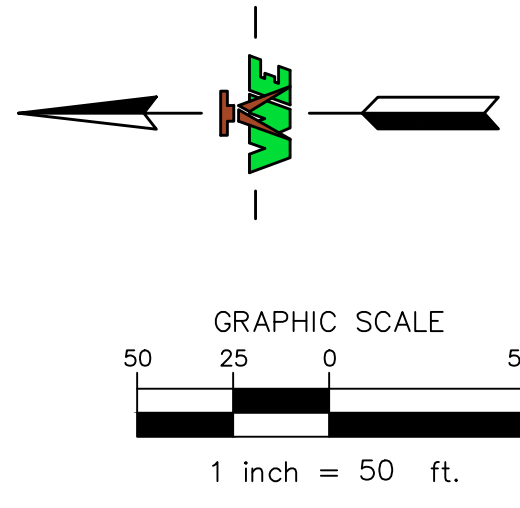
Sheet Number	Sheet Title
C1	COVER
C2	PRELIMINARY BASE DRAWING
C3	PRELIMINARY BASE DRAWING
C4	PRELIMINARY DEMOLITION PLAN
C5	PRELIMINARY DEMOLITION PLAN
C6	PRELIMINARY SITE PLAN
C7	PRELIMINARY GRADING PLAN
C8	PRELIMINARY UTILITY PLAN
C9	PRELIMINARY DETAILS & NOTES
C10	PRELIMINARY DETAILS & NOTES
C11	PRELIMINARY DETAILS & NOTES
C12	PRELIMINARY SOIL EROSION CONTROL PLAN
C13	PRELIMINARY SOIL EROSION CONTROL DETAILS & NOTES
C14	PRELIMINARY LANDSCAPE PLAN
C15	PRELIMINARY LANDSCAPE DETAILS & NOTES
A-101	PRELIMINARY COMPOSITE FLOOR PLAN
A-400	PRELIMINARY COMPOSITE EXTERIOR ELEVATIONS
A-401	PRELIMINARY COMPOSITE EXTERIOR ELEVATIONS

WOLVERINE
Engineers & Surveyors, Inc.
312 North Street
Mason, Michigan 48854
Ph: 517-676-9200
Fx: 517-676-9396
http://www.wolveng.com

OWNER CONTACT INFORMATION
SPARTAN MOTORS, INC.
CONTACT: PATRICK SALL
1541 REYNOLDS ROAD
CHARLOTTE, MICHIGAN 48813
PH: 517-597-3861
FX: 517-543-9264
EMAIL: PAT.SALL@SPARTANMOTORS.COM

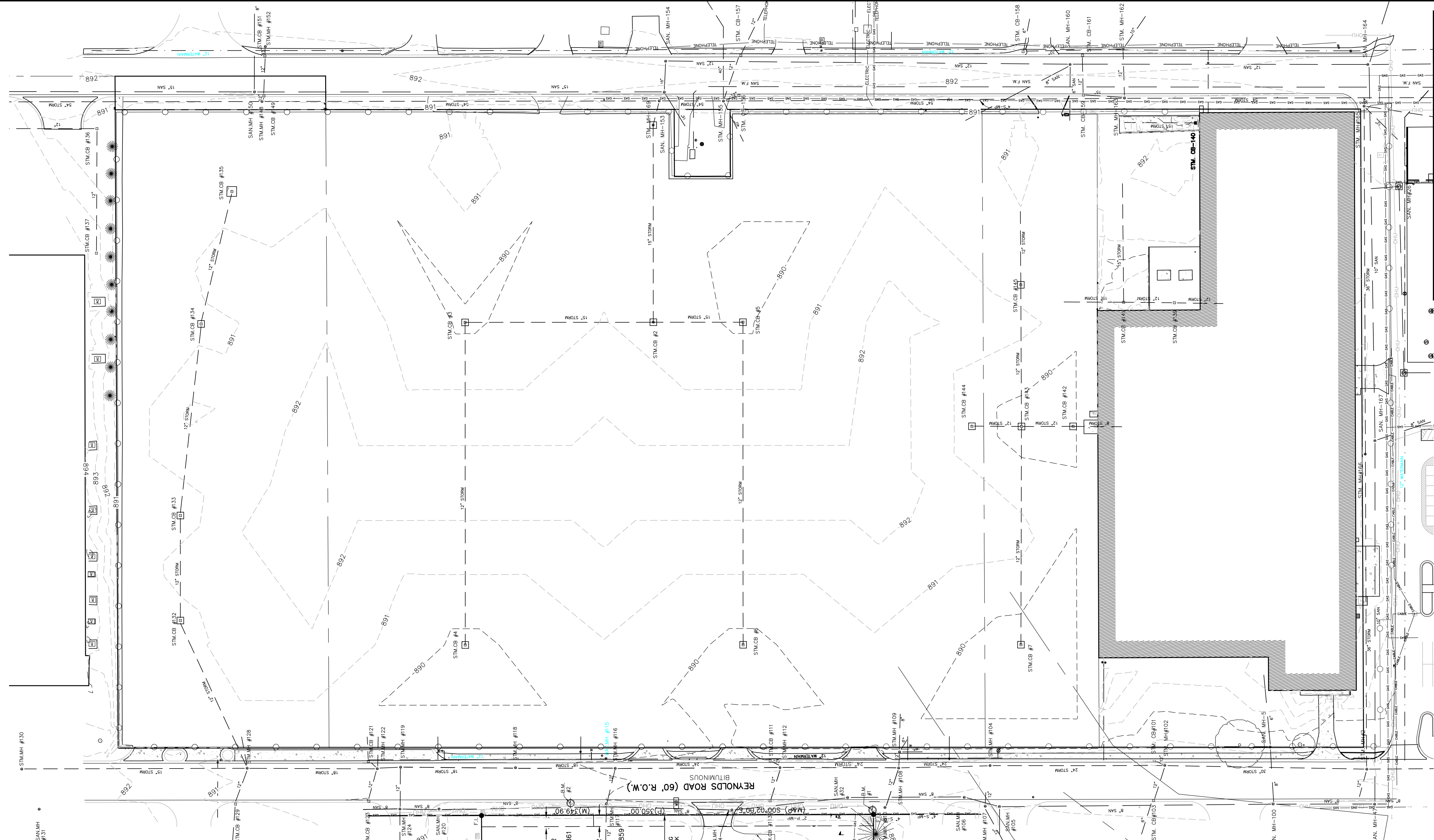
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 - BM#4- SPIKE IN SOUTH SIDE OF UTILITY POLE, WEST SIDE OF MIKESSELL STREET AT ENTRANCE GATE TO SPARTAN MOTORS ELEVATION= 893.13



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EXISTING STRUCTURE INFORMATION

SAN MH 131 R.E. 893.38 I.E. 8" N 885.96 I.E. 8" S 885.86	SAN MH 5 R.E. 890.07 I.E. 6" E 886.12 I.E. 6" E 884.32 I.E. 6" NE 884.32 I.E. 15" W 875.12	SAN MH 154 R.E. 891.77 I.E. 15" N 875.12 I.E. 8" NE 883.32 I.E. 15" W 875.12	STM MH 128 R.E. 890.70 I.E. 15" N 884.50 I.E. 12" NE 885.94 I.E. 12" NE 885.25 I.E. 12" E 886.02	STM MH 122 R.E. 890.12 I.E. 18" N 884.08 I.E. 12" SE 883.49	STM CB 113 R.E. 888.49 I.E. 12" SW 886.21 I.E. 12" E 884.95	STM MH 107 R.E. 889.00 I.E. 12" SW 886.21 I.E. 12" E 884.95	STM MH 165 R.E. 892.40 I.E. 36" W 878.75 I.E. 12" SW 882.505 I.E. 36" E 878.75	STM CB 156 R.E. 891.26 I.E. 12" NNW 886.96 I.E. 54" N 879.73 I.E. 12" S 886.22	STM MH 147 R.E. 892.88 I.E. 54" N 879.73 I.E. 12" S 886.22	STM CB 142 R.E. 889.91 I.E. 12" S 886.22	
SAN MH 120 R.E. 890.98 I.E. 8" N 886.30 I.E. 8" S 886.15	SAN MH 47 R.E. 889.17 I.E. 15" E 875.30 I.E. 8" N 877.59 I.E. 10" E 877.52 I.E. 8" S 877.75	SAN MH 153 R.E. 891.80 I.E. 15" E 875.30 I.E. 15" N 875.15 I.E. 8" W 886.68 I.E. 15" SW 875.15	STM CB 129 R.E. 890.93 I.E. 8" W 886.68 I.E. 12" E 886.68	STM MH 119 R.E. 890.04 I.E. 18" N 884.04 I.E. 12" W 883.99 I.E. 18" S 884.01	STM MH 112 R.E. 888.77 I.E. 24" N 882.65 R.E. 887.84 I.E. 54" S 877.87	STM MH 104 R.E. 888.64 I.E. 24" N 882.160 I.E. 24" S 882.04	STM MH 163 R.E. 891.42 I.E. 12" SE 883.87 I.E. 12" NW 883.87 I.E. 54" S 879.73	STM CB 157 R.E. 891.37 I.E. 18" NE 884.78 I.E. 12" SE 883.87 I.E. 12" S 885.93 I.E. 12" NW 883.87	STM CB 7 R.E. 889.45 I.E. 12" S 885.93 I.E. 12" E 886.22	STM CB 2 R.E. 890.60 I.E. 15" S 884.54 I.E. 15" N 884.54 I.E. 15" E 884.44	
SAN MH 114 R.E. 889.62 I.E. 8" N 883.55 I.E. 8" S 883.51	SAN MH 167 R.E. 891.63 I.E. 10" W 876.63 I.E. 8" SE 883.03 I.E. 10" E 876.58	SAN MH 150 R.E. 891.05 I.E. 8" E 882.80 I.E. 15" N 875.85 I.E. 15" S 875.80	STM CB 132 R.E. 890.57 I.E. 12" E 885.24 I.E. 12" W 885.24	STM CB 121 R.E. 889.80 I.E. 6" NE 886.15 I.E. 12" SW 886.30	STM MH 110 R.E. 889.16 I.E. 6" NE 886.15 I.E. 12" SW 886.30	STM CB 101 R.E. 87.82 I.E. 12" W 884.74 I.E. 12" SW 885.90	STM CB 103 R.E. 888.77 I.E. 12" NE 883.86 I.E. 12" NW 883.86	STM MH 162 R.E. 892.04 I.E. 10" N 885.34 I.E. 10" SE 885.34 I.E. 12" E 885.00 I.E. 12" NW 884.95	STM CB 149 R.E. 890.75 I.E. 12" E 885.00 I.E. 12" NW 884.95	STM CB 139 R.E. 887.81 I.E. 12" S 885.56 I.E. 12" N 885.46	STM CB 3 R.E. 889.80 I.E. 12" W 885.16 I.E. 15" S 884.96
SAN MH 106 R.E. 888.77 I.E. 8" N 882.62 I.E. 8" S 882.59 I.E. 12" S 876.15	SAN MH 164 R.E. 892.40 I.E. 10" W 876.00 I.E. 8" SE 876.10 I.E. 12" S 876.15	SAN MH 146 R.E. 892.84 I.E. 12" E 885.35 I.E. 12" W 885.35	STM CB 133 R.E. 890.38 I.E. 12" E 885.35 I.E. 12" W 885.35	STM MH 118 R.E. 889.44 I.E. 18" N 883.84 I.E. 6" SE 886.61 I.E. 18" S 883.94	STM MH 109 R.E. 889.44 I.E. 12" NE 883.86 I.E. 12" NW 883.86	STM CB 102 R.E. 888.11 I.E. 24" N 880.96 I.E. 12" NE 883.86 I.E. 30" S 880.96	STM CB 159 R.E. 891.03 I.E. 884.73 I.E. 54" N 879.19 I.E. 12" SE 884.79 I.E. 54" S 879.19	STM MH 148 R.E. 891.54 I.E. 12" S 884.50 I.E. 12" E 884.79 I.E. 12" NW 884.95	STM CB 145 R.E. 890.60 I.E. 12" W 884.50 I.E. 12" E 884.40	STM CB 4 R.E. 889.70 I.E. 12" E 886.17	
SAN MH 105 R.E. 888.79 I.E. 8" N 882.36 I.E. 6" W 882.39 I.E. 8" S 882.19	SAN MH 160 R.E. 891.65 I.E. 6" W 882.39 I.E. 8" NW 882.50 I.E. 12" S 875.65 I.E. 12" N 875.65	SAN MH 130 R.E. 893.44 I.E. 12" E 885.51 I.E. 15" N 886.40 I.E. 12" SE 887.94 I.E. 12" SW 888.24 I.E. 15" S 886.27	STM CB 134 R.E. 890.61 I.E. 12" E 885.51 I.E. 12" W 885.51	STM CB 135 R.E. 890.33 I.E. 12" SE 886.61 I.E. 12" W 885.93	STM MH 117 R.E. 889.19 I.E. 12" W 885.89 I.E. 12" E 885.89	STM MH 2 R.E. 888.86 I.E. 30" N 880.46 I.E. 24" N 882.50 I.E. 12" NW 884.50 I.E. 12" S 881.66 I.E. 36" E 880.06	STM CB 161 R.E. 891.14 I.E. 12" W 885.69 I.E. 12" SE 886.67 I.E. 15" W 887.18	STM CB 151 R.E. 890.91 I.E. 12" W 885.46 I.E. 15" E 886.91	STM CB 143 R.E. 889.45 I.E. 12" W 885.04 I.E. 12" N 885.14 I.E. 12" E 885.04	STM CB 5 R.E. 889.80 I.E. 12" W 885.02 I.E. 15" N 884.82	
SAN MH 100 R.E. 888.80 I.E. 8" N 880.70 I.E. 8" E 881.51 I.E. 8" S 880.65	SAN MH 116 R.E. 889.79 I.E. 12" E 885.42 I.E. 24" S 883.18	STM CB 123 R.E. 889.79 I.E. 12" E 886.28	STM MH 116 R.E. 889.79 I.E. 12" E 885.42 I.E. 24" S 883.18	STM MH 116 R.E. 889.79 I.E. 12" E 885.42 I.E. 24" S 883.18	STM MH 108 R.E. 889.00 I.E. 30" N 880.46 I.E. 12" NW 884.50 I.E. 12" S 881.66 I.E. 36" E 880.06	STM MH 155 R.E. 891.57 I.E. 54" N 878.22 I.E. 40" E 878.72 I.E. 40" SW 878.72 I.E. 12" SE 886.67 I.E. 36" W 879.70 I.E. 36" E 879.65	STM CB 152 R.E. 891.38 I.E. 15" W 887.18 I.E. 12" S 885.46	STM CB 144 R.E. 888.06 I.E. 12" S 885.46	STM CB 144 R.E. 888.06 I.E. 12" S 885.46	STM CB 6 R.E. 889.70 I.E. 12" E 886.03	

NOTE: THE LOCATION OF THE EXISTING UNDERGROUND UTILITIES HAVE BEEN EITHER FIELD VERIFIED OR LOCATED BASED ON UTILITY COMPANY'S INFORMATION. ANY OTHER UNDERGROUND UTILITY NOT ON PUBLIC RECORD HAS NOT BEEN SHOWN AND WOLVERINE ENGINEERS AND SURVEYORS, INC. TAKES NO RESPONSIBILITY OF THESE UNKNOWN UTILITIES.

LEGAL DESCRIPTION:
A PARCEL OF LAND ON PART OF THE WEST 1/2 OF THE NORTHWEST 1/4, SECTION 24, T2N, R5W, CITY OF CHARLOTTE; COMMENCING AT THE NORTHWEST CORNER OF SECTION 24; THENCE N89°43'04"E 1324.96 FEET ALONG THE NORTH LINE OF SAID SECTION 24; THENCE S00°02'00"E 901.00 FEET ALONG THE EAST LINE OF THE WEST 1/2 OF THE NORTHWEST 1/4 OF SAID SECTION 24 TO THE POINT OF BEGINNING; THENCE S00°02'00"E 188.00 FEET; THENCE S89°44'10"W 30.00 FEET; THENCE S00°02'00"E 311.00 FEET; THENCE S89°44'10"W 60.00 FEET; THENCE S00°02'00"E 50.00 FEET; THENCE N89°44'10"E 60.00 FEET; THENCE S00°02'00"E 562.80 FEET; THENCE S89°44'10"W 570.00 FEET; THENCE N00°02'00"W 1111.80 FEET; THENCE N89°44'10"E 600.00 FEET TO THE POINT OF BEGINNING, SUBJECT TO ALL EASEMENTS AND RIGHTS OF WAY OF RECORD.

NOT FOR CONSTRUCTION

PROJECT: PLANT 12 NEW BUILDING & PARKING LOT
CITY OF CHARLOTTE
EATON COUNTY, MICHIGAN
SHEET TITLE: PRELIMINARY BASE DRAWING

APPROVED	JCW
CHECKED	JCW
DRAWN	JMS
JOB NO.	15-0065
DATE	9/10/15
SCALE	1" = 50'
SHEET NO.	C2

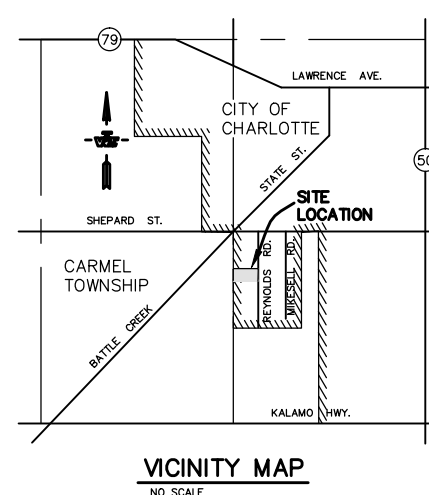
WOLVERINE
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312 North Street
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Ph: 317 676 5200
FAX: 317 676 9396
http://www.woleng.com

REVISION	DATE	DESCRIPTION

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BENCHMARKS:

- BM#1- FINISH FLOOR ELEVATION OF EATON COUNTY ROAD COMMISSION BUILDING AT MAIN OFFICE ENTRANCE ELEVATION= 894.33
BM#2- RAILROAD SPIKE EAST SIDE UTILITY POLE, WEST SIDE REYNOLDS STREET AT NORTHWEST CORNER OF SPARTAN MOTORS SITE ELEVATION= 890.66
BM#3- TVS HYDRANT AT THE SOUTH END OF REYNOLDS STREET ON THE WEST SIDE OF THE STREET ELEVATION= 894.47
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DESCRIPTION: (As provided to this office)

Lot 15 of Dean Industrial Park, City of Charlotte, Eaton County, Michigan, according to the recorded plot thereof as recorded in Liber 6 of Plots, Pages 18 and 19, Eaton County Records.

Land Area - 232,743 square feet, (5.34 Acres)

Zoning = I-2 General Industrial Minimum Building Setbacks = 60' Front, 30' Side, 50' Min. Rear

This site lies in Zone C (area of minimal flooding) of FEMA FIRM for City of Charlotte, MI; Community Panel No. 260065-0001 B Dated July 2, 1981.

EXISTING LEGEND

- EX. CONTOUR MAJOR, EX. CONTOUR MINOR, EX. SANITARY SEWER, EX. STORM SEWER, EX. WATER MAIN, EX. GAS MAIN, EX. OVERHEAD UTILITIES, EX. CHAIN LINK FENCE, EX. WOOD FENCE, EX. CURB, EX. GRAVEL, EX. ROW, EX. SANITARY MANHOLE, EX. SANITARY CLEAN OUT, EX. STORM MANHOLE, EX. SANITARY CLEAN OUT, EX. STORM CATCH BASIN, EX. STORM END SECTION, EX. HYDRANT, EX. GATE VALVE, EX. WATER MANHOLE, EX. WELL, EX. UTILITY POLE, EX. UTILITY POLE, EX. UTILITY GUY, EX. TRANSFORMER, EX. TELEPHONE RISER, EX. POST, EX. SIGN, EX. MAILBOX, EX. DECIDUOUS TREE, EX. EVERGREEN TREE, EX. SHRUB, EX. SHRUB, EX. TREE LINE, BENCHMARK, FOUND PROPERTY IRON, FOUND MONUMENT, FINISH FLOOR, UTILITY FLAG, RAILROAD MARKER, PLATTED, PREVIOUSLY SURVEYED, MEASURED, DESCRIBED



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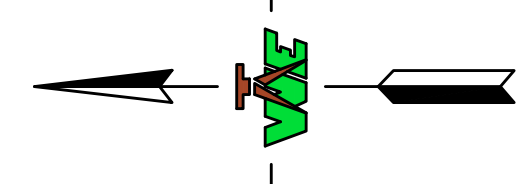
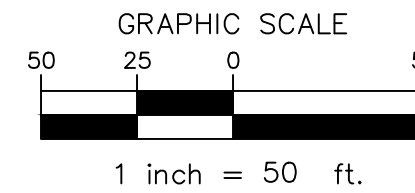
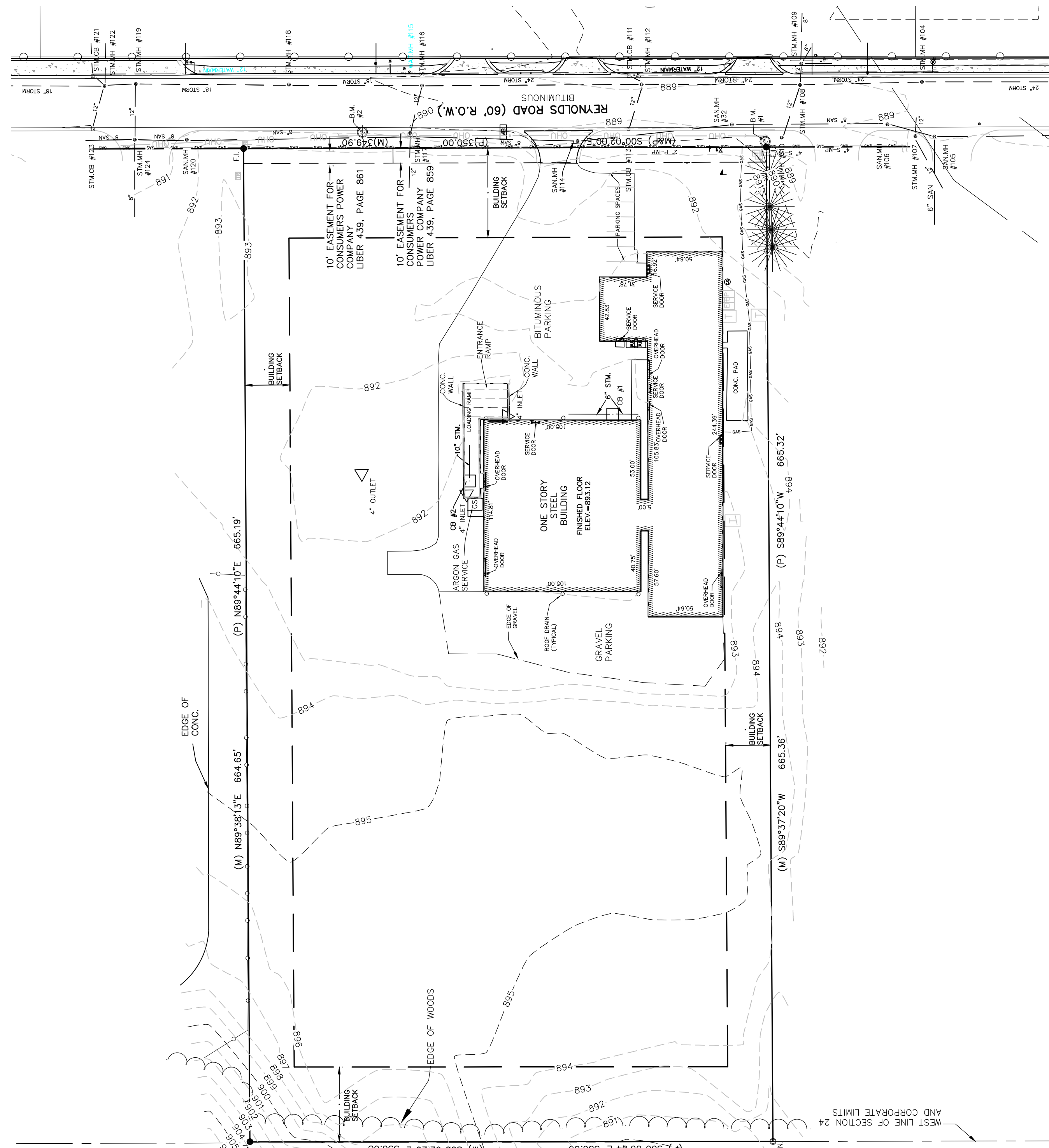
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EXISTING STRUCTURE INFORMATION

Table with columns for structure ID, coordinates, and elevations. Includes structures like SAN MH 131, SAN MH 5, SAN MH 154, STM MH 128, STM MH 122, STM CB 113, STM MH 107, STM MH 165, STM CB 156, STM MH 147, STM CB 142, etc.



NOT FOR CONSTRUCTION

PLANT 12 NEW BUILDING & PARKING LOT CITY OF CHARLOTTE EATON COUNTY, MICHIGAN PRELIMINARY BASE DRAWING

Revision table with columns for DATE, REVISION, and DESCRIPTION.

WOLVERINE Engineers & Surveyors, Inc. 312 North Street Mason, Michigan 48854 Ph: 317 676 5200 Fax: 317 676 9396 http://www.wolvenge.com

Approval table with columns for APPROVED, CHECKED, DRAWN, JOB NO., DATE, SCALE, SHEET NO. Includes names JCW, JMS and values 15-0065, 9/10/15, 1" = 50', C3.

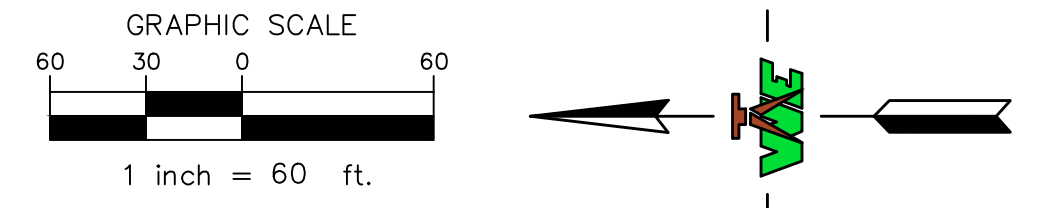
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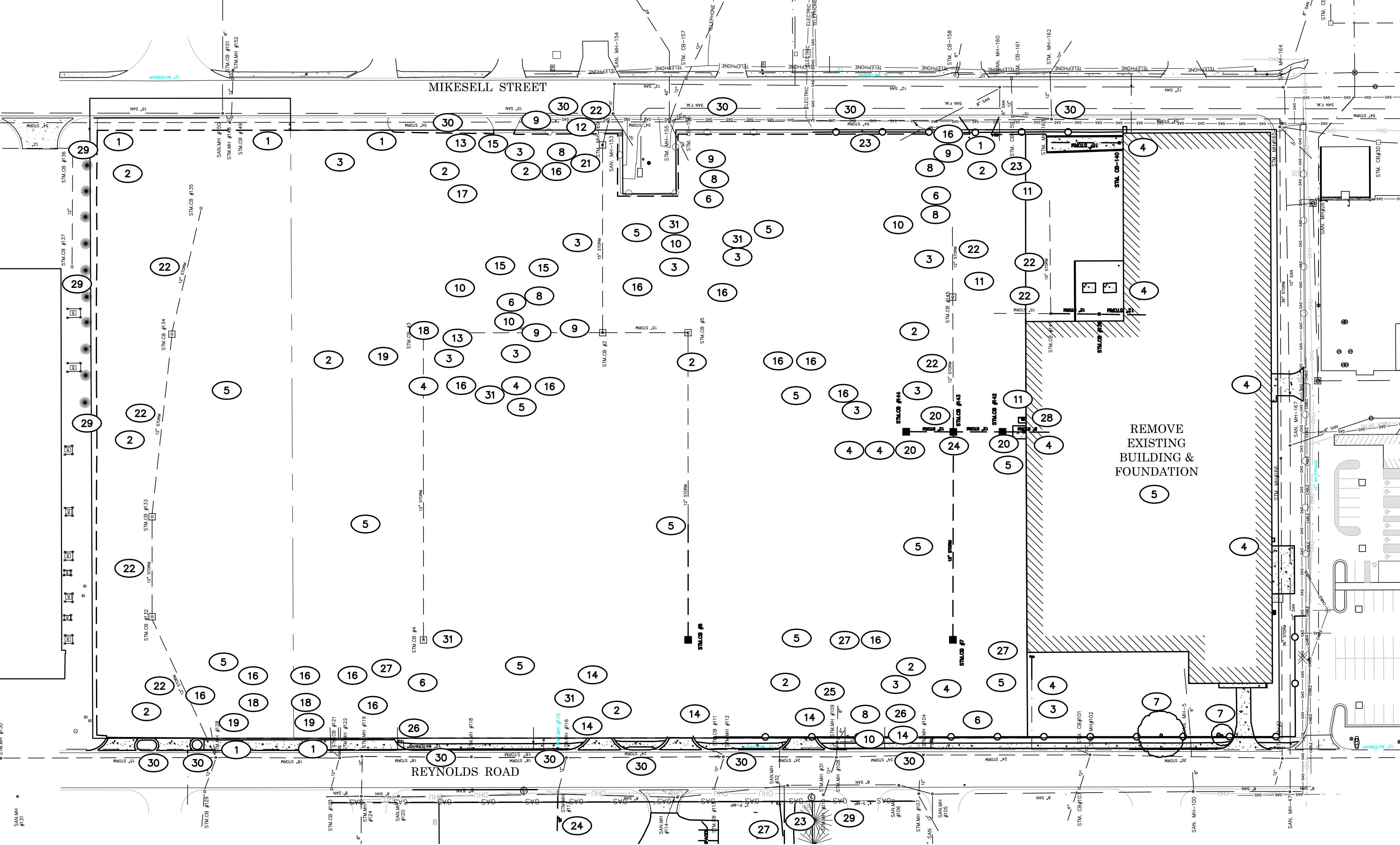
DEMOLITION KEY NOTES

- 1 SAW CUT FULL DEPTH CONCRETE AND/OR BITUMINOUS PAVEMENT.
- 2 CRUSH AND RESHAPE EXISTING PAVEMENT. USE AS BASE COURSE FOR NEW PAVEMENT SECTION.
- 3 REMOVE CONCRETE PAVEMENT TO FULL DEPTH.
- 4 REMOVE CONCRETE STOOP AND FOOTINGS TO FULL DEPTH.
- 5 REMOVE EXISTING CONCRETE FOUNDATION AND FOOTINGS TO FULL DEPTH.
- 6 CLEAR AND GRUB, STRIP TOP SOIL AND STOCKPILE. COORDINATE WITH CONSTRUCTION MANAGER.
- 7 REMOVE EXISTING TREE INCLUDING STUMP, ROOTS AND BRANCHES.
- 8 REMOVE EXISTING UTILITY POLE, CONDUIT AND WIRES WITH CARE. COORDINATE WITH ELECTRICAL SERVICE PROVIDER.
- 9 REMOVE EXISTING GUY WIRE WITH CARE. COORDINATE WITH ELECTRIC SERVICE PROVIDER.
- 10 REMOVE EXISTING LIGHT POLE, BASE, CONDUIT AND WIRES WITH CARE. COORDINATE WITH ELECTRICAL PLANS.
- 11 VERIFY LOCATION AND DEPTH OF EXISTING ELECTRIC LINE. RELOCATE IF IN CONFLICT WITH NEW CONSTRUCTION. COORDINATE WITH SERVICE PROVIDER.
- 12 VERIFY LOCATION AND DEPTH OF EXISTING TELEPHONE LINE. RELOCATE IF IN CONFLICT WITH NEW CONSTRUCTION. COORDINATE WITH SERVICE PROVIDER.
- 13 VERIFY LOCATION AND DEPTH OF EXISTING GAS LINE. RELOCATE IF IN CONFLICT WITH NEW CONSTRUCTION. EXPOSE, CUT, CAP AND ABANDON IN PLACE IF DETERMINED NOT NEEDED FOR BUILDING TO REMAIN. COORDINATE WITH SERVICE PROVIDER.
- 14 REMOVE EXISTING SIGN AND POST. SAVE FOR OWNER.
- 15 REMOVE WITH CARE FENCE, POSTS AND FOOTINGS. CONTRACTOR SHALL COORDINATE REMOVAL AND RELOCATION WITH OWNER. DISPOSE OF FOOTINGS AND DAMAGED POSTS.
- 16 REMOVE WITH CARE BOLLARDS AND FOOTINGS. SAVE FOR OWNER.
- 17 REMOVE EXISTING GUARDRAIL, POSTS AND FOOTINGS. DISPOSE OF FOOTINGS AND DAMAGED GUARDRAIL AND POSTS. USE UNDAMAGED GUARDRAIL TO RE-INSTALL AT LOCATIONS TO BE DETERMINED BY CONSTRUCTION MANAGER. COORDINATE WITH CONSTRUCTION MANAGER FOR GUARDRAIL MATERIALS TO BE RETAINED FOR OWNER.
- 18 REMOVE EXISTING STORM SEWER STRUCTURE AND CASTING.
- 19 EXPOSE EXISTING STORM SEWER PIPE, BULKHEAD AND ABANDON IN PLACE. RAISE EXISTING CASTING AND ADJUST TO PROPOSED GRADE. SEE UTILITY PLAN FOR ELEVATION. REMOVE SEDIMENT/DEBRIS FROM STRUCTURE INVERT.
- 20 EXPOSE EXISTING STORM SEWER PIPE, INSTALL NEW MANHOLE STRUCTURE.
- 21 REMOVE/CLEAN OBSTRUCTIONS FROM SEWER PIPE.
- 22 EXPOSE EXISTING SANITARY SEWER PIPE, BULKHEAD AND ABANDON IN PLACE.
- 23 EXPOSE EXISTING STORM MANHOLE STRUCTURE, CORE AND CONNECT NEW STORM SEWER. CONNECT NEW PIPES BY APPROVED METHOD.
- 24 EXPOSE EXISTING WATER MAIN, CUT AND CAP. ABANDON IN PLACE. COORDINATE WITH SERVICE PROVIDER.
- 25 EXPOSE, CAP AND REMOVE EXISTING WATER SERVICE PIPE.
- 26 REMOVE EXISTING WATER SERVICE VALVES AND APERTURES.
- 27 EXISTING CONCRETE PAD AND TRANSFORMERS TO REMAIN.
- 28 PROTECT EXISTING VEGETATION WITH ORANGE SAFETY FENCE FROM CONSTRUCTION TRAFFIC. COORDINATE WITH CONSTRUCTION MANAGER.
- 29 PROTECT EXISTING CURB AND VEGETATION OF ISLAND FROM CONSTRUCTION TRAFFIC.
- 30 REMOVE EXISTING MECHANICAL EQUIPMENT AND CONCRETE PAD. COORDINATE WITH CONSTRUCTION MANAGER FOR EQUIPMENT TO BE SAVED FOR OWNER.

GENERAL NOTES

1. SEE ARCHITECTURAL DEMOLITION PLAN FOR BUILDING DEMOLITION ITEMS.
2. REFER TO "M", "P" & "E" SERIES DRAWINGS FOR BUILDING UTILITY SERVICES AND SITE LIGHTING LAYOUT.
3. REFER TO "A" & "S" SERIES DRAWINGS FOR BUILDING INFORMATION.
4. COORDINATE WITH SERVICE PROVIDER FOR PUBLIC UTILITY LOCATIONS.

NOTE: THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE ENGINEER MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE ENGINEER FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE ENGINEER HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.



NOTES:

1. PRIOR TO CONSTRUCTION, FIELD VERIFY ALL VERTICAL AND HORIZONTAL CONTROL, I.E., BENCHMARKS, FINISH FLOOR, MANHOLE RIMS, PIPE INVERTS, AND ALL UNDERGROUND UTILITIES.
2. ALL DIMENSIONS ARE TO PROPERTY LINE OR EDGE OF GRAVEL UNLESS OTHERWISE NOTED.
3. ALL RADII ARE 5' UNLESS OTHERWISE NOTED.
4. SEE ARCHITECTURAL PLANS AND DETAILS FOR LOCATION AND SIZE OF CONCRETE STOOPS, RAMPS, HANDRAILS AND BUILDING IDENTIFICATION SIGN.
6. LOCATION AND SIZE OF CONCRETE PADS FOR MECHANICAL EQUIPMENT SHALL BE COORDINATED WITH THE MECHANICAL CONTRACTOR. SEE ARCHITECTURAL PLANS.
7. ALL PROPOSED ELEVATIONS SHOWN ARE TOP OF GRAVEL OR BITUMINOUS, PAN OF CURB, OR TOP OF WALK UNLESS OTHERWISE NOTED.
8. CROSS SLOPES OF NEW SIDEWALKS SHALL NOT EXCEED 1/4-INCH PER FOOT (2.00%).
9. MAINTAIN POSITIVE STORM WATER DRAINAGE AWAY FROM THE BUILDING.
10. ALL STRUCTURES ENCOUNTERED DURING CONSTRUCTION SHALL BE ADJUSTED TO FINISHED GRADE BY APPROVED METHODS AND MATERIALS.
11. ALL GRASS AREAS DISTURBED DURING CONSTRUCTION SHALL RECEIVE A MINIMUM OF 6 INCHES OF TOP SOIL, BE FINE GRADED, THEN SEEDED AND MULCHED.
12. ALL RAMPS SHALL BE CONSTRUCTED TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT AND THE MICHIGAN BARRIER FREE CODE.

EXISTING LEGEND		PROPOSED LEGEND	
---900---	CONTOUR - MJR	○	SANITARY MANHOLE
---901---	CONTOUR - MNR	○	LANDSCAPE STONE
---	SANITARY SEWER	○	MAILBOX
---	STORM SEWER	○	RAILROAD MARKER
---	WATER MAIN	○	RAILROAD SWITCH
---	GAS MAIN	○	DECIDUOUS TREE
---	CABLE	○	EVERGREEN TREE
---	ELECTRIC	○	ORNAMENTAL TREE
---	TELEPHONE	○	SHRUB
---	OHU	○	STUMP
---	CHAIN LINK FENCE	○	SOIL BORING
---	WOOD FENCE	○	SECTION CORNER
---	BARB WIRE FENCE	○	FOUND PROPERTY IRON
---	GUARDRAIL	○	MONUMENT BOX
---	CURB	○	BENCHMARK
---	ROW	○	TRAVERSE POINT
---	PROPERTY LINE	○	F.F. FINISH FLOOR
---	CENTERLINE	○	POST
---	EASEMENT	○	STREET SIGN
---	RAILROAD	○	SIGN
---	SURFACE WATER	○	
---	TREE LINE	○	
---	STRUCTURE	○	
---	ASPHALT	○	
---	CONCRETE	○	
---	GRAVEL	○	

NOT FOR CONSTRUCTION

PROJECT: PLANT 12 NEW BUILDING & PARKING LOT
 CITY OF CHARLOTTE
 EATON COUNTY, MICHIGAN

WOLVERINE
 Engineers & Surveyors, Inc.
 312 North Street
 Mason, Michigan 48854
 Ph: 317 676 9200
 Fax: 317 676 9396
 http://www.wolveneng.com

REVISION	DATE	DESCRIPTION

APPROVED	JCW
CHECKED	JCW
DRAWN	JMS
JOB NO.	15-0065
DATE	9/10/15
SCALE	1" = 60'
SHEET NO.	C4

S:\Projects\2015\15-0065\CSD\DWGs\C4 PRELIMINARY DEMOLITION PLAN.dwg, Friday, September 11, 2015, 10:15:43 AM, James Schimmon

BENCHMARKS:

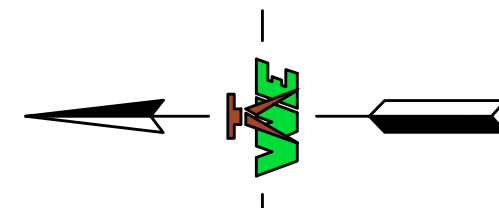
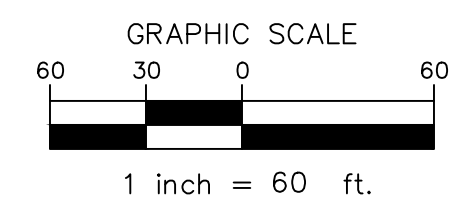
- BM#1- FINISH FLOOR ELEVATION OF EATON COUNTY ROAD COMMISSION BUILDING AT MAIN OFFICE ENTRANCE ELEVATION= 894.33
- BM#2- RAILROAD SPIKE EAST SIDE UTILITY POLE, WEST SIDE REYNOLDS STREET AT NORTHWEST CORNER OF SPARTAN MOTORS SITE ELEVATION= 890.66
- BM#3- TVS HYDRANT AT THE SOUTH END OF REYNOLDS STREET ON THE WEST SIDE OF THE STREET ELEVATION= 894.47
- BM#4- SPIKE IN SOUTH SIDE OF UTILITY POLE, WEST SIDE OF MIKESSELL STREET AT ENTRANCE GATE TO SPARTAN MOTORS ELEVATION= 893.13

!!! CAUTION !!!

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Know what's below.
Call before you dig.



DEMOLITION KEY NOTES

- 1 SAW CUT FULL DEPTH CONCRETE AND/OR BITUMINOUS PAVEMENT.
- 2 CRUSH AND RESHAPE EXISTING PAVEMENT. USE AS BASE COURSE FOR NEW PAVEMENT SECTION.
- 3 REMOVE CONCRETE PAVEMENT TO FULL DEPTH.
- 4 REMOVE CONCRETE STOOP AND FOOTINGS TO FULL DEPTH.
- 5 REMOVE EXISTING CONCRETE FOUNDATION AND FOOTINGS TO FULL DEPTH.
- 6 CLEAR AND GRUB, STRIP TOP SOIL AND STOCKPILE. COORDINATE WITH CONSTRUCTION MANAGER.
- 7 REMOVE EXISTING TREE INCLUDING STUMP, ROOTS AND BRANCHES.
- 8 REMOVE EXISTING UTILITY POLE, CONDUIT AND WIRES WITH CARE. COORDINATE WITH ELECTRICAL SERVICE PROVIDER.
- 9 REMOVE EXISTING GUY WIRE WITH CARE. COORDINATE WITH ELECTRIC SERVICE PROVIDER.
- 10 REMOVE EXISTING LIGHT POLE, BASE, CONDUIT AND WIRES WITH CARE. COORDINATE WITH ELECTRICAL PLANS.
- 11 VERIFY LOCATION AND DEPTH OF EXISTING ELECTRIC LINE. RELOCATE IF IN CONFLICT WITH NEW CONSTRUCTION. COORDINATE WITH SERVICE PROVIDER.
- 12 VERIFY LOCATION AND DEPTH OF EXISTING TELEPHONE LINE. RELOCATE IF IN CONFLICT WITH NEW CONSTRUCTION. COORDINATE WITH SERVICE PROVIDER.
- 13 VERIFY LOCATION AND DEPTH OF EXISTING GAS LINE. RELOCATE IF IN CONFLICT WITH NEW CONSTRUCTION. EXPOSE, CUT, CAP AND ABANDON IN PLACE IF DETERMINED NOT NEEDED FOR BUILDING TO REMAIN. COORDINATE WITH SERVICE PROVIDER.
- 14 REMOVE EXISTING SIGN AND POST. SAVE FOR OWNER.
- 15 REMOVE WITH CARE FENCE, POSTS AND FOOTINGS. CONTRACTOR SHALL COORDINATE REMOVAL AND RELOCATION WITH OWNER. DISPOSE OF FOOTINGS AND DAMAGED POSTS.
- 16 REMOVE WITH CARE BOLLARDS AND FOOTINGS. SAVE FOR OWNER.
- 17 REMOVE EXISTING GUARDRAIL, POSTS AND FOOTINGS. DISPOSE OF FOOTINGS AND DAMAGED GUARDRAIL AND POSTS. USE UNDAMAGED GUARDRAIL TO RE-INSTALL AT LOCATIONS TO BE DETERMINED BY CONSTRUCTION MANAGER. COORDINATE WITH CONSTRUCTION MANAGER FOR GUARDRAIL MATERIALS TO BE RETAINED FOR OWNER.
- 18 REMOVE EXISTING STORM SEWER STRUCTURE AND CASTING.
- 19 EXPOSE EXISTING STORM SEWER PIPE, BULKHEAD AND ABANDON IN PLACE.
- 20 RAISE EXISTING CASTING AND ADJUST TO PROPOSED GRADE, SEE UTILITY PLAN FOR ELEVATION. REMOVE SEDIMENT/DEBRIS FROM STRUCTURE INVERT.
- 21 EXPOSE EXISTING STORM SEWER PIPE, INSTALL NEW MANHOLE STRUCTURE.
- 22 REMOVE/CLEAN OBSTRUCTIONS FROM SEWER PIPE.
- 23 EXPOSE EXISTING SANITARY SEWER PIPE, BULKHEAD AND ABANDON IN PLACE.
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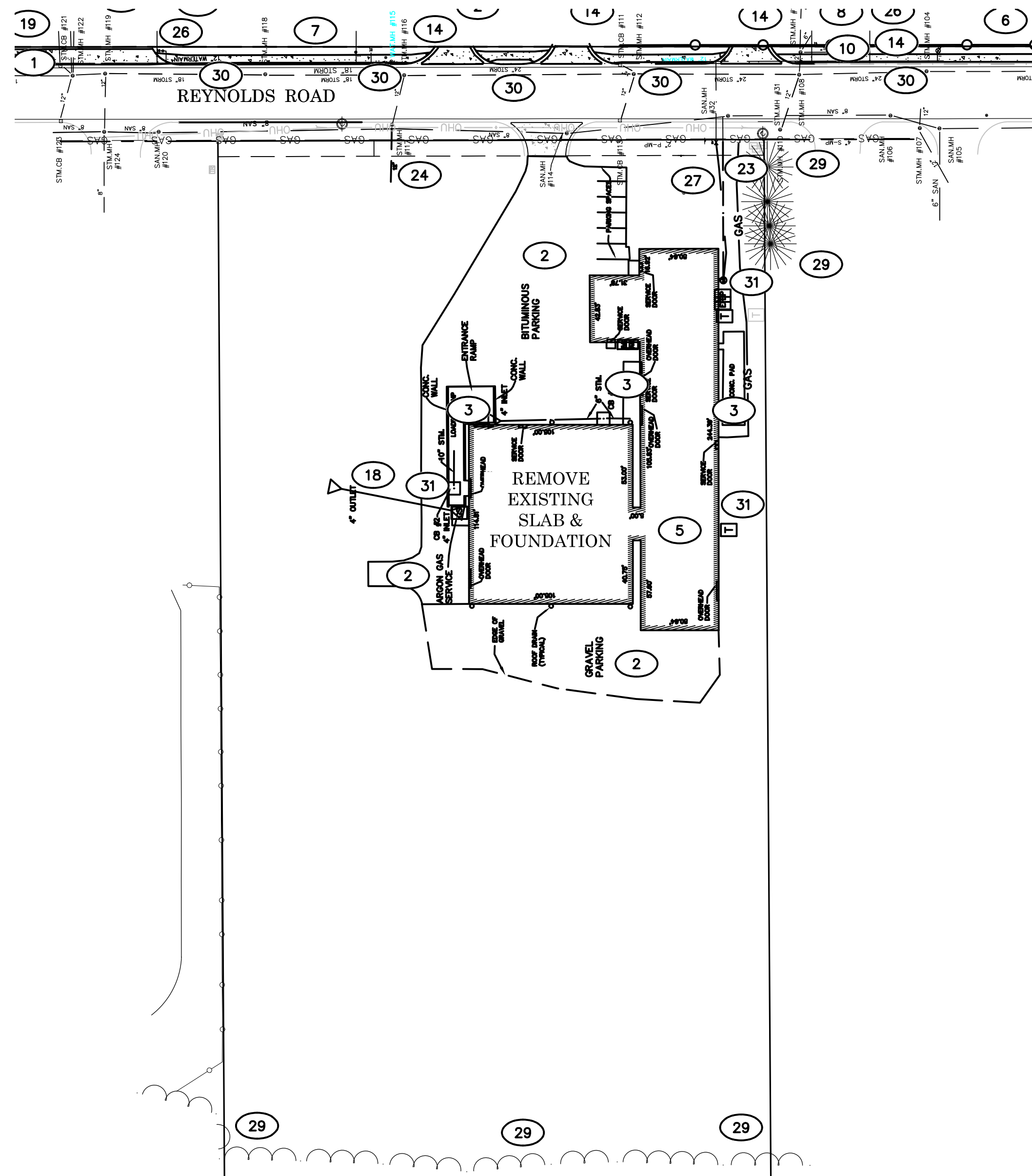
GENERAL NOTES

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NOTES:

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12. ALL RAMPS SHALL BE CONSTRUCTED TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT AND THE MICHIGAN BARRIER FREE CODE.



EXISTING LEGEND		PROPOSED LEGEND	
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---901---	CONTOUR - MNR	□	STORM SEWER
---	SANITARY SEWER	▣	WATER MAIN
---	STORM SEWER	⊗	GAS MAIN
---	WATER MAIN	⊠	CURB
---	GAS MAIN	⊡	GRAVEL
---	CABLE	○	ROW
---	ELECTRIC	○	PROPERTY LINE
---	TELEPHONE	○	SANITARY MANHOLE
---	OHU	○	SANITARY CLEAN OUT
---	CHAIN LINK FENCE	○	STORM MANHOLE
---	WOOD FENCE	○	STORM CATCH BASIN
---	BARB WIRE FENCE	○	STORM END SECTION
---	GUARDRAIL	○	HYDRANT
---	CURB	○	LANDSCAPE STONE
---	ROW	○	MAILBOX
---	PROPERTY LINE	○	RAILROAD MARKER
---	CENTERLINE	○	RAILROAD SWITCH
---	EASEMENT	○	DECIDUOUS TREE
---	RAILROAD	○	EVERGREEN TREE
---	SURFACE WATER	○	ORNAMENTAL TREE
---	TREE LINE	○	SHRUB
---	STRUCTURE	○	STUMP
---	ASPHALT	○	SOIL BORING
---	CONCRETE	○	SECTION CORNER
---	GRAVEL	○	FOUND PROPERTY IRON
		○	MONUMENT BOX
		○	BENCHMARK
		○	TRAVERSE POINT
		○	FINISH FLOOR
		○	POST
		○	STREET SIGN
		○	SIGN

NOT FOR CONSTRUCTION

PROJECT: PLANT 12 NEW BUILDING & PARKING LOT
 CITY OF CHARLOTTE
 EATON COUNTY, MICHIGAN
 SHEET TITLE: PRELIMINARY DEMOLITION PLAN

REVISION	DATE	DESCRIPTION

WOLVERINE
 Engineers & Surveyors, Inc.
 312 North Street
 Mason, Michigan 48854
 Ph: 317 676 5200
 Fax: 317 676 6396
 http://www.woleng.com

APPROVED	JCW
CHECKED	JCW
DRAWN	JMS
JOB NO.	15-0065
DATE	9/10/15
SCALE	1" = 60'
SHEET NO.	C5

- BENCHMARKS:**
- BM#1- FINISH FLOOR ELEVATION OF EATON COUNTY ROAD COMMISSION BUILDING AT MAIN OFFICE ENTRANCE ELEVATION= 894.33
 - BM#2- RAILROAD SPIKE EAST SIDE UTILITY POLE, WEST SIDE REYNOLDS STREET AT NORTHWEST CORNER OF SPARTAN MOTORS SITE ELEVATION= 890.66
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1. APPLICANT

PATRICK SALL
SPARTAN MOTORS, INC.
1541 REYNOLDS ROAD
CHARLOTTE, MICHIGAN 48813
PHONE: 517-597-3861
FAX: 517-543-9264

2. ZONING

- A. EXISTING: I-2, GENERAL INDUSTRIAL
- B. PROPOSED: I-2, GENERAL INDUSTRIAL

3. LAND USE

- A. EXISTING: AUTOMOTIVE FACTORY WITH GRAVEL PARKING.
- B. PROPOSED: AUTOMOTIVE FACTORY WITH GRAVEL PARKING.
- C. PERFORMANCE STANDARDS ARE NOT PROJECTED TO CHANGE FROM EXISTING CONDITIONS.
- D. ENVIRONMENTAL IMPACT IS NOT PROJECTED TO CHANGE FROM EXISTING CONDITIONS OR SIGNIFICANTLY AFFECT MUNICIPAL PUBLIC SYSTEMS.

4. FLOODPLAIN N/A

5. WETLANDS N/A

6. SITE INFORMATION

- A. ADDRESS: 1023 REYNOLDS ROAD
- B. PARCEL ID: 23-200-024-100-081-00
- C. TOTAL SITE: 863,464 S.F. - 19.82 ACRES
- D. PLANT 10 SITE: 232,743 S.F. - 5.34 ACRES
- E. PLANT 12 SITE: 630,721 S.F. - 14.48 ACRES
- F. EXISTING BUILDING AREA: 97,976 S.F.
- G. PROPOSED BUILDING AREA: 89,000 S.F.
- H. EXISTING PARKING AREA: 490,560 S.F.
- I. PROPOSED PAVEMENT: 243,187 S.F.
- J. PROPOSED GRAVEL: 457,463 S.F.
- K. DISTURBED AREA: 789,650 S.F./18.13 ACRES

7. LIMITS OF CONSTRUCTION

THE ENTIRE SITE WILL BE CONSIDERED WITHIN THE LIMITS OF CONSTRUCTION, WITHIN THE BOUNDARIES OF THE PROPERTY LINES.

8. PARKING REQUIREMENTS

- A. REQUIRED: 1 SPACE FOR 2 EMPLOYEES IN THE LARGEST WORKING SHIFT OR 1 FOR EACH 450 SQ. FT. OF USEABLE FLOOR AREA. (90 PERSONNEL PER SHIFT = 45 SPACES)
- B. PROVIDED: 73 SPACES & 4 ACCESSIBLE SPACES = 77 TOTAL SPACES.

9. LOADING SPACE REQUIREMENTS

- A. REQUIRED: 1 SPACE PLUS 1 SPACE FOR EACH 20,000 SQ. FT. IN EXCESS OF 20,001 SQ. FT. (89,000 SQ. FT. = 2 TOTAL SPACES.
- B. PROVIDED: 11 TOTAL SPACES.

10. LANDSCAPING REQUIREMENTS

- A. REQUIRED: 1 CANOPY TREE FOR EVERY 20 PARKING SPACES (MINIMUM 2 TREES) AND 10' WIDE GREENBELT WITH 1 TREE FOR EACH 75 LINEAR FEET OF STREET FRONTAGE AND 4 SHRUBS FOR EACH 20 LINEAR FEET OF STREET FRONTAGE.
- B. PROVIDED: 12 TREES FOR PARKING SPACES; 33 TREES AND 237 SHRUBS IN GREENBELTS ALONG MIKESSELL AND REYNOLDS STREETS.

11. SITE SIGNAGE

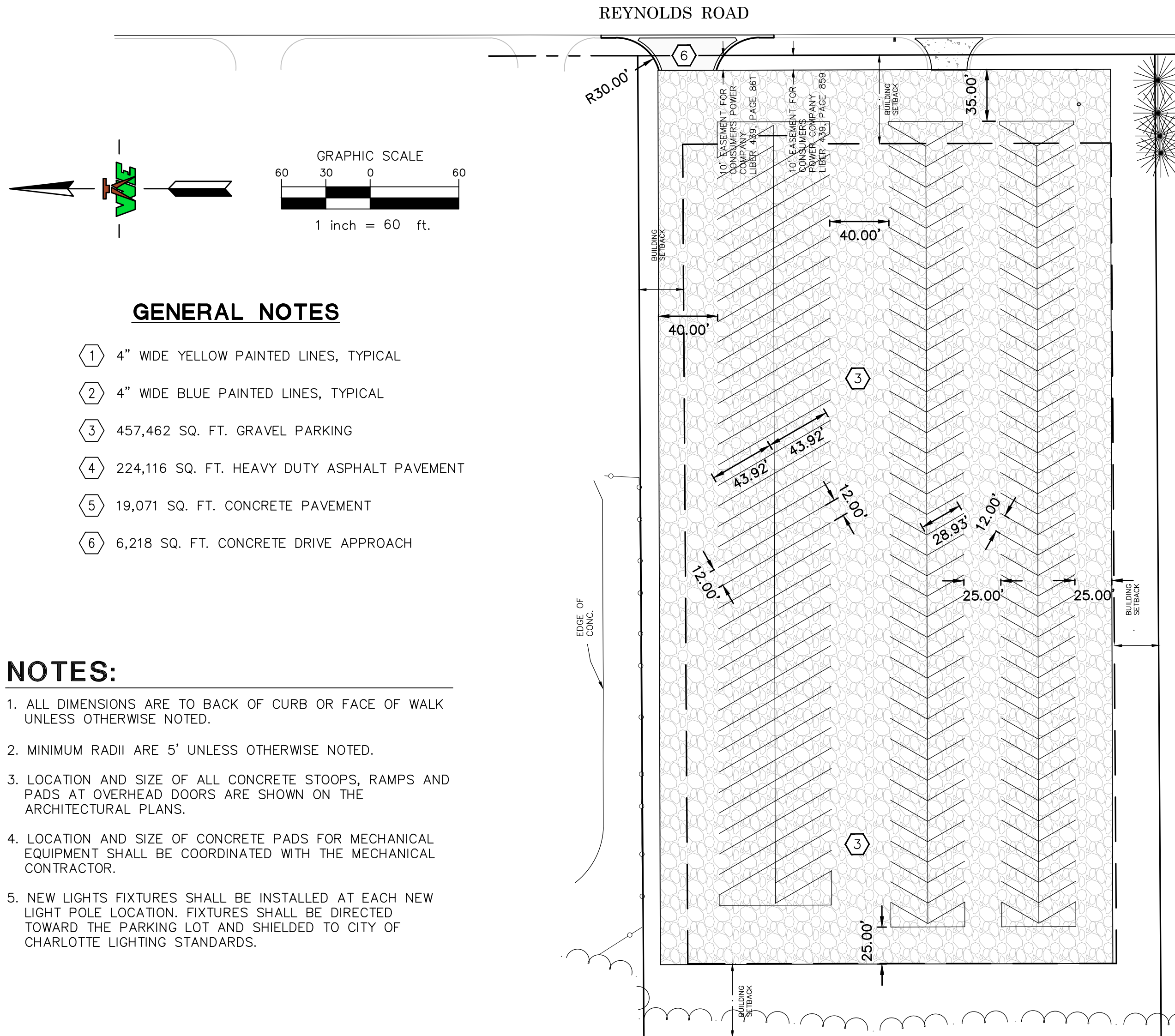
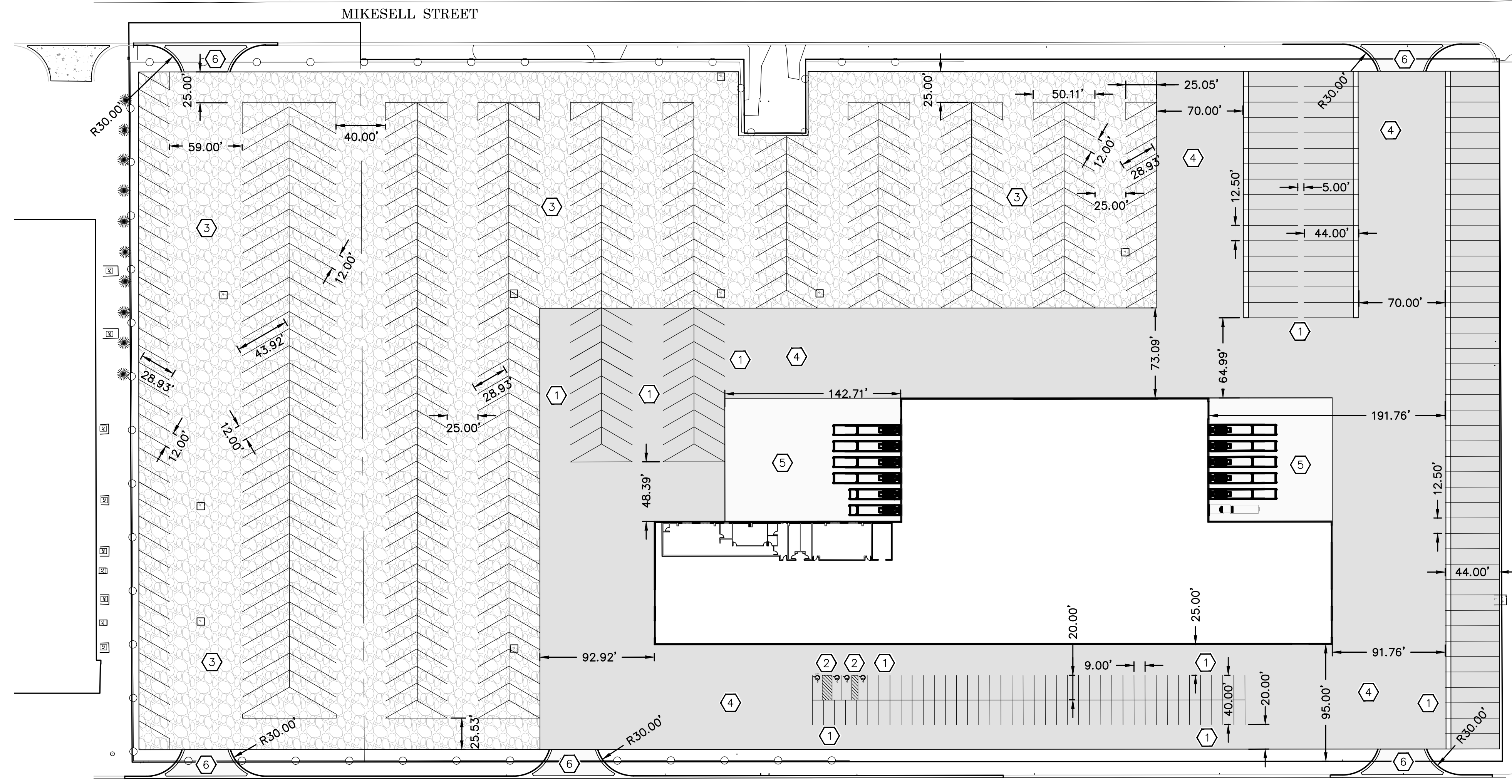
- A. ALLOWED: (1) 80 SQ. FT. ACCESSORY GROUND SIGN, NOT TO EXCEED 8' IN HEIGHT AND WALL SIGNS NOT TO EXCEED 100 SQ. FT. OR 10% OF THE AREA OF THE STRUCTURE WHERE THE SIGN IS LOCATED.
- B. PROVIDED: 1 GROUND SIGN

12. LIGHTING REQUIREMENTS

- A. SITE LIGHTING SHALL BE SHIELDED AND ARRANGED TO REFLECT AWAY FROM ADJACENT RESIDENTIAL DISTRICTS AND HIGHWAYS.

13. FENCING

- A. FENCES SHALL NOT EXCEED 8' IN HEIGHT. 3 STRAND BARBED WIRE IS PERMITTED, PROVIDED IT IS LOCATED TO PROJECT OVER THE PROPERTY BEING FENCED.



GENERAL NOTES

- 1 4" WIDE YELLOW PAINTED LINES, TYPICAL
- 2 4" WIDE BLUE PAINTED LINES, TYPICAL
- 3 457,462 SQ. FT. GRAVEL PARKING
- 4 224,116 SQ. FT. HEAVY DUTY ASPHALT PAVEMENT
- 5 19,071 SQ. FT. CONCRETE PAVEMENT
- 6 6,218 SQ. FT. CONCRETE DRIVE APPROACH

NOTES:

- 1. ALL DIMENSIONS ARE TO BACK OF CURB OR FACE OF WALK UNLESS OTHERWISE NOTED.
- 2. MINIMUM RADII ARE 5' UNLESS OTHERWISE NOTED.
- 3. LOCATION AND SIZE OF ALL CONCRETE STOOPS, RAMPS AND PADS AT OVERHEAD DOORS ARE SHOWN ON THE ARCHITECTURAL PLANS.
- 4. LOCATION AND SIZE OF CONCRETE PADS FOR MECHANICAL EQUIPMENT SHALL BE COORDINATED WITH THE MECHANICAL CONTRACTOR.
- 5. NEW LIGHTS FIXTURES SHALL BE INSTALLED AT EACH NEW LIGHT POLE LOCATION. FIXTURES SHALL BE DIRECTED TOWARD THE PARKING LOT AND SHIELDED TO CITY OF CHARLOTTE LIGHTING STANDARDS.

LEGAL DESCRIPTION: (PLANT 12)

A PARCEL OF LAND ON PART OF THE WEST 1/2 OF THE NORTHWEST 1/4, SECTION 24, T2N, R5W, CITY OF CHARLOTTE, COMMENCING AT THE NORTHWEST CORNER OF SECTION 24; THENCE N89°43'04"E 1324.96 FEET ALONG THE NORTH LINE OF SAID SECTION 24; THENCE S00°02'00"E 901.00 FEET ALONG THE EAST LINE OF THE WEST 1/2 OF THE NORTHWEST 1/4 OF SAID SECTION 24 TO THE POINT OF BEGINNING; THENCE S00°02'00"E 188.00 FEET; THENCE S89°44'10"W 30.00 FEET; THENCE S00°02'00"E 311.00 FEET; THENCE S89°44'10"W 60.00 FEET; THENCE S00°02'00"E 50.00 FEET; THENCE N89°44'10"E 60.00 FEET; THENCE S00°02'00"E 562.80 FEET; THENCE S89°44'10"W 570.00 FEET; THENCE N00°02'00"W 1111.80 FEET; THENCE N89°44'10"E 600.00 FEET TO THE POINT OF BEGINNING, SUBJECT TO ALL EASEMENTS AND RIGHTS OF WAY OF RECORD.

LEGAL DESCRIPTION: (PARKING LOT)

LOT 15 OF DEAN INDUSTRIAL PARK, CITY OF CHARLOTTE, EATON COUNTY, MICHIGAN, ACCORDING TO THE RECORDED PLAT THEREOF AS RECORDED IN LIBER6 OF PLATS, PAGES 18 AND 19, EATON COUNTY RECORDS.

NOT FOR CONSTRUCTION

PROJECT: PLANT 12 NEW BUILDING & PARKING LOT
CITY OF CHARLOTTE
EATON COUNTY, MICHIGAN
PRELIMINARY SITE PLAN

APPROVED	JCW
CHECKED	JCW
DRAWN	JMS
JOB NO.	15-0065
DATE	9/10/15
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SHEET NO.	C6

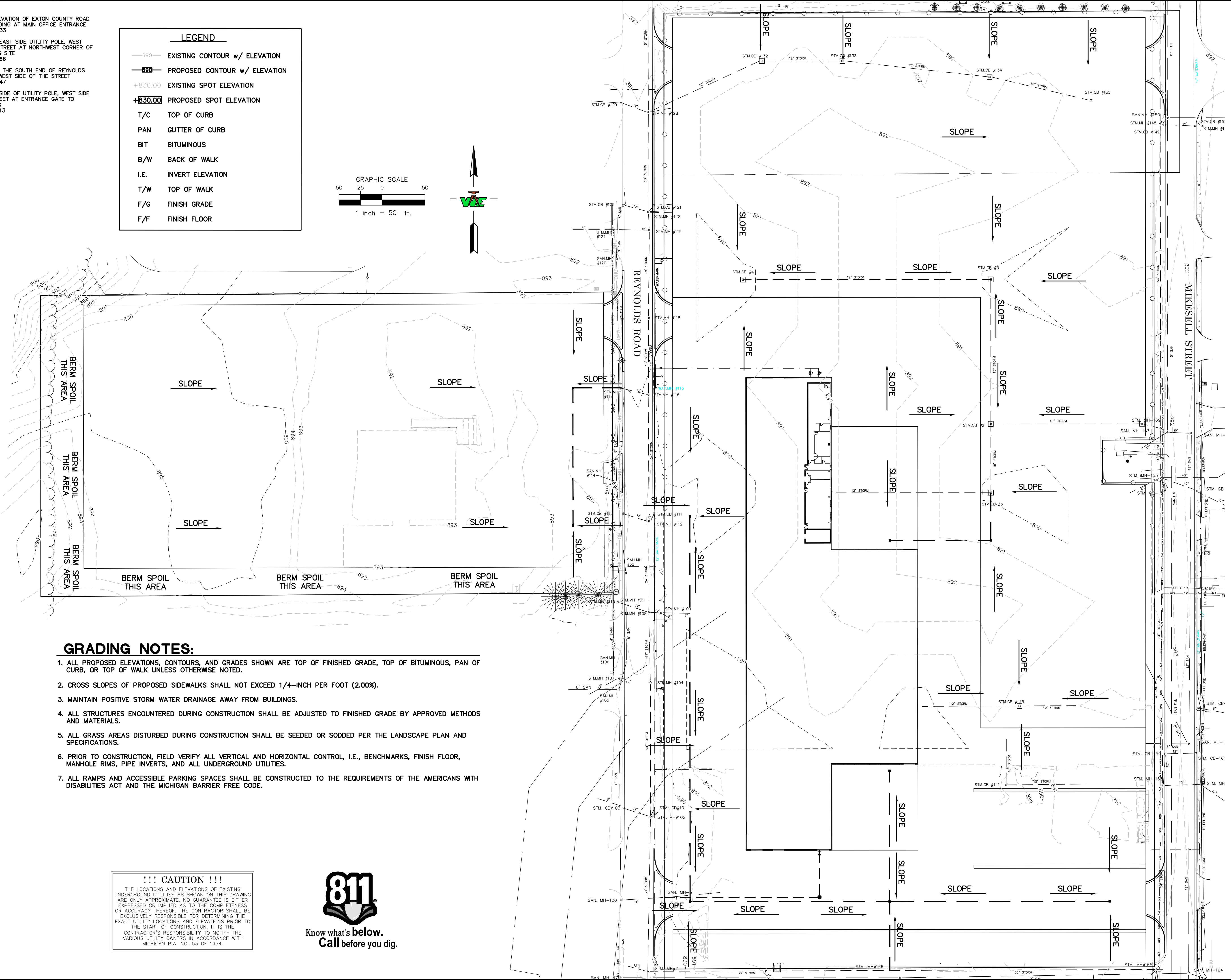
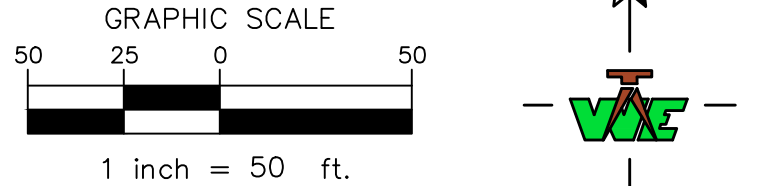
WOLVERINE
Engineers & Surveyors, Inc.
312 North Street
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Ph: 317 676 9200
F: 317 676 9396
http://www.woleng.com

REVISION	DATE	DESCRIPTION

S:\Projects\2015\15-0065\C3D\DWGs\06 PRELIMINARY SITE PLAN.dwg, Friday, September 11, 2015, 10:17:09 AM, James Schinemon

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LEGEND	
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— 890 —	PROPOSED CONTOUR w/ ELEVATION
+830.00	EXISTING SPOT ELEVATION
+830.00	PROPOSED SPOT ELEVATION
T/C	TOP OF CURB
PAN	GUTTER OF CURB
BIT	BITUMINOUS
B/W	BACK OF WALK
I.E.	INVERT ELEVATION
T/W	TOP OF WALK
F/G	FINISH GRADE
F/F	FINISH FLOOR



GRADING NOTES:

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2. CROSS SLOPES OF PROPOSED SIDEWALKS SHALL NOT EXCEED 1/4-INCH PER FOOT (2.00%).
3. MAINTAIN POSITIVE STORM WATER DRAINAGE AWAY FROM BUILDINGS.
4. ALL STRUCTURES ENCOUNTERED DURING CONSTRUCTION SHALL BE ADJUSTED TO FINISHED GRADE BY APPROVED METHODS AND MATERIALS.
5. ALL GRASS AREAS DISTURBED DURING CONSTRUCTION SHALL BE SEEDED OR SODDED PER THE LANDSCAPE PLAN AND SPECIFICATIONS.
6. PRIOR TO CONSTRUCTION, FIELD VERIFY ALL VERTICAL AND HORIZONTAL CONTROL, I.E., BENCHMARKS, FINISH FLOOR, MANHOLE RIMS, PIPE INVERTS, AND ALL UNDERGROUND UTILITIES.
7. ALL RAMPS AND ACCESSIBLE PARKING SPACES SHALL BE CONSTRUCTED TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT AND THE MICHIGAN BARRIER FREE CODE.

!!! CAUTION !!!
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REVISION	DATE	DESCRIPTION

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F: 317 676 5396
http://www.woleng.com

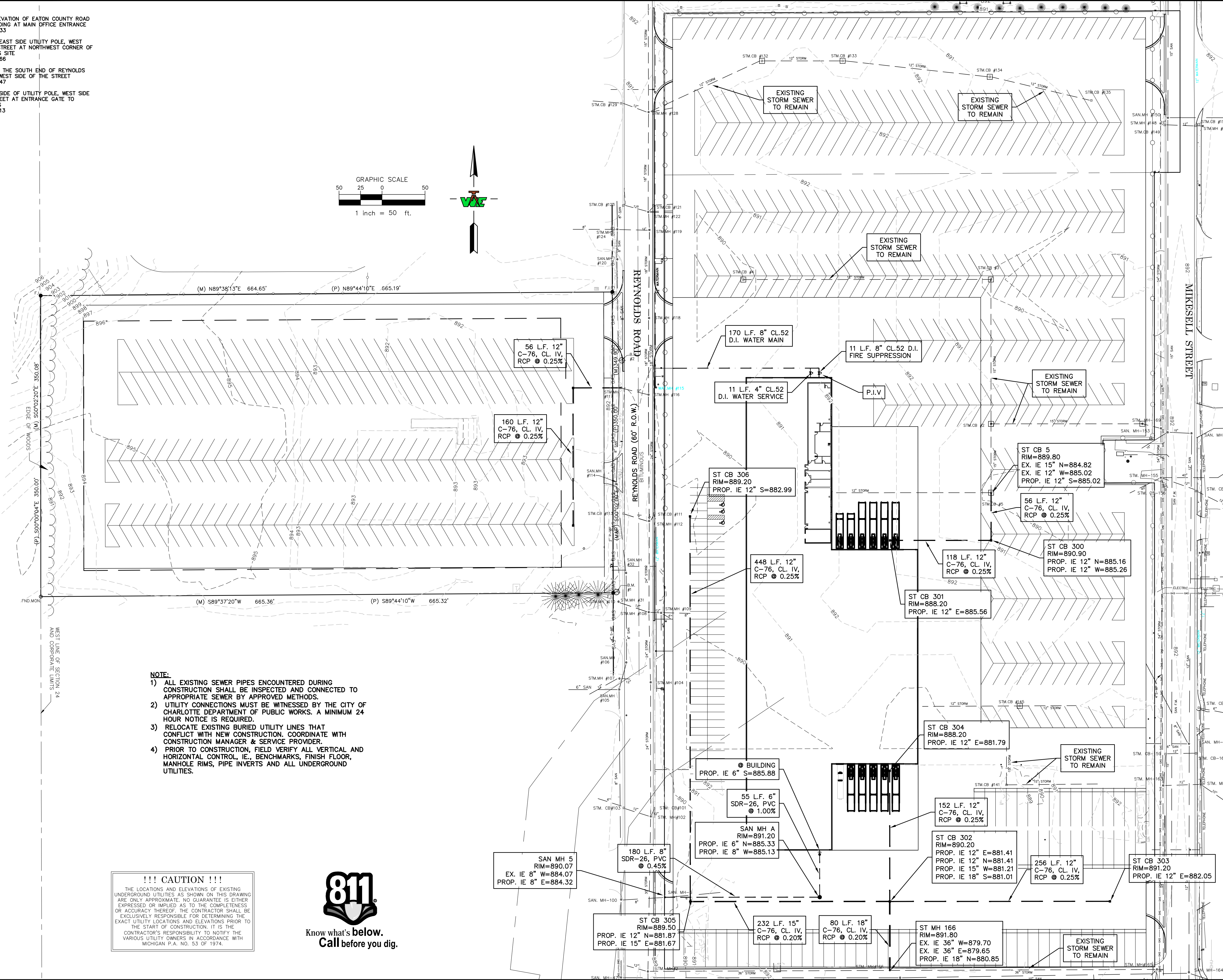
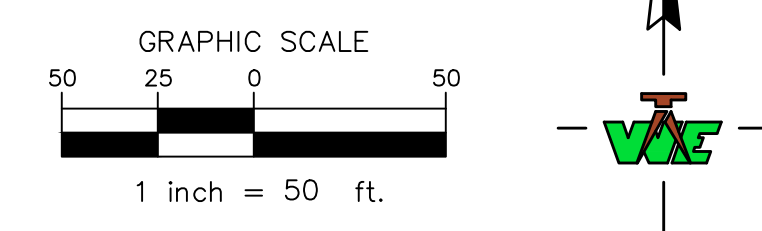
NOT FOR CONSTRUCTION

PROJECT	PLANT 12 NEW BUILDING & PARKING LOT
APPROVED	JCW
CHECKED	JCW
DRAWN	JMS
JOB NO.	15-0065
DATE	9/10/15
SCALE	1" = 50'
SHEET NO.	C7

PROJECT TITLE: PLANT 12 NEW BUILDING & PARKING LOT
CITY OF CHARLOTTE
EATON COUNTY, MICHIGAN
PRELIMINARY GRADING PLAN

S:\Projects\2015\15-0065\CSD\DWGs\07 PRELIMINARY GRADING PLAN.dwg, Friday, September 11, 2015 10:19:47 AM, James Schreiner

- BENCHMARKS:**
- BM#1- FINISH FLOOR ELEVATION OF EATON COUNTY ROAD COMMISSION BUILDING AT MAIN OFFICE ENTRANCE ELEVATION= 894.33
 - BM#2- RAILROAD SPIKE EAST SIDE UTILITY POLE, WEST SIDE REYNOLDS STREET AT NORTHWEST CORNER OF SPARTAN MOTORS SITE ELEVATION= 890.66
 - BM#3- TVS HYDRANT AT THE SOUTH END OF REYNOLDS STREET ON THE WEST SIDE OF THE STREET ELEVATION= 894.47
 - BM#4- SPIKE IN SOUTH SIDE OF UTILITY POLE, WEST SIDE OF MIKESELL STREET AT ENTRANCE GATE TO SPARTAN MOTORS ELEVATION= 893.13



- NOTE:**
- 1) ALL EXISTING SEWER PIPES ENCOUNTERED DURING CONSTRUCTION SHALL BE INSPECTED AND CONNECTED TO APPROPRIATE SEWER BY APPROVED METHODS.
 - 2) UTILITY CONNECTIONS MUST BE WITNESSED BY THE CITY OF CHARLOTTE DEPARTMENT OF PUBLIC WORKS. A MINIMUM 24 HOUR NOTICE IS REQUIRED.
 - 3) RELOCATE EXISTING BURIED UTILITY LINES THAT CONFLICT WITH NEW CONSTRUCTION. COORDINATE WITH CONSTRUCTION MANAGER & SERVICE PROVIDER.
 - 4) PRIOR TO CONSTRUCTION, FIELD VERIFY ALL VERTICAL AND HORIZONTAL CONTROL, I.E., BENCHMARKS, FINISH FLOOR, MANHOLE RIMS, PIPE INVERTS AND ALL UNDERGROUND UTILITIES.

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REVISION	DATE	DESCRIPTION
1	02/27/12	JMS

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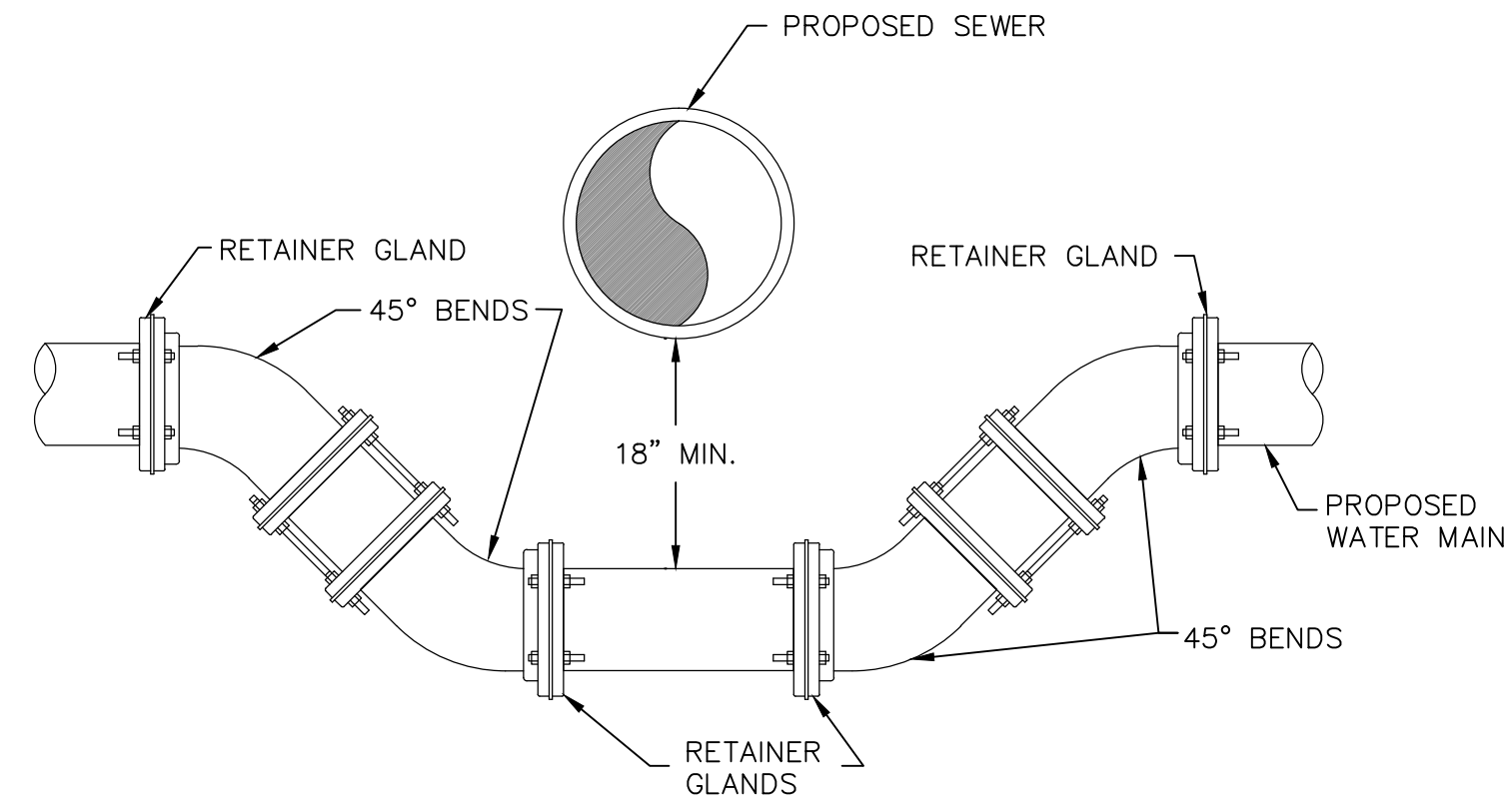
312 North Street
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Ph: 317 676 9200
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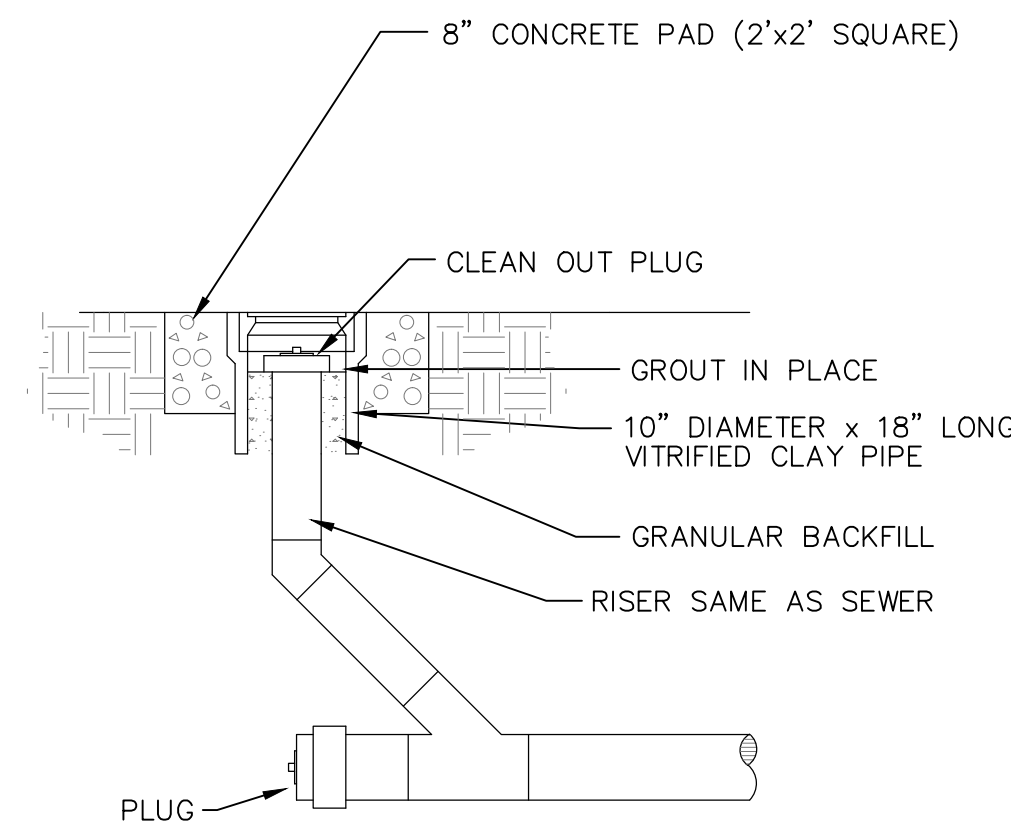
PROJECT: PLANT 12 NEW BUILDING & PARKING LOT
CITY OF CHARLOTTE
EATON COUNTY, MICHIGAN
PRELIMINARY UTILITY PLAN

APPROVED	JCW
CHECKED	JCW
DRAWN	JMS
JOB NO.	15-0065
DATE	9/10/15
SCALE	1" = 50'
SHEET NO.	C8

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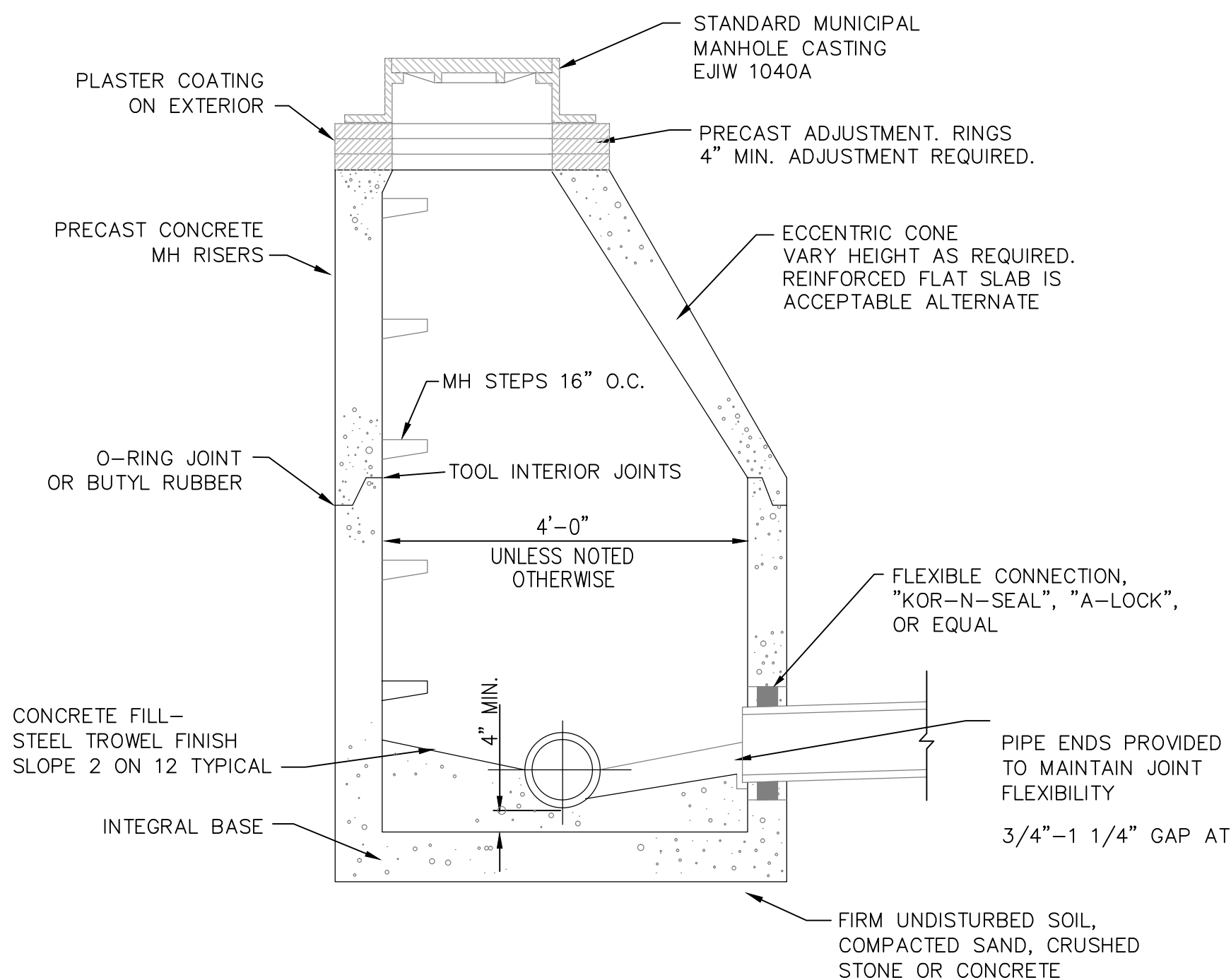


8 LOWERING WATER MAIN DETAIL
NO SCALE

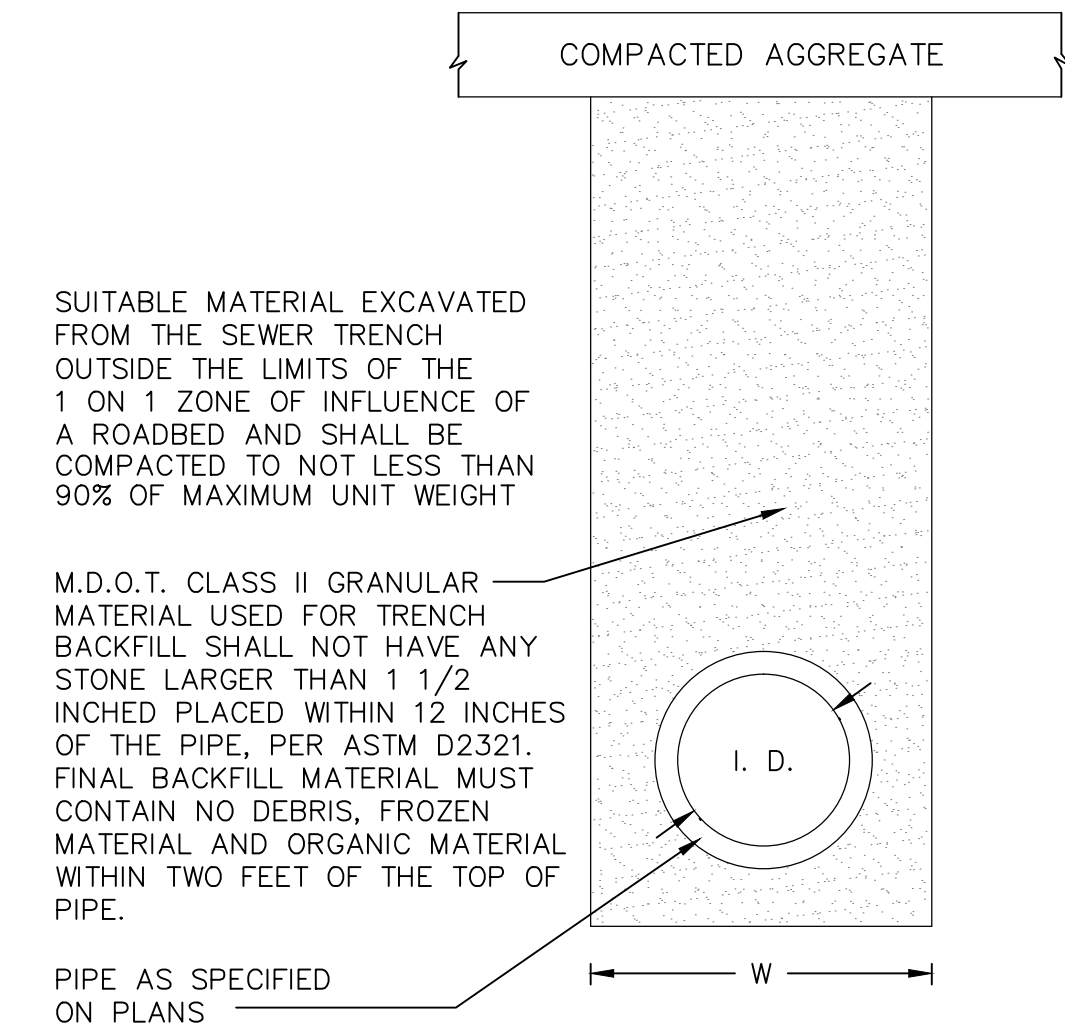


NOTE:
THE CLEAN OUT SHALL BE INSTALL ONLY
AFTER THE SEWER AIR TEST HAS BEN
APPROVED BY THE MUNICIPAL ENGINEER.

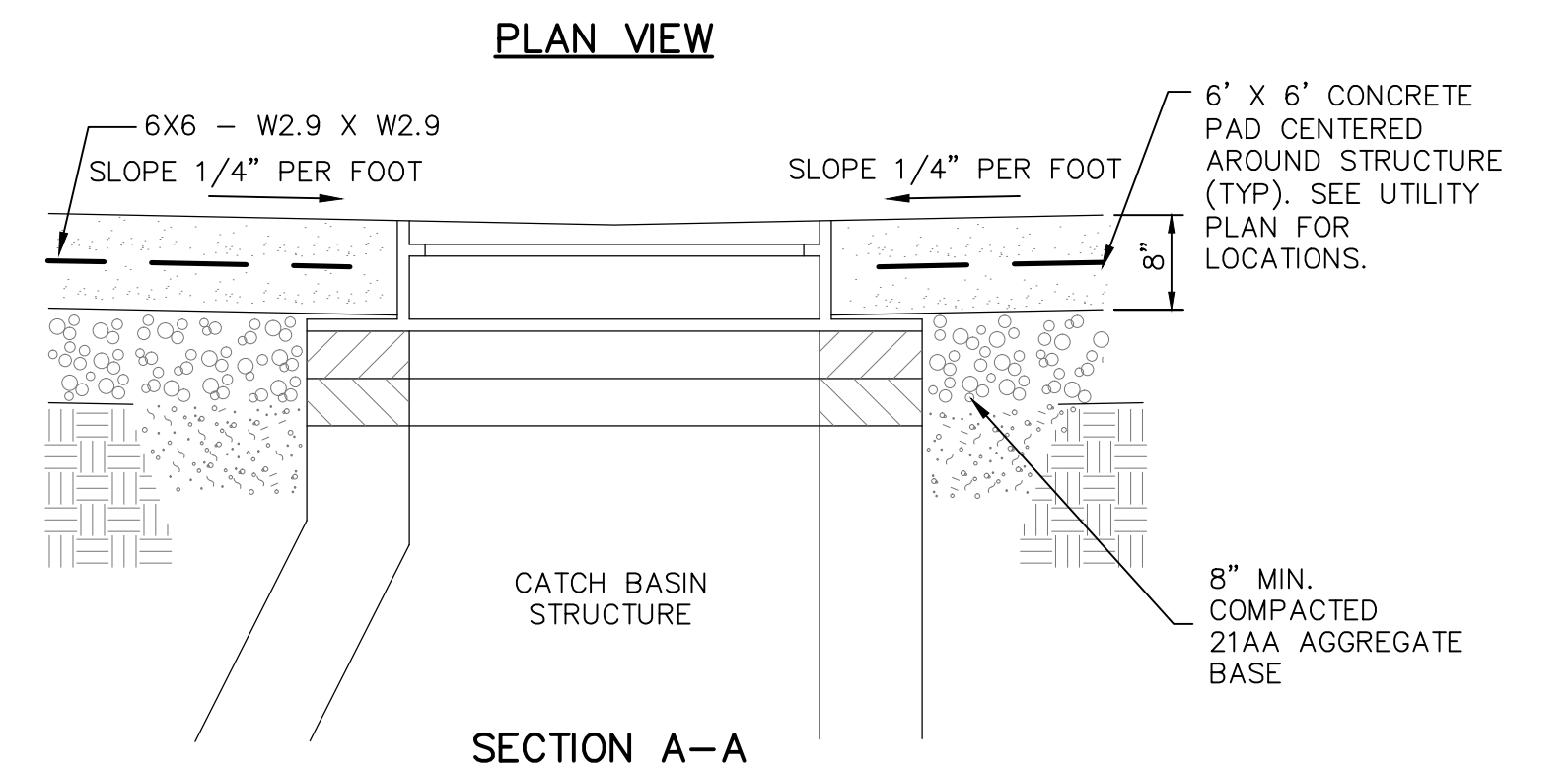
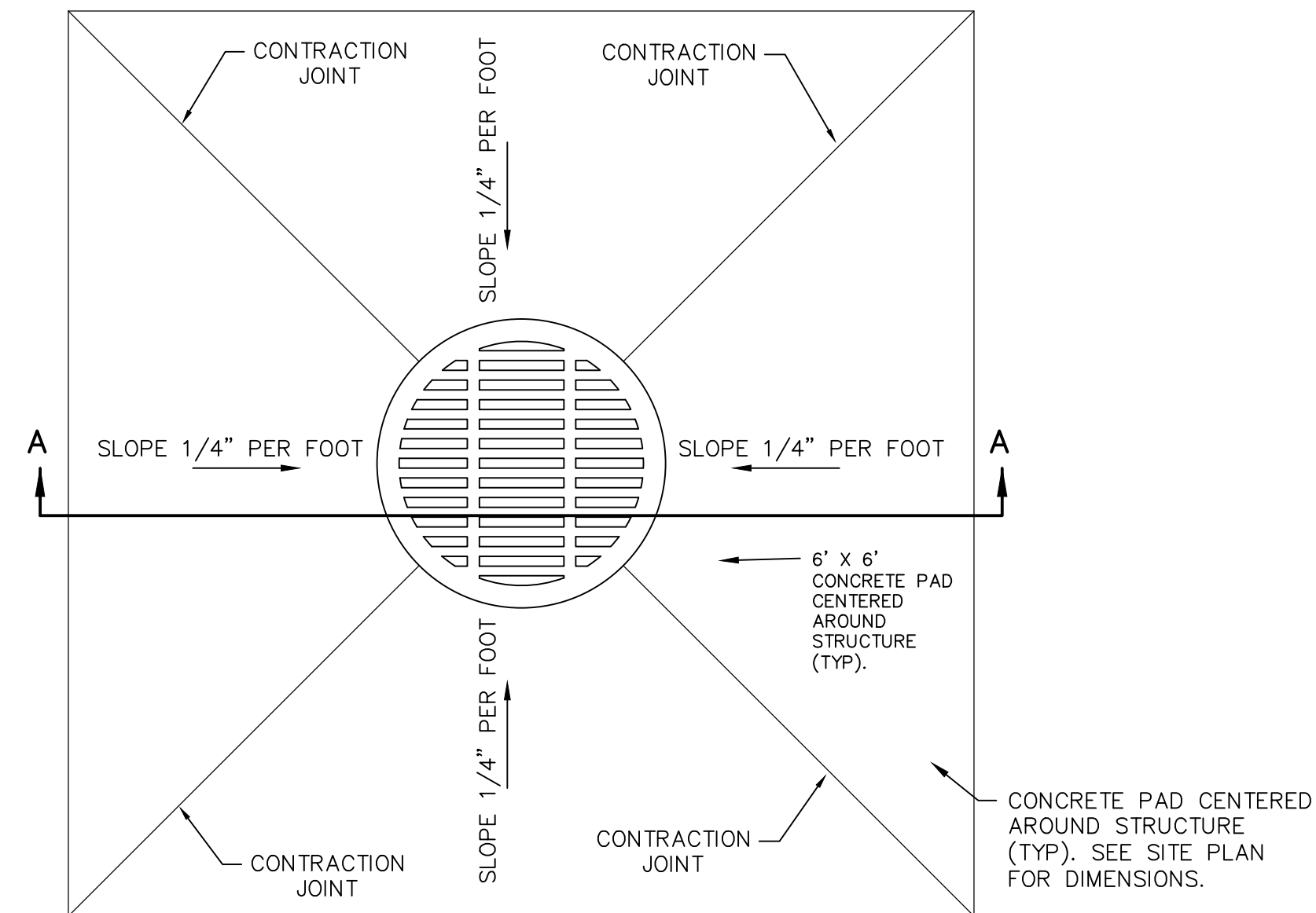
7 CLEAN OUT DETAIL
NO SCALE



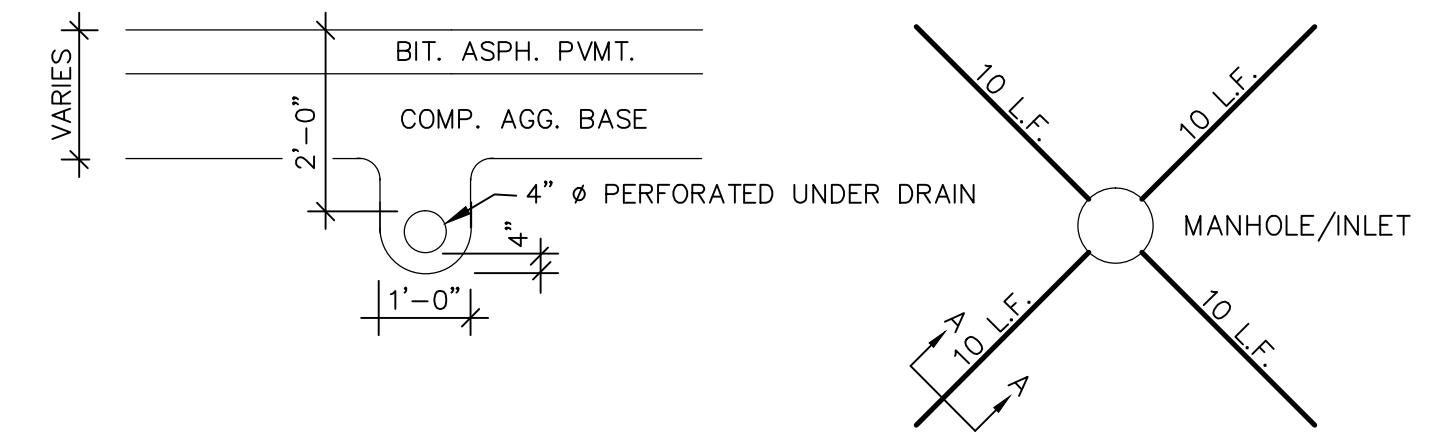
6 SANITARY MANHOLE DETAIL
NO SCALE



5 UTILITY TRENCH UNDER OR WITHIN INFLUENCE OF PAVEMENT
NO SCALE

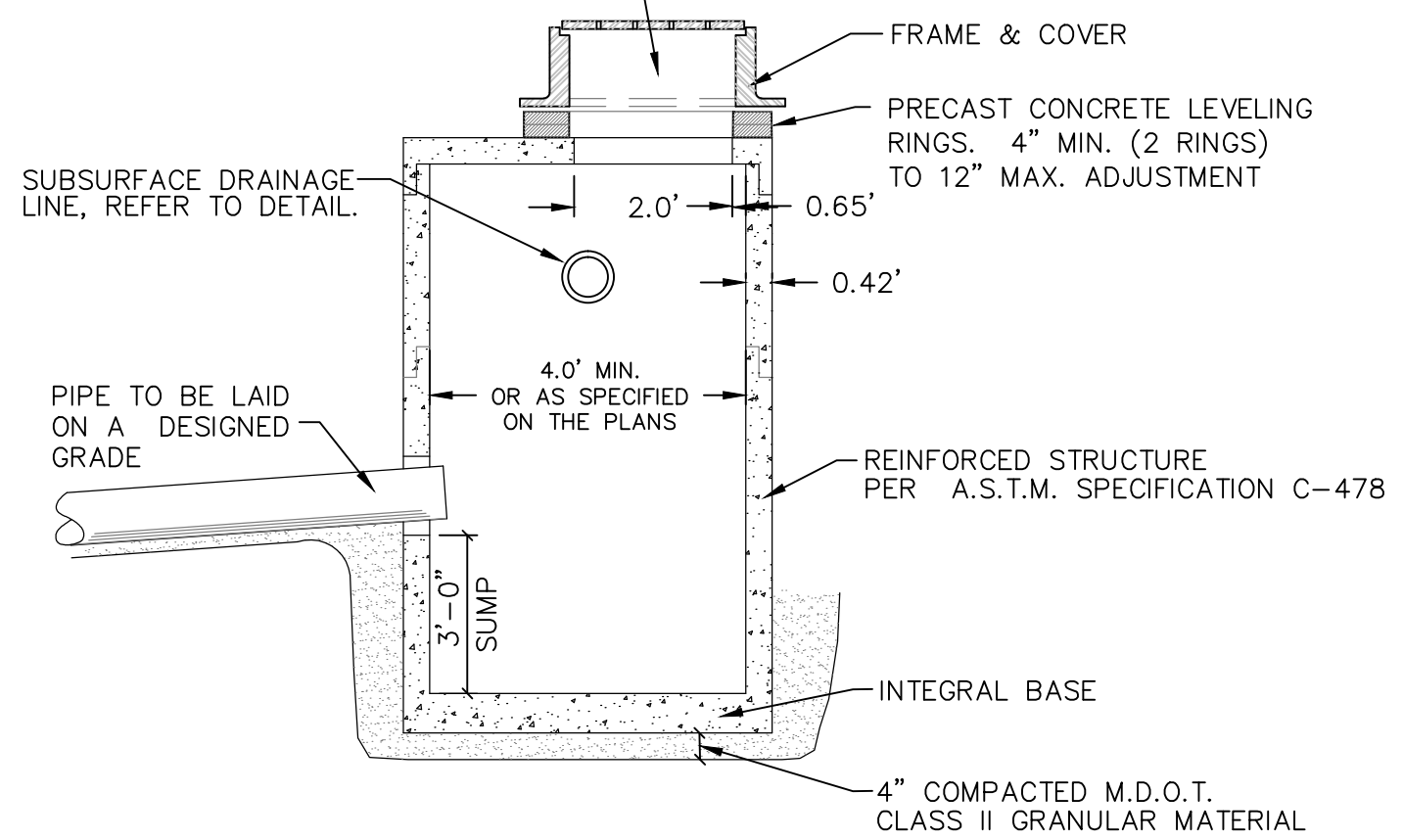
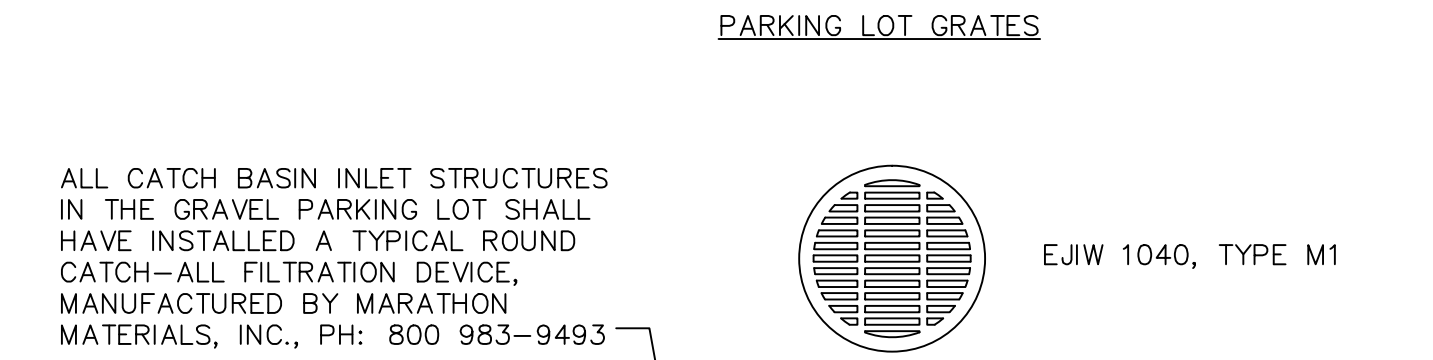


4 CONCRETE APRON AT CATCH BASIN
NO SCALE

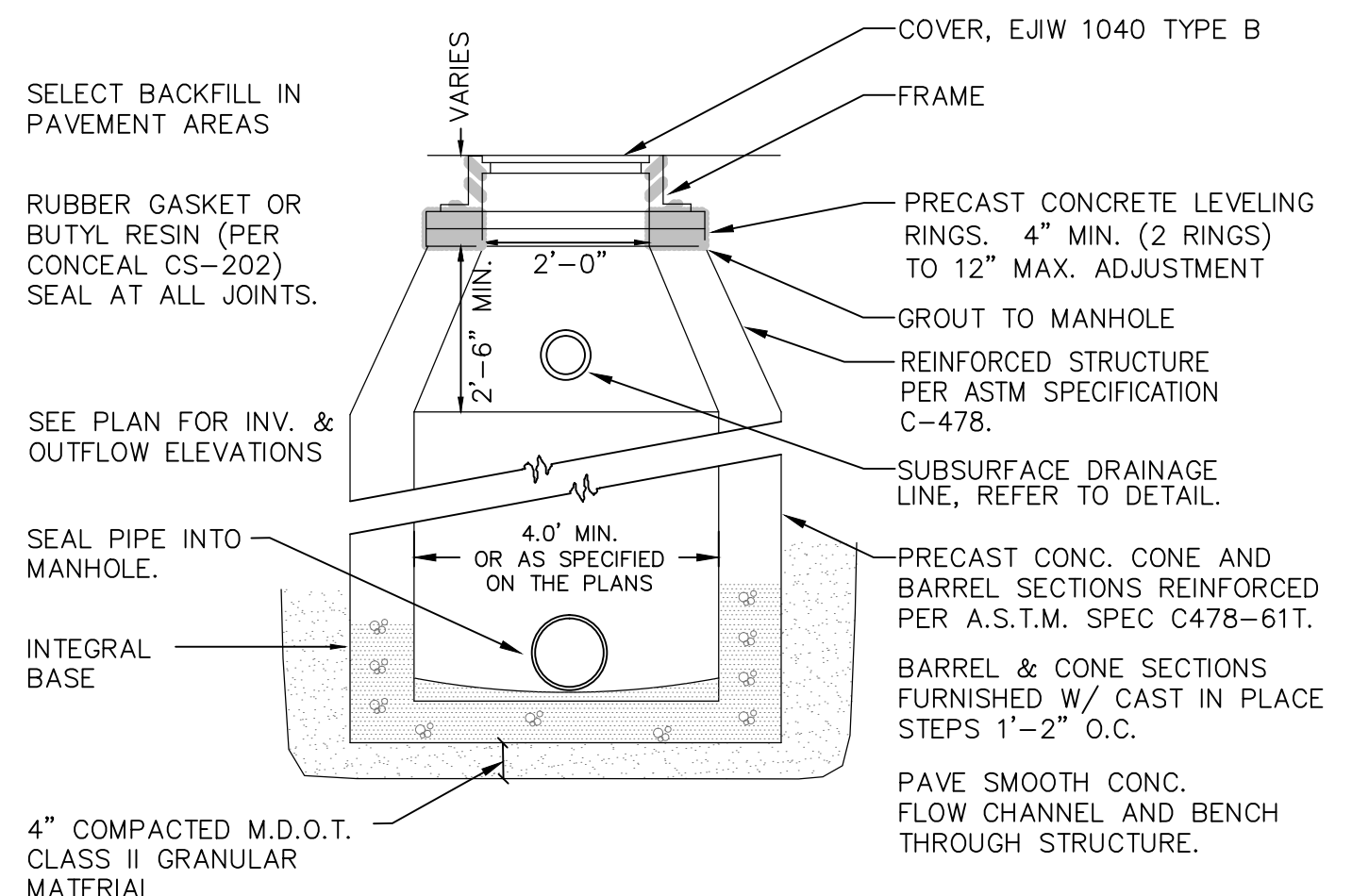


TAP STRUCTURES IN PARKING AREA AS SHOWN.
ADJUST TUBING AS REQUIRED TO AVOID SEWER LINES.
TYPICAL TO ALL INLET STRUCTURES LOCATED IN PARKING AREAS.

3 STRUCTURES IN PAVEMENT DETAIL
NO SCALE



2 CATCH BASIN INLET STRUCTURE WITH 3' SUMP
NO SCALE



1 STORM MANHOLE DETAIL
NO SCALE

NOT FOR CONSTRUCTION

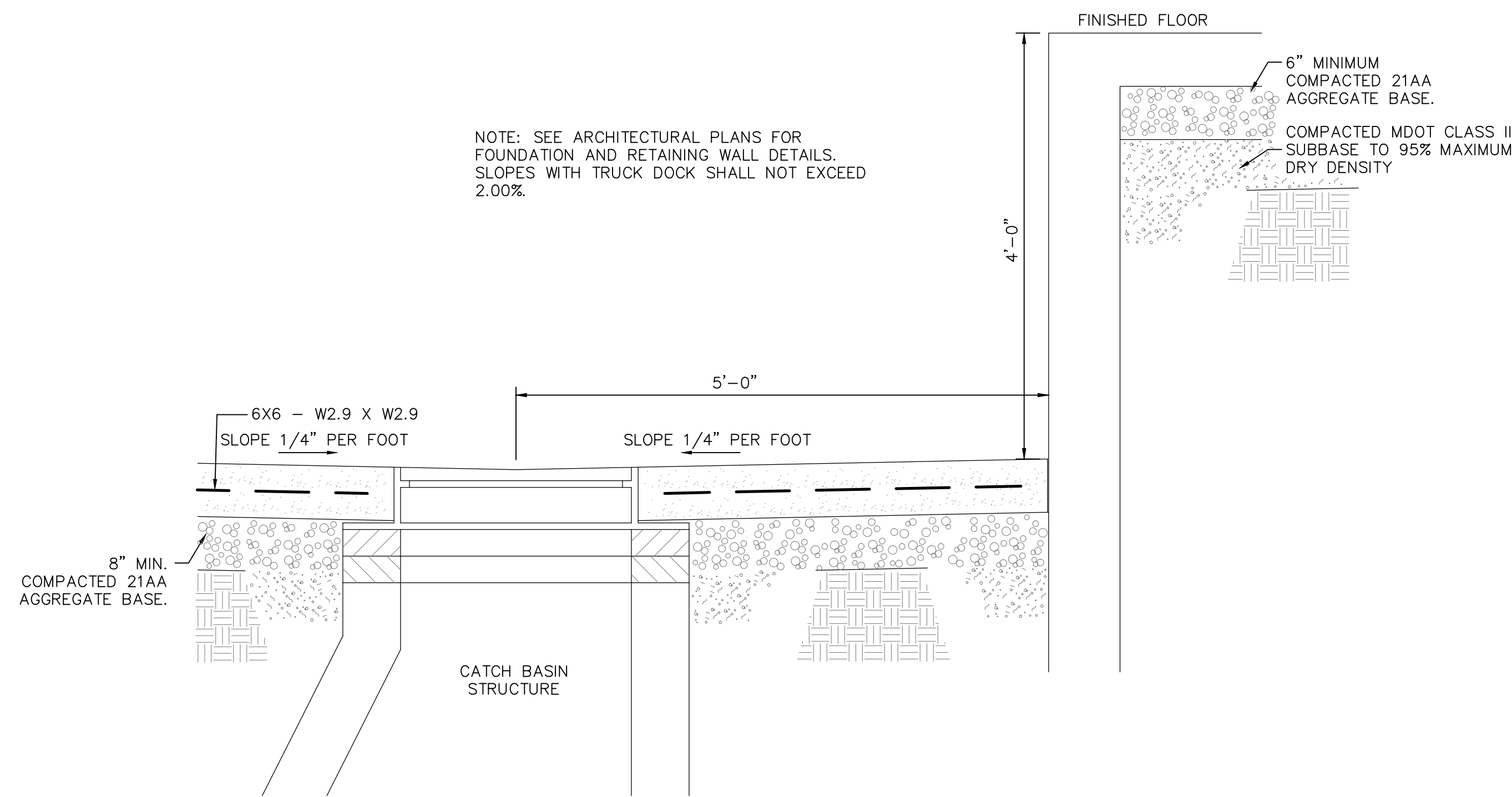
PLANT 12 NEW BUILDING & PARKING LOT
CITY OF CHARLOTTE
EATON COUNTY, MICHIGAN
PRELIMINARY DETAILS & NOTES

REVISION	DATE	DESCRIPTION

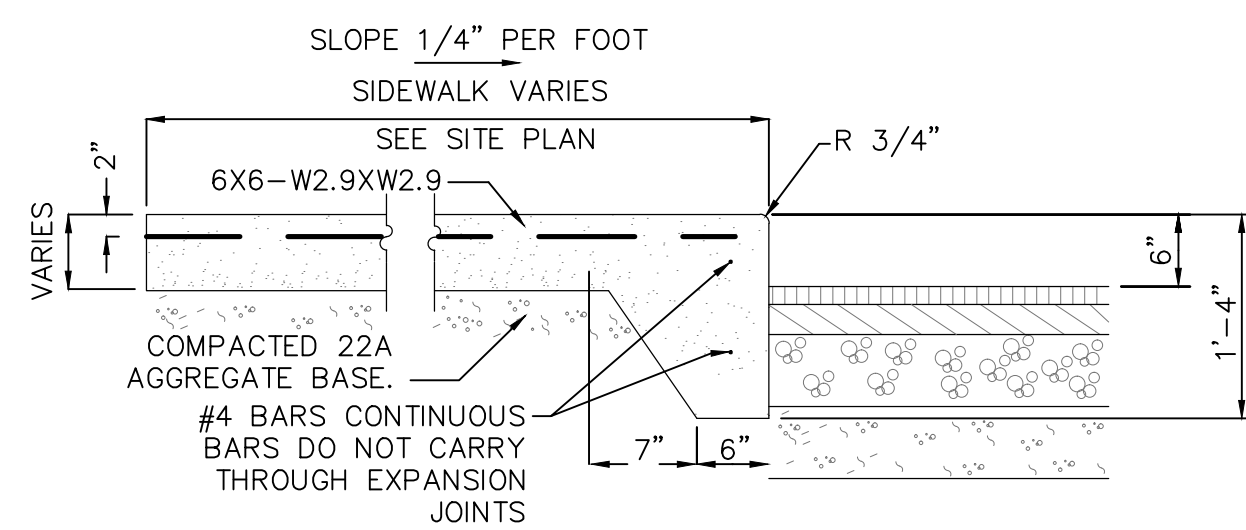
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PROJECT	APPROVED	JCW
CHECKED	DRAWN	JCW
JMS	JOB NO.	15-0065
DATE	SCALE	9/10/15
NO SCALE	SHEET NO.	C9

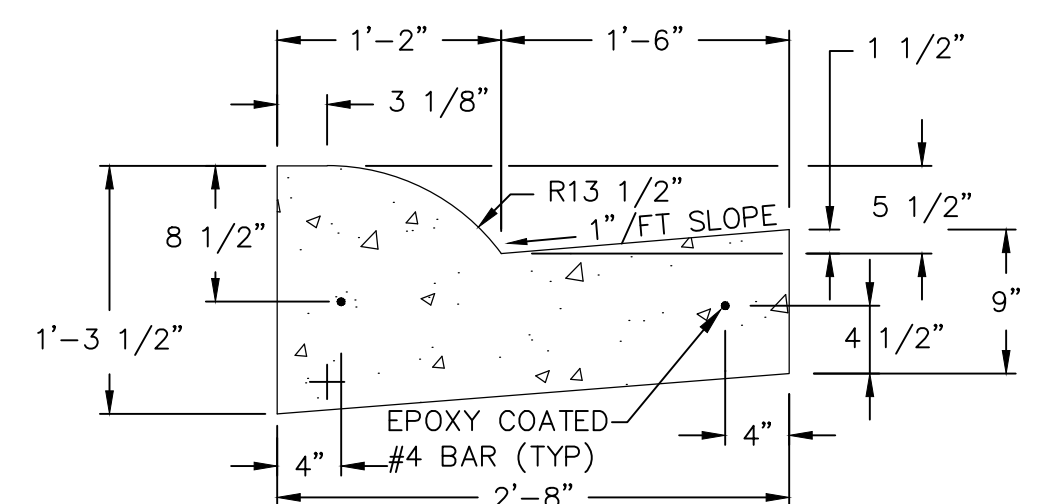
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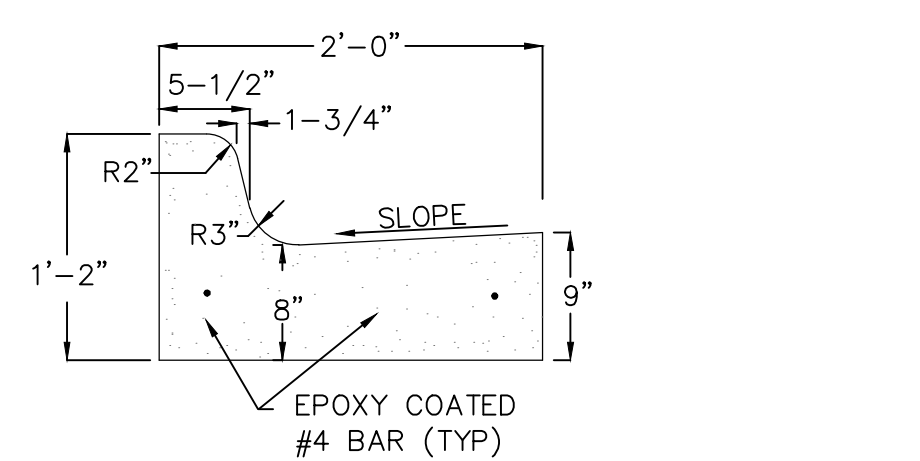
23 TRUCK LOADING DOCK DETAIL
NO SCALE



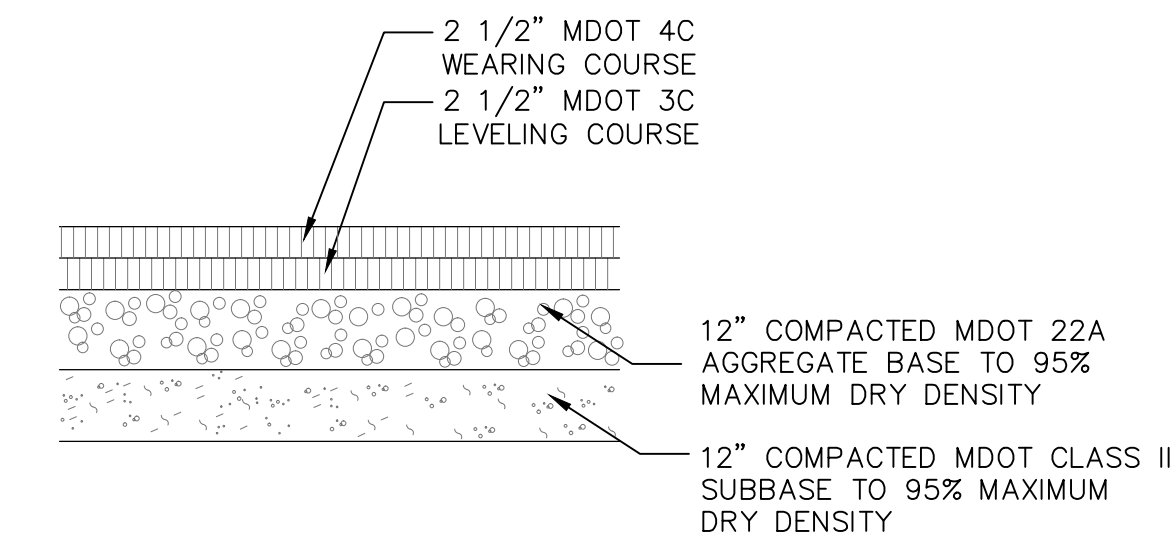
22 THICKENED EDGED WALK
NO SCALE



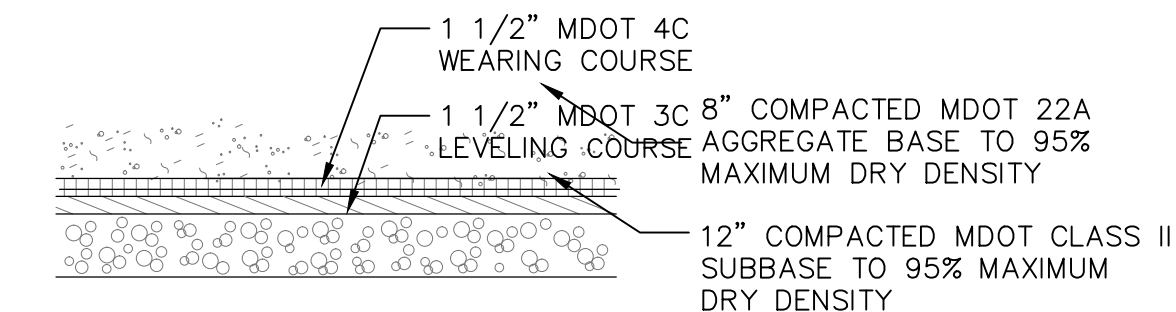
21 MDOT B2 CURB DETAIL
NO SCALE



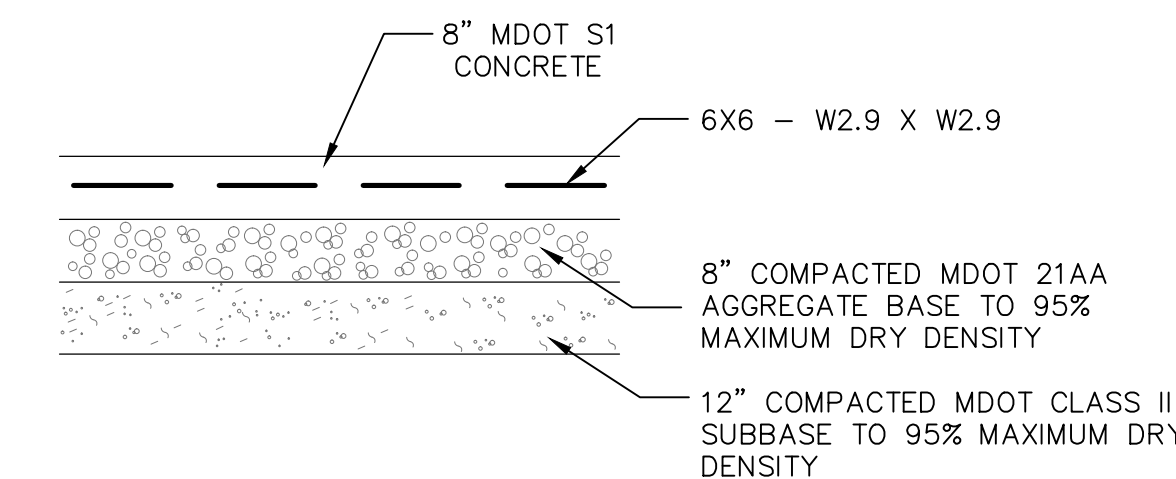
20 MDOT F4 CURB DETAIL
NO SCALE



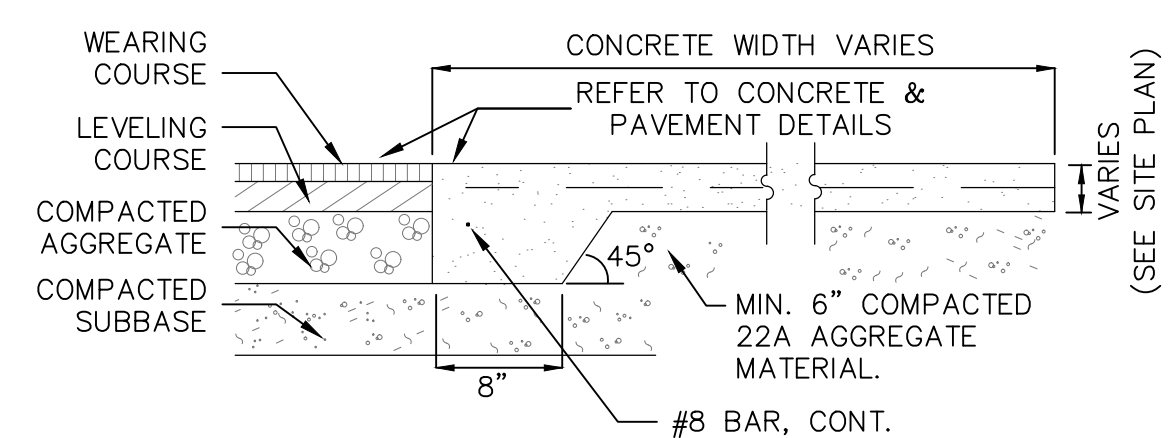
19 HEAVY DUTY PAVEMENT
NO SCALE



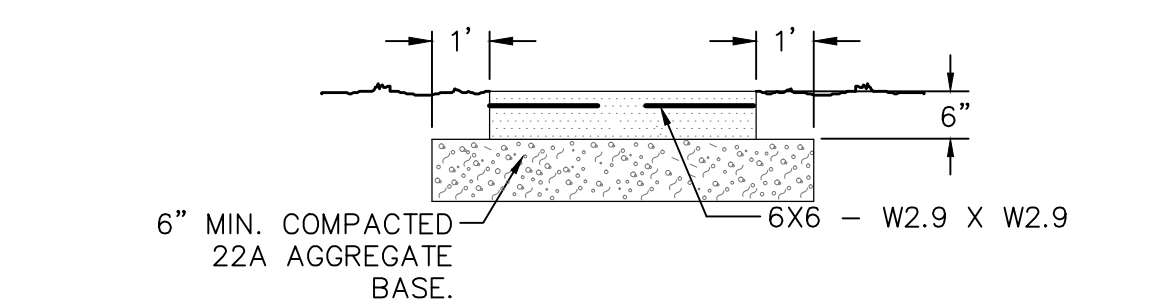
18 STANDARD DUTY PAVEMENT
NO SCALE



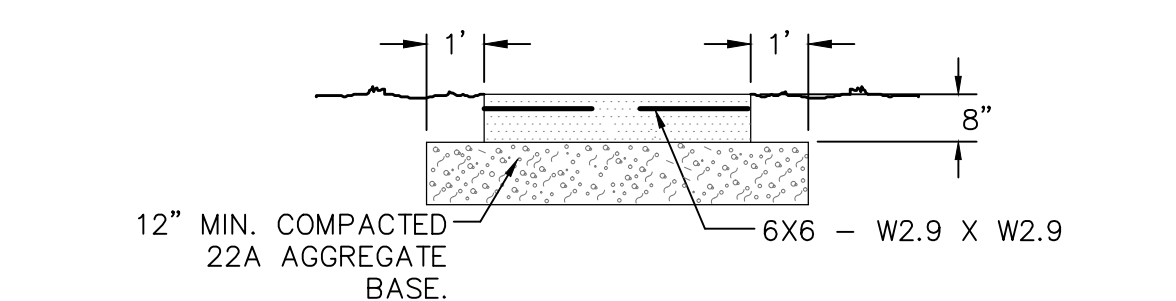
17 CONCRETE PAVEMENT
NO SCALE



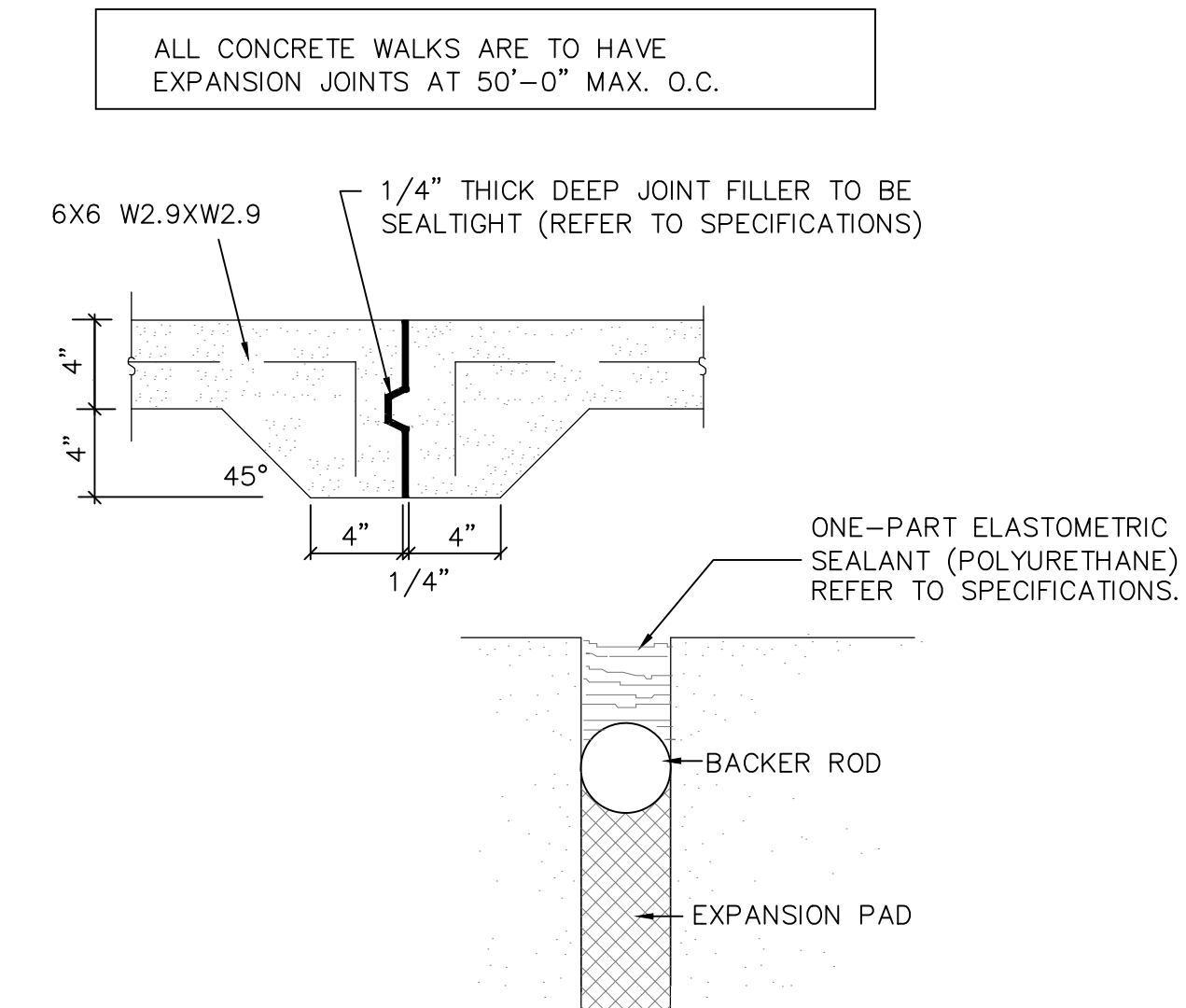
16 CONCRETE PAD AT PAVEMENT
NO SCALE



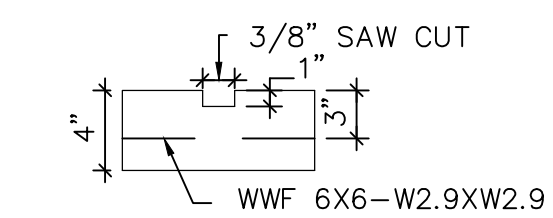
15 6" CONCRETE PAD
NO SCALE



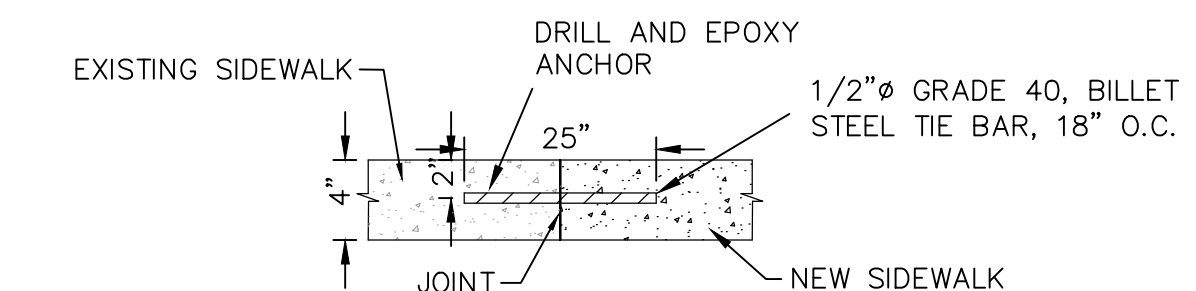
14 8" CONCRETE PAD
NO SCALE



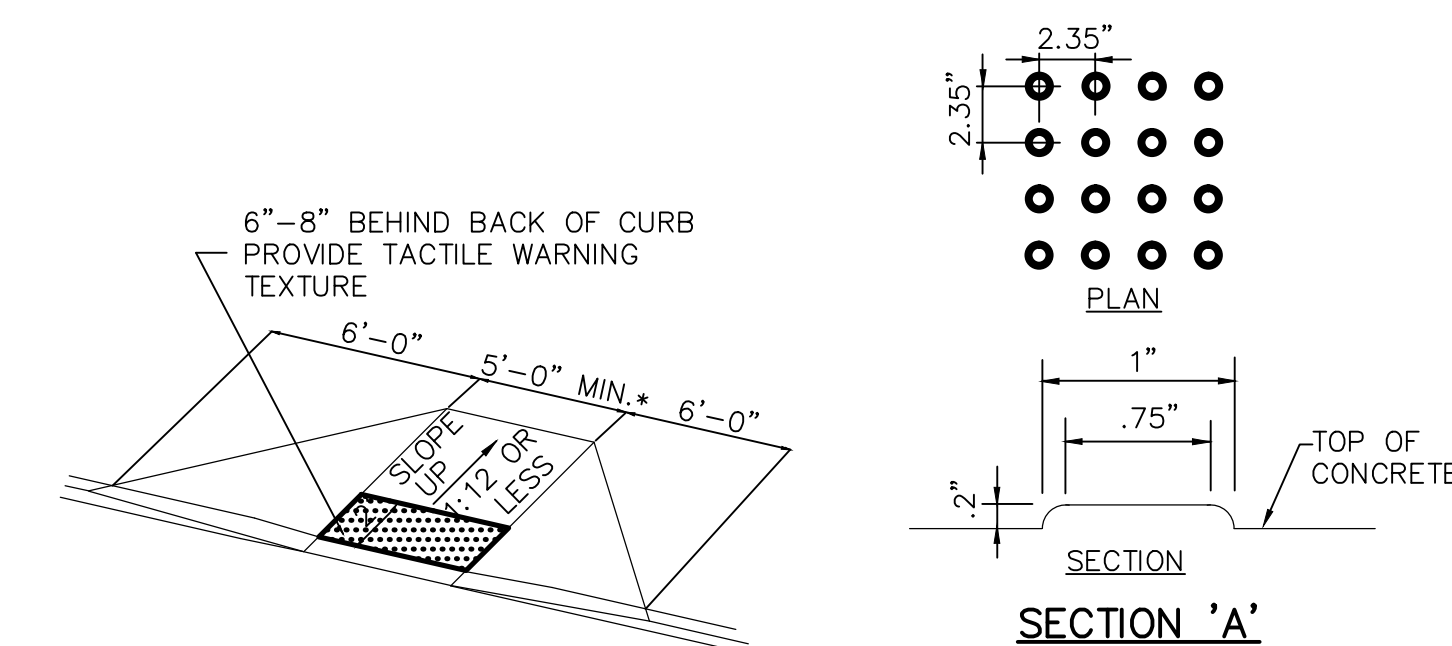
13 EXPANSION JOINT
NO SCALE



12 CONTRACTION JOINTS
NO SCALE



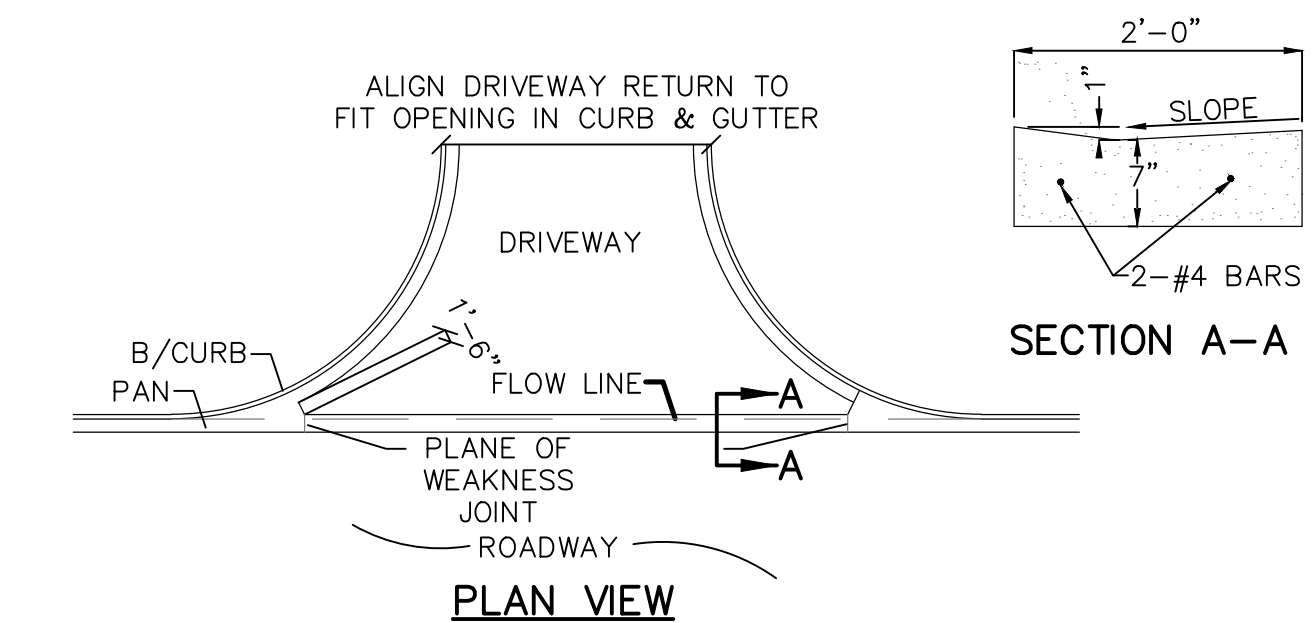
11 TIED JOINT
NO SCALE



*NOTE: RAMP WIDTH IS TO BE 5' UNLESS OTHERWISE NOTED ON THE PLAN. INSTALL TACTILE WARNING TEXTURE ON RAMP. SEE SECTION 'A'.

NOTE: INSTALL TACTILE WARNING TEXTURE AT EXTERIOR RAMPED WALKS IN A BAND 2'-0" DEEP x WIDTH OF WALK. EAST JORDAN IRON WORKS DETECTABLE WARNING PLATES. 1-800-566-3549.

10 ACCESSIBLE RAMP
NO SCALE



9 MDOT TYPE M OPENING
NO SCALE

NOT FOR CONSTRUCTION

PLANT 12 NEW BUILDING & PARKING LOT
CITY OF CHARLOTTE
EATON COUNTY, MICHIGAN

PRELIMINARY DETAILS & NOTES

REVISION	DATE	DESCRIPTION

WOLVERINE
Engineers & Surveyors, Inc.

312 North Street
Mason, Michigan 48854
Ph: 317 676 9200
F: 317 676 9596
http://www.woleng.com

PROJECT	APPROVED	JCW
CHECKED	JCW	
DRAWN	JMS	
JOB NO.	15-0065	
DATE	9/10/15	
SCALE	NO SCALE	
SHEET NO.	C10	

S:\Projects\2015\15-0065\CSD\DWGs\C10 PRELIMINARY DETAILS & NOTES.dwg, Friday, September 11, 2015 10:21:53 AM, James Schineman

S:\Projects\2015\15-0065\C3D\DWGs\C11 PRELIMINARY DETAILS & NOTES.dwg, Friday, September 11, 2015, 10:22:41 AM, James Schineman

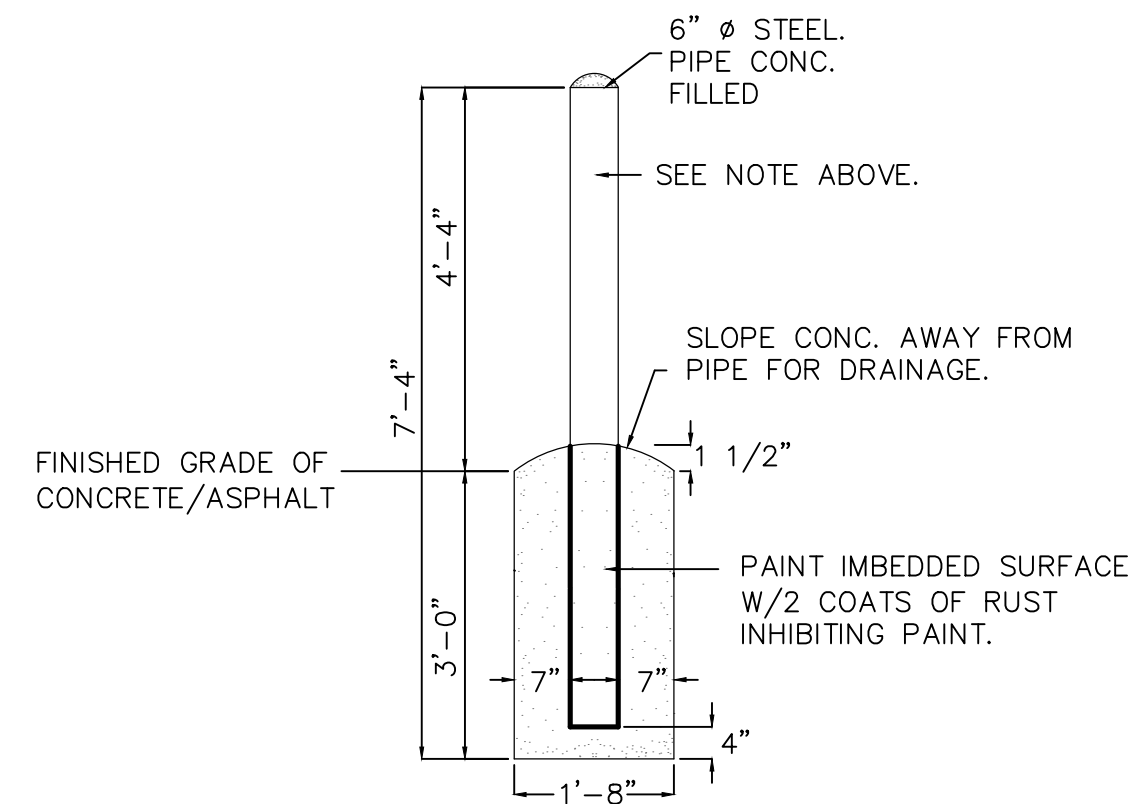
TABLE OF STANDARD MATERIALS

ADA Warning Plate	EJIW 7005 & 7006
Sanitary Manhole Castings	EJIW 1040A "SANITARY"
Storm Manhole Castings	EJIW 1040B "STORM"
Storm Catch Basin Castings	
Curb Type	EJIW 7045, M1 "DUMP NO WASTE"
Ditch Type	EJIW 6517 "DUMP NO WASTE"
Parking Lots	EJIW 1040, Type M1 "DUMP NO WASTE"
Walk ADA Type	EJIW 1040, Type M3 "DUMP NO WASTE"
Cleanout Type	EJIW 6312, "CLEANOUT"
Water Manhole Casting	EJIW 1040A "WATER"

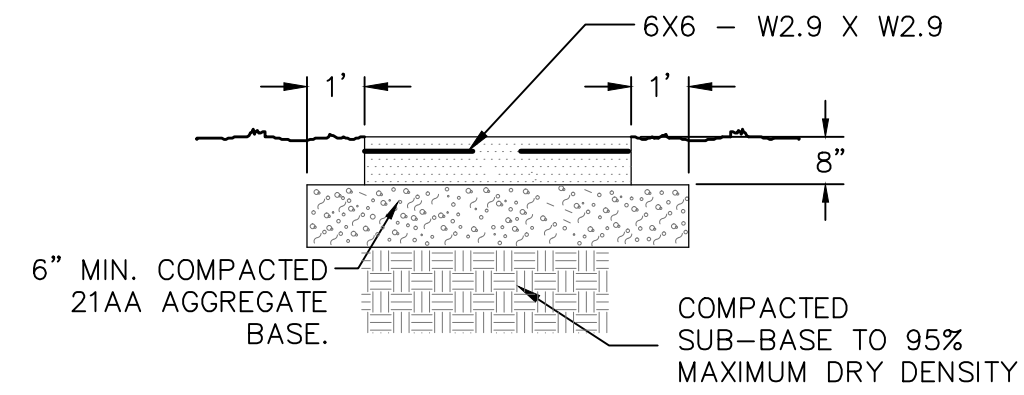
EXISTING AND PROPOSED CATCH BASINS LOCATED WITHIN AREAS TO BE CURBED AND PAVED SHALL BE CORED FOR 4-INCH SOCKED PREFORATED UNDERDRAIN.

NOTE:
BOLLARDS OUTSIDE OF THE DUMPSTER ENCLOSURE SHALL HAVE POWDER COAT PAINT, COLOR YELLOW.

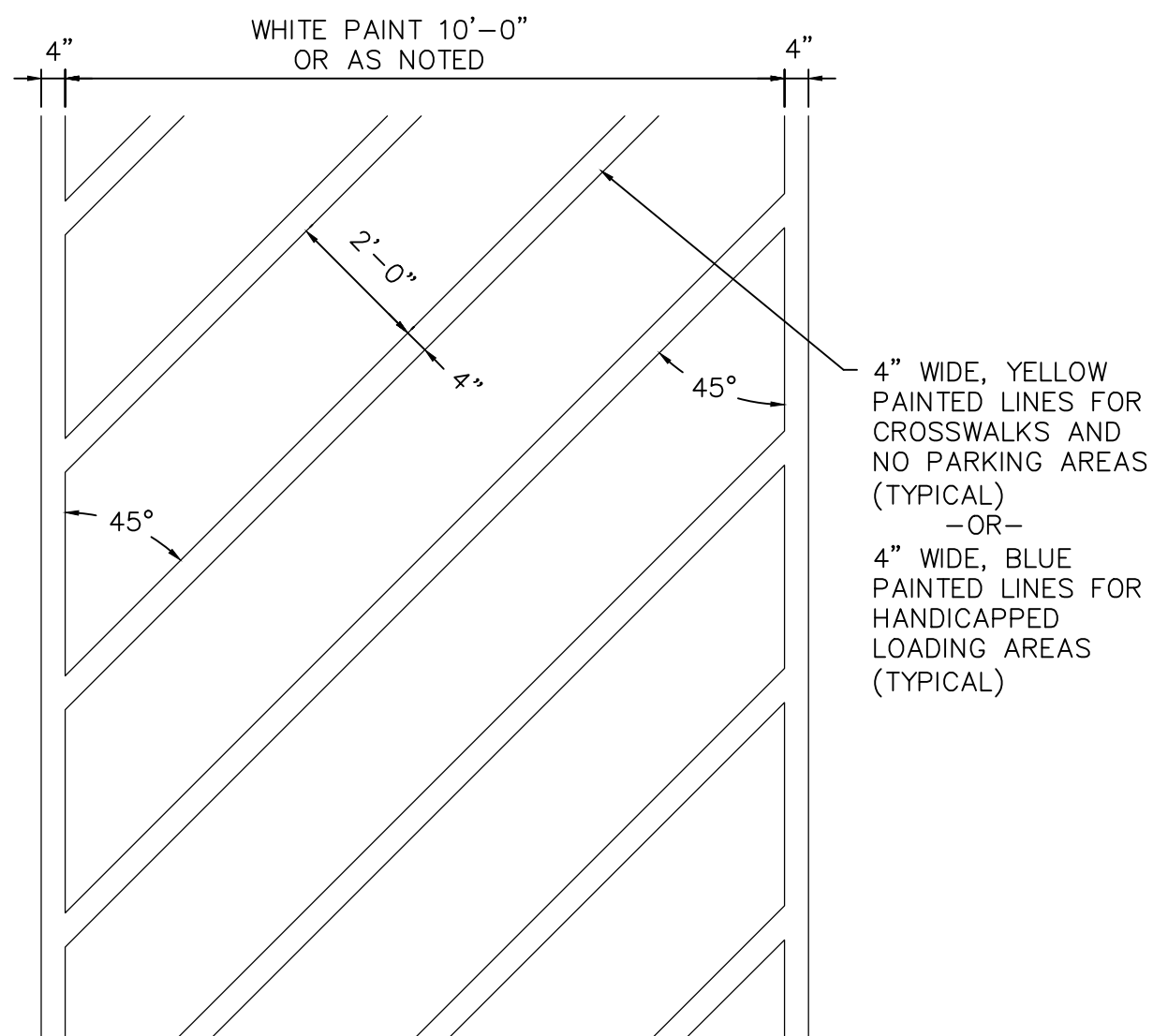
BOLLARDS INSIDE DUMPSTER ENCLOSURE SHALL BE UNPAINTED.



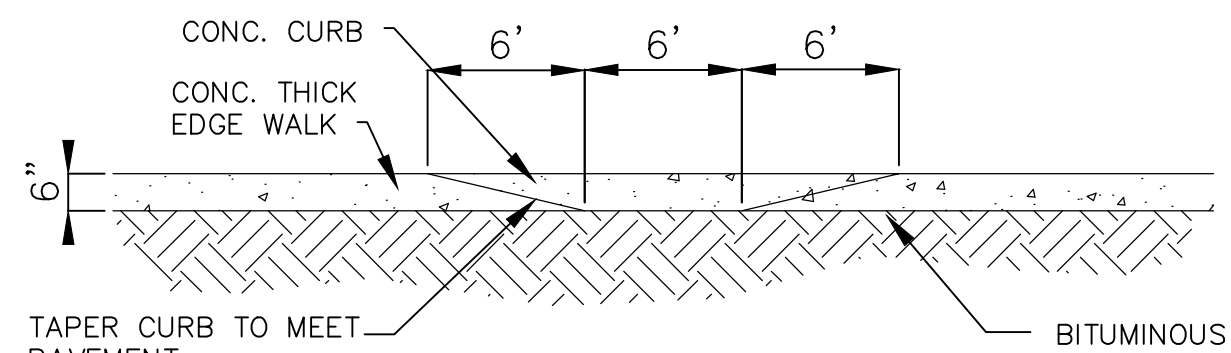
30 6" PIPE BOLLARD
NO SCALE



29 8" CONCRETE WALK/PAD DETAIL
NO SCALE

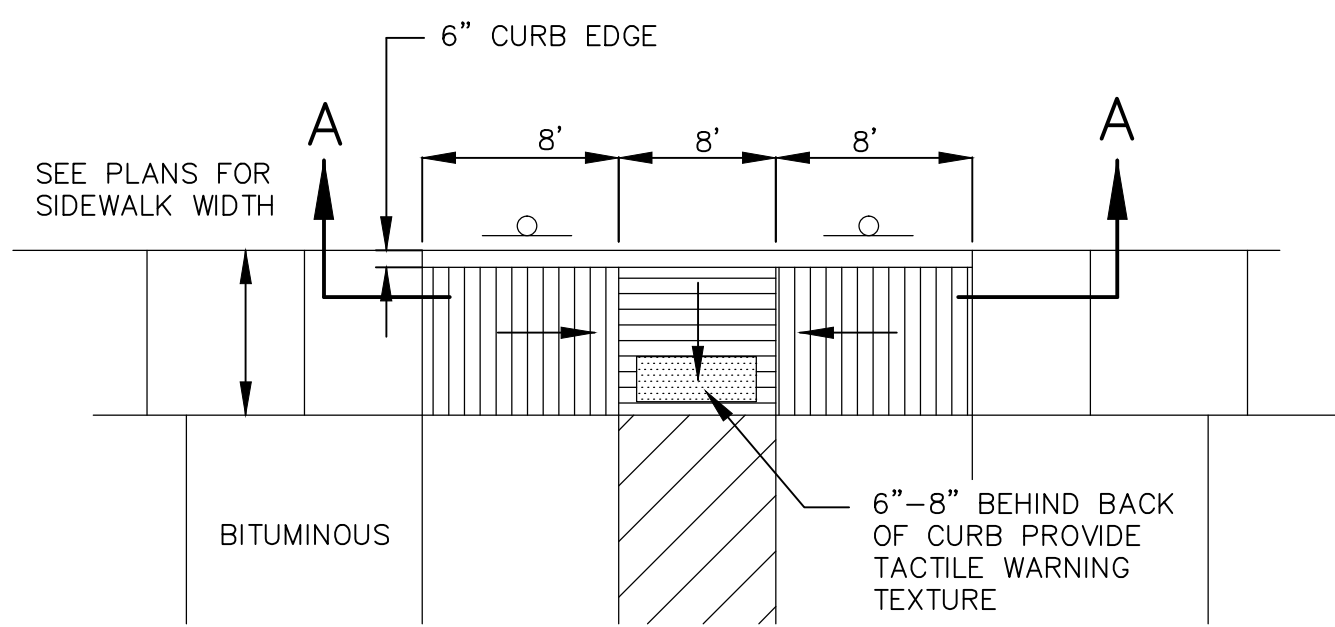


28 PAINTED "CROSSWALK" DETAIL
NO SCALE

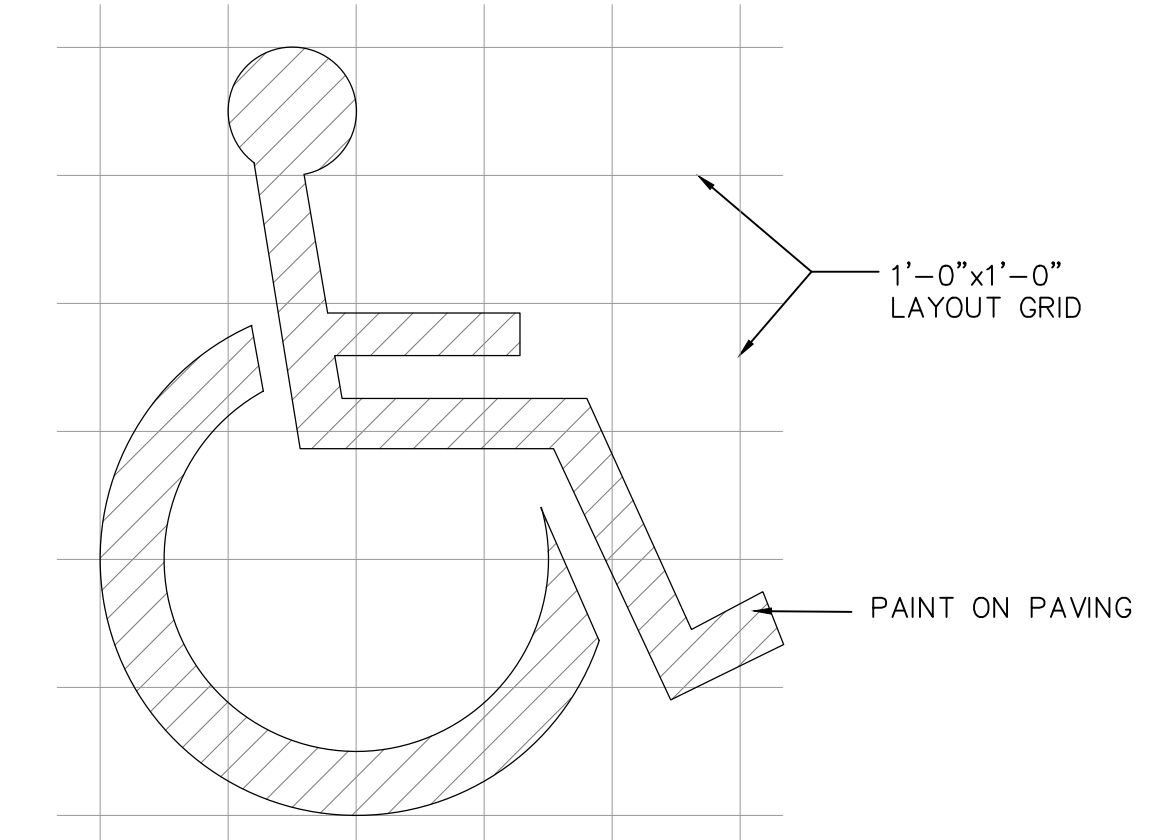


SECTION A-A

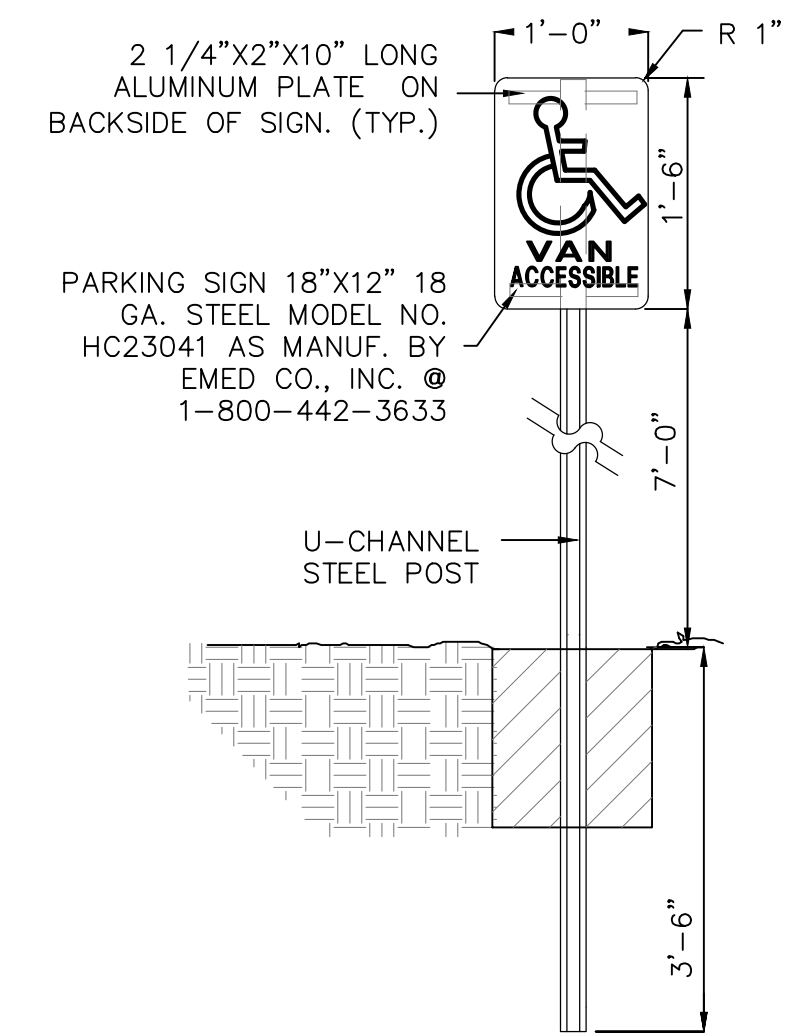
NOTE: INSTALL TACTILE WARNING TEXTURE AT EXTERIOR RAMPED WALKS IN A BAND 2'-0" DEEP x WIDTH OF WALK. EAST JORDAN IRON WORKS DETECTABLE WARNING PLATES. 1-800-566-3549.



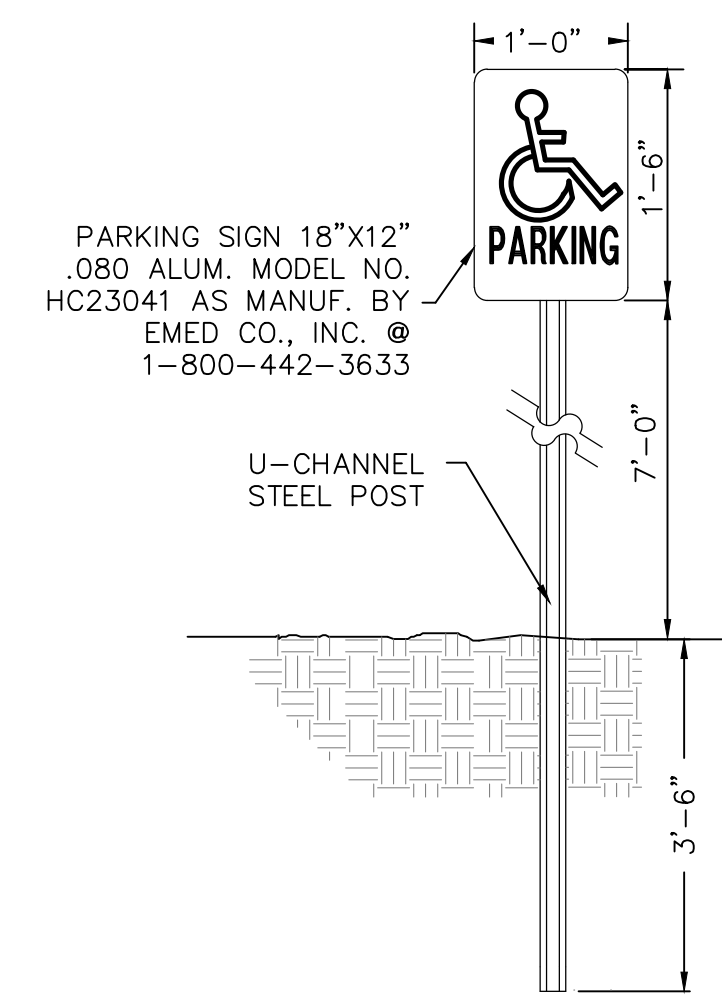
27 SIDEWALK RAMP DETAIL
NO SCALE



26 PAINTED "ACCESSIBLE PARKING" DETAIL
NO SCALE



25 SIGN-VAN ACCESSIBLE PARKING
NO SCALE



24 SIGN-ACCESSIBLE PARKING
NO SCALE

NOT FOR CONSTRUCTION

PROJECT
PLANT 12 NEW BUILDING & PARKING LOT
CITY OF CHARLOTTE
EATON COUNTY, MICHIGAN
PRELIMINARY DETAILS & NOTES

APPROVED	JCW
CHECKED	JCW
DRAWN	JMS
JOB NO.	15-0065
DATE	9/10/15
SCALE	NO SCALE
SHEET NO.	C11

REVISION
DATE
DRAWN
DESCRIPTION

WOLVERINE
Engineers & Surveyors, Inc.
312 North Street
Mason, Michigan 48854
Ph: 317 676 5200
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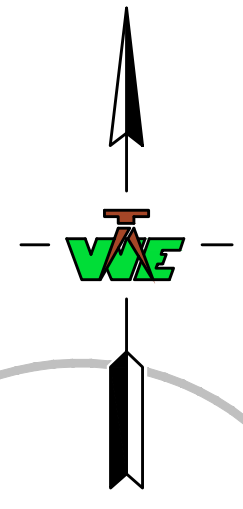
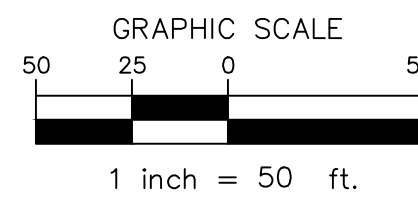
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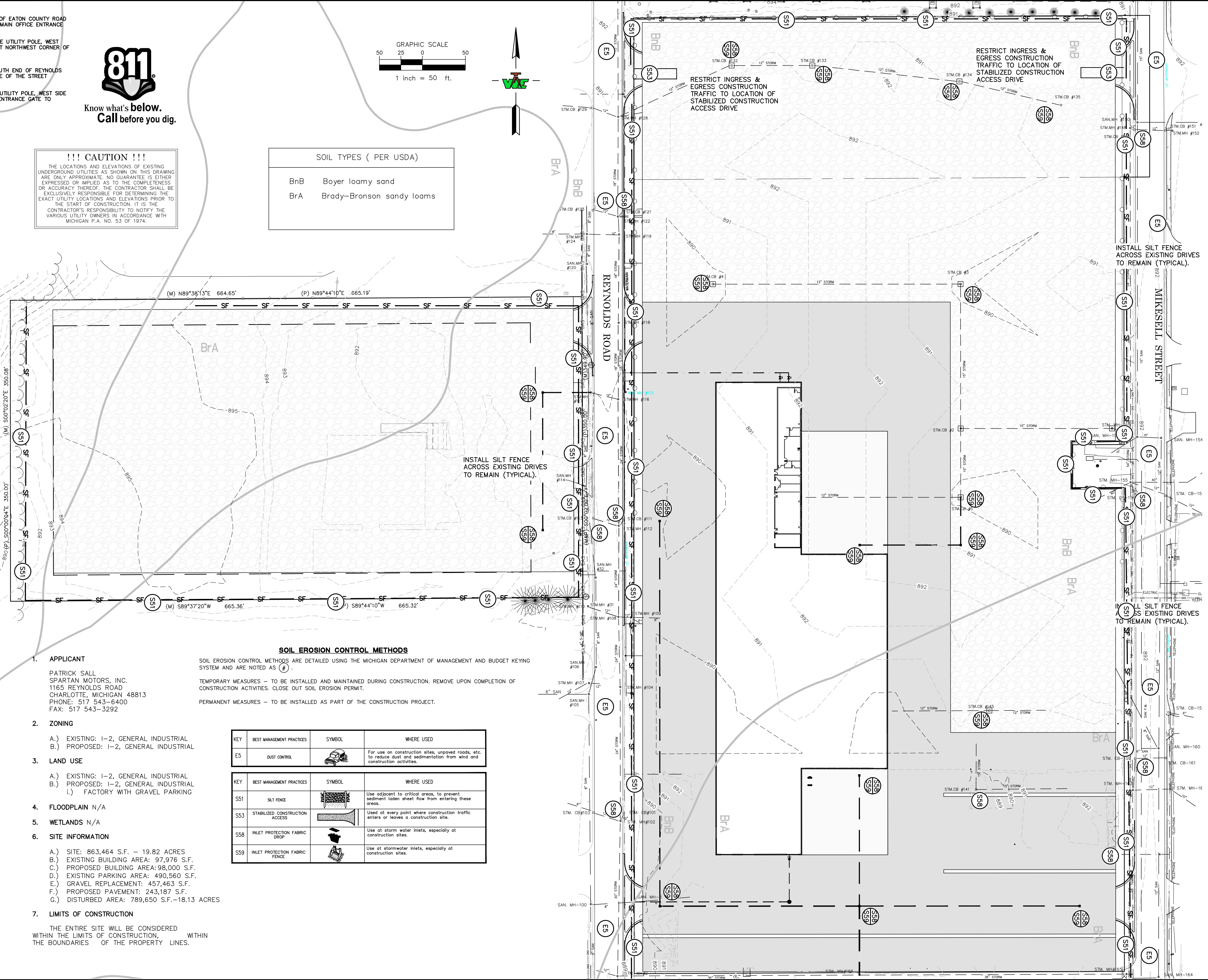
Know what's below.
Call before you dig.

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SOIL TYPES (PER USDA)

BnB	Boyer loamy sand
BrA	Brady-Branson sandy loams



- 1. APPLICANT**
PATRICK SALL
SPARTAN MOTORS, INC.
1165 REYNOLDS ROAD
CHARLOTTE, MICHIGAN 48813
PHONE: 517 543-6400
FAX: 517 543-3292
- 2. ZONING**
A.) EXISTING: I-2, GENERAL INDUSTRIAL
B.) PROPOSED: I-2, GENERAL INDUSTRIAL
- 3. LAND USE**
A.) EXISTING: I-2, GENERAL INDUSTRIAL
B.) PROPOSED: I-2, GENERAL INDUSTRIAL
i.) FACTORY WITH GRAVEL PARKING
- 4. FLOODPLAIN N/A**
- 5. WETLANDS N/A**
- 6. SITE INFORMATION**
A.) SITE: 863,464 S.F. - 19.82 ACRES
B.) EXISTING BUILDING AREA: 97,976 S.F.
C.) PROPOSED BUILDING AREA: 98,000 S.F.
D.) EXISTING PARKING AREA: 490,560 S.F.
E.) GRAVEL REPLACEMENT: 457,463 S.F.
F.) PROPOSED PAVEMENT: 243,187 S.F.
G.) DISTURBED AREA: 789,650 S.F.-18.13 ACRES
- 7. LIMITS OF CONSTRUCTION**
THE ENTIRE SITE WILL BE CONSIDERED WITHIN THE LIMITS OF CONSTRUCTION, WITHIN THE BOUNDARIES OF THE PROPERTY LINES.

SOIL EROSION CONTROL METHODS
SOIL EROSION CONTROL METHODS ARE DETAILED USING THE MICHIGAN DEPARTMENT OF MANAGEMENT AND BUDGET KEYING SYSTEM AND ARE NOTED AS (E).
TEMPORARY MEASURES - TO BE INSTALLED AND MAINTAINED DURING CONSTRUCTION. REMOVE UPON COMPLETION OF CONSTRUCTION ACTIVITIES. CLOSE OUT SOIL EROSION PERMIT.
PERMANENT MEASURES - TO BE INSTALLED AS PART OF THE CONSTRUCTION PROJECT.

KEY	BEST MANAGEMENT PRACTICES	SYMBOL	WHERE USED
E5	DUST CONTROL		For use on construction sites, unpaved roads, etc. to reduce dust and sedimentation from wind and construction activities.
S51	SILT FENCE		Use adjacent to critical areas, to prevent sediment laden sheet flow from entering these areas.
S53	STABILIZED CONSTRUCTION ACCESS		Used at every point where construction traffic enters or leaves a construction site.
S58	INLET PROTECTION FABRIC DROP		Use at storm water inlets, especially at construction sites.
S59	INLET PROTECTION FABRIC FENCE		Use at stormwater inlets, especially at construction sites.

NOT FOR CONSTRUCTION

PROJECT: PLANT 12 NEW BUILDING & PARKING LOT
CITY OF CHARLOTTE
EATON COUNTY, MICHIGAN
PRELIMINARY SOIL EROSION CONTROL PLAN

APPROVED: JCW
CHECKED: JCW
DRAWN: JMS
JOB NO.: 15-0065
DATE: 9/10/15
SCALE: 1" = 50'
SHEET NO.: C12

REVISION	DATE	DESCRIPTION

WOLVERINE
Engineers & Surveyors, Inc.
312 North Street
Mason, Michigan 48854
Ph: 317 676 9200
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S:\Projects\2015-0065\CSD\DWGs\012 PRELIMINARY SOIL EROSION CONTROL PLAN.dwg, Friday, September 11, 2015 10:24:17 AM, James Schineman

E5 DUST CONTROL SPECIFICATIONS

When

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

Why

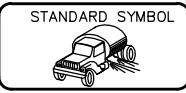

- To reduce dust and sedimentation from wind and construction activities.

Where

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

How

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


E5 DUST CONTROL SPECIFICATIONS

Maintenance

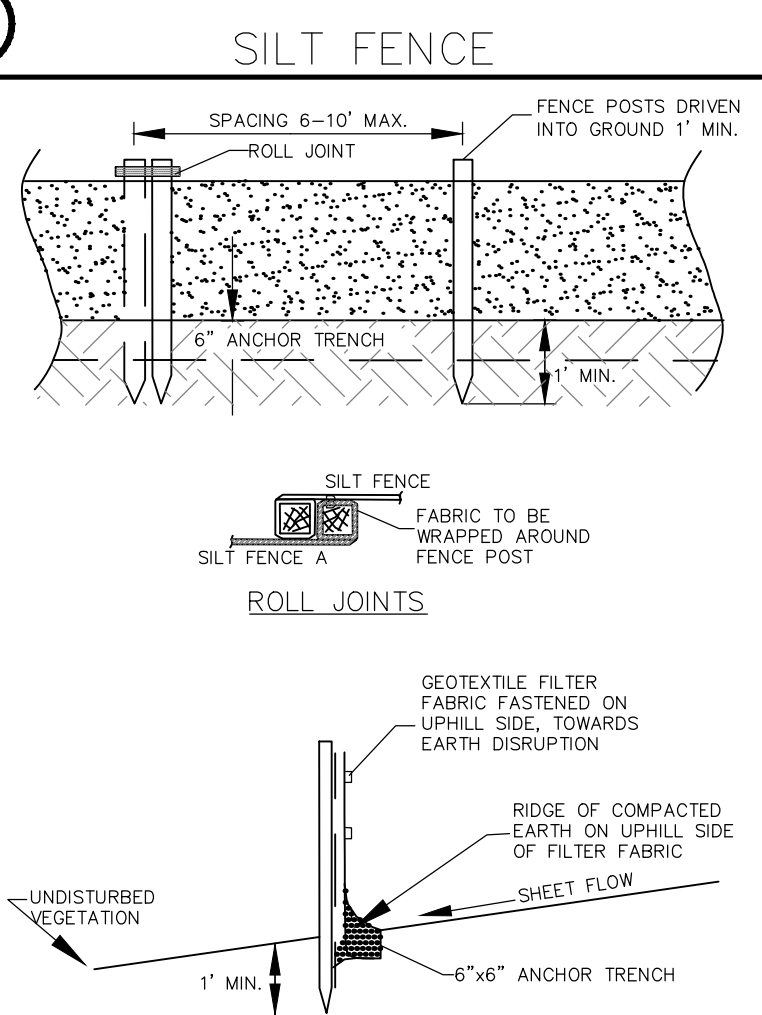
- Frequent, even daily application may be required to increase effectiveness.
- Do not over water, as over watering may cause erosion.
- Oil should not be used for dust control, as it may enter a drainage way through runoff or seeping into the soil.

Limitations

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



S51 SILT FENCE



When

- A temporary measure for preventing sediment movement.
- Used to prevent sediment suspended in runoff from leaving an earth change area.

Where

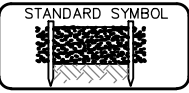

- Use adjacent to critical areas, wetlands, base of slopes, and watercourses.

How

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

Maintenance

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

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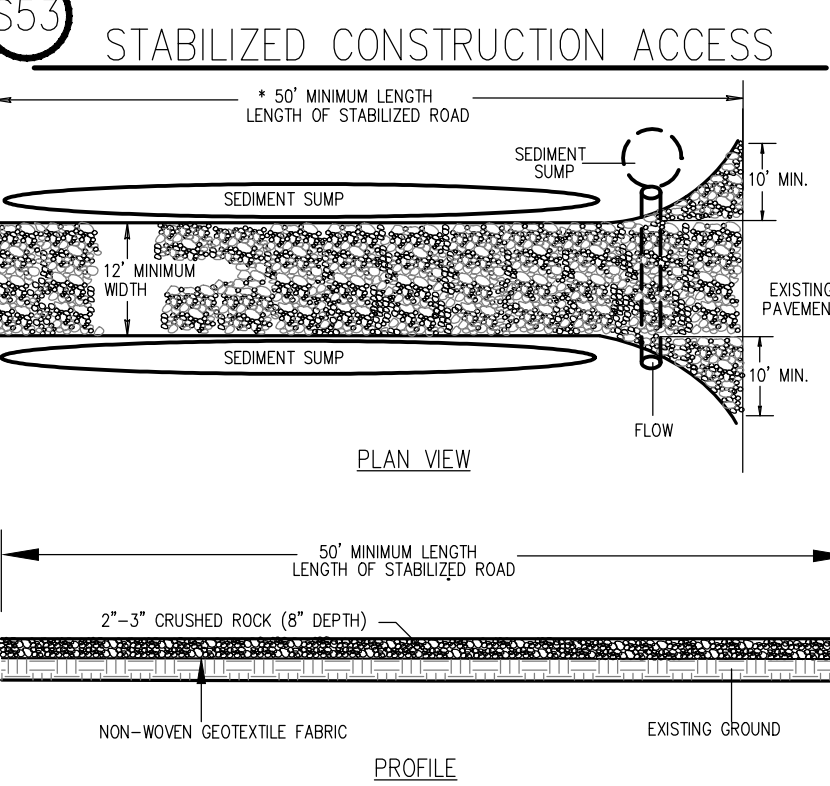
S51 SILT FENCE SPECIFICATIONS

Limitations

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



S53 STABILIZED CONSTRUCTION ACCESS



When

- Construction traffic is expected to leave a construction site.
- Stabilization of interior construction roads is desired.

Why

- To minimize tracking of sediment onto public roadways and to minimize disturbance of vegetation.

Where

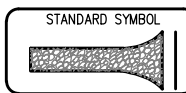

- Stabilized construction entrances shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must be routed over the rock ingress/egress corridor.

How

- Stabilized construction access road should be established at the onset of the construction activities and maintained in place for the duration of the construction project.
- Installation of this practice should be the responsibility of the site clearing or excavating contractor.
- Access location should be cleared of woody vegetation.
- Non-woven geotextile fabric shall be placed over the existing ground prior to placing stone.
- Access size should be a minimum of 50'. (30' for single residence lot).
- Access width should be 12' minimum, flared at the existing road to provide a turning radius.
- Crushed aggregate (2" to 3"), or reclaimed or recycled concrete equivalent, shall be placed at least 8" deep over the length and width of the ingress/egress corridor.

Maintenance

- Periodic inspection and needed maintenance shall be provided after each rain event.
- Stabilized entrances shall be repaired and rock added as necessary.

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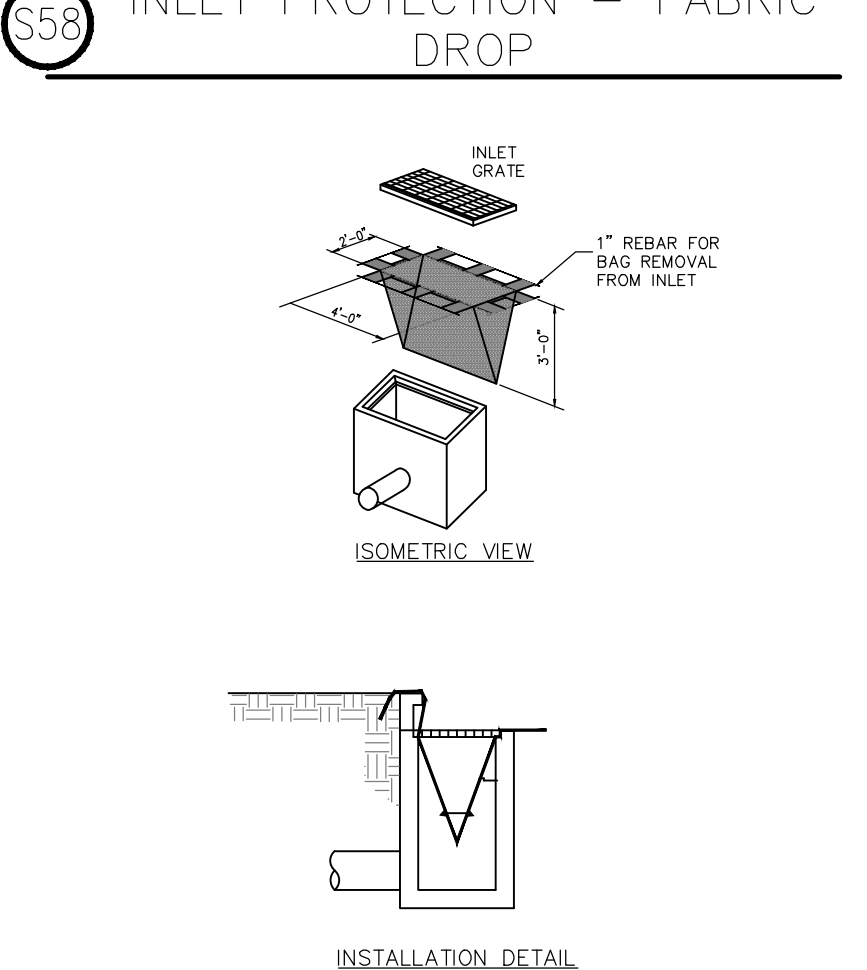
S53 STABILIZED CONSTRUCTION ACCESS SPECIFICATIONS

Maintenance (cont.)

- Sediment deposited on public rights-of-way shall be removed immediately and returned to the construction site.
- If soils are such that washing of tires is required, it shall be done in a wash rack area, stabilized with stone, immediately prior to the construction access stabilized corridor.
- At the project completion, rock access road should be removed and disposed of unless utilized as subgrade for final road.
- Effectiveness limited, sediment may be tracked onto roads requiring additional action.



S58 INLET PROTECTION - FABRIC DROP



When

- Sediment laden storm water requires treatment before entering a storm water drainage system.

Why

- To prevent sediment from entering storm water systems.

Where

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

How

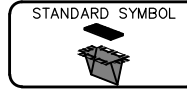

- A filter fabric bag is hung inside the inlet, beneath the grate.
- Replace grate, which will hold bag in place.
- Anchor filter bag with 1" rebar for removal from inlet.
- Flaps of bag that extend beyond the bag can be buried in soil in earth areas.

Maintenance

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

Limitations

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

S58 INLET PROTECTION - FABRIC DROP SPECIFICATIONS

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Why

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Where

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Maintenance

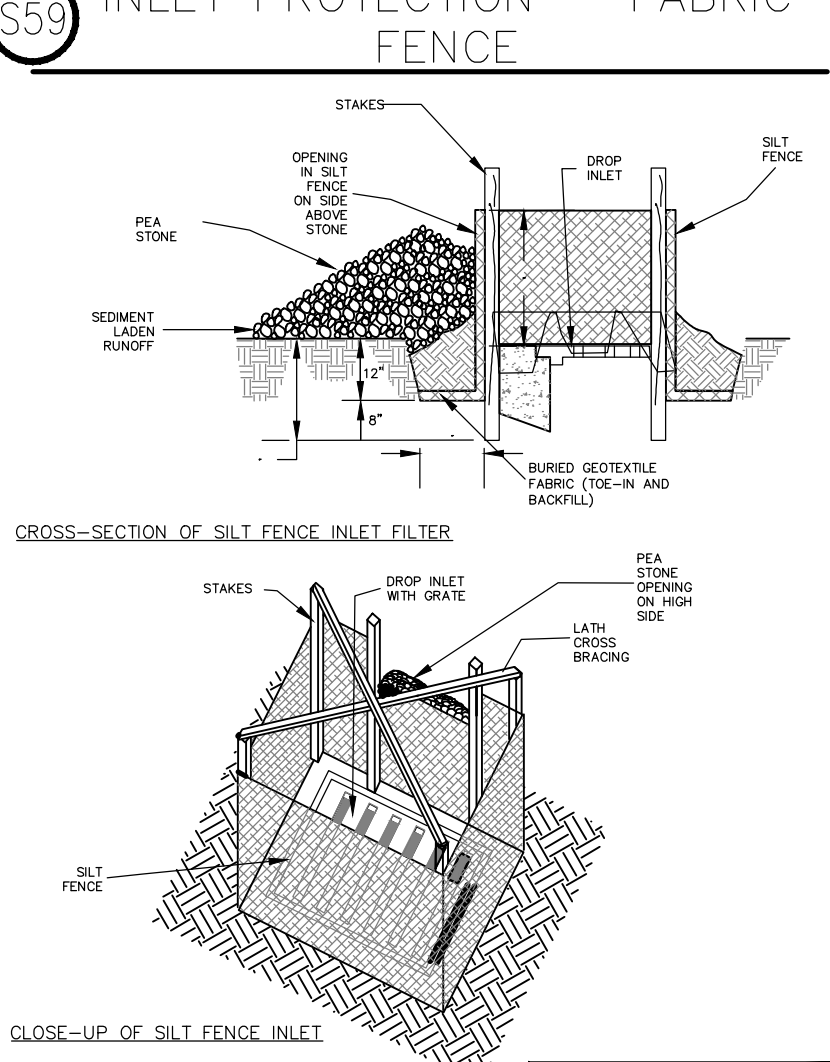
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- Remove entire protective mechanism when up gradient areas are stabilized and streets have been swept.

Limitations

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



S59 INLET PROTECTION - FABRIC FENCE



When

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

Why

- To prevent sediment from entering storm water systems.

Where

- Use in or at storm water inlets, especially at construction sites.

How



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

Maintenance

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

Limitations

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

S59 INLET PROTECTION - FABRIC FENCE

When

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

Why

- To prevent sediment from entering storm water systems.

Where

- Use in or at storm water inlets, especially at construction sites.

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- Stake filter fence around inlet, making sure it is tensioned in well around perimeter of inlet.
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Limitations

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- May impede flows, ponding may occur if not maintained.
- Requires frequent maintenance.



S59 INLET PROTECTION - FABRIC FENCE

SOIL EROSION NOTES:

- THE SOIL EROSION PERMIT IS TO BE POSTED AT THE CONSTRUCTION ENTRANCE OF THE SITE UNTIL THE LAND IS PERMANENTLY STABILIZED AND THE PERMIT IS CLOSED BY THE DRAIN COMMISSIONER. FAILURE TO HAVE THE PERMIT POSTED COULD RESULT IN A CEASE AND DESIST ORDER. IT IS RECOMMENDED THAT THE PERMIT BE LAMINATED TO WITHSTAND THE WEATHER.
- THE MAINTENANCE PROGRAM FOR ALL TEMPORARY AND PERMANENT SOIL EROSION CONTROL MEASURES, INCLUDING MAINTENANCE RESPONSIBILITIES, SHALL BECOME A PART OF ANY SALES OR EXCHANGE AGREEMENT FOR THE LAND ON WHICH PERMANENT SOIL EROSION CONTROL MEASURES ARE LOCATED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADHERING TO ALL THE REQUIREMENTS OF THE EATON COUNTY DRAIN COMMISSIONER'S SOIL EROSION PERMIT.
- AN EATON COUNTY DRAIN OFFICE INSPECTOR MUST BE PRESENT DURING ANY WORK ON STORM WATER STRUCTURES THAT ARE TO BE PUBLICLY DEDICATED OR WITHIN AN EASEMENT OR THOSE STRUCTURES DEEMED TO BE UNDER THE JURISDICTION OF THE DRAIN COMMISSIONER. THE EATON COUNTY DRAIN OFFICE (MATTHEW LAFRANCE, 543-3809) IS TO BE NOTIFIED NO LESS THAN THREE BUSINESS DAYS IN ADVANCE OF THE WORK TO ARRANGE FOR AN INSPECTOR. EVERY ATTEMPT TO ACCOMMODATE PERMITTEE'S SCHEDULE WILL BE MADE, WHEN NOTIFIED OF THE NEED FOR AN INSPECTOR, HOWEVER, FAILURE TO HAVE AN INSPECTOR AVAILABLE ON ANY PARTICULAR REQUESTED DAY DOES NOT ABSOLVE THE PERMITTEE OF THE REQUIREMENT TO HAVE AN INSPECTOR PRESENT DURING THE PERMITTED WORK.
- PRIOR TO START OF CONSTRUCTION, SUBMIT THE MOBILE PHONE NUMBER FOR THE ON-SITE CONTACT PERSON TO THE ATTENTION OF MATTHEW LAFRANCE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL TEMPORARY SOIL EROSION CONTROL MEASURES PRIOR TO OR AT THE COMMENCEMENT OF CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING ALL SOIL EROSION CONTROL MEASURES DAILY FOR EFFECTIVENESS AND FOR REPAIR, AS NEEDED. AN EATON COUNTY DRAIN OFFICE INSPECTOR IS TO VERIFY PROPER INSTALLATION OF THESE MEASURES PRIOR TO EARTH DISTURBANCE.
- STOCKPILE AREAS ARE TO BE LOCATED AT LEAST 50 FEET FROM SENSITIVE AREAS SUCH AS STREAMS, LAKES, AND WETLANDS AND AT LEAST 50 FEET FROM ALL PROPERTY BOUNDARIES. STOCKPILE AREAS SHALL BE TEMPORARILY STABILIZED WITH A COVER CROP OR GEO-MEMBRANE IF LEFT INACTIVE FOR GREATER THAN 30 DAYS.
- PERMITTEE MUST STRICTLY MAINTAIN DUST CONTROL AT ALL TIMES DURING CONSTRUCTION AND UNTIL THE SOIL EROSION PERMIT IS CLOSED BY THE EATON COUNTY DRAIN COMMISSIONER.
- ANY CATCH BASIN LOCATED ON-SITE OR WITHIN 50 FEET OF THE CONSTRUCTION DISTURBANCE SHALL HAVE TEMPORARY INLET PROTECTION. FILTER BAGS SUCH AS A SILT SACK OR EQUIVALENT ARE EATON COUNTY DRAIN COMMISSION APPROVED METHODS FOR INLET PROTECTION.
- ALL TEMPORARY SOIL EROSION CONTROL MEASURES WILL BE REMOVED WHEN THE DRAIN OFFICE CLOSES THE PERMIT.
- DIRT TRACKED OFF SITE ONTO PUBLIC ROADS SHALL BE PROMPTLY REMOVED, NO LESS THAN ON A DAILY BASIS.

TENTATIVE SEQUENCE OF CONSTRUCTION:

WEEK 1:	INSTALL TEMPORARY SOIL EROSION CONTROL MEASURES. STRIP AND REMOVE TOP SOIL.
WEEKS 2-3:	REMOVE OR PLUG AND ABANDON UTILITIES LEADS. DEMOLISH BUILDING. PULVERIZE PAVEMENT.
WEEKS 4-5:	INSTALL NEW STORM SEWER. FINAL GRADE GRAVEL PARKING.
WEEK 6:	STABILIZE SITE WITHIN 5 DAYS OF FINAL GRADING. INSTALL CHAIN LINK FENCE.

NOT FOR CONSTRUCTION

PLANT 12 NEW BUILDING & PARKING LOT
CITY OF CHARLOTTE
EATON COUNTY, MICHIGAN

PRELIMINARY SOIL EROSION CONTROL DETAILS & NOTES

APPROVED: JCW
CHECKED: JCW
DRAWN: JMS
JOB NO.: 15-0065
DATE: 9/10/15
SCALE: NO SCALE
SHEET NO.: C13

WOLVERINE Engineers & Surveyors, Inc.
312 North Street
Mason, Michigan 48854
Ph: 317 676 9200
Fax: 317 676 9396
http://www.wolvenge.com

PROJECT: PLANT 12 NEW BUILDING & PARKING LOT
SHEET TITLE: PRELIMINARY SOIL EROSION CONTROL DETAILS & NOTES

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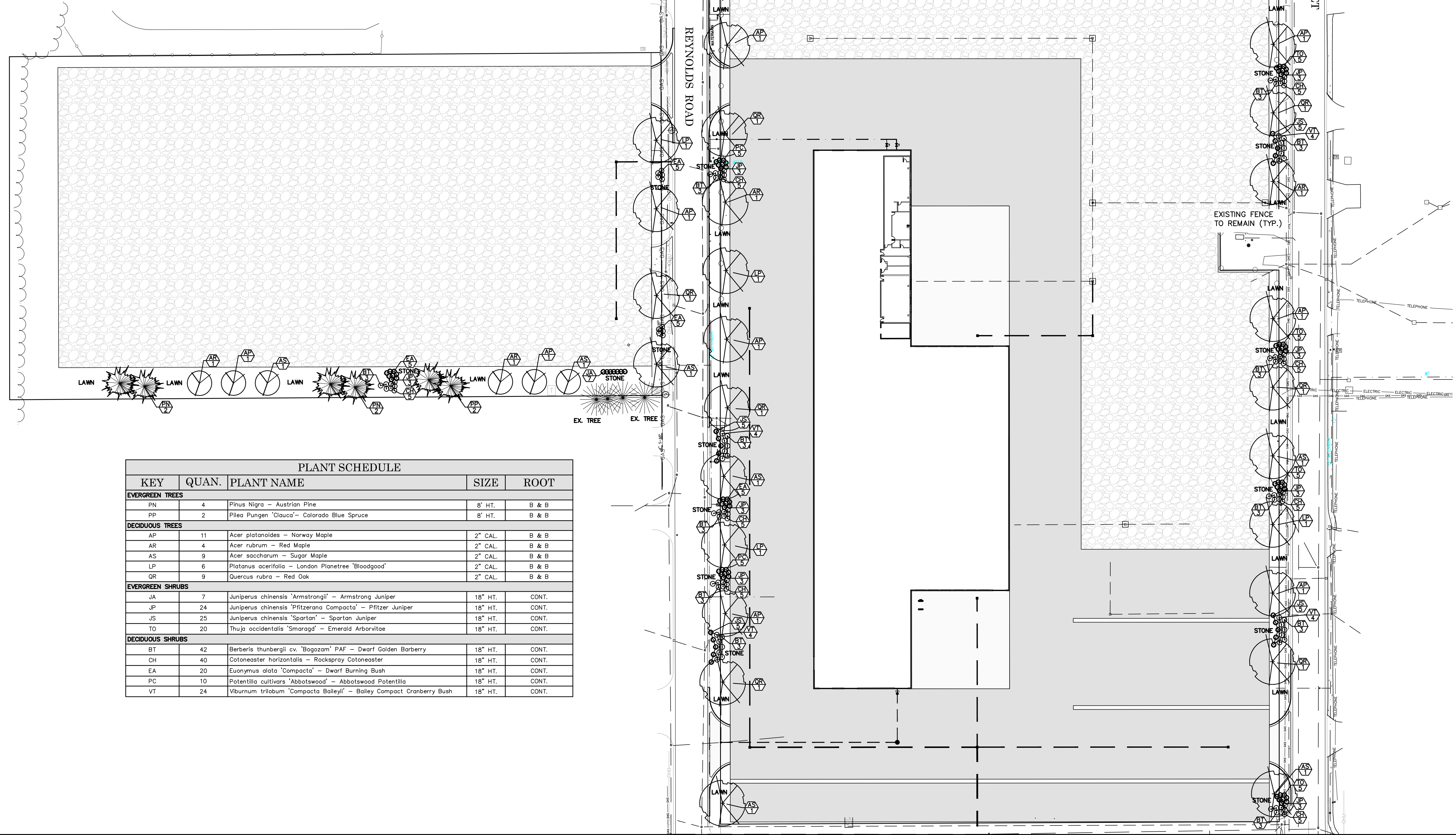
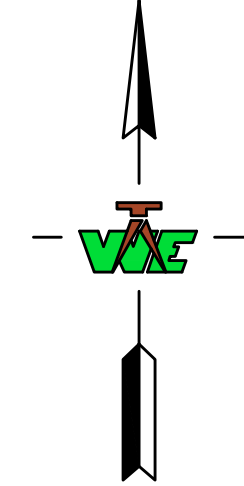
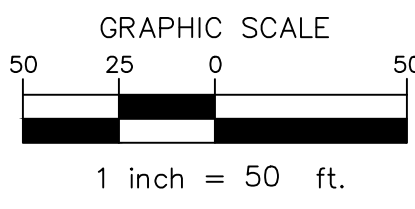
- BENCHMARKS:**
- BM#1- FINISH FLOOR ELEVATION OF EATON COUNTY ROAD COMMISSION BUILDING AT MAIN OFFICE ENTRANCE ELEVATION= 894.33
 - BM#2- RAILROAD SPIKE EAST SIDE UTILITY POLE, WEST SIDE REYNOLDS STREET AT NORTHWEST CORNER OF SPARTAN MOTORS SITE ELEVATION= 890.66
 - BM#3- TVS HYDRANT AT THE SOUTH END OF REYNOLDS STREET ON THE WEST SIDE OF THE STREET ELEVATION= 894.47
 - BM#4- SPIKE IN SOUTH SIDE OF UTILITY POLE, WEST SIDE OF MIKESELL STREET AT ENTRANCE GATE TO SPARTAN MOTORS ELEVATION= 893.13

!!! CAUTION !!!

THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE VARIOUS UTILITY OWNERS IN ACCORDANCE WITH MICHIGAN P.A. NO. 53 OF 1974.



Know what's below.
Call before you dig.



PLANT SCHEDULE				
KEY	QUAN.	PLANT NAME	SIZE	ROOT
EVERGREEN TREES				
PN	4	Pinus Nigra - Austrian Pine	8" HT.	B & B
PP	2	Picea Pungens 'Clauca' - Colorado Blue Spruce	8" HT.	B & B
DECIDUOUS TREES				
AP	11	Acer platanoides - Norway Maple	2" CAL.	B & B
AR	4	Acer rubrum - Red Maple	2" CAL.	B & B
AS	9	Acer saccharum - Sugar Maple	2" CAL.	B & B
LP	6	Platanus acerifolia - London Planetree 'Bloodgood'	2" CAL.	B & B
QR	9	Quercus rubra - Red Oak	2" CAL.	B & B
EVERGREEN SHRUBS				
JA	7	Juniperus chinensis 'Armstrongii' - Armstrong Juniper	18" HT.	CONT.
JP	24	Juniperus chinensis 'Pfitzerana Compacta' - Pfitzer Juniper	18" HT.	CONT.
JS	25	Juniperus chinensis 'Spartan' - Spartan Juniper	18" HT.	CONT.
TO	20	Thuja occidentalis 'Smaragd' - Emerald Arborvitae	18" HT.	CONT.
DECIDUOUS SHRUBS				
BT	42	Berberis thunbergii cv. 'Bogozam' PAF - Dwarf Golden Barberry	18" HT.	CONT.
CH	40	Cotoneaster horizontalis - Rockspray Cotoneaster	18" HT.	CONT.
EA	20	Euonymus alata 'Compacta' - Dwarf Burning Bush	18" HT.	CONT.
PC	10	Potentilla cultivars 'Abbotswood' - Abbotswood Potentilla	18" HT.	CONT.
VT	24	Viburnum trilobum 'Compacta Baileyi' - Bailey Compact Cranberry Bush	18" HT.	CONT.

NOT FOR CONSTRUCTION

PROJECT
PLANT 12 NEW BUILDING & PARKING LOT
 CITY OF CHARLOTTE
 EATON COUNTY, MICHIGAN

APPROVED
JCW

CHECKED
JCW

DRAWN
JMS

JOB NO.
15-0065

DATE
9/10/15

SCALE
1" = 50'

SHEET NO.
C14

WOLVERINE
 Engineers & Surveyors, Inc.

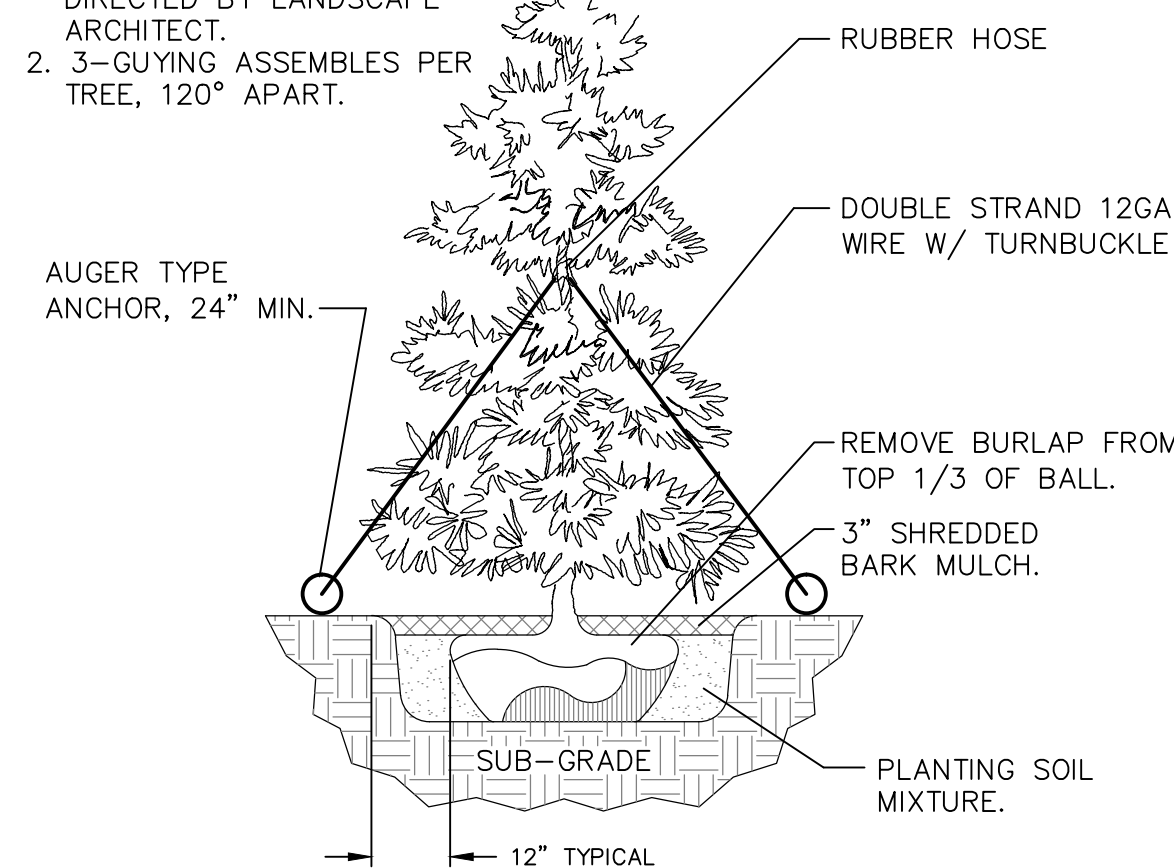
312 North Street
 Mason, Michigan 48854
 Ph: 317.676.9200
 Fax: 317.676.9396
<http://www.wolveneg.com>

REVISION	DATE	DESCRIPTION

S:\Projects\2015\15-0065\C3D\DWGs\C14 - PRELIMINARY LANDSCAPE PLAN.dwg, Friday, September 11, 2015 10:25:46 AM, James Schineman

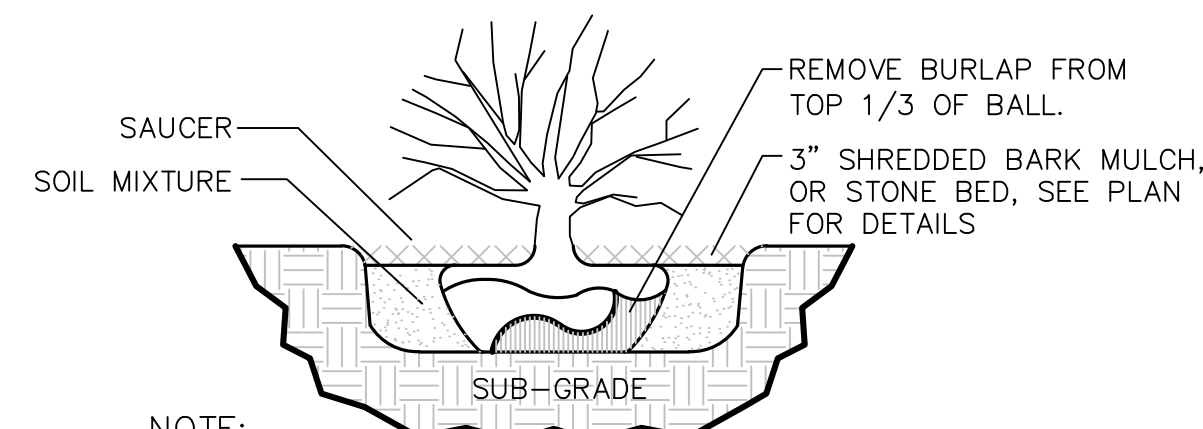
NOTE:

1. GUY TREES GREATER THAN 5' IN HEIGHT OR AS DIRECTED BY LANDSCAPE ARCHITECT.
2. 3-GUYING ASSEMBLES PER TREE, 120° APART.



EVERGREEN TREE

NOT TO SCALE



NOTE:

1. SHRUB SHALL BARE SAME RELATION TO FINISHED GRADE AS IT BORE TO PREVIOUS EXISTING GRADE.

SHRUBS

NOT TO SCALE

!!! CAUTION !!!

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Know what's below.
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STAKE TREES JUST BELOW FIRST BRANCH WITH 2"-3" WIDE BELT-LIKE, NYLON OR PLASTIC STRAPS (CONNECT FROM TREE TO STAKE OPPOSITE FROM EACH OTHER, AND ALLOW FOR SOME "FLEXING"). * DO NOT USE WIRE OR ROPE THROUGH A HOSE. REMOVE AFTER ONE YEAR.

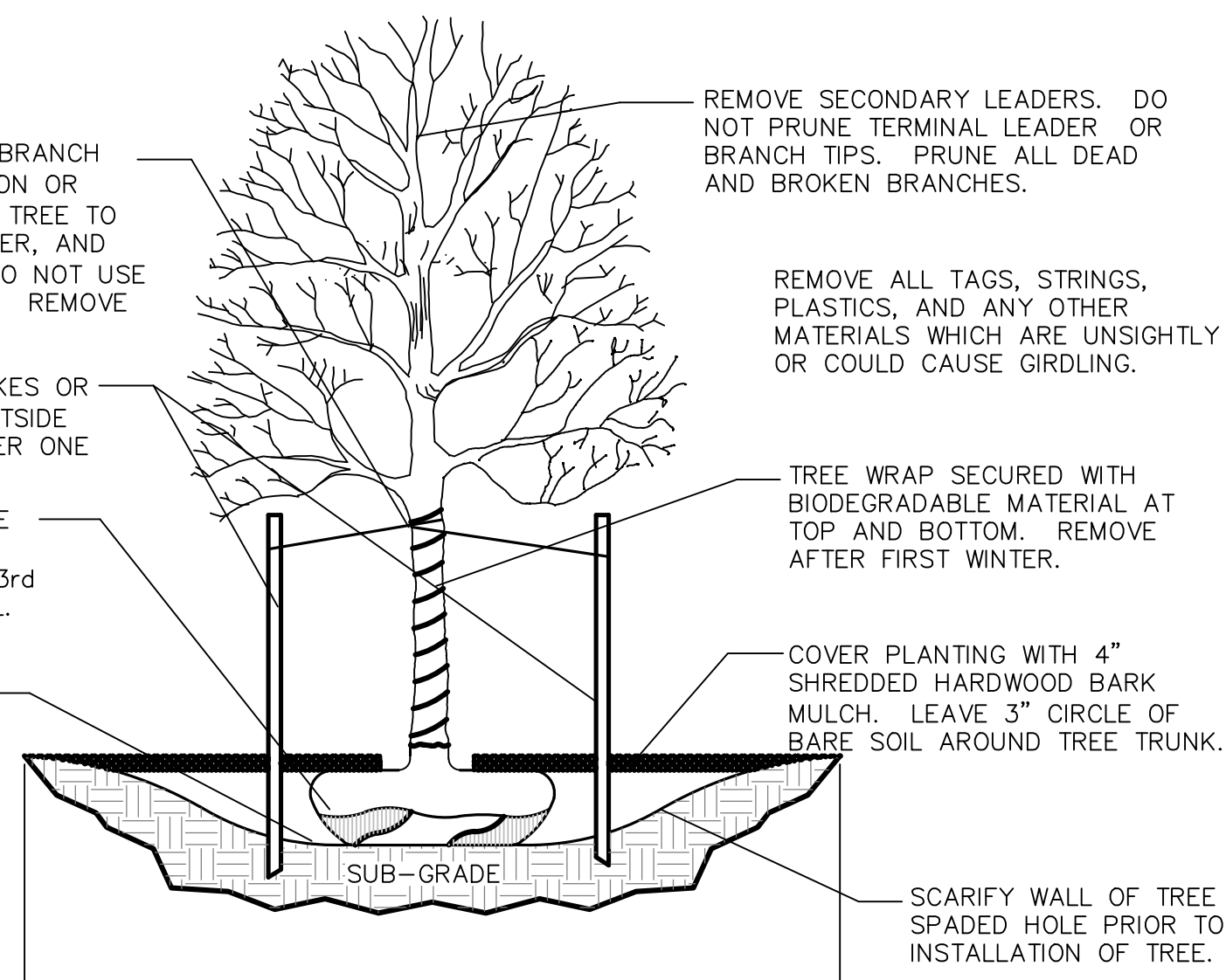
2" x 2" x 8' HARDWOOD STAKES OR EQUIVALENT DRIVEN 6"-8" OUTSIDE OF ROOT BALL. REMOVE AFTER ONE YEAR.

REMOVE ALL NON-BIODEGRADABLE MATERIALS FROM THE ROOT BALL. FOLD DOWN ALL BURLAP FROM 1/3rd FROM THE TOP OF THE ROOT BALL.

PREPARED SOIL MIXTURE:

SOIL MIXTURE SHALL CONSIST OF A UNIFORM MIXTURE OF TOPSOIL, PEAT MOSS OR COMPOST AND FERTILIZER. PROPORTION THE PREPARED SOIL SO A CUBIC YARD OF THE PREPARED SOIL WILL CONTAIN 3/4 CUBIC YARD OF TOPSOIL, 1/4 CUBIC YARD OF THE PEAT MOSS OR COMPOST, AND CHEMICAL FERTILIZER.

FERTILIZER SHALL BE A READY-MIXED GRANULAR MATERIAL CONTAINING EQUAL AMOUNTS BY WEIGHT OF PHOSPHORUS AND POTASSIUM. EACH CUBIC YARD OF PREPARED SOIL SHALL CONTAIN SUFFICIENT CHEMICAL FERTILIZER TO PROVIDE ONE POUND EACH OF AVAILABLE PHOSPHORUS AND SOLUBLE POTASSIUM.



TREE PLANTING DETAIL

NOT TO SCALE

LANDSCAPE NOTES:

1. ALL CONSTRUCTION AND PLANT MATERIAL LOCATIONS TO BE ADJUSTED ON SITE IF NECESSARY.
2. ANY SUBSTITUTIONS OF PLANT MATERIAL OR ALTERATIONS IN PLANT SIZE OR SPECIFICATIONS TO BE CONFIRMED BY THE LANDSCAPE ARCHITECT AND CITY. COORDINATE WITH THE CITY WHICH EXISTING VEGETATION TO REMAIN AND/OR BE RELOCATED ON SITE.
3. ALL LARGE TREES AND EVERGREENS TO BE STAKED, GUYED AND WRAPPED, AS DETAILED ON PLAN.
4. PLANT BEDS TO BE MULCHED AND DRESSED WITH 4" OF SHREDDED HARD WOOD BARK. FOR PLANT BEDS NEAR BUILDING SEE STONE BED DETAIL ON THIS SHEET.
5. EVER GREEN GROUPING TO VARY IN HEIGHT AS SPECIFIED IN THE PLANT MATERIAL LIST.
6. DIG SHRUB PIT 1' LARGER THAN SHRUB ROOT BALLS AND TREE PITS 2' LARGER THAN ROOT BALLS. BACKFILL WITH ONE PART TOP SOIL AND ONE PART SOIL FROM EXCAVATED PLANT HOLE.
7. REMOVE ALL TWINE, WIRE AND BURLAP FROM TOP 1/3 OF TREE AND SHRUB EARTH BALLS AND FROM TREE TRUNKS.
8. LAWN TREES TO BE MULCHED WITH A 2' WIDE MIN. OF 6" DEEP SHREDDED BARK RING OR APPROVED ALTERNATE DESIGN FOR TRUNK PROTECTION.
9. INSTALLATION OF PLANT MATERIAL SHALL BE IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF NURSERYMEN LANDSCAPE STANDARDS.
10. PLANT MATERIAL, ESPECIALLY EVERGREENS, TO BE PLANTED HIGHER THAN NORMAL WHEN HEAVY SOIL CONDITIONS (CLAY ETC.) PREVAIL.

11. ALL PLANTING AREAS SHALL BE PREPARED WITH APPROPRIATE SOIL MIXTURES AND FERTILIZER BEFORE PLANT INSTALLATION.
12. PLANT TREES AND SHRUBS GENERALLY NO CLOSER THAN THE FOLLOWING DISTANCE FROM SIDEWALKS, CURBS & PKG. STALLS.
 - A. SHADE TREES.....5 FT.
 - B. ORNAMENTAL AND EVERGREEN TREES (CRAB, PINE, SPRUCE, ETC.).....7 FT.
 - C. SHRUBS THAT ARE LESS THAN 1 FOOT TALL AND WIDE AT2 FT.

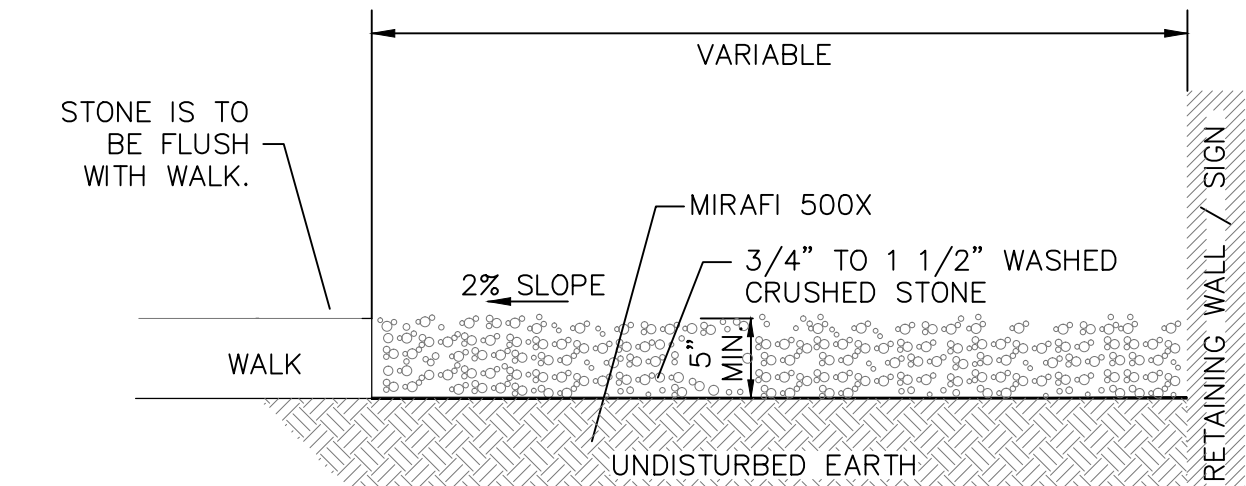
PROVIDE ADDITIONAL SPACE BACK OF CURBS & WALKS FOR LARGER SHRUBS.

13. FOR EXISTING TREE PROTECTION, A 4'-0" HIGH ORANGE SAFETY FENCE SHALL BE ERECTED AROUND THE TREE DRIP LINE PRIOR TO LAND CLEARING AND SITE CONSTRUCTION AND MAINTAINED THROUGHOUT THE SITE DEVELOPMENT PERIOD. NO CUTTING/FILLING OR TRESPASSING SHALL OCCUR INSIDE FENCED AREAS WITHOUT PRIOR CITY APPROVAL.
14. ALL PLANTS SHALL BE GUARANTEED FOR 2 YEARS (MIN.).

NOTES:

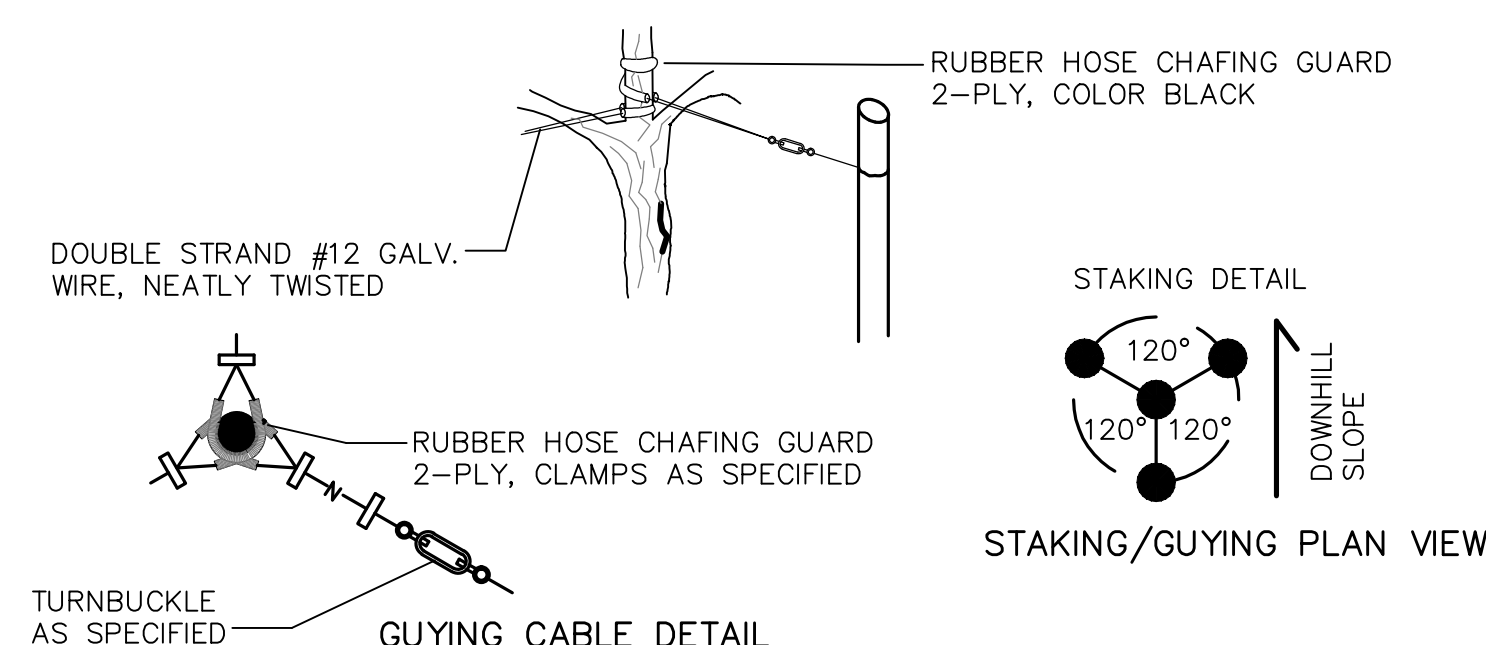
LAWN SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT MDOT SPECIFICATIONS. SEED SHALL BE IN ACCORDANCE WITH MDOT SPECIFICATIONS FOR CLASS A SEED. GRASS SEED MIX SHALL BE EARTH CARPET SPARTAN GRADE A MIXTURE, MICHIGAN STATE SEED SOLUTIONS, GRAND LEDGE, MICHIGAN, PH. 800 647-8873. PROVIDE A MIN. OF 5" OF TOPSOIL.

SEED ALL AREAS DISTURBED BY CONSTRUCTION.



STONE BED DETAIL

NOT TO SCALE



TIE & TURNBUCKLE

NOT TO SCALE

NOT FOR CONSTRUCTION

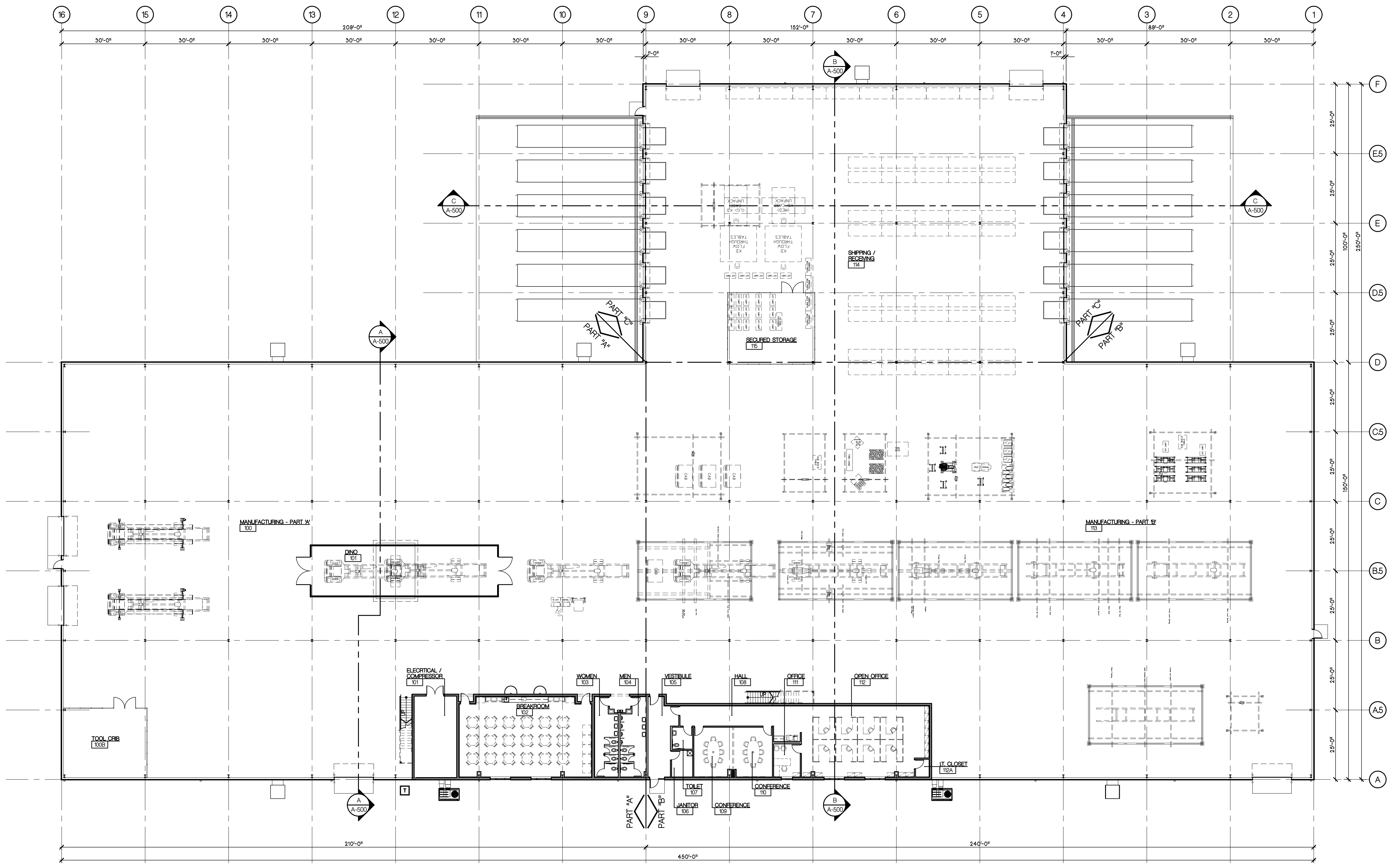
PLANT 12 NEW BUILDING & PARKING LOT
CITY OF CHARLOTTE
EATON COUNTY, MICHIGAN

PRELIMINARY LANDSCAPE DETAILS & NOTES

REVISION	DATE	DESCRIPTION

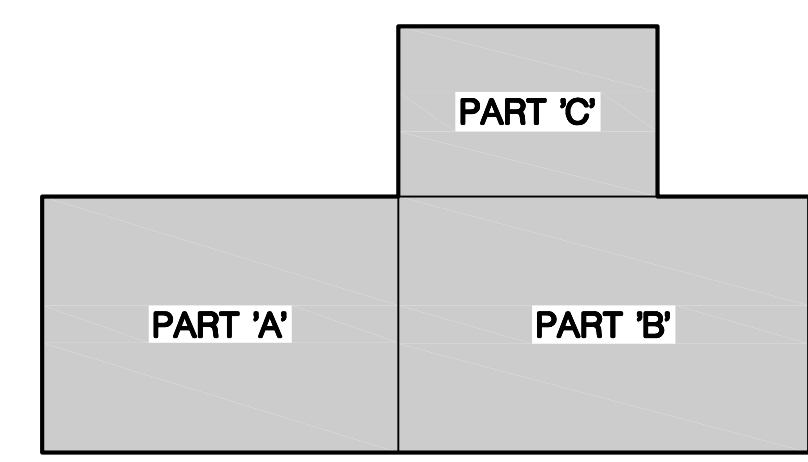
WOLVERINE
Engineers & Surveyors, Inc.
312 North Street
Mason, Michigan 48854
Ph: 317 676 9200
F: 317 676 9596
http://www.woleng.com

APPROVED	JCW
CHECKED	JCW
DRAWN	JMS
JOB NO.	15-0065
DATE	9/10/15
SCALE	NO SCALE
SHEET NO.	C15



COMPOSITE MAIN LEVEL FLOOR PLAN
 SCALE - 1/16" = 1'-0"

- FLOOR PLAN GENERAL NOTES:**
- CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS AND PROMPTLY NOTIFY ARCHITECT OF ANY DISCREPANCIES.
 - ALL DIMENSIONS ARE TO CENTER OF COLUMN, FACE OF EXISTING WALL, CENTER OF INTERIOR STUD WALL, FACE OF EXTERIOR WALL, OR FACE OF MASONRY WALL, UNLESS NOTED OTHERWISE.
 - MAIN LEVEL ELEVATION (USGS) = 100'-0"
 - REFERENCE MAIN LEVEL FINISHED FLOOR = 100'-0"
 - ALL EXTERIOR SLABS TO SLOPE AWAY FROM THE BUILDING.
 - ALL WALLS SHALL EXTEND TO ROOF OR FLOOR DECKING ABOVE UNLESS OR DETAILED NOTED OTHERWISE.
 - SEE SHEET A101 FOR INTERIOR WALL TYPES.
 - CONTRACTOR SHALL INSTALL ALL WOOD BLOCKING IN STUD AND GYPSUM WALLS REQUIRED FOR ANCHORAGE OF WALL ATTACHED ITEMS INCLUDING BUT NOT LIMITED TO RAILINGS, GRAB BARS, TOILET ROOM ACCESSORIES, DOOR BUMPERS, WOOD TRIM, CABINETS AND FUTURE I.T. ITEMS.
- LEGEND:**
- DENOTES (1) HOUR FIRE BARRIER CONSTRUCTION.
 - DENOTES (2) HOUR FIRE RATED WALL CONSTRUCTION.
- ABBREVIATIONS:**
- CUH - CABINET UNIT HEATER
 - CJ - CONTROL JOINT
 - DS - DOWN SPOUT
 - FBX - ELECTRIC FLOOR BOX
 - FD - FLOOR DRAIN
 - FE - FIRE EXTINGUISHER & BRACKET
 - FE - SEMI-RECESSED FIRE EXTINGUISHER & CABINET
 - FPD - FLAT PANEL DISPLAY
 - MAU - MAKE UP AIR UNIT
 - REF - REFRIGERATOR (N.I.C.)
 - RTU - ROOF TOP UNIT (GROUND MOUNTED)
 - VEND - VENDING MACHINE (N.I.C.)



KEY PLAN
 SCALE - N.T.S.

30X OWNER REVIEW 8-17-2015
 DATE ISSUED
 RCK, KMM
 DRAWN BY
 PAG
 CHECKED BY

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 ARCHITECTS
 117 E. Michigan Street
 Lombard, IL 60148
 P: 517 484 4870
 www.hobbs-black.com

SPARTAN
 SPARTAN MOTORS
 CAREFREE
 NEW BUILDING
 1023 REYNOLDS ROAD
 CHARLOTTE, MI 48818

THE WIELAND - DAVCO
 CORPORATION

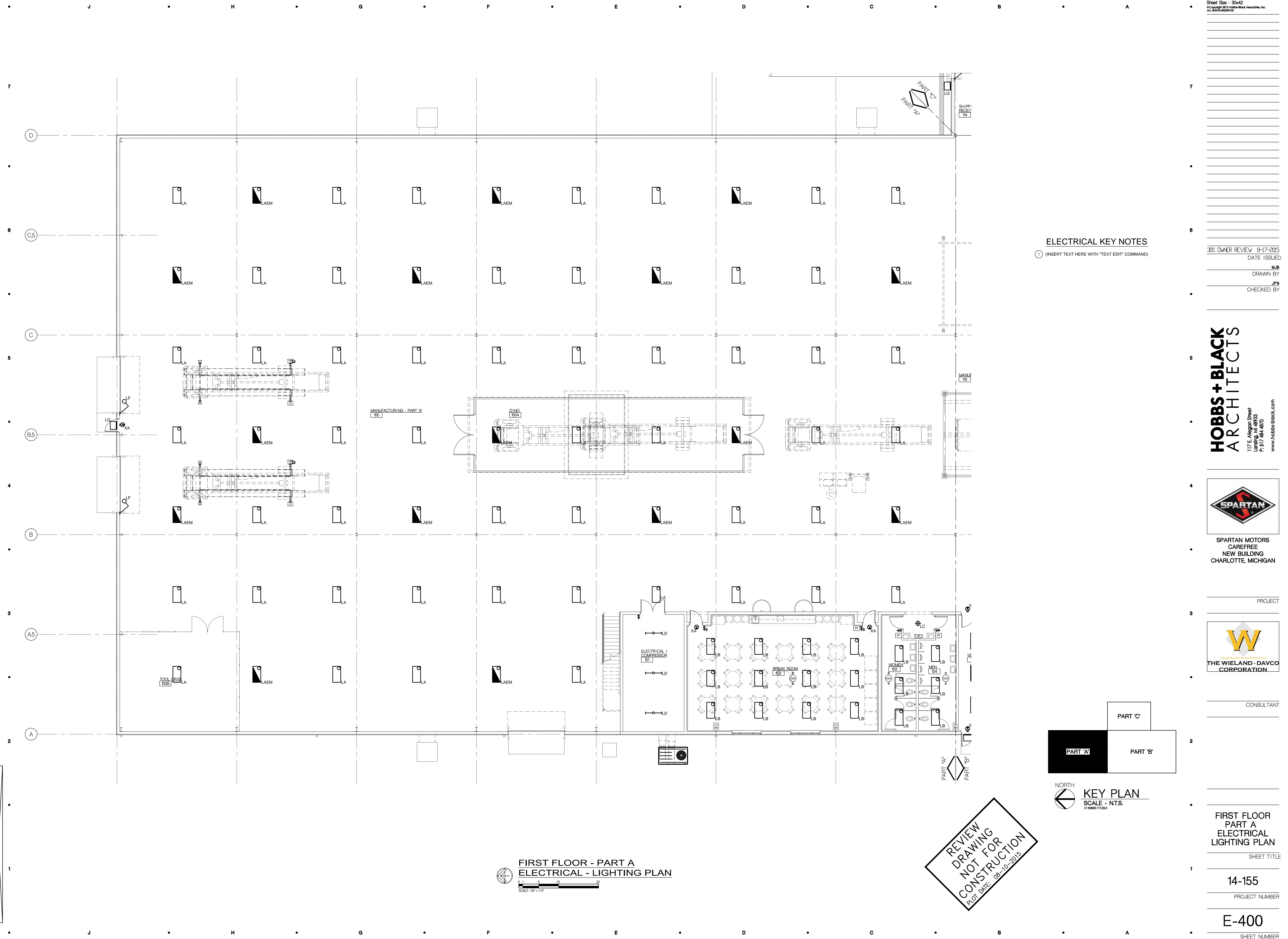
CONSULTANT

COMPOSITE MAIN LEVEL FLOOR PLAN

SHEET TITLE

14-155
 PROJECT NUMBER

A-101
 SHEET NUMBER



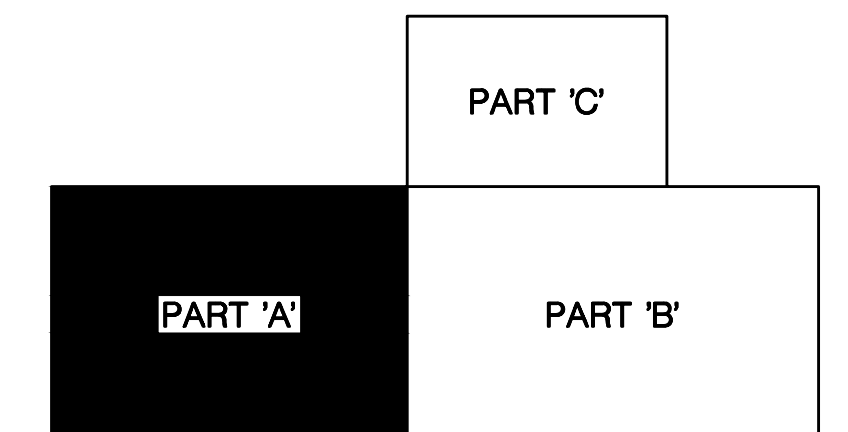
ELECTRICAL KEY NOTES
 1 (INSERT TEXT HERE WITH "TEXT EDIT" COMMAND)

30% OWNER REVIEW B-17-2015 DATE ISSUED
 MJB DRAWN BY
 JFB CHECKED BY

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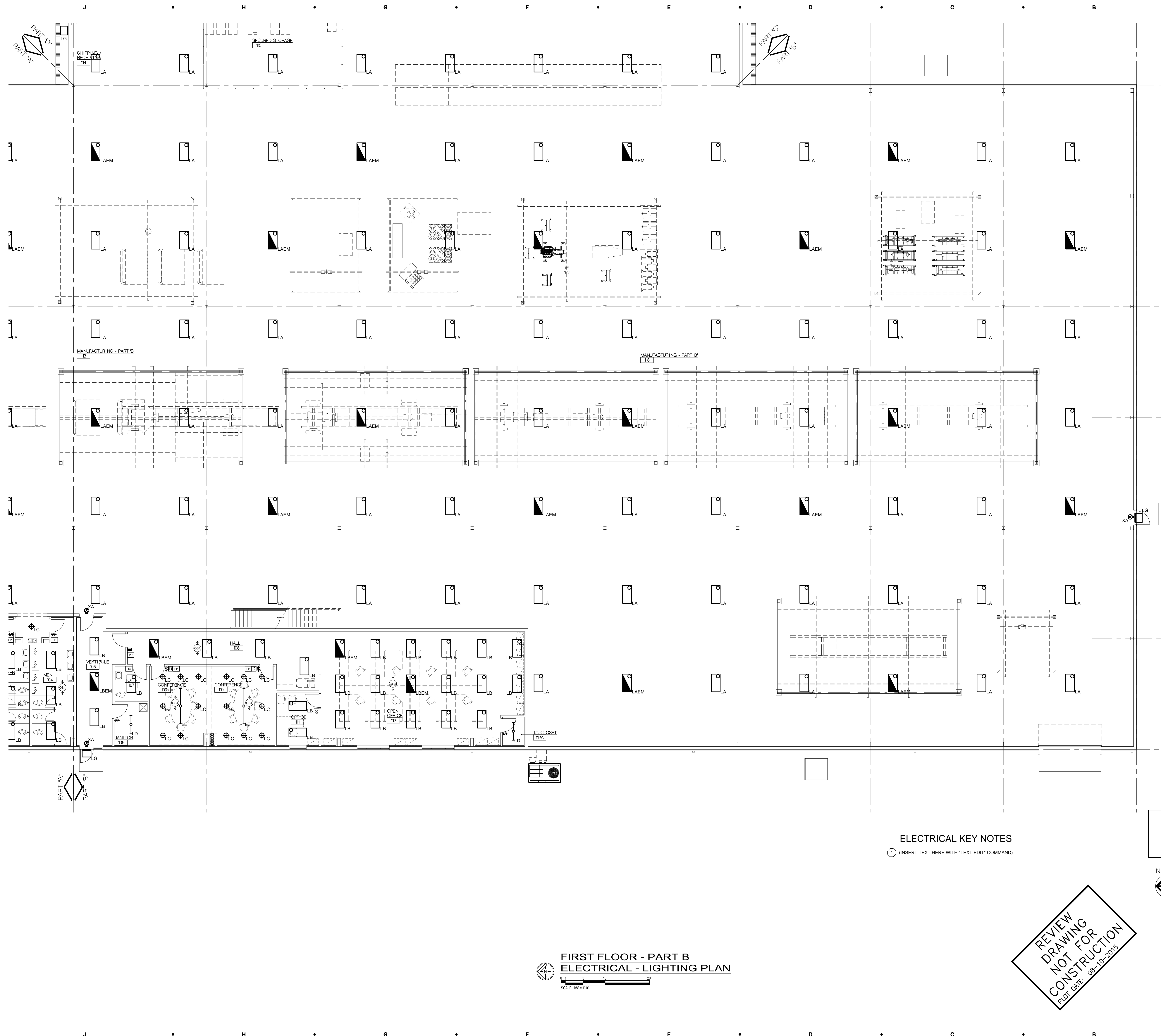


NORTH
KEY PLAN
 SCALE - N.T.S.
 1/8"=1'-0"

REVIEW DRAWING NOT FOR CONSTRUCTION
 PLOT DATE: 08-10-2015

FIRST FLOOR - PART A ELECTRICAL - LIGHTING PLAN
 SCALE: 1/8" = 1'-0"

FIRST FLOOR PART A ELECTRICAL LIGHTING PLAN
 SHEET TITLE
 14-155 PROJECT NUMBER
 E-400 SHEET NUMBER



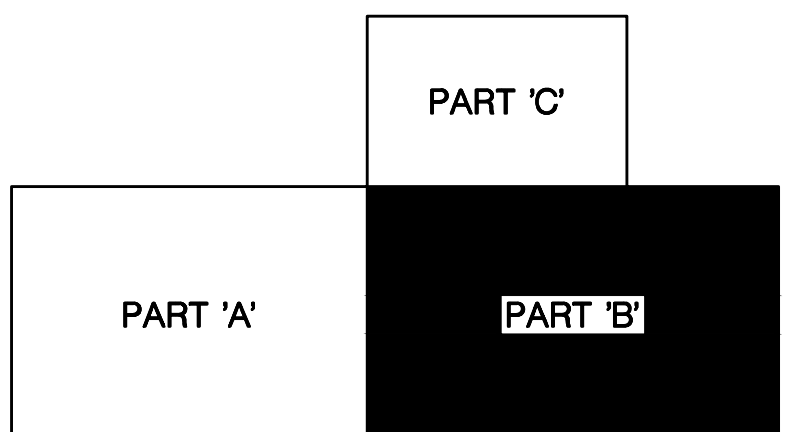
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ELECTRICAL KEY NOTES
 1 (INSERT TEXT HERE WITH "TEXT EDIT" COMMAND)



NORTH
KEY PLAN
 SCALE - N.T.S.
 1/8"=1'-0"

FIRST FLOOR - PART B
ELECTRICAL - LIGHTING PLAN
 SCALE: 1/8" = 1'-0"

REVIEW
DRAWING
NOT FOR
CONSTRUCTION
 PLOT DATE: 08-10-2015

FIRST FLOOR
 PART B
 ELECTRICAL
 LIGHTING PLAN
 SHEET TITLE
 14-155
 PROJECT NUMBER
 E-401
 SHEET NUMBER