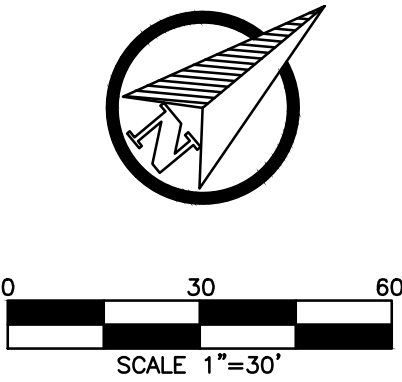
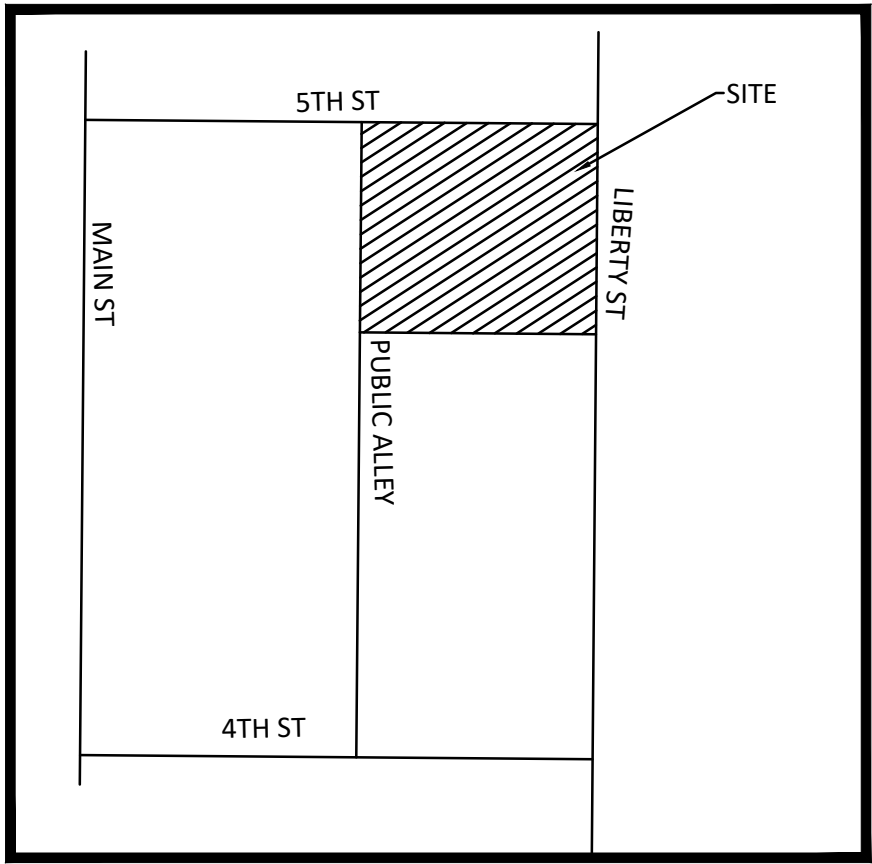
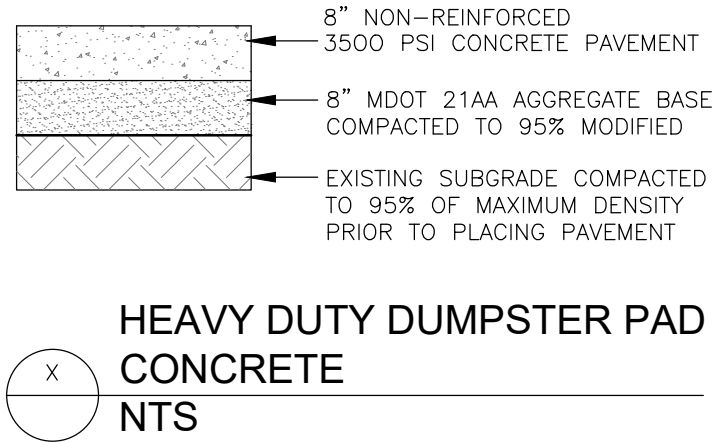
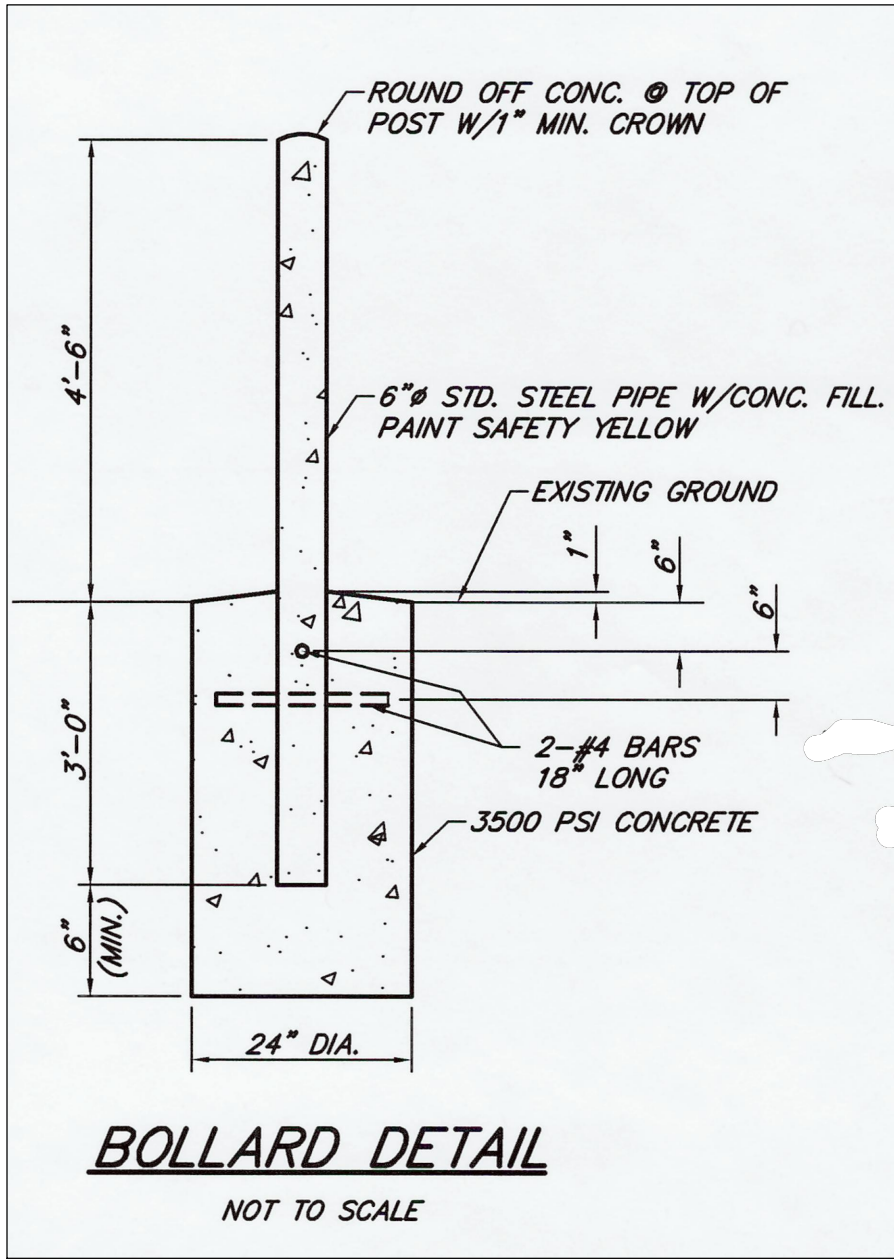
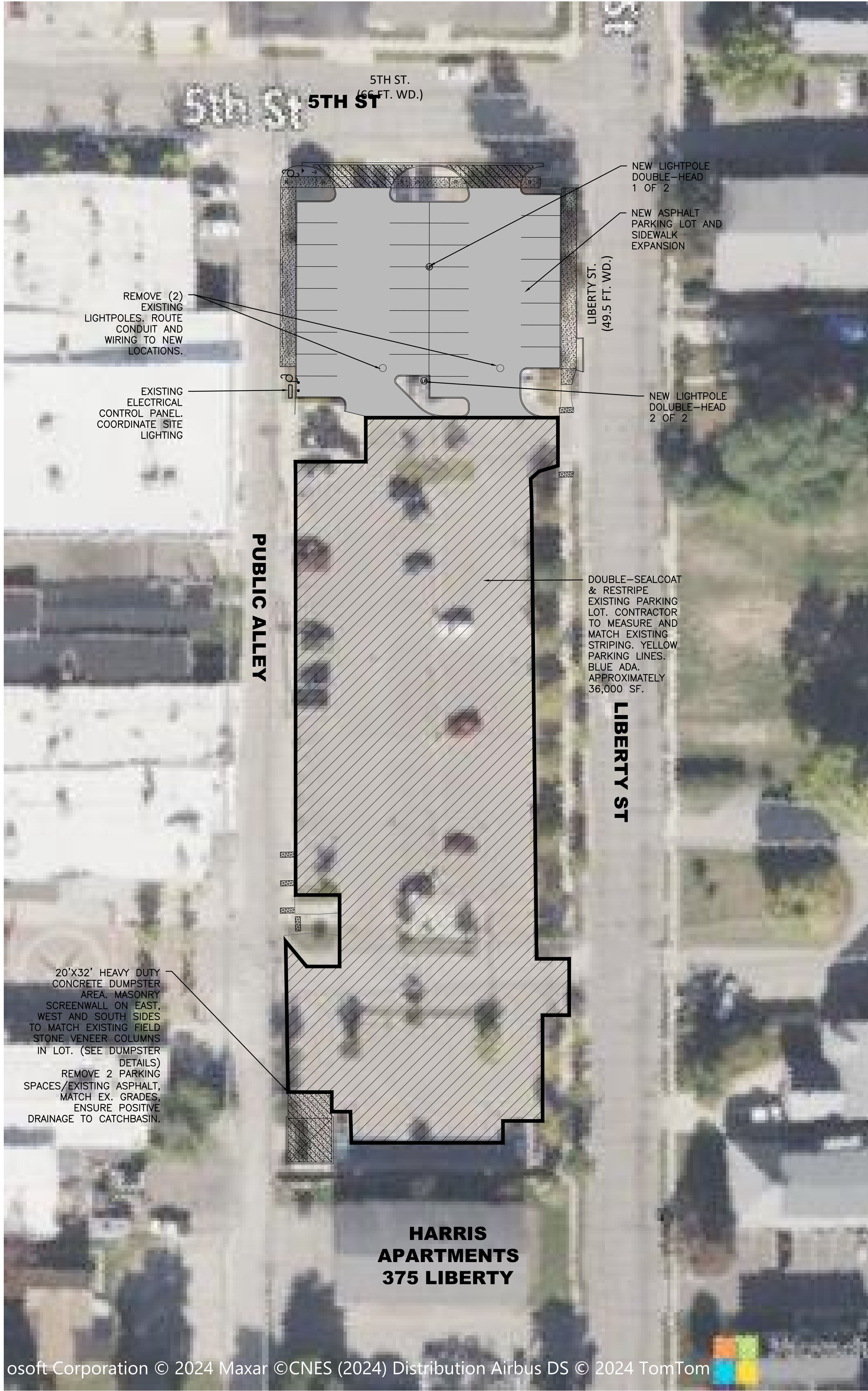




SHEET
C-1



PROJECT NUMBER:
85320

DATE:
06-21-24

SCALE:

DESIGNED BY:
AJC

DRAWN BY:
-

CHECKED BY:
-

APPROVED BY:
-

REVISIONS

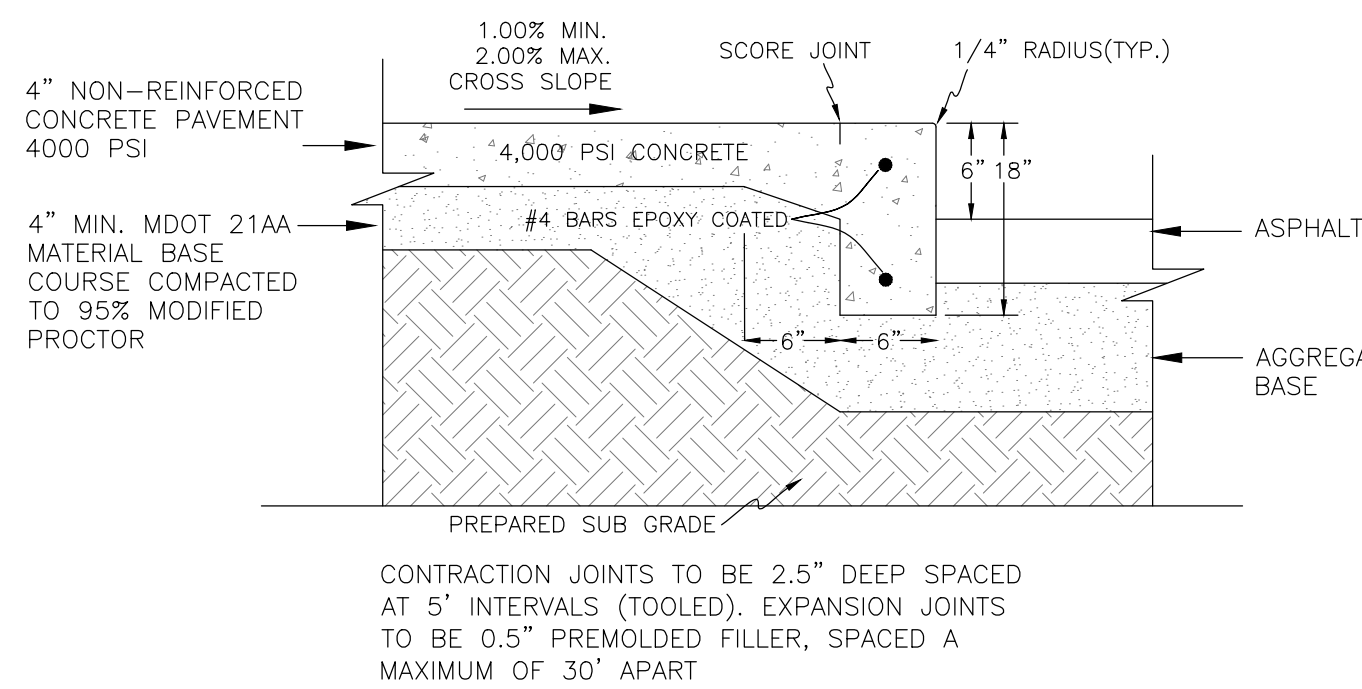
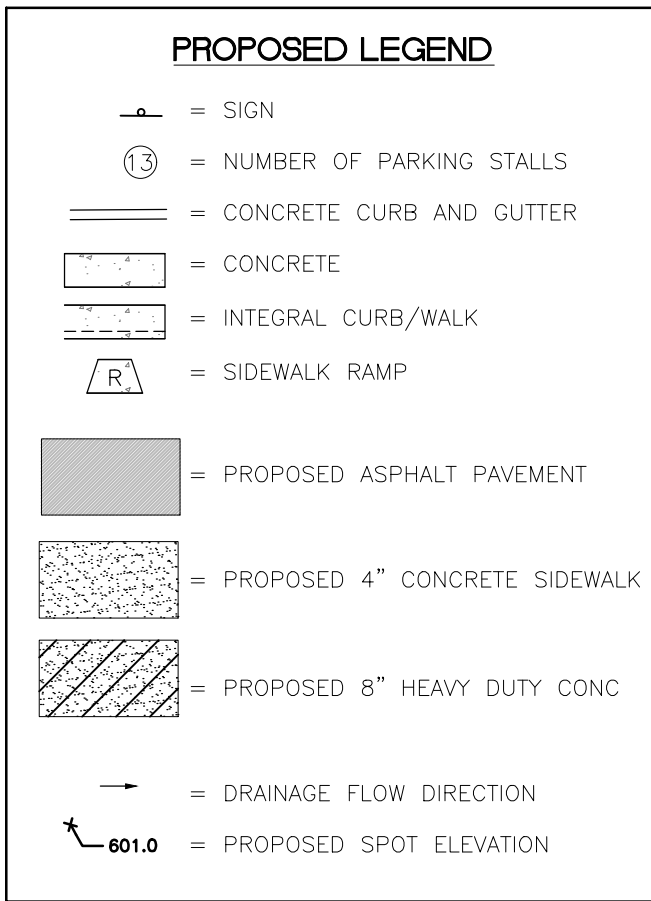
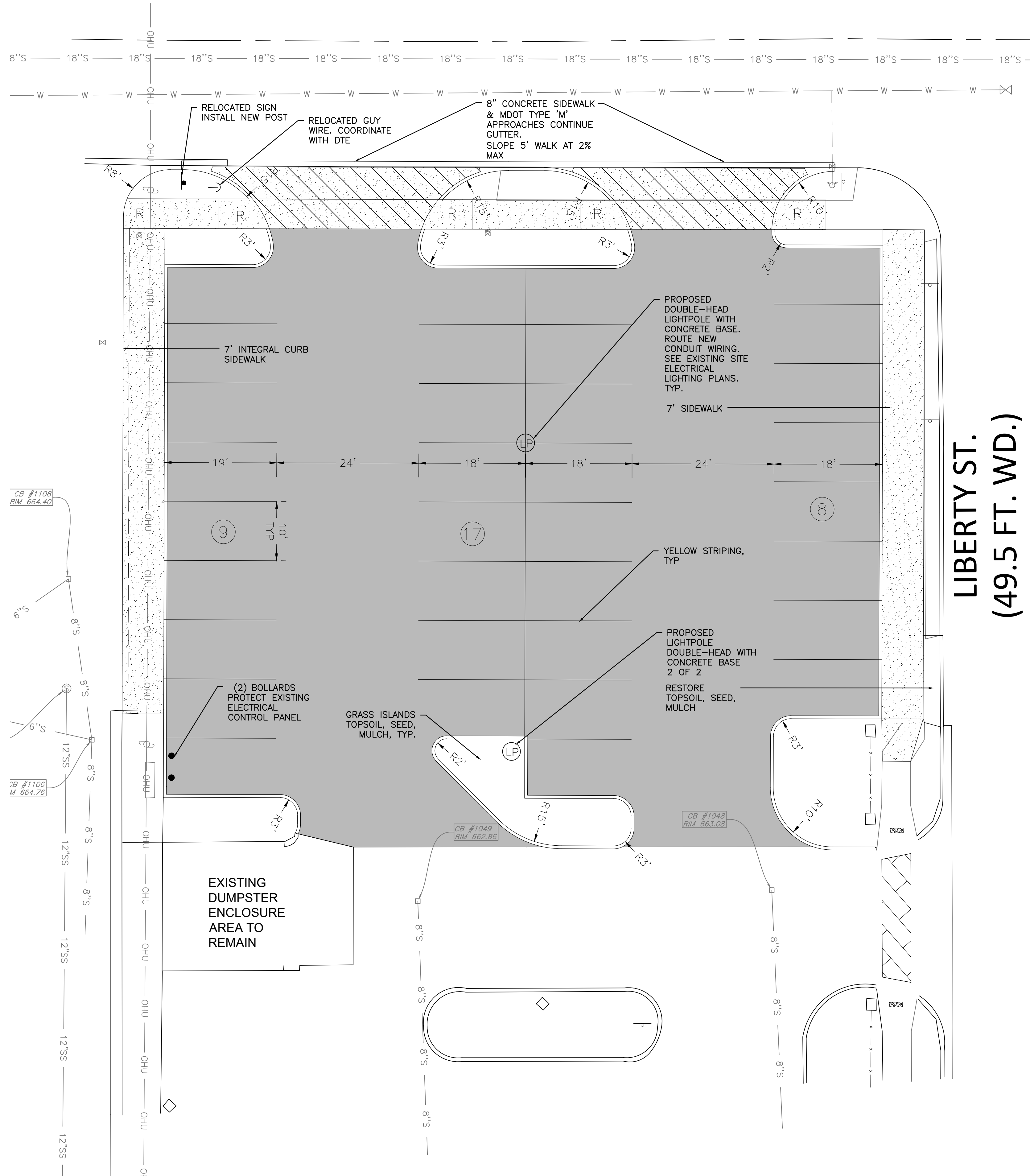
HENNESSEY
ENGINEERS

13500 REECK RD
ANN ARBOR, MI 48106
MICHIGAN 48106
(734) 759-1600
(313) 688-1306
H E N N E S S E Y . C O M

TITLE
OVERALL SITE PLAN
5TH & LIBERTY PARKING EXPANSION
CITY OF BELLEVILLE
WAYNE COUNTY, MICHIGAN

SHEET
C-2

5TH ST.
(66 FT. WD.)



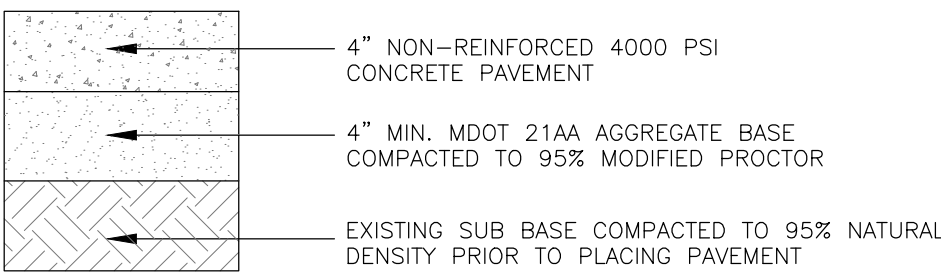
1 INTEGRAL CURB / SIDEWALK
NTS

GENERAL NOTES

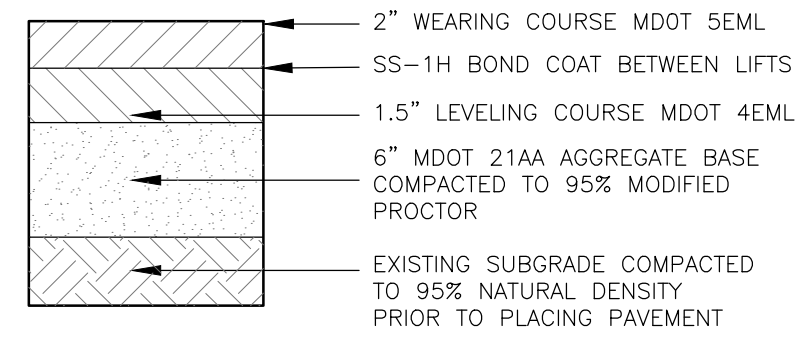
- RESTORE ALL DISTURBED LAWN AREAS WITH 3\"/>
- CONTACT MISS DIG AT 811 TO IDENTIFY AND FLAG/MARK THE LOCATIONS OF ALL UNDERGROUND UTILITIES AT THE PROPOSED CONSTRUCTION AREAS PRIOR TO START OF CONSTRUCTION, AND SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATIONS AND ELEVATIONS OF ALL UNDERGROUND UTILITIES, AND RESOLVE ANY CONFLICT BETWEEN THE PROPOSED WORK AND THE EXISTING UNDERGROUND OR ABOVEGROUND UTILITIES.
- ALL SURVEY MONUMENTS/CORNERS AND BENCH MARKS LOCATED WITHIN THE CONSTRUCTION AREA MUST BE PRESERVED IN ACCORDANCE WITH PUBLIC ACT 74 AS AMENDED (INCLUDING ACE 14, P.A. 2000) AND AS PER WAYNE COUNTY PERMIT RULE 1.5. THE PERMIT HOLDER AND CONTRACTOR SHALL COORDINATE THE WORK WITH A PROFESSIONAL SURVEYOR LICENSED IN THE STATE OF MICHIGAN DURING CONSTRUCTION ACTIVITIES FOR THE PURPOSE OF WITNESSING, PRESERVING OR REPLACING SURVEY MONUMENTS AND MONUMENT BOXES.
- CONTRACTOR IS RESPONSIBLE FOR RESTORING OR REPLACING ALL DISTURBED LANDSCAPE AREAS, SPRINKLER SYSTEMS, FENCES, SIGNS, MAIL BOXES, ETC.
- MAINTAIN A SAFE AND ADEQUATE TRAVEL ROUTE FOR PEDESTRIANS AT ALL TIMES THROUGHOUT THE PROJECT DURATION.
- OVERNIGHT VEHICLE PARKING AND STORAGE OF CONSTRUCTION MATERIALS AND EQUIPMENTS ARE NOT PERMITTED UNLESS APPROVED BY THE OWNER.
- ALL SOIL EROSION CONTROL MEASURES SHALL COMPLY WITH THE CURRENT ORDINANCES, COUNTY STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND STATE OF MICHIGAN "SOIL EROSION AND SEDIMENTATION CONTROL ACT" (ACT #347)
- ONLY UPON STABILIZATION OF ALL DISTURBED AREAS MAY THE TEMPORARY FILTERS BE REMOVED. ALL STORM SEWERS MUST BE CLEANED OF ALL SEDIMENT.

PAVING NOTES

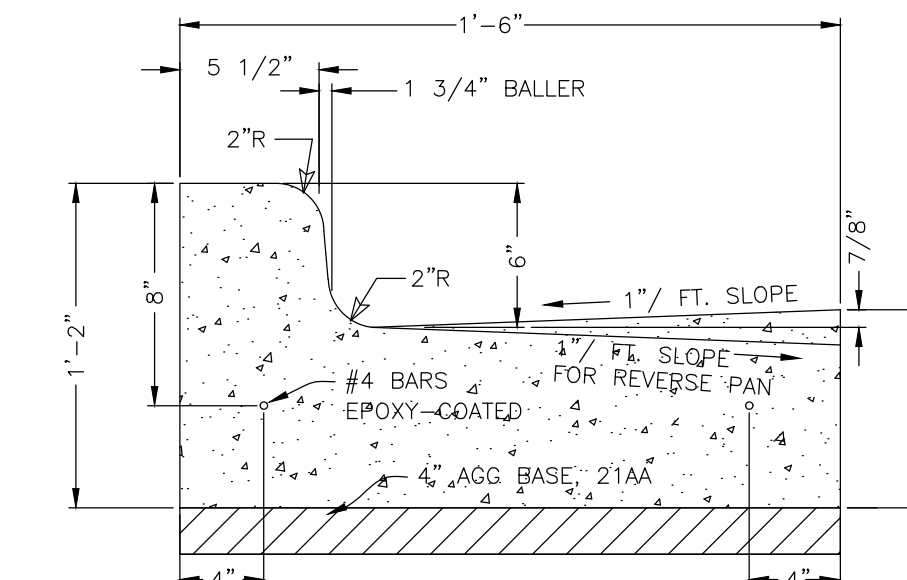
- ALL DIMENSIONS ARE TO BACK OF CURB, EXCEPT FOR PARKING LOT STRIPING, OR UNLESS OTHERWISE NOTED.
- SAWCUT MINIMUM 2\"/>
- ALL PROPOSED SPOTS ARE TOP OF PAVEMENT. FOR CURBED AREAS, ADD 6 INCHES FOR TOP OF CURB ELEVATIONS, ADD 600 TO ALL PROPOSED SPOTS. ALL SPOT ELEVATIONS ARE ON THE NAVD83 DATUM.
- EARTHWORK AND PAVEMENT WORK SHALL BE IN ACCORDANCE WITH MDOT 2020 STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED.
- REMOVE ANY EXISTING TOPSOIL, VEGETATION, TREES, AND OTHER DELETERIOUS MATERIALS DOWN TO SUBGRADE SOIL. TREES ROOTS SHALL BE COMPLETELY REMOVED.
- EXCAVATE TO DEPTH OF FINAL SUBGRADE ELEVATION TO ALLOW FOR GRADE CHANGES AND THE PLACEMENT OF THE PROPOSED PAVEMENT AND BASE SECTION.
- COMPACT TOP 12\"/>
- PROOF-ROLL FINAL SUBGRADE UNDER THE OBSERVATION OF THE TOWNSHIP ENGINEER/INSPECTOR. LOOSE OR YIELDING AREAS WHICH CANNOT BE MECHANICALLY STABILIZED SHALL BE REMOVED AND REPLACED WITH ENGINEERED FILL AS DIRECTED BY THE TOWNSHIP ENGINEER/INSPECTOR.
- COMPACT THE AGGREGATE BASE TO 95% MAX DENSITY AS DETERMINED BY THE MICHIGAN MODIFIED T-180 TEST DEFINED IN THE MDOT DENSITY TESTING AND INSPECTION MANUAL. BASE TO EXTEND 1' PAST THE PAVED EDGE.
- COMPACT BITUMINOUS MATERIAL TO 97% MAX DENSITY MARSHALL METHOD.
- APPLY SS-1H BOND COAT EMULSION BETWEEN LEVELING AND WEARING COURSE IN A UNIFORMLY AT 0.1 GALLONS/SQUARE YARD.
- PERFORMANCE GRADE PG64-22 ASPHALT BINDER SHALL BE USED IN THE PRODUCTION OF BITUMINOUS MIXTURES. ALTERNATE BINDERS MIXED WITH RAP SHALL NOT BE USED TO MEET PG64-22 PERFORMANCE REQUIREMENTS.
- ALL CONCRETE WORK & MATERIALS SHALL CONFORM TO DIVISION 6 OF THE CURRENT MDOT STANDARD SPECIFICATIONS.
- MINIMIZE CONSTRUCTION TRAFFIC ON THE NEW PAVEMENT. DELAY FINAL LIFT UNTIL THE MAJORITY OF THE CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED. CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGED SECTION RESULTING FROM CONSTRUCTION ACTIVITY.
- ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH CURRENT MDOT AND MUTCD STANDARD SPECIFICATIONS. PARKING SPACE STRIPING SHALL BE 4\"/>
- PLACE EXPANSION JOINT SEALANT WHERE NEW CONCRETE PAVEMENT ABUT WALLS, CURB, OR EXISTING CONCRETE PAVEMENT PER 2020 MDOT SEC 602.
- CLEAN, PREP, JOINT SEAL CRACKS ON ALL EXISTING SURFACES & REMOVE ALL STRIPING PRIOR TO SEALCOATING. ALLOW ADEQUATE CURING PERIOD PRIOR TO NEW STRIPING.
- NOTIFY ENGINEER OF ANY POTENTIAL GRADING ISSUES THAT MAY CREATE PONDING. PONDING AREAS SHALL BE CORRECTED AT NO ADDITIONAL COST TO THE OWNER. CORRECTION METHODS SHALL BE REVIEWED AND APPROVED BY THE ENGINEER.
- ALL SUBGRADE PROOF-ROLLING, BASE MATERIAL AND PAVEMENT QA/QC TESTING MUST BE CONDUCTED AND APPROVED BY THE OWNER'S 3RD PARTY TESTING COMPANY. ALL PAVING CONDUCTED WITHOUT THE TESTING COMPANY'S APPROVAL SHALL BE REMOVED AND REPLACED WITH NO COST TO THE OWNER.
- ADJUST ALL STRUCTURE RIMS TO FINISH GRADE.
- ANY SAWCUT GAPS BETWEEN EXISTING AND NEW PAVEMENT SHALL BE BACKFILLED WITH 21AA AGGREGATE AND PAVED WITH MDOT 36A ASPHALT.
- REFER TO LATEST M.D.O.T. R-28 STANDARD RAMP AND DETECTABLE WARNING DETAILS.



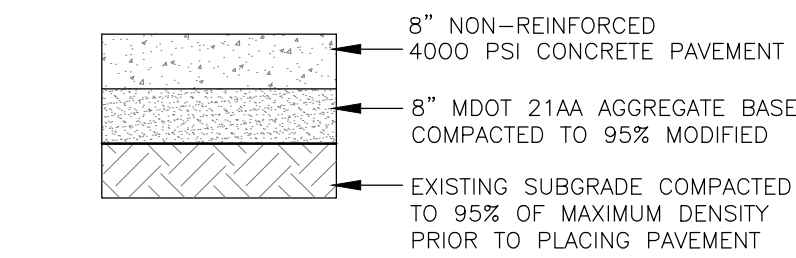
2 CONCRETE SIDEWALK
NTS



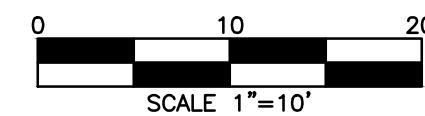
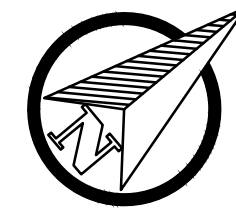
3 NEW ASPHALT PAVEMENT
NTS



4 MDOT F2 CONCRETE CURB/GUTTER
NTS



5 HEAVY DUTY DUMPSTER PAD
CONCRETE
NTS



TOPOGRAPHIC LEGEND

- ADA RAMP
- LIGHT POLE
- POWER POLE
- GUY WIRE
- SIGN
- TRANSFORMER
- ELECTRIC PEDESTAL
- CABLE PEDESTAL
- PHONE PEDESTAL
- ELECTRIC MANHOLE
- SOIL BORING
- SANITARY MANHOLE
- CATCH BASIN
- YARD CATCH BASIN
- STORM MANHOLE
- HYDRANT
- GATE VALVE & WELL
- VALVE
- WATER SHUT OFF VALVE
- EXISTING ELEVATION
- FINISHED GRADE
- FINISHED FLOOR
- TOP CURB
- GUTTER
- TREE
- PINE, SPRUCE
- BUSH, SHRUB
- FOUND IRON ROD
- FOUND IRON PIPE
- FOUND CONCRETE MONUMENT
- GAS PIPELINE MARKER
- GAS TEST SITE
- GAS VALVE
- TOP OF PIPE
- CLEAN OUT
- 500' CONTOUR
- FENCE
- CENTERLINE
- RIGHT-OF-WAY
- WATER MAIN
- STORM SEWER
- SANITARY SEWER
- GAS
- OVERHEAD UTILITY
- UNDERGRND ELECTRIC
- UNDERGRND FIBER OPTIC
- UNDERGRND CABLE
- TREE/BRUSH LINE
- CONCRETE
- ASPHALT
- BRICK
- BUILDING

BENCHMARKS

- BM # 1
TOP BOLT ON WATER HYDRANT LOCATED AT THE SOUTH EAST CORNER OF THE INTERSECTION OF 5TH STREET AND NORTH LIBERTY STREET.
ELEVATION: 667.41 (NAV88 DATUM)
- BM # 2
MAG ON NORTH FACING POWER POLE LOCATED ON THE EAST SIDE OF THE INTERSECTION OF 5TH STREET AND NORTH LIBERTY STREET.
ELEVATION: 666.05 (NAV88 DATUM)

PROJECT NUMBER:
85320

DATE:
06-21-24

SCALE:

DESIGNED BY:
AJC

DRAWN BY:

CHECKED BY:

APPROVED BY:

REVISIONS

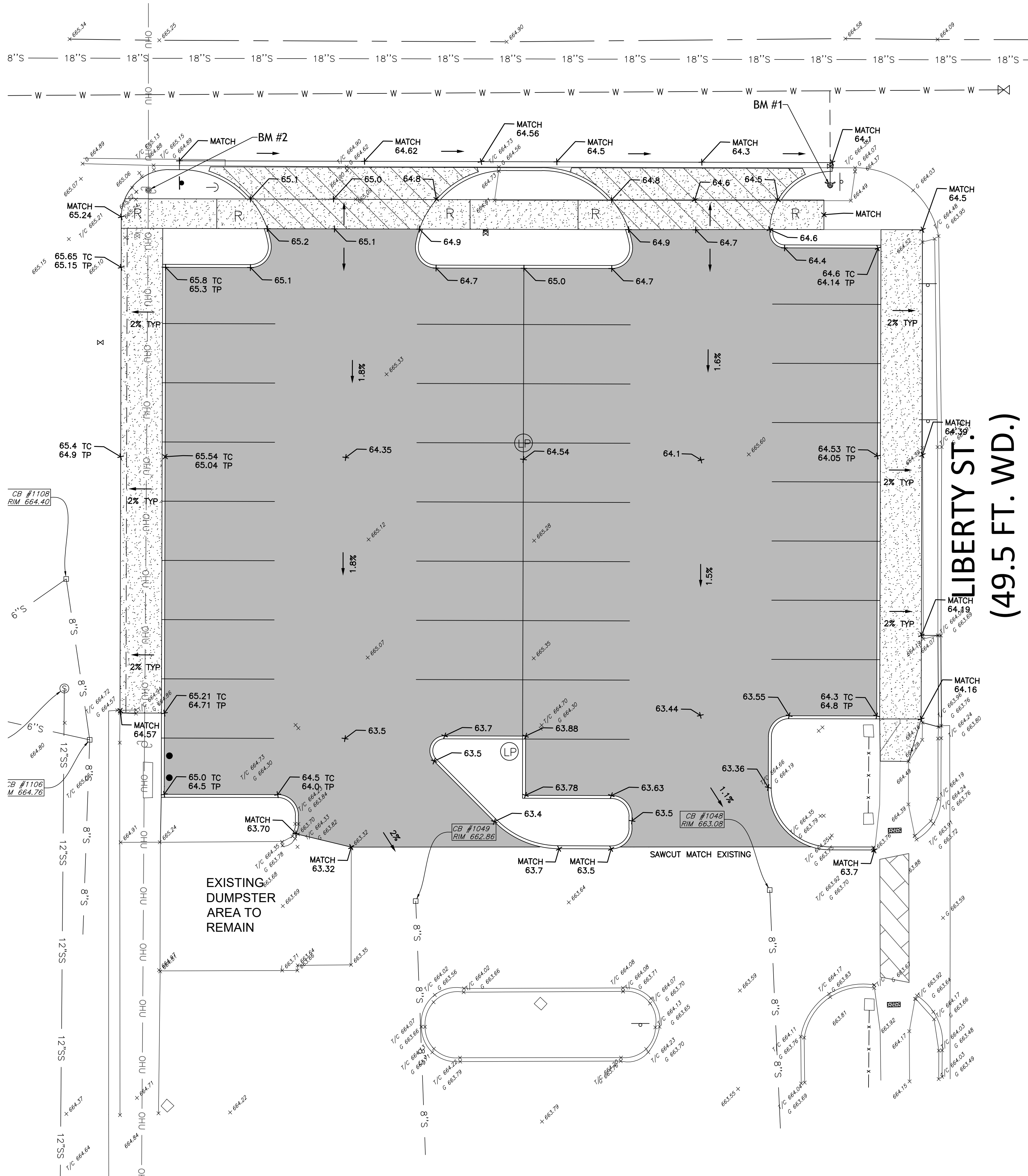
**HENNESSEY
ENGINEERS**

13500 REECK RD
ANN ARBOR, MI 48106
MICHIGAN 48195
(313) 688-1306
H E N N E S S E Y . C O M

SITE PLAN
5TH & LIBERTY PARKING EXPANSION
CITY OF BELLEVILLE
WAYNE COUNTY, MICHIGAN

**SHEET
C-3**

5TH ST.
(66 FT. WD.)



PROPOSED LEGEND

- = SIGN
- ⑬ = NUMBER OF PARKING STALLS
- = CONCRETE CURB AND GUTTER
- = CONCRETE
- = INTEGRAL CURB/WALK
- △ = SIDEWALK RAMP
- = PROPOSED ASPHALT PAVEMENT
- = PROPOSED 4" CONCRETE SIDEWALK
- = PROPOSED 8" HEAVY DUTY CONCRETE
- = DRAINAGE FLOW DIRECTION
- 601.0 = PROPOSED SPOT ELEVATION

GRADING AND EARTHWORK NOTES

1. ADD 600 TO ALL PROPOSED SPOT ELEVATIONS.
2. CONTRACTOR TO FIELD VERIFY ALL EXISTING TREES AND BRUSH AND REMOVE ALL THAT ARE NECESSARY TO GRADE SITE.
3. ALL GRADES ARE TO TOP OF PAVEMENT. ADD 6 INCHES FOR TOP OF CURB GRADES UNLESS OTHERWISE NOTED.
4. THE STAGING OF CONSTRUCTION ACTIVITIES SHALL OCCUR ONLY WITHIN THE SITE BOUNDARIES. ANY CONSTRUCTION ACTIVITIES OUTSIDE OF THE SITE BOUNDARIES SHALL BE AT THE SOLE RESPONSIBILITY AND RISK OF THE CONTRACTOR.
5. ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL MEET THE REQUIREMENTS OF WASHTENAW COUNTY. AN EROSION CONTROL PERMIT MUST BE SECURED PRIOR TO CONSTRUCTION.
6. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED OR SODDED IN ACCORDANCE WITH THE LANDSCAPE PLANS. PROVIDE A MINIMUM OF 3" OF TOPSOIL IN THESE AREAS UNLESS OTHERWISE NOTED.
7. THE CONTRACTOR SHALL NOTE EXISTING UNDERGROUND UTILITIES WITHIN AND ADJACENT TO THE SITE. BACKFILL FOR EXISTING UTILITY TRENCHES SHALL BE EXAMINED CRITICALLY. ANY TRENCHES FOUND TO HAVE SOFT, UNSTABLE OR UNSUITABLE BACKFILL MATERIAL, IN THE OPINION OF THE GEOTECHNICAL ENGINEER, THAT ARE TO BE WITHIN THE ZONE OF INFLUENCE OF PROPOSED BUILDINGS OR PAVEMENT SHALL BE COMPLETELY EXCAVATED AND BACKFILLED WITH SUITABLE MATERIAL.

EARTHWORK BALANCING NOTE:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPORTING OR EXPORTING ALL MATERIALS AS REQUIRED TO PROPERLY GRADE THIS PROJECT TO THE FINISHED ELEVATIONS SHOWN ON THE APPROVED PLANS. THE CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION OF CUT AND FILL QUANTITIES AND ALLOW FOR REMOVAL OF EXCESS OR IMPORTATION OF ADDITIONAL MATERIAL AT NO ADDITIONAL COST TO THE OWNER.

PROJECT NUMBER: 85320
DATE: 06-21-24
SCALE: 1"=10'
DESIGNED BY: AJC
DRAWN BY: -
CHECKED BY: -
APPROVED BY: -

TOPOGRAPHIC LEGEND

- ADA RAMP
- LIGHT POLE
- POWER POLE
- GUY WIRE
- SIGN
- TRANSFORMER
- ELECTRIC PEDESTAL
- CABLE PEDESTAL
- PHONE PEDESTAL
- ELECTRIC MANHOLE
- SOIL BORING
- SANITARY MANHOLE
- CATCH BASIN
- YARD CATCH BASIN
- STORM MANHOLE
- HYDRANT
- GATE VALVE & WELL
- VALVE
- WATER SHUT OFF VALVE
- EXISTING ELEVATION
- FINISHED GRADE
- FINISHED FLOOR
- TOP CURB
- GUTTER
- TREE
- PINE, SPRUCE
- BUSH, SHRUB
- FOUND IRON ROD
- FOUND IRON PIPE
- FOUND CONCRETE MONUMENT
- GAS PIPELINE MARKER
- GAS TEST SITE
- GAS VALVE
- TOP OF PIPE
- CLEAN OUT

- 500' CONTOUR
- FENCE
- CENTERLINE
- RIGHT-OF-WAY
- WATER MAIN
- STORM SEWER
- SANITARY SEWER
- GAS
- OVERHEAD UTILITY
- UNDERGRND ELECTRIC
- UNDERGRND FIBER OPTIC
- UNDERGRND CABLE
- TREE/BRUSH LINE
- CONCRETE
- ASPHALT
- BRICK
- BUILDING

BENCHMARKS

BM # 1
TOP BOLT ON WATER HYDRANT LOCATED AT THE SOUTH EAST CORNER OF THE INTERSECTION OF 5TH STREET AND NORTH LIBERTY STREET.
ELEVATION: 667.41 (NAVD88 DATUM)

BM # 2
MAG ON NORTH FACING POWER POLE LOCATED ON THE EAST SIDE OF THE INTERSECTION OF 5TH STREET AND NORTH LIBERTY STREET.
ELEVATION: 666.05 (NAVD88 DATUM)

REVISIONS

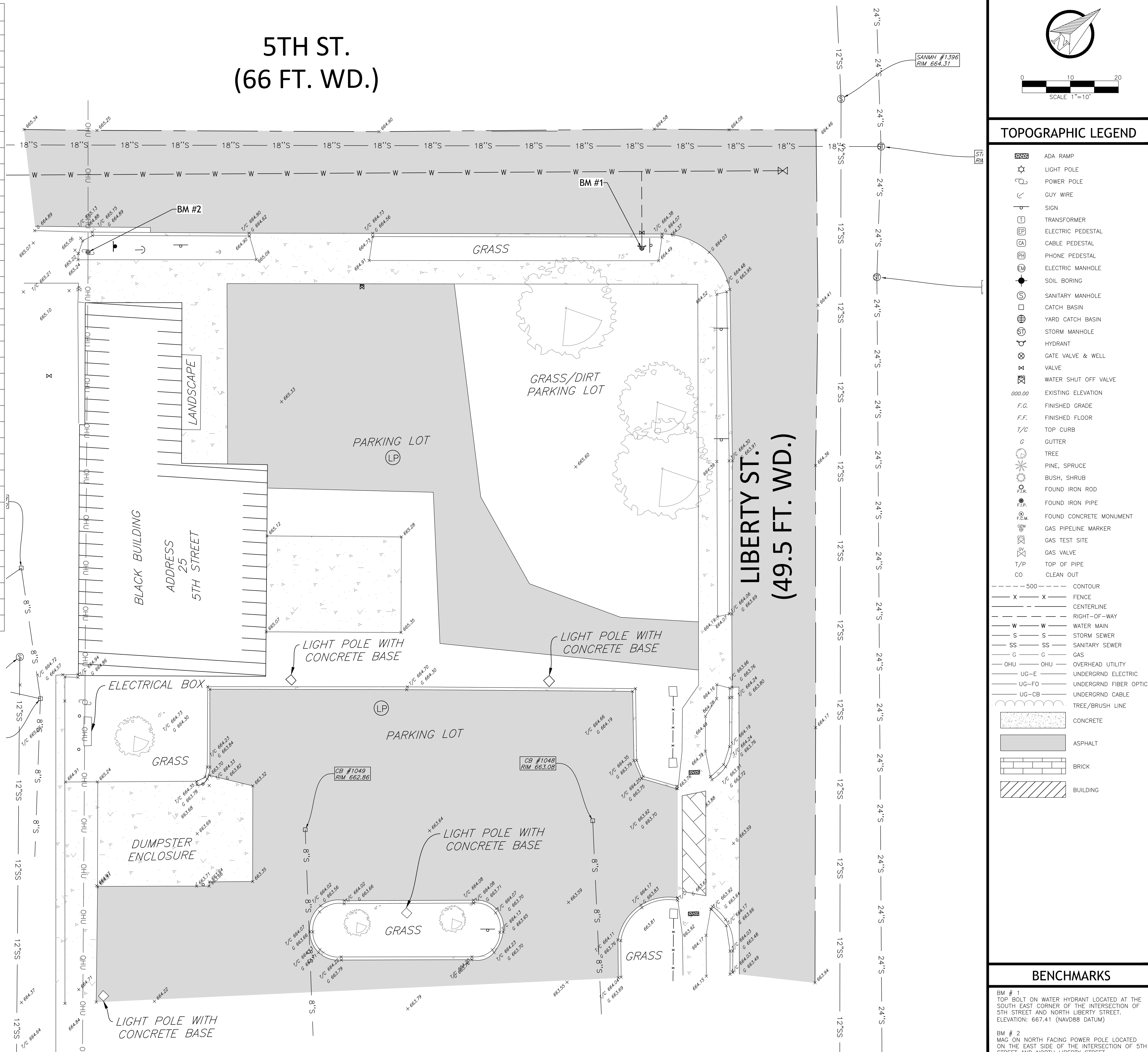
NO.	DESCRIPTION	DATE

HENNESSEY ENGINEERS
13500 RECK RD
SHELBY TWP
MICHIGAN 48195
(734) 759-1600
H E N N E S S E Y . C O M

GRADING PLAN
5TH & LIBERTY PARKING EXPANSION
CITY OF BELLEVILLE
WAYNE COUNTY, MICHIGAN

SHEET C-4

INVERT ELEVATION CHART							
STRUCTURE ID	DESCRIPTION	SIZE (IN)	DIRECTION	DEPTH (FT)	RIM	INVERT (FT)	NOTES
1008	CB	8	E	3.3	664.40	661.10	TO 1006
		6	SE	3.35	664.40	661.05	TO CO
1007	SANMH	10	E	9	664.92	655.40	
1006	CB	8	W	3.55	664.76	661.21	TO 1008
		8	E	4.05	664.76	660.71	
		6	SW	3.55	664.76	661.21	TO CO
1049	CB	8	E	3.6	662.86	659.26	
1048	CB	8	E	3.9	663.08	659.18	
1111	SANMH	12	N	9.7	663.54	653.84	
		12	S	9.7	663.54	653.84	
		12	W	9.7	663.54	653.84	
		12	E	8.8	663.54	654.74	
1112	CB	6	W	2.9	663.07	660.17	
		12	E	3.45	663.07	659.62	
1110	CB	12	E	2.9	662.56	659.66	
1109	CB	8	N	2.65	662.19	659.54	
1394	SANMH	18	N	6.1	663.04	656.94	TO 1392
		12	E	4.3	663.04	658.74	
		12	W	5.2	663.04	657.84	
1395	GVW	T/P	N	5.2	665.91	660.71	T/P
			S	5.2	665.91	660.71	T/P
1396	SANMH	12	E	11.3	664.31	653.01	
		12	W	11.3	664.31	653.01	TO 1397
		18	S	11.7	664.31	652.61	
		-	N	11	664.31	653.31	
1392	STMH	24	E	9.7	664.20	654.50	BOTTOM
		24	W	9.7	664.20	654.50	TO 1391
		18	S	7.1	664.20	657.10	TO 1394
1391	STMH	24	E	9.7	664.21	654.51	
		24	W	9.7	664.21	654.51	TO 1393
1393	STMH	24	S	8.8	663.47	654.67	T/P
		24	W	9	663.47	654.47	
		18	E	9	663.47	654.47	
1397	SANMH	12	S	10.4	663.04	652.64	
		6	N	8.6	663.04	654.44	
		12	W	10.1	663.04	652.94	
		12	E	10.3	663.04	652.74	



E:\80000's\85000'S\85320 5th Liberty Parking\85320 Master.dwg - 6 Demo - (7/2/2024 2:02 PM)

SHEET
C-6

BLD-ARE-T3-DA The Edge™ LED Area Light — Type III Rev. Date: 02/29/08

Beta Catalog Number: BLD-ARE-T3-DA- - LED-B -

Reset

LED Performance Generation B Specs

Light Arm	Initial Delivered Lumens - Type III Optic	System Watts 120-277V	System Watts 277-480V	Dim. "A" (mm)
1	1,700	28	30	11.75
2	3,400	55	59	11.75
3	5,100	83	88	11.75
4	6,800	104	109	11.75
5	8,500	129	133	11.75
6	10,200	153	156	11.75
7	11,900	183	194	21.75
8	13,600	207	218	21.75
9	15,300	232	242	21.75
10	17,000	257	266	21.75
11	18,700	281	290	21.75
12	20,400	306	313	21.75

Product Housing Family BLD ARE T3-DA Optics DA- Mounting M017 M034 M051 M068 M083 M102 M119 M136 M153 M170 M187 M204

Notes: 1. BETA Type III distribution 2. Direct mounting arm

General Description: Slim, low profile design minimizes wind load requirements. Fixture sides are rugged cast aluminum with integral, weather-tight LED driver compartments and high performance aluminum heatinks. Convex, interlocking mounting method. Mounting housing is rugged die cast aluminum and mounts to 3" - 6" square or round pole. Fixture is secured by two (2) 5/16-18 UNC bolts spaced on 2" centers. Includes leaf/debris guard. Five year limited warranty on fixture.

Electrical: Modular design accommodates varied lighting output from high brightness, white, 6000K, minimum 75 CRI, long life LED sources 120-277V 50/60 Hz. Class 1 LED drivers are standard. 247-480V 50/60 Hz driver is optional. LED drivers have power factor >90% and THD <20% of full load. Integral weather-tight electrical box with terminal strip for easy power hook-up.

Patents: Pending

Labels: UL listed in the U.S. and Canada for wet locations and enclosure classified IP66 per IEC 529.

Beta LED • 1200 92nd Street • Sturtevant, WI 53177 • 800-236-6800 • www.BetaLED.com

BLD-ARE-T3-DA The Edge™ LED Area Light — Type III Rev. Date: 02/29/08

Output gains using Generation B LEDs can be achieved by multiplying footcandle levels by 1.1.

Independent Testing Laboratories certified test. Report No. ITL 59234. Candpower distribution curve of 2 light bar luminaire with 2863 initial delivered lumens.

Isotocandle plot of 6 light bar Type III LED luminaire at 20' A.F.G. Initial delivered lumens at 8889. Initial FC at grade.

Isotocandle plots shown are initial at grade.

LED Area Light EPA Calculations

Fixed Arm Mount	LIGHT BARS											
	2	3	4	5	6	7	8	9	10	11	12	
1 fixture	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.61	0.65	0.69	
2 fixtures (180°)	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.21	1.29	1.38	
3 fixtures (90°)	0.87	0.92	0.96	1.00	1.04	1.08	1.12	n/a	n/a	n/a	n/a	
4 fixtures (90°)	1.47	1.51	1.55	1.60	1.64	1.68	1.72	n/a	n/a	n/a	n/a	
4 fixtures (90°)	1.75	1.83	1.91	2.00	2.08	2.16	2.24	n/a	n/a	n/a	n/a	

General Description: Slim, low profile design minimizes wind load requirements. Fixture sides are rugged cast aluminum with integral, weather-tight LED driver compartments and high performance aluminum heatinks. Convex, interlocking mounting method. Mounting housing is rugged die cast aluminum and mounts to 3" - 6" square or round pole. Fixture is secured by two (2) 5/16-18 UNC bolts spaced on 2" centers. Includes leaf/debris guard. Five year limited warranty on fixture.

Electrical: Modular design accommodates varied lighting output from high brightness, white, 6000K, minimum 75 CRI, long life LED sources 120-277V 50/60 Hz. Class 1 LED drivers are standard. 247-480V 50/60 Hz driver is optional. LED drivers have power factor >90% and THD <20% of full load. Integral weather-tight electrical box with terminal strip for easy power hook-up.

Patents: Pending

Labels: UL listed in the U.S. and Canada for wet locations and enclosure classified IP66 per IEC 529.

Beta LED • 1200 92nd Street • Sturtevant, WI 53177 • 800-236-6800 • www.BetaLED.com

BLD-ARE-T5-DA The Edge™ LED Area Light — Type V Rev. Date: 02/29/08

Beta Catalog Number: BLD-ARE-T5-DA- - LED-B -

Reset

LED Performance Generation B Specs

Light Arm	Initial Delivered Lumens - Type V Optic	System Watts 120-277V	System Watts 277-480V	Dim. "A" (mm)
1	1,700	28	30	11.75
2	3,400	55	59	11.75
3	5,100	83	88	11.75
4	6,800	104	109	11.75
5	8,500	129	133	11.75
6	10,200	153	156	11.75
7	11,900	183	194	21.75
8	13,600	207	218	21.75
9	15,300	232	242	21.75
10	17,000	257	266	21.75
11	18,700	281	290	21.75
12	20,400	306	313	21.75

Product Housing Family BLD ARE T5-DA Optics DA- Mounting M017 M034 M051 M068 M083 M102 M119 M136 M153 M170 M187 M204

Notes: 1. BETA Type V distribution 2. Direct mounting arm

General Description: Slim, low profile design minimizes wind load requirements. Fixture sides are rugged cast aluminum with integral, weather-tight LED driver compartments and high performance aluminum heatinks. Convex, interlocking mounting method. Mounting housing is rugged die cast aluminum and mounts to 3" - 6" square or round pole. Fixture is secured by two (2) 5/16-18 UNC bolts spaced on 2" centers. Includes leaf/debris guard. Five year limited warranty on fixture.

Electrical: Modular design accommodates varied lighting output from high brightness, white, 6000K, minimum 75 CRI, long life LED sources 120-277V 50/60 Hz. Class 1 LED drivers are standard. 247-480V 50/60 Hz driver is optional. LED drivers have power factor >90% and THD <20% of full load. Integral weather-tight electrical box with terminal strip for easy power hook-up.

Patents: Pending

Labels: UL listed in the U.S. and Canada for wet locations and enclosure classified IP66 per IEC 529.

Beta LED • 1200 92nd Street • Sturtevant, WI 53177 • 800-236-6800 • www.BetaLED.com

BLD-ARE-T5-DA The Edge™ LED Area Light — Type V Rev. Date: 02/29/08

Output gains using Generation B LEDs can be achieved by multiplying footcandle levels by 1.06.

Independent Testing Laboratories certified test. Report No. ITL 59237. Candpower distribution curve of 2 light bar luminaire with 3138 initial delivered lumens.

Isotocandle plots shown are initial at grade.

LED Area Light EPA Calculations

Fixed Arm Mount	LIGHT BARS											
	2	3	4	5	6	7	8	9	10	11	12	
1 fixture	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.61	0.65	0.69	
2 fixtures (180°)	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.21	1.29	1.38	
3 fixtures (90°)	0.87	0.92	0.96	1.00	1.04	1.08	1.12	n/a	n/a	n/a	n/a	
4 fixtures (90°)	1.47	1.51	1.55	1.60	1.64	1.68	1.72	n/a	n/a	n/a	n/a	
4 fixtures (90°)	1.75	1.83	1.91	2.00	2.08	2.16	2.24	n/a	n/a	n/a	n/a	

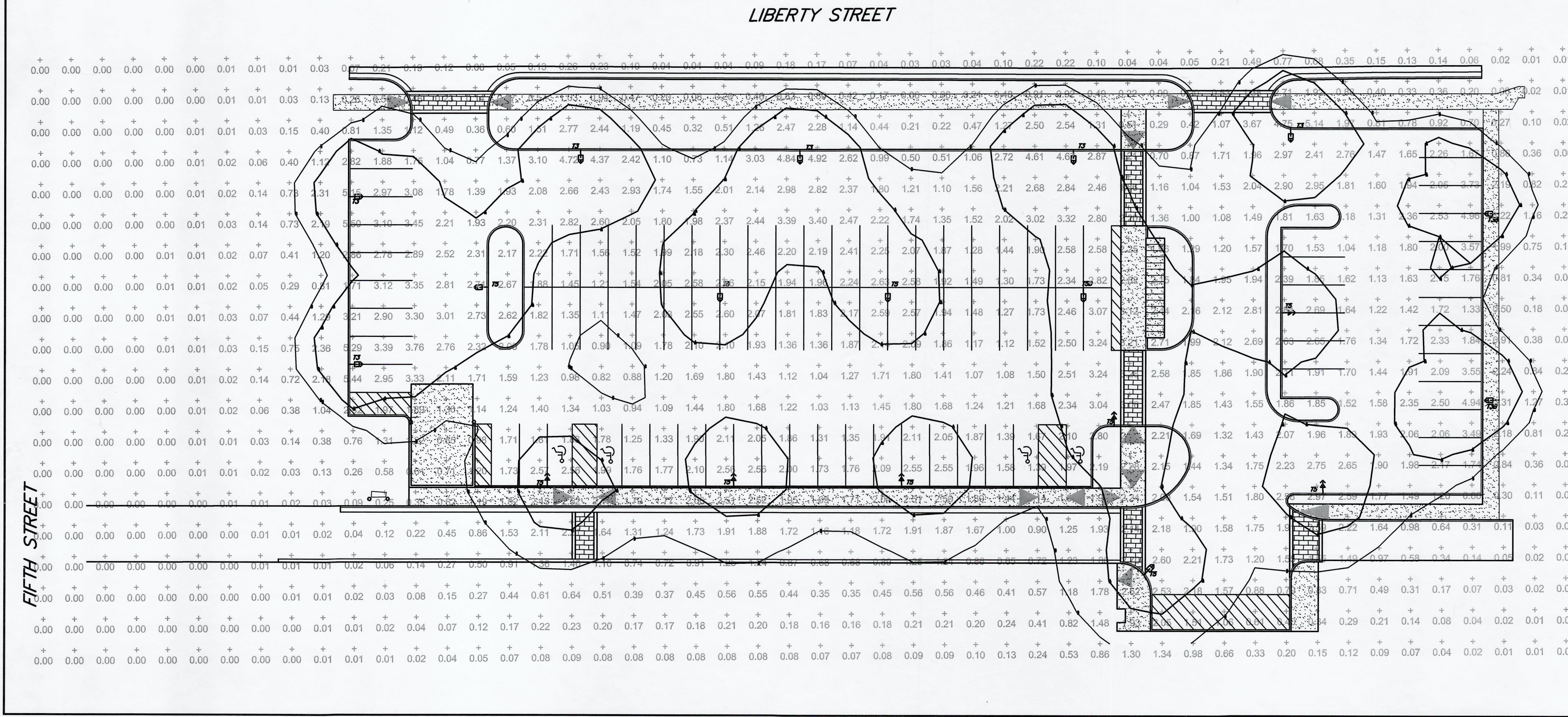
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Patents: Pending

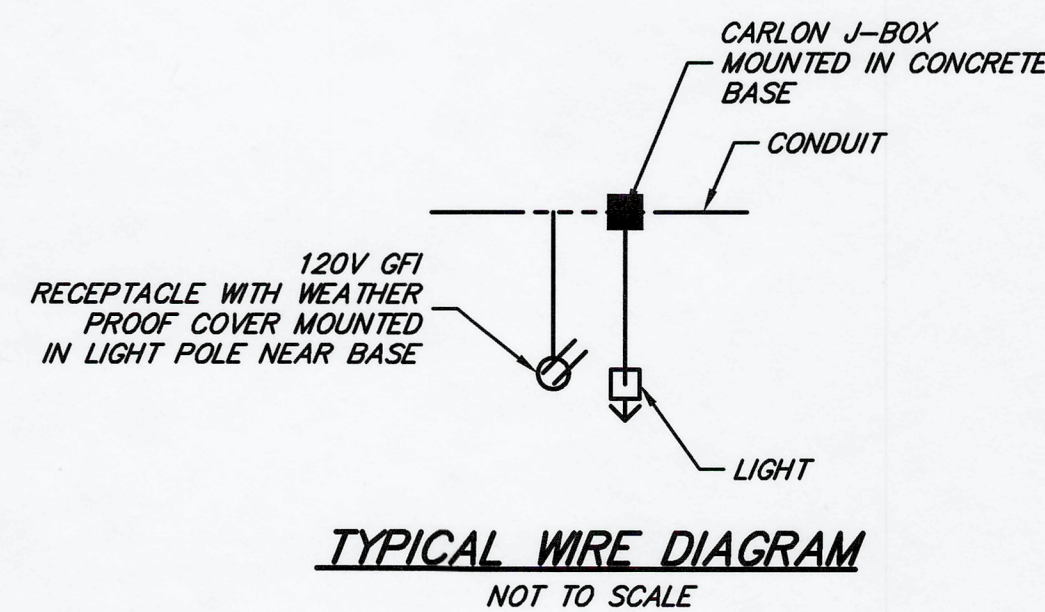
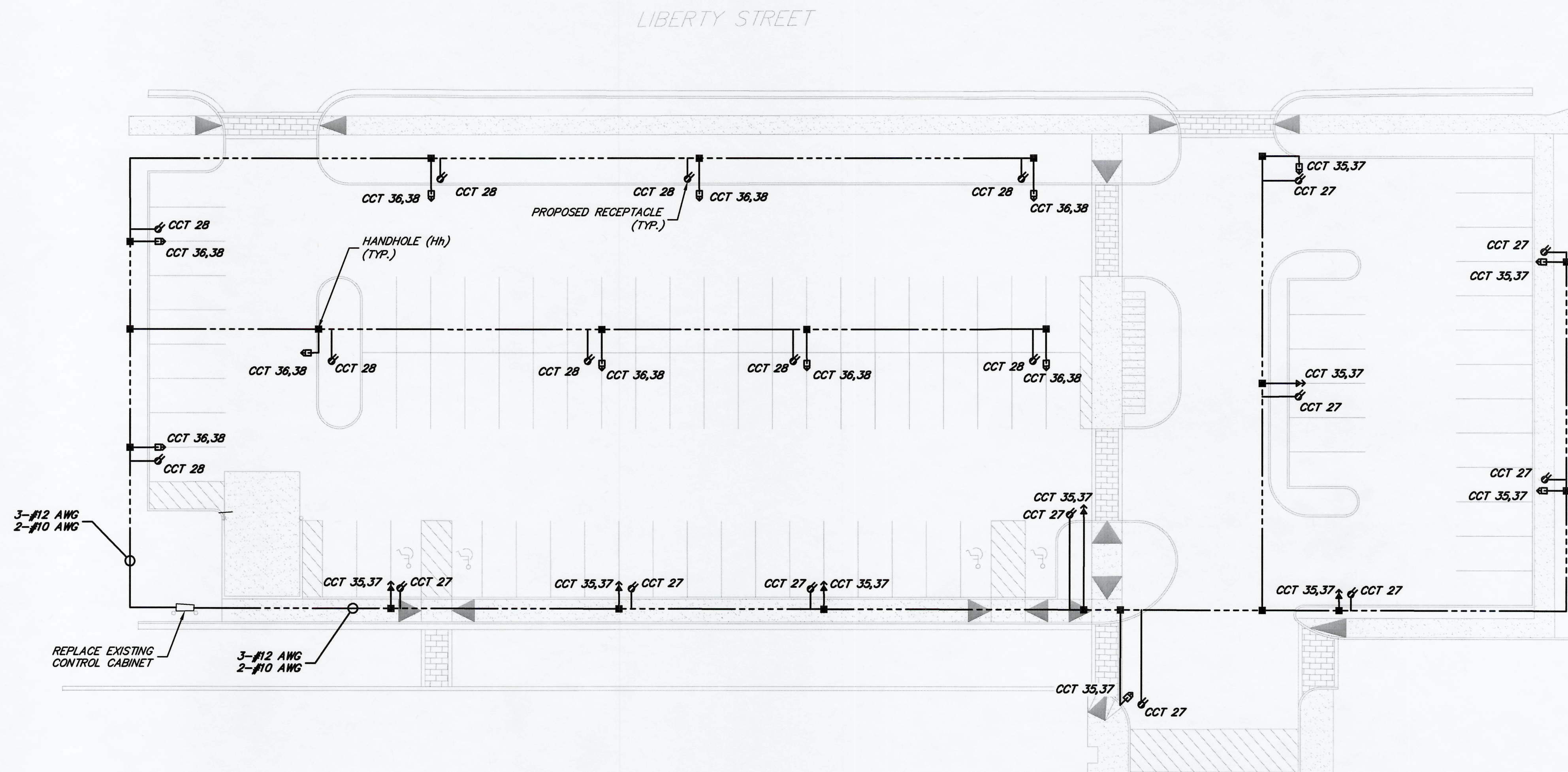
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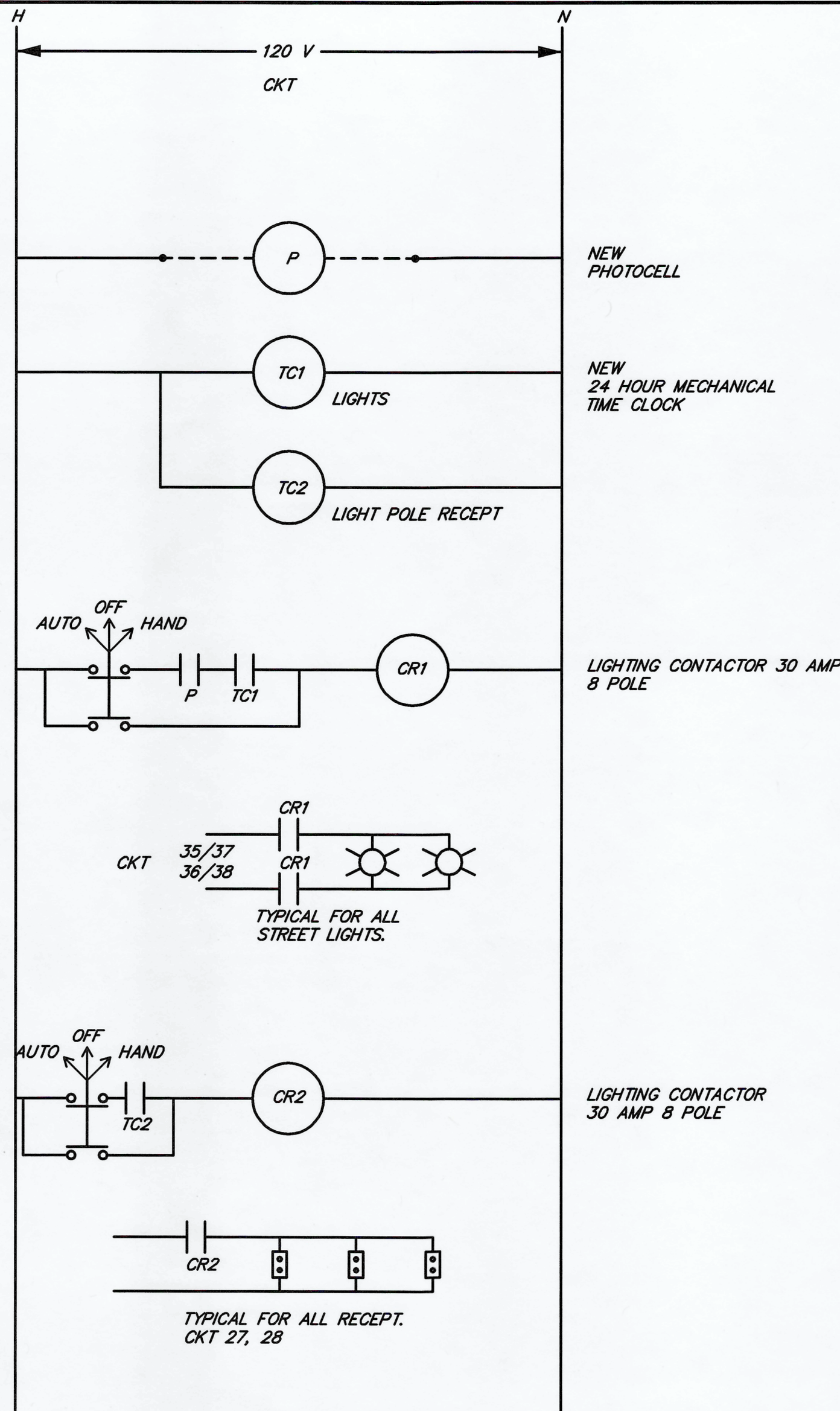
C:\p2008\115462_08\DWG\dwg\dwg\115462_08.dwg, 3/16/2009 3:25:00 AM, h:\temp\115462_08.dwg

PLOTTING SCALE: RET. F.B. PG. ACAD FILE:



NOTES
CONDUIT ROUTES ARE NOT SHOWN FOR CONSTRUCTION.
CONTRACTOR TO ROUTE AS REQUIRED PER NEC 2005.

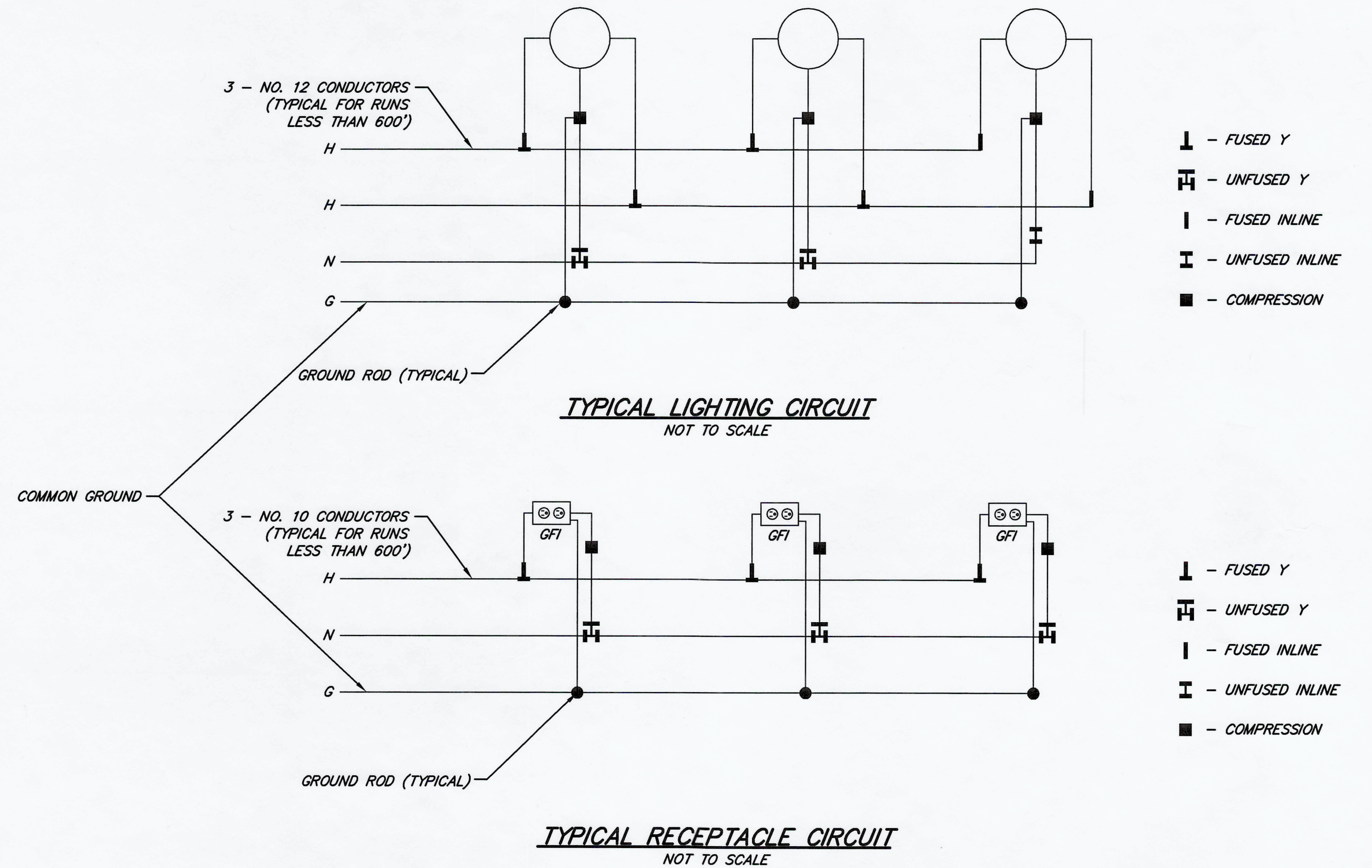
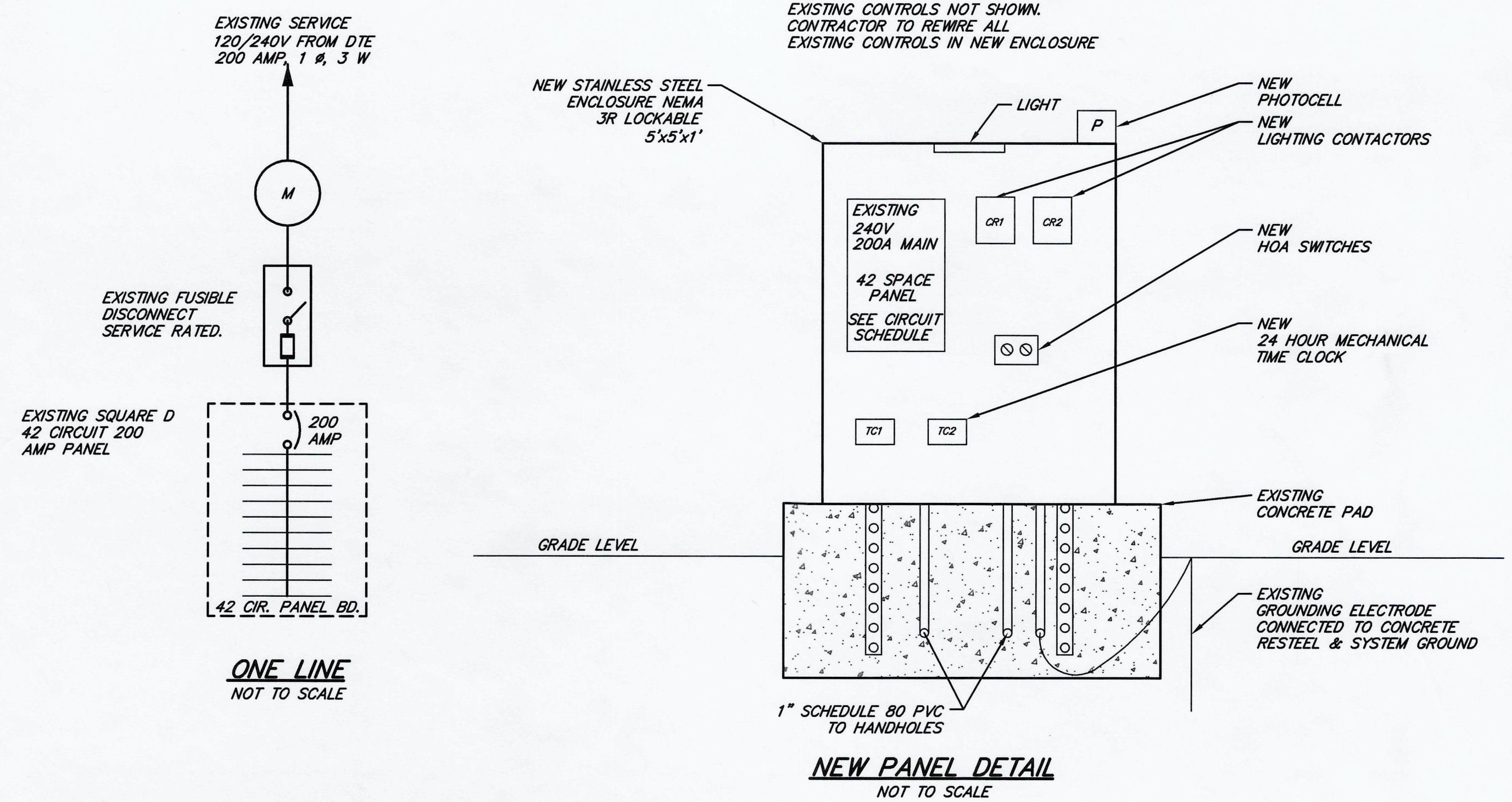
WJB	REVISED PER SHOP DRAWINGS	03/16/09
BY	MARK	DATE
THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.		
BELLEVILLE DDA WAYNE COUNTY, MICHIGAN		
ELECTRIC WIRING PLAN PARKING LOT IMPROVEMENTS		
Spicer group		
OFFICE LOCATIONS SAGINAW, MI ST. JOHNS, MI CARO, MI DETROIT, MI TEMPE, AZ		
SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel. 989-754-4717 Fax. 989-754-4440 www.SpicerGroup.com		
DE. BY: BAL DR. BY: CAR	CH. BY: DSV APP. BY: RBH	PROJECT NO. 115462.08
STDS.	SHEET 8 OF 14	D
DATE FEBRUARY, 2009 SCALE 1" = 20'	FILE NO. D-4632-8	8



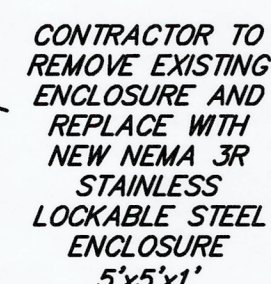
WIRING DIAGRAM FOR NEW LIGHTING CONTROLS
NOT TO SCALE

PANEL BOARD SCHEDULE				PANEL: EXISTING LIGHTING PANEL LOCATION: BELLEVILLE ODA PARKING LOT/ALLEY VOLTAGE: 120/240V, 200A AMP MAIN BREAKER, 1 PHASE			
LOAD DESCRIPTION	LOAD W	BREAKER	CCT NO.	200A	CCT NO.	BREAKER	LOAD DESCRIPTION
LUMINAIRES - EVEN 36 THRU 62	1050	20	1		2	20	LUMINAIRES ODD 35 THRU 61 & 51 A
	1050	20	1		2	20	
	675	20	3		4	20	LUMINAIRES ODD 69 THRU 79
LUMINAIRES - EVEN 64 THRU 80	675	20	3		4	20	
OUTLETS POLE 36, 40, 44, 48, 52, 60	1080	20	5		6	20	OUTLETS POLE 35, 39, 43, 47, 51, 55, 59
OUTLETS POLE 38, 42, 46, 50, 54, 68, 62	1260	20	7		8	20	OUTLETS POLE 37, 41, 45, 49, 53, 57, 61
OUTLETS POLE 64, 68, 72, 76, 80 (82)	1080	20	9		10	20	OUTLETS POLE 63, 67, 71, 75, 79
OUTLETS POLE 66, 70, 74, 78, (81, 83)	1080	20	11		12	20	OUTLETS POLE 65, 69, 73, 77
TREE OUTLET 1, 2, 3	540	20	13		14	20	TREE OUTLET 14, 15
TREE OUTLET 11, 12, 13	540	20	15		16	20	TREE OUTLET 16, 17
TREE OUTLET 4, 5	360	20	17		18	20	TREE OUTLET 24, 25, 26
TREE OUTLET 6, 7	360	20	19		20	20	TREE OUTLET 36, 37
TREE OUTLET 8, 9	360	20	21		22	20	TREE OUTLET 33, 34, 35
TREE OUTLET 10, 18	360	20	23		24	20	TREE OUTLET 31, 32
TREE OUTLET 19, 20, 21, 22, 23	900	20	25		26	20	TREE OUTLET 29, 30, 27, 28
NEW SOUTH LIGHT POLE RECEPTACLES	1620	20	27		28	20	NEW NORTH LIGHT POLE RECEPTACLES
TIMER-1/CONTACTORS T1, T2	370	20	29		30	20	ASTRO CLOCK / CONTACTOR - L
TIMER-P/CONTACTOR P	185	20	31		32	20	TOWN CLOCK @ 4TH ST. MALL
SPARE		20	33		34	20	SPARE
NEW SOUTH PARKING LOT LIGHTING	520	20	35		36	20	NEW NORTH PARKING LOT LIGHTING
	520	20	37		38	20	
TOTALS	14585			13448 14703			13568

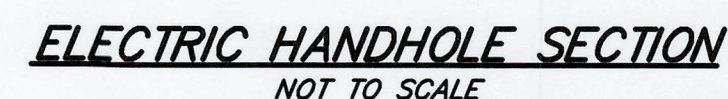
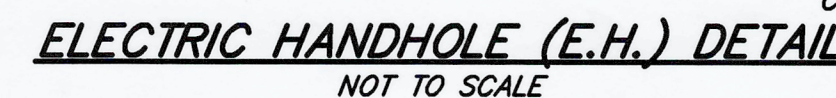
CONNECTED LOAD 28151 WATTS
 CONNECTED LOAD VA PER PHASE 56.03 61.26
 (PHASE / 240 =)
 TOTAL PANEL CONNECTED LOAD x 1.25% 146.62 AMPS



WAB	REVISED PER SHOP DRAWINGS	03/16/09
BY	MARK	DATE
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CITY OF BELLEVILLE WAYNE COUNTY, MICHIGAN		
ELECTRIC DETAIL SHEET		
OFFICE LOCATIONS SAGINAW, MI ST. JOHNS, MI CARO, MI DETROIT, MI TEMPPE, AZ	Spicer Group	SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel. 989-754-4717 Fax. 989-754-4440 www.SpicerGroup.com
DE. BY: BML DR. BY: BUB	CH. BY: BML APP. BY: WAZ	PROJECT NO. 115462.08
STDS.	SHEET 9 OF 14	D
DATE: FEBRUARY, 2009 SCALE: AS SHOWN	FILE NO. D-4632-9	9



CONTRACTOR TO REWIRE ALL EXISTING
CONTROLS IN NEW ENCLOSURE. ONLY LIBERTY
PARKING LOT LIGHTING CONTROLS TO BE
REMOVED AND REPLACED.



- 1) INSTALL RED CAUTION TAPE 6" ABOVE ALL BURIED CABLE AND CONDUIT
- 2) ALL CONDUIT/CABLE TO BE 2'-0" BELOW GRADE (MINIMUM).
- 3) ALL POLES ARE TO HAVE CONDUITS STUBBED THROUGH POLE FOUNDATIONS PER THIS SKETCH VIEW AND POWER & LIGHTING PLAN.
- 4) ALL CONCRETE SHALL HAVE A 28 DAY MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI, WITH AIR-ENTRAINING ADMIXTURE (5-7% AIR) AND A 4" SLUMP.
- 5) REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 WITH A MINIMUM YIELD STRENGTH, F_y , OF 60,000 PSI.
- 6) NON SHRINK GROUT SHALL BE PREMIXED WITH NON-METALLIC AGGREGATE, CEMENT, WATER REDUCING AND PLASTICIZING AGENTS, MIN. COMPRESSIVE STRENGTH OF 7,000 PSI IN 28 DAYS.
- 7) ANCHOR BOLTS SHALL BE ASTM A307.
- 8) ALL POLE FOUNDATIONS ARE TO HAVE 10' COPPER GROUND RODS AS APPROVED BY LOCAL CODES.
- 9) SIDE SHIELDS REQUIRED ON LUMINAIRES ADJACENT TO BUILDING/PROPERTY LINES.
- 10) SITE LIGHTING CIRCUITS SHALL USE #12 AWG THIN TYPE WIRE. VOLTAGE TO BE 240.
- 11) LIGHT POLES SHALL BE LOCATED AS SHOWN FROM CENTER OF FOUNDATION TO END OF CURB OR HARDSURFACING IN AREAS THAT PROPERTY IS AVAILABLE.

<u>W/B</u>		<u>REVISED PER SHOP DRAWINGS</u>		<u>03/16/09</u>	
<u>BY</u> <u>MARK</u>		<u>REVISIONS</u>		<u>DATE</u>	
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<p style="text-align: center;"><i>CITY OF BELLEVILLE WAYNE COUNTY, MICHIGAN</i></p>					
<p style="text-align: center;"><i>ELECTRIC DETAIL SHEET</i></p>					
<p>OFFICE LOCATIONS</p> <p>SAGINAW, MI ST. JOHNS, MI CARO, MI DETROIT, MI TEMPE, AZ</p>			<p>SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel. 989-754-4717 Fax. 989-754-4440 www.SpicerGroup.com</p>		
<p>DE. BY: <i>BWL</i> DR. BY: <i>BWL</i></p>			<p>CH. BY: <i>BWL</i> APP. BY: <i>WAZ</i></p>		
<p>PROJECT NO. <i>114594.07</i></p>			<p>PROJECT NO. <i>114594.07</i></p>		
<p>STDS.</p>		<p>SHEET <i>10</i> OF <i>14</i></p>		<p>D</p>	
<p>DATE <i>FEBRUARY, 2009</i> SCALE <i>AS SHOWN</i></p>		<p>FILE NO. <i>D-46.32-10</i></p>		<p>10</p>	