Grimes Planning and Zoning Commission

Grimes Community Complex
410 SE Main Street, Room 202
Grimes, Iowa 50111
Phone | 515.986.4050
www.grimesiowa.gov

Mission Statement
The mission of Grimes City Government is to provide excellent/exceptional city services and facilities in a financially responsible and community-friendly manner through a high performing city team that result in adding value to resident's lives.

Commission Members | Scott Almeida, Adam Bunge, Russ Lickteig, Craig Patterson, Courtney Strutt Todd
Council Liaison | Andrew Borcherding

Planning and Zoning Commission June 5, 2023 @ 5:30 p.m.
In Person at Grimes Community Complex, 410 SE Main Street, Room 202

Any person wishing to speak at the meeting will need to attend in person. Below is the Zoom information for those who wish to listen in on the meeting only.

Join Zoom Meeting
https://us06web.zoom.us/j/85401806125?pwd=WTFrQ1dLQVphODlMVDdjVUdLNzNBQT09

Meeting ID: 854 0180 6125

Passcode: 1234

GENERAL AGENDA ITEMS

1. Call to Order
2. Roll Call: Scott Almeida, Adam Bunge, Russ Lickteig, Craig Patterson, Courtney Strutt Todd, Council Liaison Andrew Borcherding
3. Approval of the Agenda
4. Approval of the Previous Minutes

PUBLIC AGENDA ITEMS

1. Inspiring Dance Site Plan
2. Destination Ridge Plat 7 Final Plat
3. Town of Grimes Plat 2 Final Plat
4. Grimes Plex Site Plan Amendment

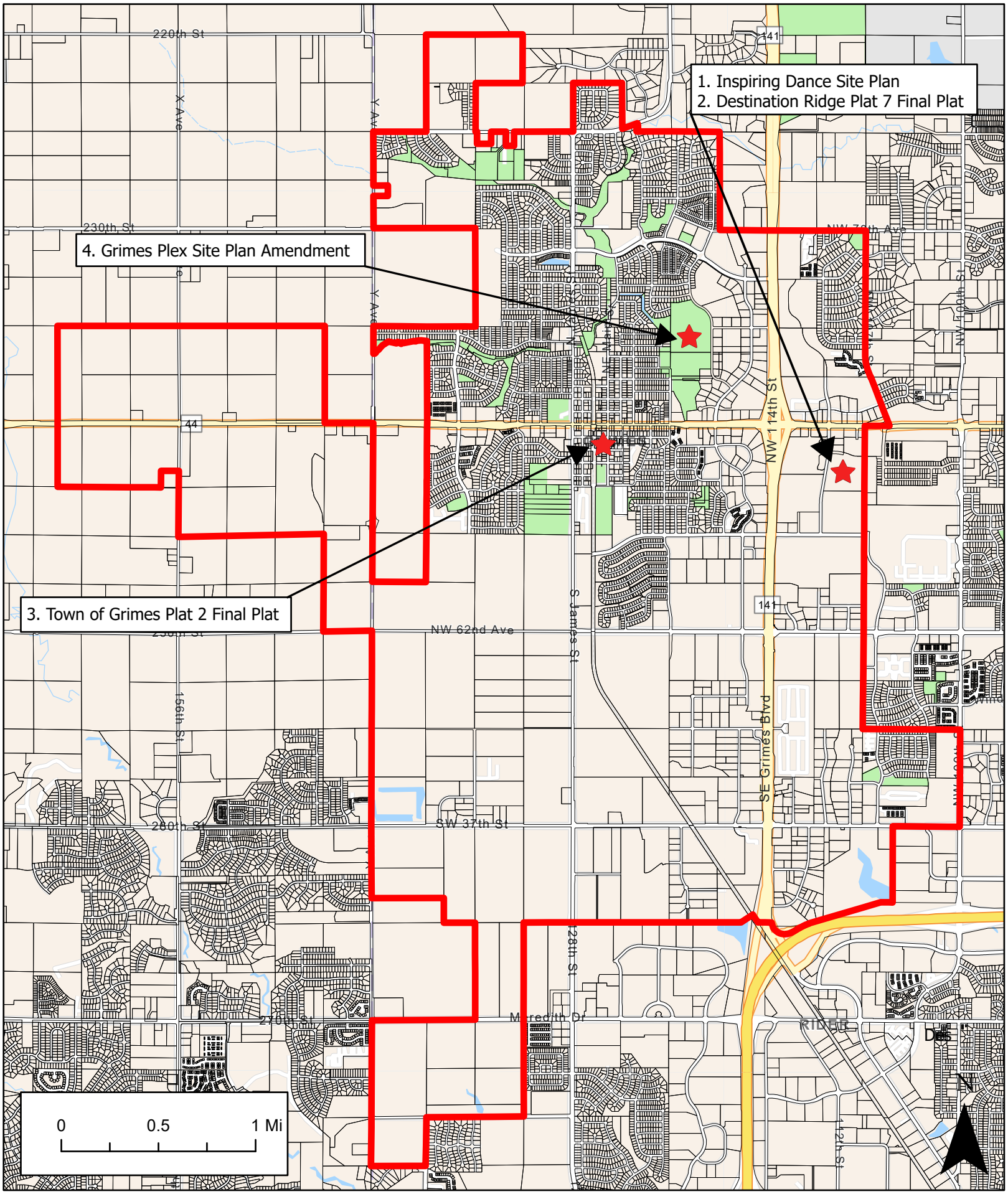
REPORTS

1. Department Update
2. Council Liaison Update
3. Old Business
4. New Business

ADJOURNMENT

Planning & Zoning Commission Agenda Map

June 5, 2023



101 NE Harvey Street, Grimes, Iowa 50111 | P: 515.986.3036

This meeting of the Grimes Planning and Zoning Commission was called to order Tuesday, May 2, 2023 at 5:30 P.M.

Roll Call: Present: Scott Almeida, Russ Lickteig, Courtney Strutt-Todd, Adam Bunge, Council Liaison: Andrew Borcherding

Staff: Alex Pfaltzgraff, Evann Martin, Molly Mannel, Rachel Greving

Absent: Craig Patterson

A. GENERAL AGENDA ITEMS

1. APPROVAL OF THE AGENDA

Motion by Lickteig, Second by Strutt-Todd, to approve the agenda
Roll Call: Ayes-All; Nays-0 Motion passes: 4-0

2. APPROVAL OF THE MINUTES

Motion by Strutt-Todd, Second by Lickteig, to approve the minutes from the April 5, 2023 meeting
Roll call: Ayes-All: Nays-0 Motion passes: 4-0

B. PUBLIC AGENDA ITEMS

GreenState Credit Union Site Plan

Staff member Mannel presents the details of the proposal. Staff recommends approval.

The Commission and Council Liaison asked questions of staff and the applicant pertaining to the trail and street improvements to the east of the property along Gateway Drive and traffic.

Motion by Strutt-Todd, Second by Lickteig to approve GreenState Credit Union Site Plan
Roll Call: Aye-All Nay-0 **Motion Passes 4-0**

Grimes Crossing Rezone

Staff member Martin presents details of the proposal. Staff recommends approval.

Larry Satterlee at 651 SE Dovetail Road and Elizabeth Hoyt of 701 SE Dovetail Road asked questions of staff and the applicant as well as voiced their concerns of the possibility of another townhome association. They also indicated issues related to the availability of trash dumpsters.

The Commission discussed the proposal and asked questions of staff.

Motion by Strutt-Todd, Second by Bunge to approve Grimes Crossing Rezone
Roll Call: Aye-All Nay-0 **Motion Passes 4-0**

South James Area Plan Discussion

Staff member Martin presents the proposed area plan.

The Commission discussed the proposal and asked questions of staff.

No vote was required for South James Area Plan Discussion

WRA Area Plan Discussion

Staff member Mannel presents the proposed area plan.

The Commission discussed the proposal and asked questions of staff.

No vote was required for WRA Area Plan Discussion

C. **PUBLIC FORUM – None**
D. **REPORTS**
   1. **Department Update – No update was provided.**
   2. **Council Liaison Update – N/A**
   3. **Old Business – N/A**
   4. **New Business – N/A**
   5. **Next meeting June 5, 2023**

Meeting is adjourned at 7:47 p.m.

_____

Chairperson Signature

_____

Clerk Signature

Planning & Zoning Staff Report

CITY OF GRIMES

DATE

June 5, 2023

PROJECT NAME

Inspiring Dance Site Plan

APPLICANT

5B Holdings LLC

REQUESTED ACTION

Site Plan

LOCATION

2340 SE 3rd Street

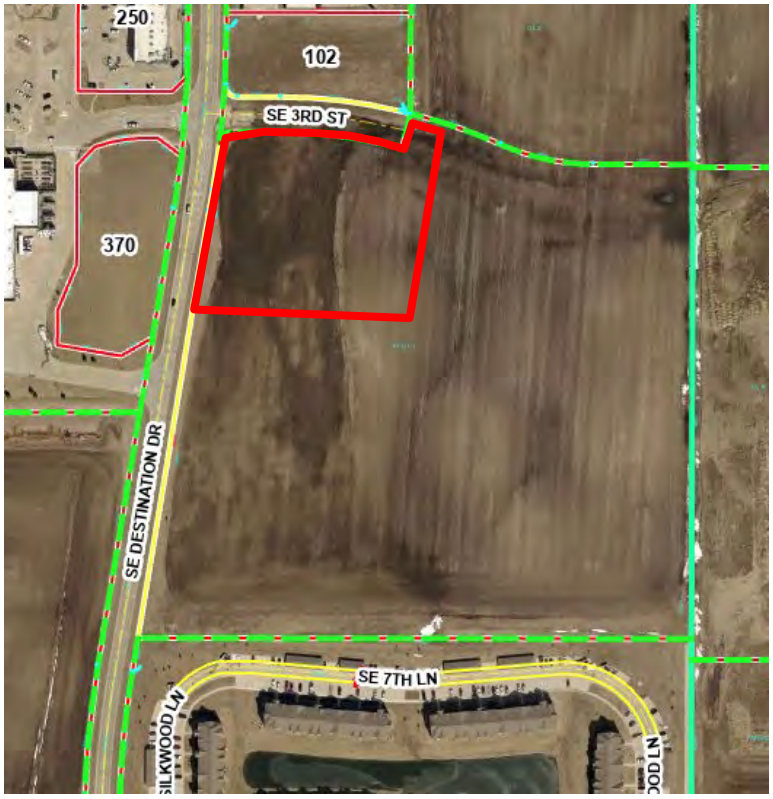
ZONING

C-2

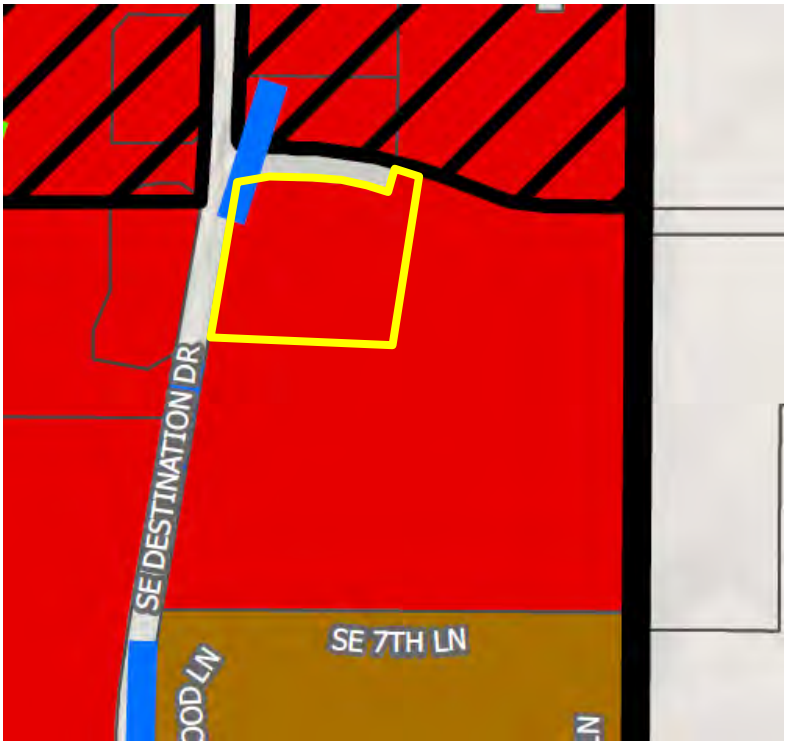
PLANNER

Molly Mannel
mmannel@grimesiowa.gov
515-986-4050

Location Map



Zoning Map



Relation to Comprehensive & Neighborhood Plans

LAND USES & ZONING			
Location	**Existing Land Use**	**Land Use Plan Designation**	**Current Zoning**
Subject Site	Commercial	General Commercial	C-2
North	Commercial	General Commercial	C-2
South	High-Density Residential	High Density Residential	R-3
East	Johnston	Johnston	Johnston
West	Commercial	General Commercial	C-2

LOCATION

- The proposed site plan located at the SE corner of SE Destination Drive and SE 3rd Street is consistent with the Future Land Use Map. The site will be commercial, and compliment the existing surrounding commercial uses.

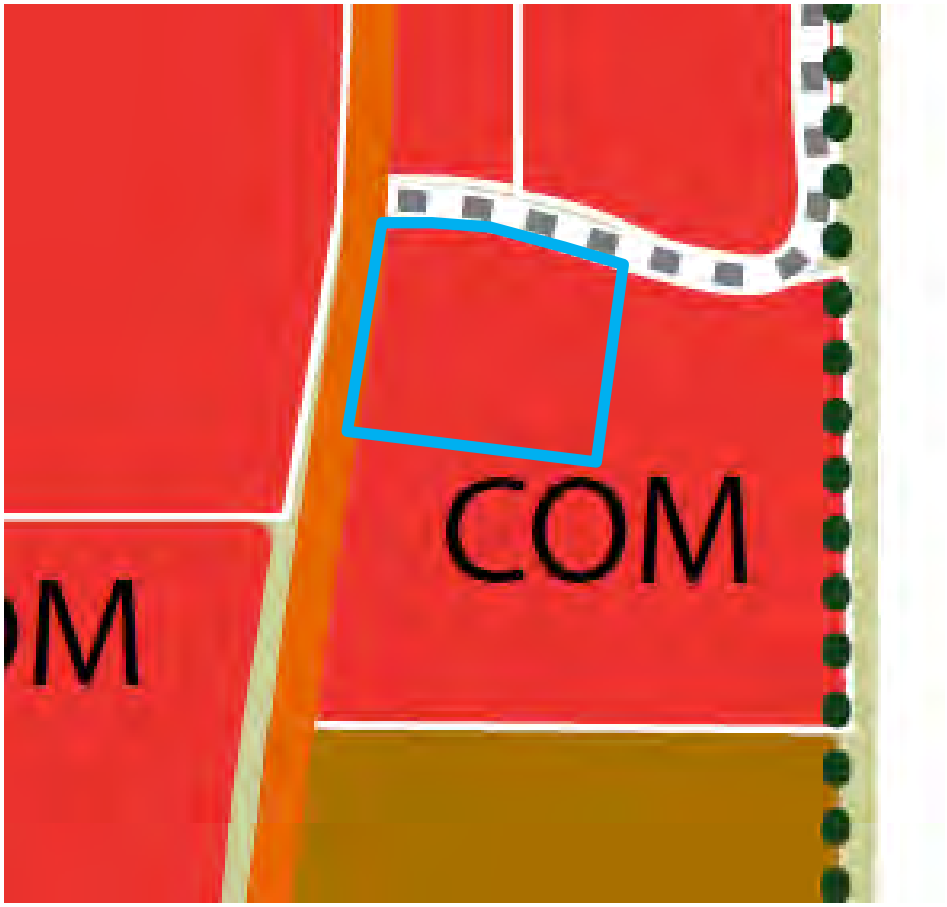
PARKS

- Due to the site being a commercial use, no parkland dedication is required.

CONNECTIVITY

- A 5' sidewalk along SE Destination Drive will extend along the west property line, and connect to a 5' sidewalk south of SE 3rd Street.

Future Land Use Map



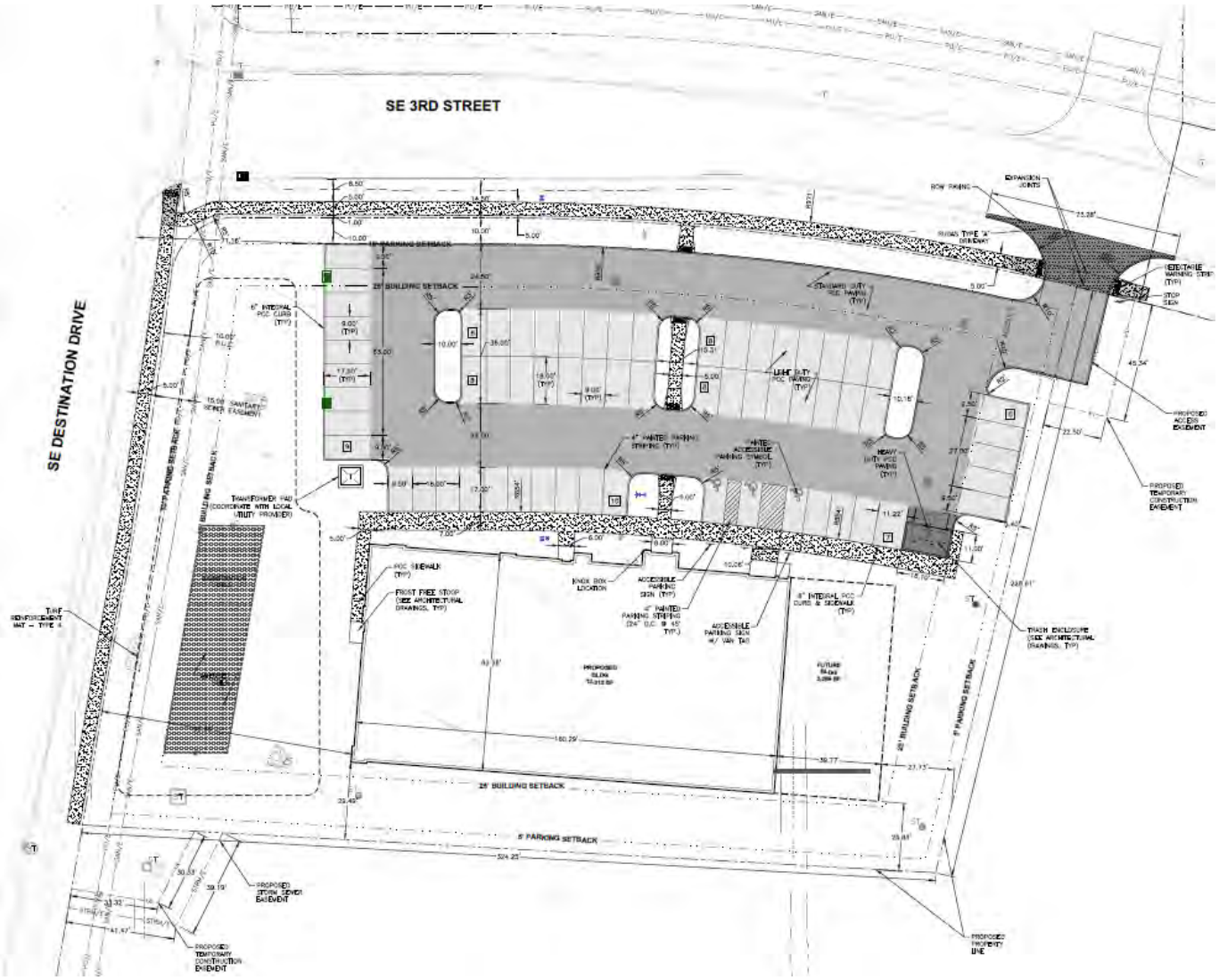
Site Layout

ACCESS

- The site will be accessed off of SE 3rd Street.
- Pedestrians and staff may access SE 3rd Street via a sidewalk North of the site.
- A 5' sidewalk along SE Destination Drive will extend along the west property line, and connect to a 5' sidewalk south of SE 3rd Street.

PARKING

- The required number of parking spaces for a studio is 2.25 spaces/1,000 square feet of gross floor area. The total square footage of the building is 13,315 square feet. The required amount of parking spaces for this site is 30 spaces.
- The applicant is proposing a total of 63 parking spaces. Ten of those are required for the future proposed childcare center. The remaining 23 spaces will assist in managing the parking overflow during overlapping class times. Their proposed open space meets the justification requirements.



Utilities

BUILDING SETBACKS

- Front: 25′
- Side: 25′
- Rear: 25′

SANITARY

- Sanitary will be stubbed off of SE 3rd Street.

WATER

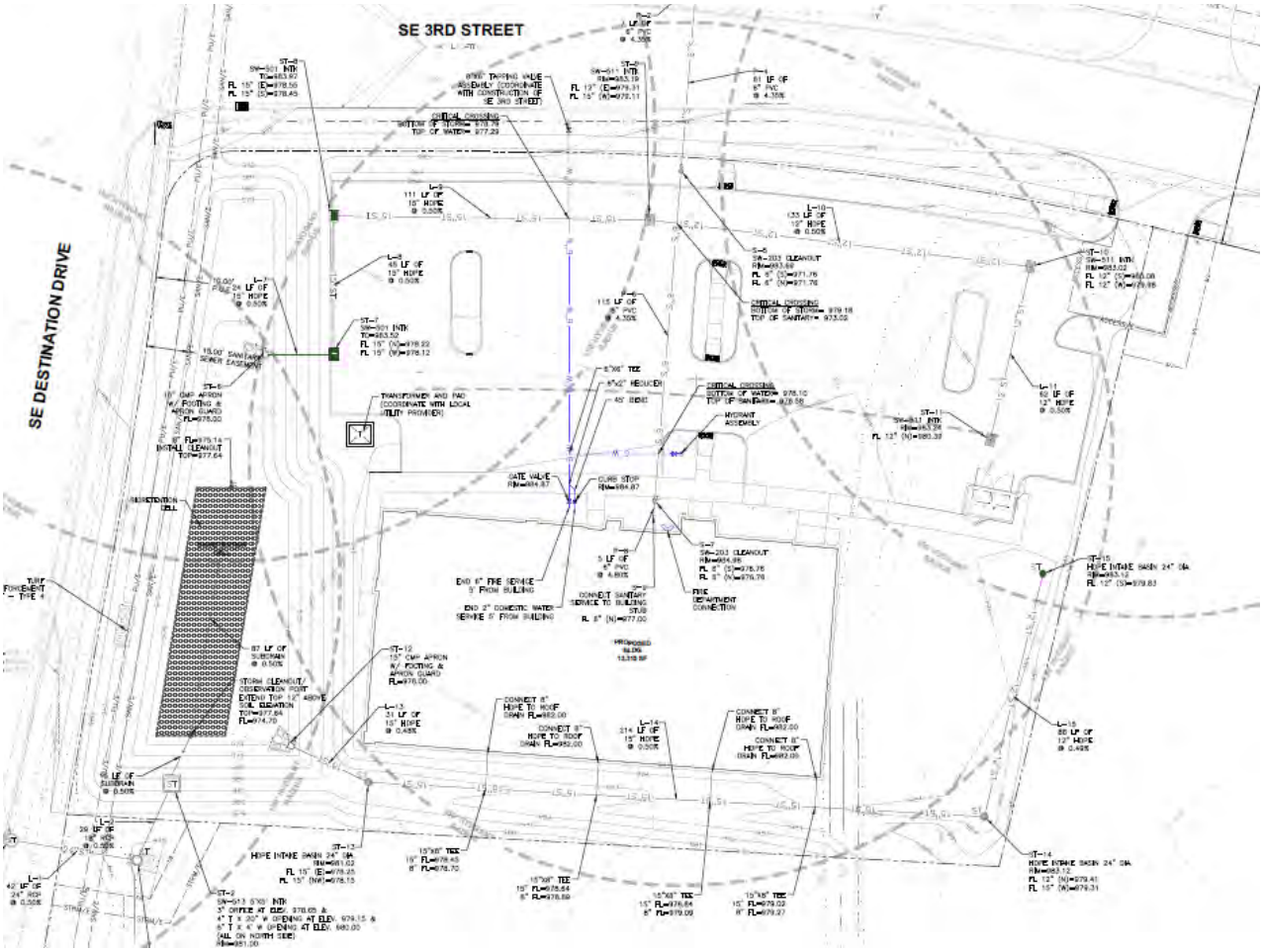
- Water will be stubbed off of SE 3rd Street.
- Hydrants will be located throughout the site to provide adequate coverage to the building.

STORM WATER

- Stormwater will be stubbed off of SE Destination Drive. The stormwater main will run underneath the bioretention cell. Storm intakes will also be installed throughout the parking lot to assist in collecting runoff.
- Wildflowers will be planted within the basin to assist in stabilization.

LIGHTING

- Parking lot lighting will be installed on site and be faced internally. There will be no light trespassing onto other properties.



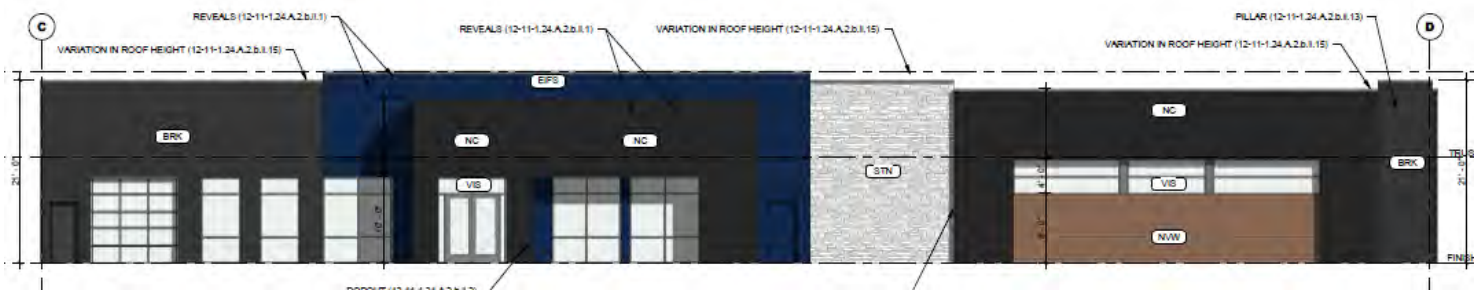
Architecture

DUMPSTER ENCLOSURE MATERIALS

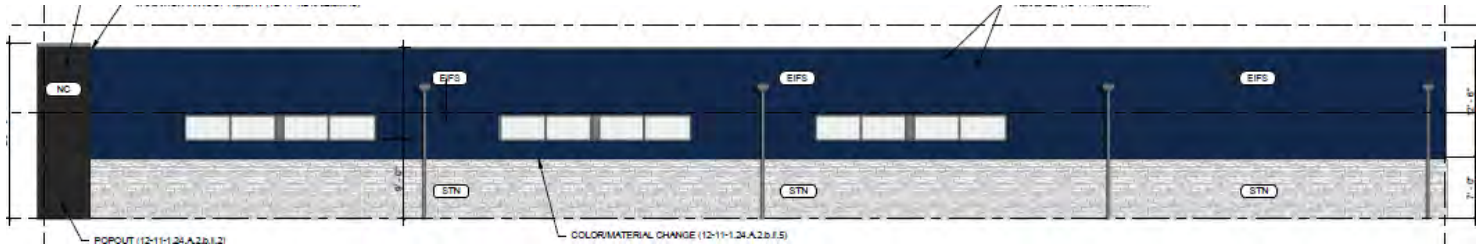
- The dumpster enclosure will be located at the east portion of the parking lot.
- The enclosure will be primarily made up of rock face CMU that will match the metal wall panels on the primary building.
- A slate grey, prefinished aluminum gate will block the visibility of the dumpsters inside the enclosure.

BUILDING ELEVATION MATERIALS

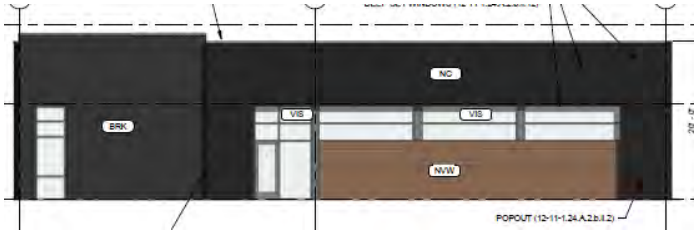
- The building will primarily be constructed of grey-toned nichiha, thin brick, white stone, and navy colored EIFS.
- An overhead door will be installed on the north elevation, to allow equipment to easily be brought in and out of the building.



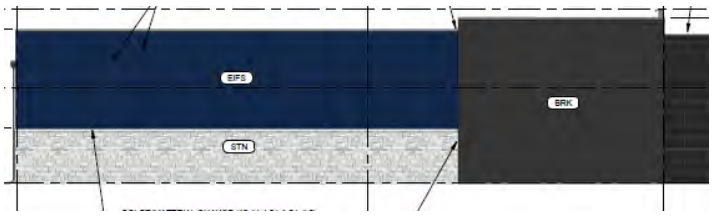
North



South



West



East

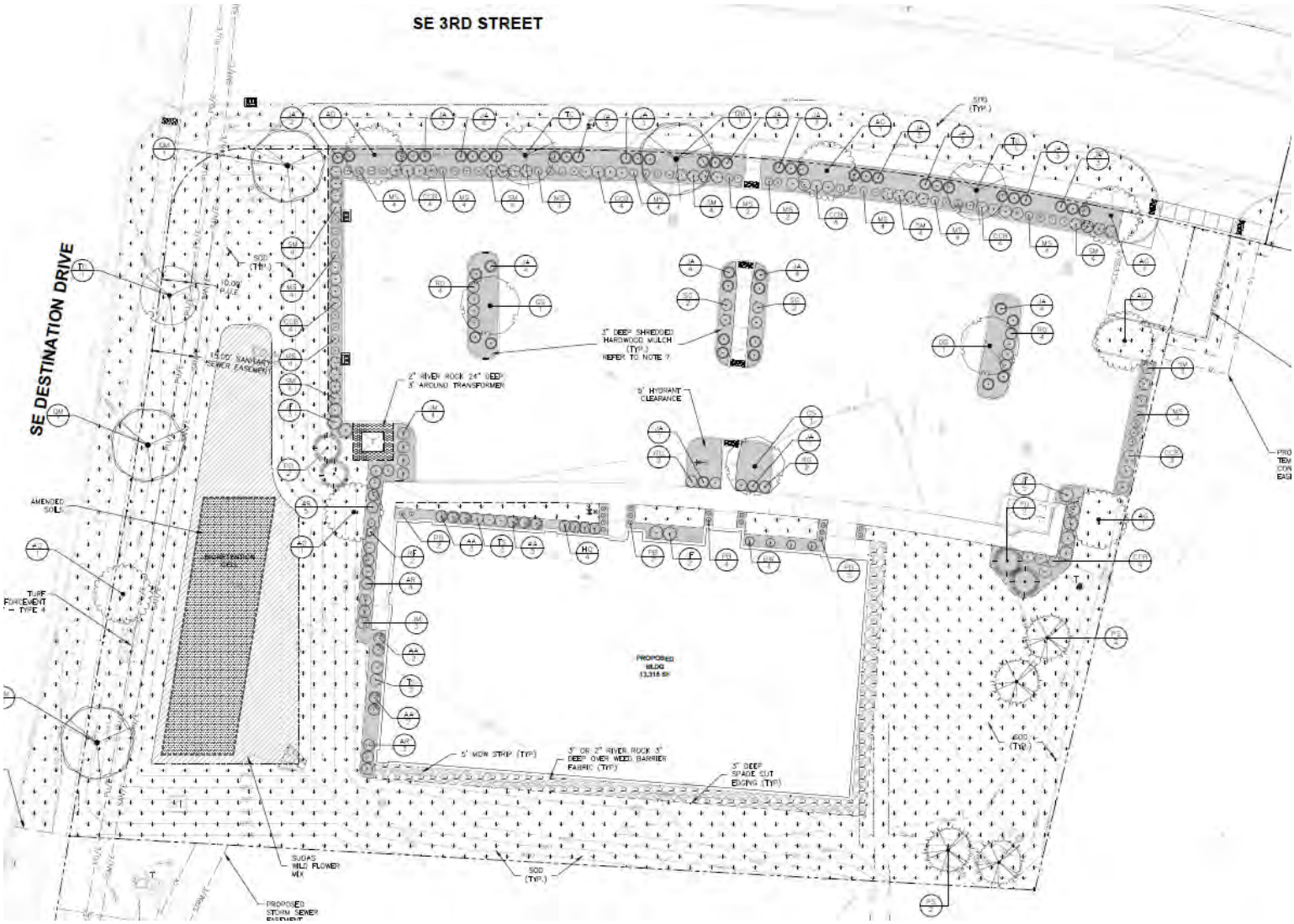
Landscaping & Recommendation

LANDSCAPING

- Trees will be planted throughout the site, and along all frontages.
- Shrubs will be planted along the North parking stalls block any headlight glare from the parked cars.
- Shrubs will be added around the perimeters of the building and dumpster enclosure to add additional beautification to the site.

STAFF RECOMMENDATION

- Staff would recommend the Inspiring Dance site plan for approval, subject to any remaining staff comments.



Development Services
410 SE Main St, Suite 102
Grimes, IA 50111
(515)986-4050
www.grimesiowa.gov

May 16, 2023

5B Holdings LLC
Attn: Ben Butzke
2900 SE Gateway Drive
Grimes, IA 50111

RE: Inspiring Dance

Dear Ben:

The Development Services Department is in receipt of a proposed Site Plan for the Inspiring Dance. Based on the review of the provided submittal materials, staff have the following comments:

General Comments:

1. Please provide a quantities tab.
2. Update Utility colors to fit APWA Uniform Color Code
3. Will the turning radius allow for large vehicles?
4. Add note that Amended Soils and Bioretention Cell must be built post construction, once all areas are built out and vegetated or sodded. Sediment pond will be needed during construction.
5. Provide justification/market analysis for extra parking. (16 spaces over the maximum requirement).
6. Provide storm sewer easement document and legal description. Template is attached.

Cover Sheet:

1. Update parking setback to 10 feet.
2. Update parking space count to match the plan (63).
3. Update parking calculation. 2.25 spaces/1000 sf GFA, plus 4 seats in auditorium. Include calculation for the future addition.

Sheet C1.1

1. Coordinate with SE 3rd Street designer to relocate fire hydrant out of entrance drive during SE 3rd Street construction.

2. Update west property line dimension to match the plat.

Sheet C2.1

1. Please label expansion joints on the north and south sides of the sidewalk through the driveway entrance.

2. The sidewalk on the north side of the building needs to be at least 7' wide or the parking spaces need to be at least 18' deep.

Sheet C3.2

1. Grading Enlargement 05: Label bottom of dome panel on the west side at the grade break.

Sheet C4.1

1. Include sediment controls to protect pond outlet

2. Include inlet protection for inlets on SE 3rd Street to capture track out

3. All slopes 3:1 pr greater will need RECP installed with stabilization measures

4. Ensure Concrete Wash Location is at least 50 feet from any storm intake

5. Ensure temporary stabilization measures are included in quantities

6. Staff recommends adding armor to emergency spillway on bioretention cell.

Sheet C5.1

1. Please coordinate with SE 3rd Street designer to provide 6" water services at this location to eliminate the tapping sleeve and valve.

2. Staff would suggest evaluating the sanitary sewer service location off Destination vs. SE 3rd Street. The location under the basin may be a problem for repairs.

3. Provide slope of subdrain within the Bioretention cell and to outlet structure.

4. Please label "verify" on existing inverts of the tie-in storm sewer structure.

5. Verify sanitary tie-in elevation with the proposed SE 3rd Street Plans. Install riser to limit the sanitary slope to a maximum of 5%.

6. The building shall have a Knox Box installed near the front entrance to the building per Section 506.1 of the City of Grimes Fire Code. Please show this on the plan.

7. The FDC shall not have parking directly in front of it per Section 912.4.2 of the City of Grimes Fire Code. Additionally, it appears that plantings may interfere with the required clear space in front of and around the FDC per the same section. Please adjust/align with an island or striped area.

8. It looks like there may be a conflict with cleanout S-3 and the transformer/electric lines. Please clarify or push cleanout further west.

Landscaping

1. Are there plans for temporary vegetative cover at the bottom of the bio retention cell to stabilize the bottom of the basin? Staff is thinking it will take multiple growth seasons to get wildflowers established.

2. Revise Note 5. The ground cover needs to follow the approved landscape plan.

Elevations

1. Please label the directions of each elevation. North, South etc.

2. Is roof-mounted equipment proposed? If so, they will need to be screened from the ROW.

3. Provide dumpster enclosure elevations and details. A masonry enclosure and opaque metal-framed gate is required.

4. Label electrical meter/panel locations on the building.

5. Fiber cement panels to have hidden/flush-mount fasteners. Add note.

6. Label the 5 treatments provided on the elevations per the Highway 141 architecture requirements (12-11-1.24.A.2.b.ii).

SWMP

1. Bioretention Pond Calcs show a filter bed depth of 2.5', but the detail on sheet C6.1 shows 1.5'. Please fix.

2. Bioretention Pond Calcs: Provide value of proposed surface area of ponding.

Please provide a letter addressing all comments on this comment letter and/or state what was modified on the site plan to address said comments.

SITE PLAN SUBMITTAL SCHEDULE:

SUBMITTAL DATE:	May 30, 2023 **(1 PDF of Site plan with Elevation Plan included)**
PLANNING & ZONING:	June 5th at 5:30 at the Grimes City Hall
COUNCIL MEETING:	June 27th at 5:30 at the Grimes City Hall

Please feel free to contact me at mmannel@grimesiowa.gov or at (515) 986-4050 if you have any questions or need additional information.

Sincerely,

Molly Mannel
Assistant Planner

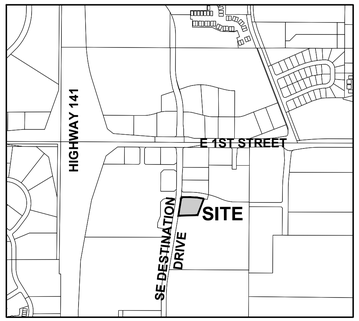
SITE PLAN FOR:

INSPIRING DANCE

GRIMES, IOWA

VICINITY MAP

NOT TO SCALE



GRIMES, IOWA

LEGAL DESCRIPTION

THAT PART OF OUTLOT 'Y', DESTINATION RIDGE PLAT 1, LYING SOUTH OF DESTINATION RIDGE PLAT 2, LYING SOUTH OF DESTINATION RIDGE PLAT 5 AND LYING NORTH OF DESTINATION RIDGE PLAT 4, ALL OFFICIAL PLATS IN THE CITY OF GRIMES, POLK COUNTY, IOWA AND CONTAINING 23.56 ACRES. THE PROPERTY IS SUBJECT TO ANY AND ALL EASEMENTS OF RECORD.

ZONING

EXISTING: C-2 (COMMERCIAL DISTRICT) WITH CONDITIONS AS APPROVED BY ORDINANCE 569.

PROJECT SITE ADDRESS

2340 SE 3RD STREET

EXISTING/ PROPOSED USE

EXISTING: UNDEVELOPED/AGRICULTURE

PROPOSED: DANCE STUDIO

INDEX OF SHEETS

NO.	DESCRIPTION
C0.0	COVER SHEET
C1.1	TOPOGRAPHIC SURVEY/DEMOLITION PLAN
C2.1	DIMENSION PLAN
C3.1–C3.2	GRADING PLAN
C4.1	EROSION AND SEDIMENT CONTROL PLAN
C5.1	UTILITY PLAN
C6.1	DETAILS
L1.1	LANDSCAPE PLAN
L2.1	LANDSCAPE DETAILS

GENERAL LEGEND

PROPOSED		EXISTING	
PROPERTY BOUNDARY		SANITARY MANHOLE	S
SECTION LINE		WATER VALVE BOX	W
CENTER LINE		FIRE HYDRANT	
RIGHT OF WAY	R/W	WATER CURB STOP	CS
BUILDING SETBACK		WELL	WELL
PERMANENT EASEMENT	P/E	STORM SEWER MANHOLE	ST
TEMPORARY EASEMENT	T/E	STORM SEWER SINGLE INTAKE	
TYPE SW-501 STORM INTAKE		STORM SEWER DOUBLE INTAKE	
TYPE SW-502 STORM INTAKE		FLARED END SECTION	
TYPE SW-503 STORM INTAKE		DECIDUOUS TREE	
TYPE SW-505 STORM INTAKE		CONIFEROUS TREE	
TYPE SW-506 STORM INTAKE		DECIDUOUS SHRUB	
TYPE SW-512 STORM INTAKE	ST	CONIFEROUS SHRUB	
TYPE SW-513 STORM INTAKE	ST	ELECTRIC POWER POLE	
TYPE SW-401 STORM MANHOLE	ST	GUY ANCHOR	
TYPE SW-402 STORM MANHOLE	ST	STREET LIGHT	
FLARED END SECTION		POWER POLE W/ TRANSFORMER	
TYPE SW-301 SANITARY MANHOLE	S	UTILITY POLE W/ LIGHT	
STORM/SANITARY CLEANOUT		ELECTRIC BOX	E
WATER VALVE		ELECTRIC TRANSFORMER	E
FIRE HYDRANT ASSEMBLY		ELECTRIC MANHOLE OR VAULT	E
SIGN		TRAFFIC SIGN	
DETECTABLE WARNING PANEL		TELEPHONE JUNCTION BOX	T
WATER CURB STOP		TELEPHONE MANHOLE/VAULT	T
SANITARY SEWER		TELEPHONE POLE	
SANITARY SERVICE	S S S	GAS VALVE BOX	
STORM SEWER		CABLE TV JUNCTION BOX	TV
STORM SERVICE	ST ST	CABLE TV MANHOLE/VAULT	TV
WATERMAIN WITH SIZE	8"W	MAIL BOX	M
WATER SERVICE	W W	BENCHMARK	BM
SAWCUT (FULL DEPTH)		SOIL BORING	SB
SILT FENCE		UNDERGROUND TV CABLE	TV
USE AS CONSTRUCTED	(UAC)	GAS MAIN	G
MINIMUM PROTECTION ELEVATION	MPE	FIBER OPTIC	FO
		UNDERGROUND TELEPHONE	T
		OVERHEAD ELECTRIC	OE
		UNDERGROUND ELECTRIC	E
		FIELD TILE	TILE
		SANITARY SEWER W/ SIZE	8"S
		STORM SEWER W/ SIZE	15"ST
		WATER MAIN W/ SIZE	8"W

OWNER

ALL POINTS DEVELOPMENT LC
5000 WESTOWN PARKWAY SUITE 400
CONTACT: GERARD D. NEUGENT
PH: (515) 223-4000

APPLICANT

5B HOLDINGS LLC
2900 SE GATEWAY DRIVE
GRIMES, IA 50111
CONTACT: BEN BUTZKE
EMAIL: BBUTZKE@BUTZKEBURCH.COM
PH: (515) 985-8034

ENGINEER

CIVIL DESIGN ADVANTAGE
4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
CONTACT: NIKKI NEAL
EMAIL: NICOLEN@CDA-ENG.COM
PH. (515) 369-4400

SURVEYOR

CIVIL DESIGN ADVANTAGE, LLC
4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
CONTACT: CHARLIE MCGLOTHLEN
EMAIL: CHARLIEM@CDA-ENG.COM
PH. (515) 369-4400

ARCHITECT

SIMONSON AND ASSOCIATES ARCHITECTS
1717 INGERSOLL AVE #117
DES MOINES, IA 50309
CONTACT: BRETT SNYDER
EMAIL: BSNYDER@SIMONSONASSOC.COM
PH: (515) 440-5626

DEVELOPMENT SUMMARY

AREA:	1.80 ACRES (78,363 SF)
SETBACKS:	
FRONT:	25 FEET
SIDE:	25 FEET
REAR:	25 FEET
PARKING (R/W):	10 FEET
PARKING (SIDE OR REAR):	5 FEET
IMPERVIOUS AREA:	
BUILDING	13,315 SF
FUTURE BUILDING	3,269 SF
HEAVY DUTY PAVING	1,071 SF
STANDARD DUTY PAVING	14,395 SF
LIGHT DUTY PAVING	10,557 SF
SIDEWALK	5,010 SF
	47,617 SF
OPEN SPACE:	
REQUIRED:	7,836 SF (10%)
ADDITIONAL REQUIRED:	2,223 SF
PROVIDED:	30,746 SF (39%)

PARKING:
TOTAL REQUIRED
STUDIO:
2.25 PER 1,000 SF = 30 SPACES (13,315 SF)
FUTURE CHILDCARE FACILITY
3 PER 1,000 SF = 10 SPACES (3,269 SF)
TOTAL: = 40 SPACES

TOTAL PROVIDED
STANDARD PARKING = 60 SPACES
ACCESSIBLE PARKING = 3 SPACES
TOTAL = 63 SPACES

DATE OF SURVEY

10/28/2021

BENCHMARKS

1. SW BOLT ON HYDRANT SE CORNER OF 4TH STREET AND DESTINATION DRIVE.
   ELEVATION=983.49
2. BURY BOLT ON HYDRANT SE CORNER OF 1ST AND GATEWAY DRIVE.
   ELEVATION=940.44

CONSTRUCTION SCHEDULE

ANTICIPATED START DATE = SUMMER 2023
ANTICIPATED FINISH DATE = SUMMER 2024

PLANTING SCHEDULE

ANTICIPATED START DATE = APRIL 2024

IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com
Know what's below. Call before you dig.

UTILITY WARNING

ANY UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY AND RECORDS OBTAINED BY THIS SURVEYOR. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES SHOWN COMPRISE ALL THE UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION SHOWN.

CIVIL DESIGN ADVANTAGE
4121 NW URBANDALE DRIVE, URBANDALE, IA 50322
PH: (515) 369-4400
PROJECT NO. 2211.789

THE PROJECT REQUIRES AN IOWA NPDES PERMIT #2 AND CITY OF GRIMES GRADING PERMIT. CIVIL DESIGN ADVANTAGE WILL PROVIDE THE PERMITS AND THE INITIAL STORM WATER POLLUTION PREVENTION PLAN (SWPPP) FOR THE CONTRACTORS USE DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR UPDATING THE SWPPP THROUGHOUT CONSTRUCTION AND MEETING LOCAL, STATE AND FEDERAL REQUIREMENTS.

ALL CONSTRUCTION MATERIALS, DUMPSTERS, DETACHED TRAILERS OR SIMILAR ITEMS ARE PROHIBITED ON PUBLIC STREETS OR WITHIN THE PUBLIC R.O.W.

THE MOST RECENT EDITION OF THE SUDAS STANDARD SPECIFICATIONS, THE PUBLIC RIGHTS-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG) AND ALL CITY SUPPLEMENTALS, IF APPLICABLE, SHALL APPLY TO ALL WORK ON THIS PROJECT UNLESS OTHERWISE NOTED.

PROFESSIONAL ENGINEER — JOHN PATRICK LEGLER — 25523 — IOWA

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

JOHN PATRICK LEGLER, P.E. — DATE

LICENSE NUMBER: 25523
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2022
PAGES OR SHEETS COVERED BY THIS SEAL:
C0.0, C1.1, C2.1, C3.1–C3.2, C4.1, C5.1, C6.1

PRELIMINARY NOT FOR CONSTRUCTION

PROFESSIONAL LANDSCAPE ARCHITECT — KEITH D. WEBSER — 00442 — IOWA

I HEREBY CERTIFY THAT THE PORTION OF THIS TECHNICAL SUBMISSION DESCRIBED BELOW WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND RESPONSIBLE CHARGE, I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF IOWA.

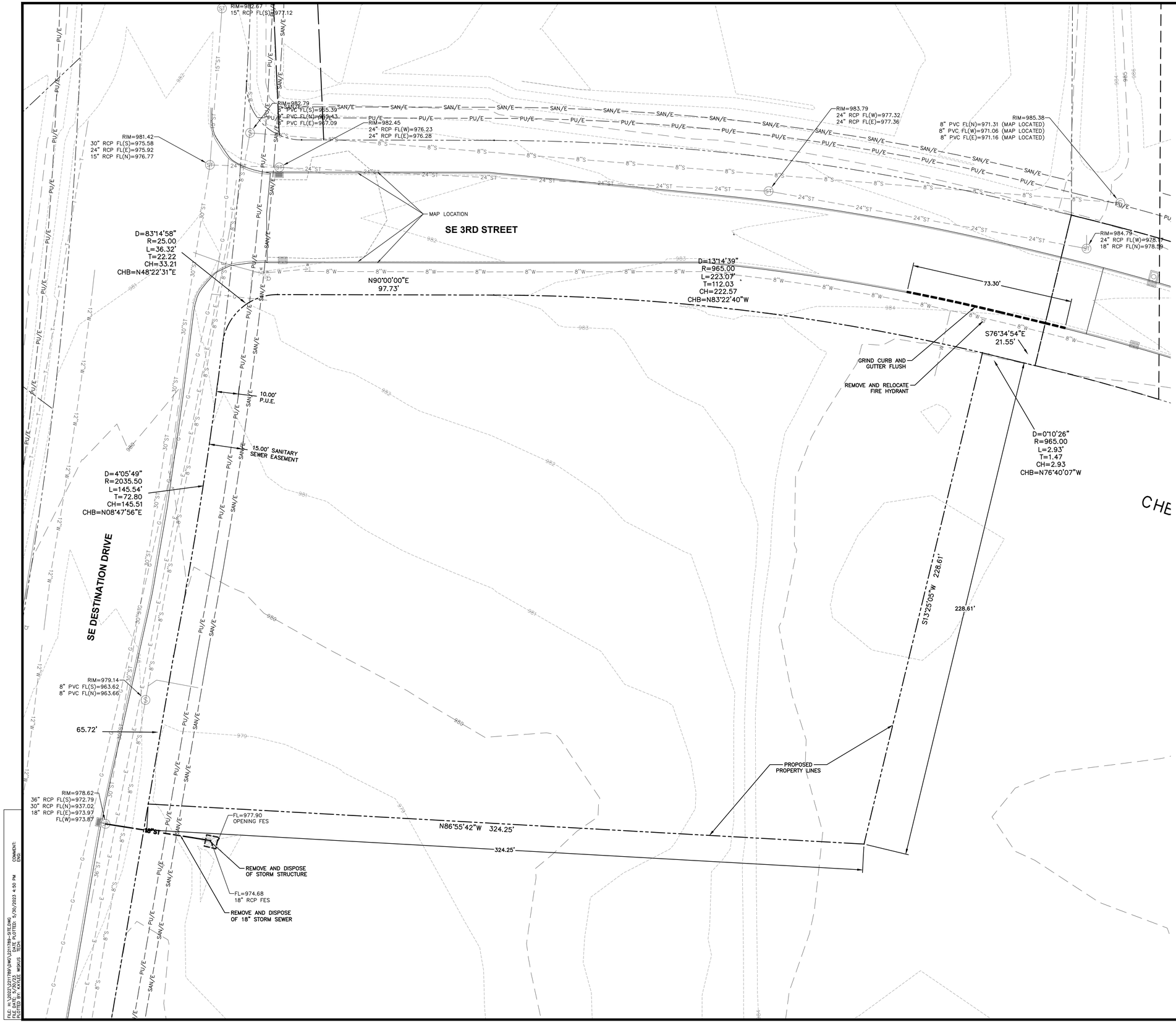
KEITH D. WEBSER, ASLA — DATE

MY LICENSE RENEWAL DATE IS JUNE 30, 2022
PAGES OR SHEETS COVERED BY THIS SEAL:
L1.1 AND L2.1

PRELIMINARY NOT FOR CONSTRUCTION

INSPIRING DANCE - 2211.789

FILE: H:\2022\2211789\DWG\2211789-SITE.DWG
DATE PLOTTED: 5/30/2023 4:50 PM
PLOTTED BY: KALEB WISCH
COMMENT: ENG



DEMOLITION NOTES

1. PRIOR TO ANY WORK AT THE SITE, CONTRACTOR SHALL EXAMINE ANY APPLICABLE DRAWINGS AVAILABLE FROM THE OWNER OR ENGINEER AND CONSULT WITH OWNER'S PERSONNEL AND UTILITY COMPANY REPRESENTATIVES. NO COMPENSATION WILL BE ALLOWED FOR DAMAGE FROM FAILURE TO COMPLY WITH THIS REQUIREMENT.
2. PRIOR TO DEMOLITION, CONTRACTOR SHALL NOTIFY IN WRITING (48 HRS NOTICE) THE FOLLOWING:
   A. CITY
   B. APPROPRIATE UTILITY COMPANIES
   C. OWNER
   D. CIVIL DESIGN ADVANTAGE
   E. ARCHITECT
3. DO NOT DISTURB EXISTING UTILITIES UNLESS OTHERWISE NOTED. COORDINATE REMOVAL OR ABANDONMENT OF ALL UTILITIES WITH THE APPROPRIATE UTILITY SUPPLIER AND REGULATORY AGENCIES.
4. PROTECT EXISTING UTILITIES THAT ARE TO REMAIN. THE LOCATIONS OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLAN MAY BE PRESENT.
5. BACKFILL ALL EXCAVATIONS WITH COHESIVE MATERIAL COMPACTED TO 95% MAXIMUM STANDARD PROCTOR DRY DENSITY AND MOISTURE RANGE OF OPTIMUM MOISTURE TO 4% ABOVE OPTIMUM MOISTURE. TESTING OF BACKFILL TO BE BY A GEOTECHNICAL ENGINEER EMPLOYED BY THE OWNER. IN THE EVENT OF A TEST FAILURE, ANY RETESTING SHALL BE PAID FOR BY THE CONTRACTOR.
6. FIELD VERIFY EXISTING GRADES AND LOCATION OF EXISTING UTILITIES, CONDUIT, LINES, POLES, TREES, PAVING, BUILDING AND OTHER SITE FEATURES PRIOR TO DEMOLITION AND IMMEDIATELY INFORM THE ENGINEER AND/OR OWNER OF ANY DISCREPANCIES.
7. DEMOLITION NOTES AS SHOWN ON THE PLAN ARE NOT ALL INCLUSIVE. CONTRACTOR TO ABANDON IN PLACE OR REMOVE AND DISPOSE OF ALL EXISTING SITE IMPROVEMENTS ABOVE AND BELOW GROUND TO COMPLY WITH THE GENERAL INTENT OF THIS DOCUMENT.
8. ALL CONSTRUCTION/DEMOLITION DEBRIS SHALL BE DISPOSED OF OFFSITE IN FULL COMPLIANCE WITH CURRENT ENVIRONMENTAL REGULATIONS.
9. CONSTRUCTION LIMITS SHALL BE CONFINED TO THE SITE BOUNDARY AS NOTED. ANY DAMAGE TO PROPERTIES OUTSIDE THE SITE BOUNDARY SHALL BE AT THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
10. ALL WORK SHALL BE IN ACCORDANCE WITH OSHA STANDARDS. NOTHING INDICATED ON THE DRAWINGS SHALL RELIEVE THE CONTRACTOR FROM COMPLYING WITH ANY APPROPRIATE SAFETY REGULATIONS.

TRAFFIC CONTROL NOTES

1. ALL APPLICABLE CITY PERMITS, INCLUDING BUT NOT LIMITED TO CLOSURE PERMITS, SHALL BE OBTAINED PRIOR TO ANY CONSTRUCTION WITHIN CITY R.O.W. OR LANE CLOSURES.
2. ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. PERMANENT SIGNING THAT CONVEYS A MESSAGE CONTRARY TO THE MESSAGE OF TEMPORARY SIGNING AND NOT APPLICABLE TO THE WORKING CONDITIONS SHALL BE COVERED BY THE CONTRACTOR WHEN DIRECTED BY THE CITY.
4. THE CONTRACTOR SHALL COORDINATE HIS TRAFFIC CONTROL WITH OTHER CONSTRUCTION PROJECTS IN THE AREA.
5. SIDEWALK CLOSED SIGNS REQUIRED FOR ALL SIDEWALK CLOSURES.
6. THE CONTRACTOR IS CAUTIONED NEITHER TO OBSTRUCT NOR REMOVE ANY EXISTING PAVEMENT, NOR TO DISTURB THE EXISTING TRAFFIC PATTERNS MORE THAN IS NECESSARY FOR THE PROPER EXECUTION OF THE WORK.
7. ALL SIGNING AND LANE STRIPING WILL NEED TO COMPLY WITH MUTCD. MAINTENANCE AND REPLACEMENT OF THE SIGNING AND STRIPING WILL BE THE RESPONSIBILITY OF THE APPLICANT.

CIVIL DESIGN ADVANTAGE
4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
PHONE: (515) 369-4400 FAX: (515) 369-4410
ENGINEER:
DRAFTED:

DATE
REVISIONS

INSPIRING DANCE

TOPOGRAPHIC SURVEY/ DEMOLITION PLAN

2340 SE 3RD STREET
GRIMES, IOWA

DATE: 05/30/2023
SHEET NUMBER: C1.1
2211.789

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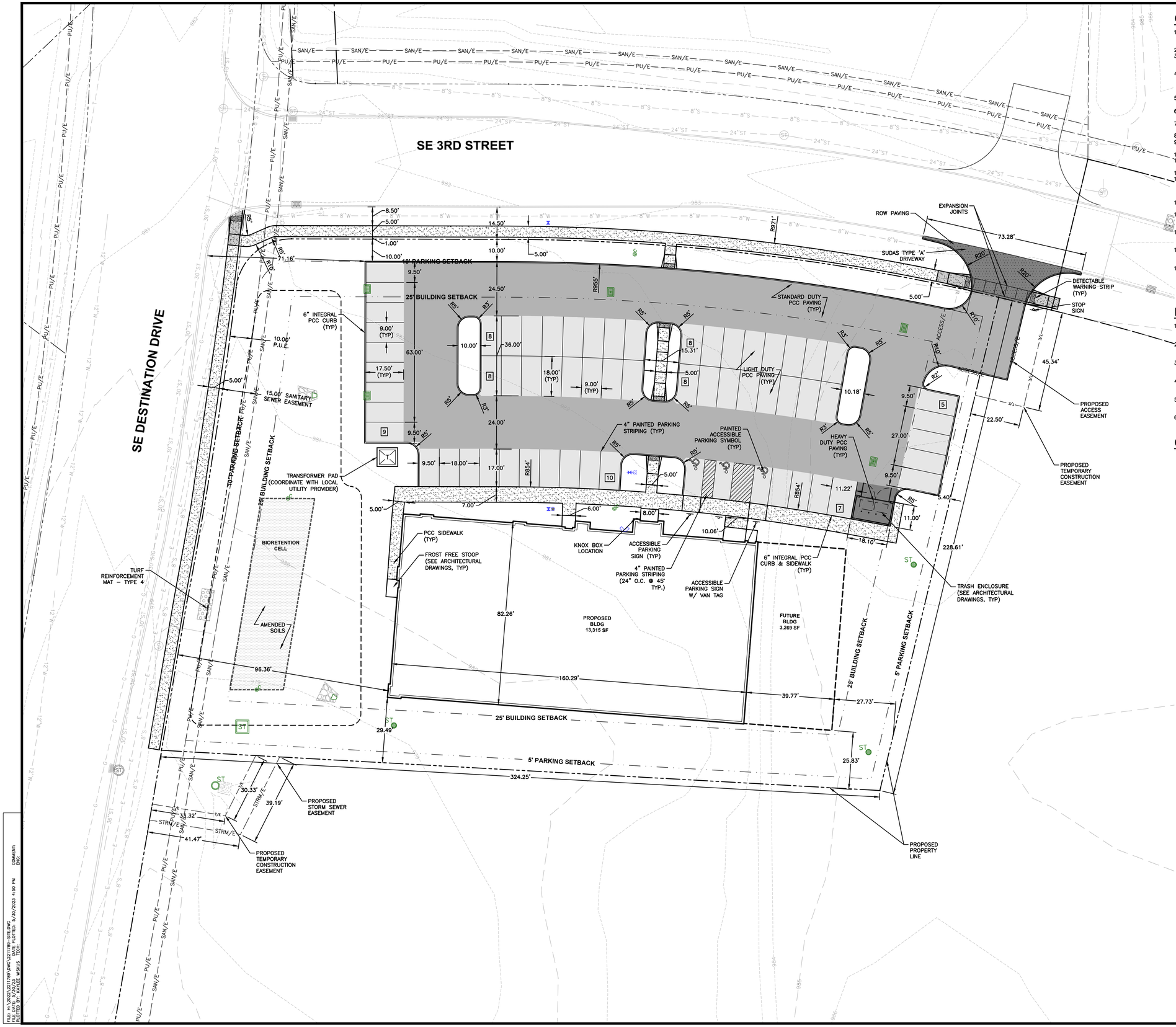

GENERAL NOTES

1. THE MOST RECENT EDITION OF THE SUDAS STANDARD SPECIFICATIONS AND ALL CITY SUPPLEMENTALS, IF APPLICABLE, SHALL APPLY TO ALL WORK ON THIS PROJECT UNLESS OTHERWISE NOTED.
2. ALL WORK SHALL COMPLY WITH ADA ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES.
3. ALL WORK SHALL BE IN ACCORDANCE WITH OSHA CODES AND STANDARDS. NOTHING INDICATED ON THE DRAWINGS SHALL RELIEVE THE CONTRACTOR FROM COMPLYING WITH ANY APPROPRIATE SAFETY REGULATIONS.
4. PRIOR TO ANY WORK AT THE SITE, CONTRACTOR SHALL EXAMINE ANY APPLICABLE DRAWINGS AVAILABLE FROM THE OWNER, ENGINEER, AND/OR ARCHITECT, AND CONSULT WITH OWNER'S PERSONNEL AND UTILITY COMPANY REPRESENTATIVES. NO COMPENSATION WILL BE ALLOWED FOR DAMAGE FROM FAILURE TO COMPLY WITH THIS REQUIREMENT.
5. ONE WEEK PRIOR TO CONSTRUCTION WITHIN CITY R.O.W. OR ANY CONNECTION TO PUBLIC SEWERS CONTRACTOR SHALL NOTIFY THE CITY'S CONSTRUCTION DIVISION.
6. ALL CONSTRUCTION WITHIN PUBLIC R.O.W./ EASEMENTS, AND/OR ANY CONNECTION TO PUBLIC SEWERS AND STREETS, SHALL COMPLY WITH THE CITY'S STANDARDS.
7. ALL DIMENSIONS ARE TO BACK OF CURB, BUILDING FACE OR PROPERTY LINE UNLESS OTHERWISE NOTED.
8. CONTRACTOR TO VERIFY BUILDING DIMENSIONS WITH ARCHITECTURAL PLANS.
9. PLACE 3/4 INCH EXPANSION JOINT BETWEEN ALL P.C.C. PAVEMENT/SIDEWALKS AND BUILDING. PLACE 1/2 INCH EXPANSION JOINT BETWEEN SIDEWALKS AND P.C.C. PAVEMENT.
10. REMOVE ALL DEBRIS SPILLED INTO R.O.W. AT THE END OF EACH WORK DAY.
11. ALL PROPERTY PINS SHALL BE PROTECTED FROM GRADING OR OTHER OPERATIONS. ANY PINS DISTURBED SHALL BE RESET AT THE CONTRACTOR'S EXPENSE.
12. DO NOT STORE CONSTRUCTION MATERIALS AND EQUIPMENT IN THE RIGHT OF WAY.
13. THE CONTRACTOR SHALL NOT DISTURB DESIRABLE GRASS AREAS AND DESIRABLE TREES OUTSIDE THE CONSTRUCTION LIMITS. THE CONTRACTOR WILL NOT BE PERMITTED TO PARK OR SERVICE VEHICLES AND EQUIPMENT OR USE THESE AREAS FOR STORAGE OF MATERIALS. STORAGE, PARKING AND SERVICE AREAS WILL BE SUBJECT TO THE APPROVAL OF THE OWNER.
14. THE CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY AREAS OF PAVEMENT OR SIDEWALK NOT TO BE REMOVED THAT IS DAMAGED DUE TO OPERATING EQUIPMENT ON THE PAVEMENT OR SIDEWALK.
15. THE CONTRACTOR MAY BE REQUIRED TO PLACE TEMPORARY WARNING DEVICES AND SAFETY FENCE AT CERTAIN LOCATIONS WHERE REPLACEMENT FEATURES ARE NOT INSTALLED THE SAME DAY, AS DIRECTED BY THE ENGINEER OR THE CITY.
16. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF WORK BETWEEN SUPPLIERS AND SUBCONTRACTORS INVOLVED IN THE PROJECT, INCLUDING STAGING OF CONSTRUCTION DETAILS.
17. CONCRETE REMOVAL FOR DRIVEWAY APPROACHES SHALL BE REMOVED TO THE NEAREST TRANSVERSE JOINT. CONTRACTOR SHALL VERIFY REMOVAL LIMITS WITH CITY'S CONSTRUCTION INSPECTOR PRIOR TO ANY CONCRETE REMOVAL.
18. ALL PERMITS AND ADDITIONAL FEES REQUIRED TO COMPLETE THE WORK SHALL BE INCLUDED IN THE CONTRACTOR BID.

PAVEMENT THICKNESS

1. SIDEWALKS	4" P.C.C.	
2. SIDEWALK RAMPS	6" P.C.C.	
3. LIGHT DUTY PAVING	6" P.C.C.	
4. STANDARD DUTY PAVING	7" P.C.C.	
5. HEAVY DUTY PAVING	8" P.C.C.	
6. ROW PAVING	MATCH EXISTING	

CITY OF GRIMES STANDARD NOTES FOR SITE PLANS

1. GENERAL NOTES:

A. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT VERSION OF THE IOWA STATEWIDE URBAN DESIGN AND SPECIFICATIONS (SUDAS) FOR PUBLIC IMPROVEMENTS ON THE DATE OF APPROVAL AND THE CITY OF GRIMES SUPPLEMENTAL SPECIFICATIONS.
B. A PRECONSTRUCTION MEETING IS REQUIRED PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE THIS MEETING. CONTACT THE CITY OF GRIMES BUILDING DIVISION (515.986.4050).
C. ALL PERMITS (IDNR, NPDES, IDOT, ARMY CORP., ETC.) SHALL BE OBTAINED PRIOR TO THE START OF CONSTRUCTION.
D. PROVIDE THE CITY OF GRIMES WITH RECORD DRAWINGS (AS-BUILTS) OF ALL IMPROVEMENTS AND EASEMENTS AS PER CITY COMMERCIAL AS-BUILT POLICY.
E. THE RECORD DRAWINGS SHOULD INCLUDE A CERTIFIED GRADING SHEET AND AS-BUILT PLANS OF ALL STORMWATER MANAGEMENT FACILITIES ON SITE WITH A CERTIFICATION STATEMENT SIGNED BY THE DESIGN ENGINEER INDICATING THAT THE FACILITIES WERE CONSTRUCTED AS DESIGNED.
F. RECORD DRAWINGS TO INCLUDE ONE ELECTRONIC FILE IN .DWG AND .PDF FILE EXTENSIONS.
G. TYPICAL BUILDING SERVICE LAYOUT TO REFLECT THE CITY'S SERVICE ORDER FROM LEFT TO RIGHT FACING THE LOT SANITARY, WATER, SUMP. MARK THE ENDS OF SERVICES WITH A STEEL FENCE POST AND PAINT GREEN FOR SANITARY, BLUE FOR WATER, AND WHITE FOR STORM. MARK THE ENDS OF SANITARY AND SUMP WITH A 2 X 4 FROM END OF PIPE TO 2' ABOVE GRADE.
H. A KNOX BOX IS REQUIRED BY THE FIRE DEPARTMENT.
I. ALL SITE LIGHTING SHALL NOT SPILL ONTO ADJACENT PROPERTIES OR RIGHTS-OF-WAY.
J. PROVIDE A 4-YEAR MAINTENANCE BOND FOR ALL PUBLIC IMPROVEMENTS (UTILITY, PAVING, SUBGRADE) WITH AN ITEMIZED COST BREAKDOWN.

2. SANITARY SEWER NOTES:

A. THE CONTRACTOR IS REQUIRED TO PLACE A TEMPORARY PLUG IN THE EXISTING DOWNSTREAM SANITARY SEWER MANHOLE PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL REMOVE THE PLUG FOLLOWING APPROVAL OF CONSTRUCTION BY THE CITY OF GRIMES.
B. SANITARY GRAVITY PIPE MATERIAL SHALL BE PVC SDR 26 OR TRUSS (8' TO 15').
C. SANITARY GRAVITY SERVICE PIPE MATERIAL SHALL BE PVC SDR 23.5 (4' TO 6').
D. ALL SANITARY SEWER MANHOLES SHALL HAVE STEPS.
E. ALL SANITARY SEWER MANHOLES CASTINGS SHALL BE SEALED WITH HEAT SHRINK SLEEVES.
F. ALL SANITARY SEWER MANHOLE CASTINGS LOCATED WITHIN PAVEMENT SHALL BE TYPE B:PCC W/ADJUSTING MECHANISM.
G. SANITARY SEWER CLEANING & TELEVISING SHALL BE COMPLETED PRIOR TO PAVING. RUN SUFFICIENT DYED WATER THROUGH PIPE PRIOR TO TELEVISING. PROVIDE THE VIDEO AND INSPECTION REPORT TO THE CITY ENGINEERING DIVISION.

3. WATER MAIN NOTES:

A. ALL FIRE HYDRANTS SHALL BE AMERICAN FLOW CONTROL-WATEROUS PACER WB-67-250, MUELLER SUPER CENTURION 250 (3-WAY A-423), OR CLOW MEDALLION F-2545. ALL HYDRANTS SHALL HAVE THE FOLLOWING: 6" MJ SHOE, 2-1/2" HOSE NOZZLE, 4-1/2" STEAMER NOZZLE, NST THREADS, PENTAGON OPERATING NUT, CHAIN ON CAP, OPEN LEFT, 5-1/2' BURY, AND FACTORY PAINTED RED. THE MINIMUM SPOOL PIPE LENGTH FROM AUXILIARY VALVE TO HYDRANT SHOE SHALL BE 2.0'.
B. ALL HYDRANTS WILL IMMEDIATELY BE COVERED WITH A BLACK PLASTIC BAG (OR EQUIVALENT) ONCE THE HYDRANT IS INSTALLED. THE CITY OF GRIMES WILL NOTIFY THE CONTRACTOR WHEN THE BAGS CAN BE REMOVED.
C. A TRACER WIRE RECEPTACLE SHALL BE INSTALLED AT EACH HYDRANT, AA MANUFACTURING TRACER WIRE RECEPTACLE MODEL TW-18-2.
D. ALL VALVES SHALL BE RESILIENT WEDGE GATE VALVES.
E. WATER SERVICE SHALL BE 1-INCH MINIMUM TYPE K COPPER.
F. THE CITY OF GRIMES SHALL DO THE FILLING OF THE WATER MAIN.
G. NEW WATER MAIN SHALL BE PRESSURE TESTED AND CHLORINATED BY THE CONTRACTOR. THE BACTERIA TEST AND SUBMITTAL OF TEST TO LAB SHALL BE DONE BY THE CONTRACTOR AND RESULTS PROVIDED TO THE CITY OF GRIMES ENGINEERING DIVISION. ALL TESTS AND SAMPLING TO BE WITNESSED BY THE CITY ENGINEERING DIVISION. IF THE TEST DOES NOT PASS, THE CONTRACTOR WILL BE REQUIRED TO PAY FOR ALL THE WATER USED TO REPEAT THE TEST.
H. ALL WATERMAIN FITTINGS TO BE RESTRAINED JOINT, MEGA-LUG OR APPROVED EQUAL.
I. ALL DEAD-END WATER MAINS TO HAVE TEMPORARY BLOWOFF HYDRANTS.

4. STORM SEWER NOTES:

A. ALL STORM SEWER IN THE ROW SHALL BE RCP, UNLESS OTHERWISE APPROVED BY THE CITY.
B. ALL FLARED END SECTIONS SHALL HAVE FOOTINGS AND APRON GRATES. THE LAST 3 PIPE SECTIONS AND THE FLARED END SECTION ON ALL STORM SEWERS SHALL BE TIED. ALL STORM SEWER JOINTS SHALL BE WRAPPED WITH ENGINEERING FABRIC UNLESS OTHERWISE DIRECTED.
C. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY FIELD TILE DAMAGED DURING CONSTRUCTION. THE TILE SHOULD BE DIRECTED TO PUBLIC STORM SEWER IF POSSIBLE. THE CONTRACTOR SHALL RECORD THE ELEVATION AND LOCATION OF ALL TILES AND INCLUDE ON RECORD DRAWINGS.
D. PUBLIC STORM SEWER CLEANING & TELEVISING SHALL BE COMPLETED PRIOR TO PAVING. RUN SUFFICIENT DYED WATER THROUGH PIPE PRIOR TO TELEVISING. PROVIDE THE VIDEO AND INSPECTION REPORT TO THE CITY ENGINEERING DIVISION.
E. USE O RING GASKETS ON STORM SEWERS CROSSING OVER WATERMAIN PER IDNR REQUIREMENT.

N

SCALE
0' 10' 20' 40'

4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
PHONE: (515) 369-4400 FAX: (515) 369-4410

DATE | REVISIONS | DRAFTED: | ENGINEER:

CIVIL DESIGN ADVANTAGE

INSPIRING DANCE
DIMENSION PLAN
2340 SE 3RD STREET
GRIMES, IOWA

DATE: 05/30/2023
SHEET NUMBER: C2.1
2211.789

FILE: (A:\2022\2211789\DWG\2211789-SITE.DWG
FILE DATE: 5/30/23
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GRADING NOTES

1. PRIOR TO ANY GRADING, A COPY OF THE NPDES PERMIT SHALL BE PROVIDED TO THE CITY'S BUILDING DIVISION.
2. CONTRACTOR SHALL STRIP ALL DELETERIOUS MATERIAL. THE TOP 6" OF TOPSOIL IS TO BE STOCKPILED AND RESPREAD AFTER GRADING IS COMPLETE. CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING A SUITABLE TOPSOIL STOCKPILE SITE.
3. EXCAVATION SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE SUDAS STANDARD SPECIFICATIONS AND ALL CITY SUPPLEMENTALS, IF APPLICABLE.
4. MATCH EXISTING GRADES AT PROPERTY LINES AND/OR CONSTRUCTION LIMITS.
5. ALL SPOT ELEVATIONS ARE FORM GRADE (FG) OR TOP OF FINISHED SURFACES UNLESS OTHERWISE NOTED.
6. SITE SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS.
7. SLOPES IN PAVEMENT SHALL BE UNIFORM TO AVOID PONDING.
8. THE CONTRACTOR SHALL CONFINE HIS GRADING OPERATIONS TO WITHIN THE CONSTRUCTION LIMITS AND EASEMENTS SHOWN ON THE PLANS. ANY DAMAGE TO PROPERTIES OUTSIDE THE SITE BOUNDARY SHALL BE AT THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
9. THE CONTRACTOR SHALL APPLY NECESSARY MOISTURE CONTROL TO THE CONSTRUCTION AREA AND HAUL ROADS TO PREVENT THE SPREAD OF DUST.
10. REFER TO SEPARATE STORM WATER POLLUTION PREVENTION PLAN FOR DETAILS ON EROSION CONTROL.
11. FINAL FINISH GRADING TO BE APPROVED BY THE ARCHITECT AND CIVIL ENGINEER. MATCH EXISTING GRADES AT THE INTERFACE OF NEW AND EXISTING GRADES OR PAVING.
12. SIDEWALKS:
    MAINTAIN 1% MINIMUM AND 5% MAXIMUM LONGITUDINAL SLOPES ON ALL PAVED WALKWAYS. ALL WALKS TO HAVE 2.0% MAXIMUM TRANSVERSE SLOPE IN THE DIRECTION OF NATURAL DRAINAGE. SAW CUT JOINTS AS SOON AS CONCRETE HAS SET. SAW CUTS TO BE 1/8" TO 1/4" WIDE; DEPTH: LONGITUDINAL 1/3, TRANSVERSE 1/4.
13. THE GRADING OF THE DETENTION FACILITY, INSTALLATION OF THE STORM SEWER SYSTEM (IF APPLICABLE), AND THE INSTALLATION OF THE ORIFICE PLATE (IF APPLICABLE) SHALL BE COMPLETED AND FUNCTIONAL PRIOR TO ANY INCREASE IN IMPERVIOUS SURFACES WITHIN THE SITE OR THE PREVIOUSLY MENTIONED ITEMS SHALL BE GRADED/ INSTALLED AS SOON AS PRACTICAL.
14. AMENDED SOILS AND BIORETENTION CELL MUST BE BUILT POST CONSTRUCTION, ONCE ALL AREAS ARE BUILT OUT AND VEGETATED OR SODDED. SEDIMENT POND WILL BE NEEDED DURING CONSTRUCTION.

SE 3RD STREET

SE DESTINATION DRIVE

SEE ENLARGEMENT 01 ON SHEET C3.2

SEE ENLARGEMENT 02 ON SHEET C3.2

SEE ENLARGEMENT 03 ON SHEET C3.2

SEE ENLARGEMENT 04 ON SHEET C3.2

SEE ENLARGEMENT 05 ON SHEET C3.2

PROPOSED BLDG 13,315 SF

BIORETENTION CELL

AMENDED SOILS

TURF REINFORCEMENT MAT – TYPE 4

OVERFLOW ROUTE

10.00' P.U.E.

15.00' SANITARY SEWER EASEMENT

N

SCALE 0' 10' 20' 40'

4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
PHONE: (515) 369-4400 FAX: (515) 369-4410

CIVIL DESIGN ADVANTAGE

ENGINEER: DRAFTED:

DATE

REVISIONS

INSPIRING DANCE
GRADING PLAN

GRIMES, IOWA

2340 SE 3RD STREET

DATE: 05/30/2023

SHEET NUMBER: C3.1

2211.789

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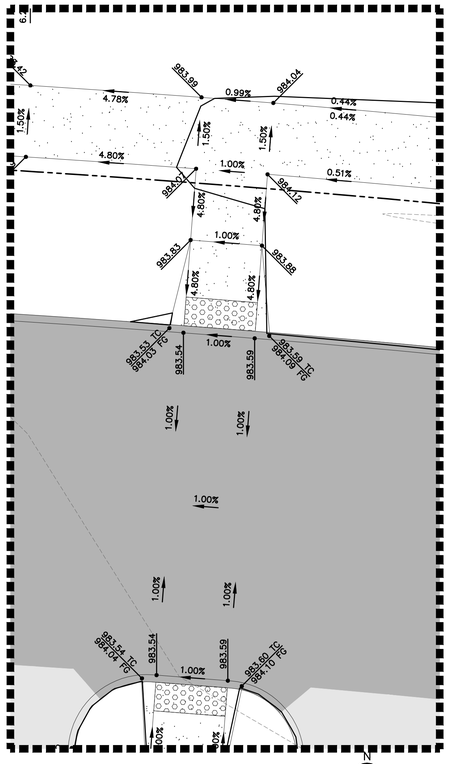
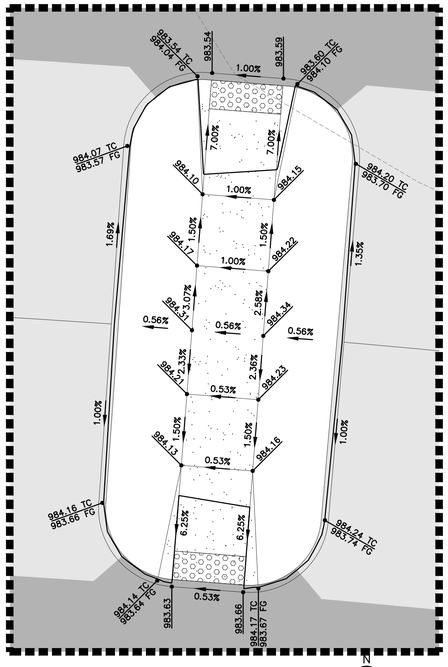


GRADING ENLARGEMENT 01



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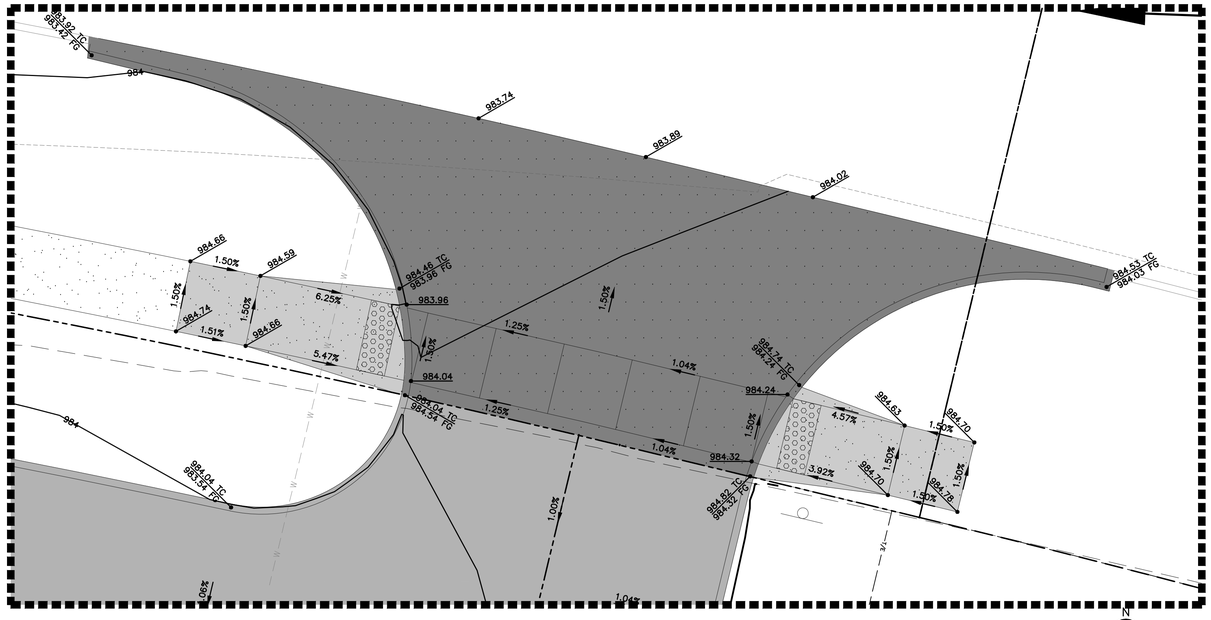

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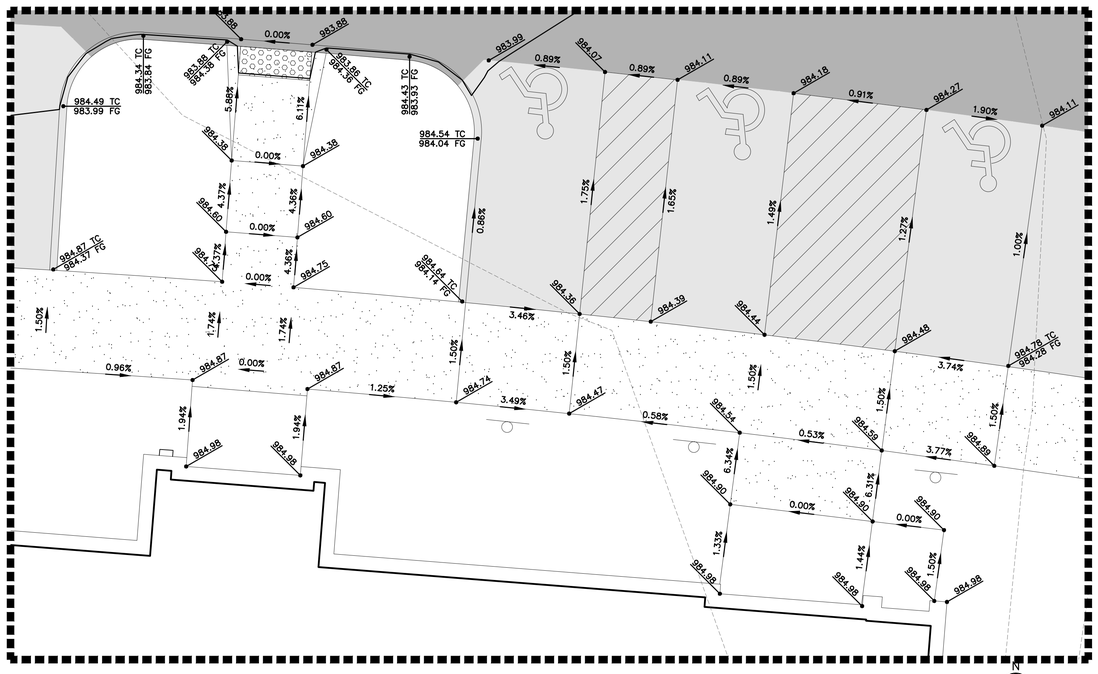
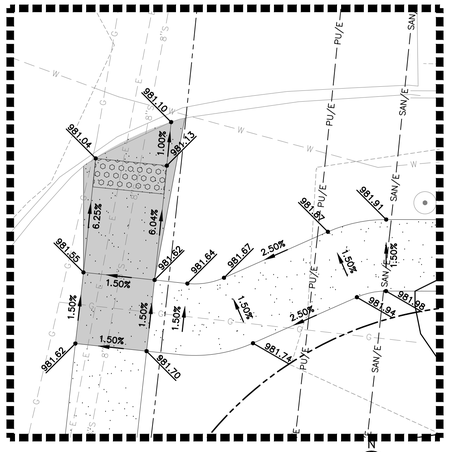


GRADING ENLARGEMENT 04



GRADING ENLARGEMENT 05

4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
PHONE: (515) 369-4400 FAX: (515) 369-4410

DATE	REVISIONS	ENGINEER:	DRAFTED:

CIVIL DESIGN ADVANTAGE

INSPIRING DANCE
GRADING PLAN

2340 SE 3RD STREET
GRIMES, IOWA

DATE: 05/30/2023

SHEET NUMBER: **C3.2**

2211.789

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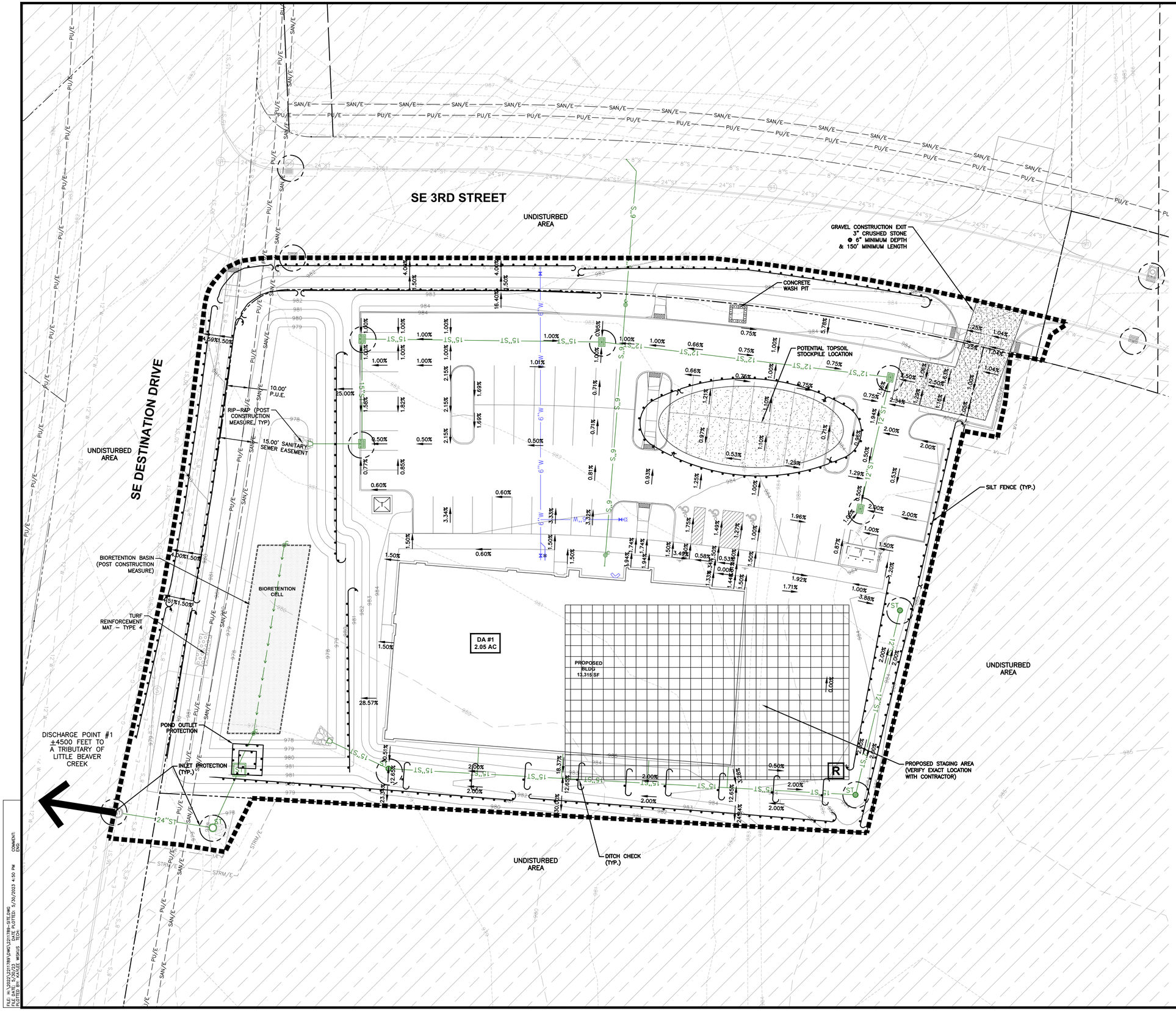

STABILIZATION QUANTITIES

ITEM NO.	ITEM	UNIT	TOTAL
1	SILT FENCE	LF	2,085
2	DITCH CHECKS	LF	161
3	SEEDING, FERTILIZING, AND MULCHING	AC	1
4	INLET PROTECTION DEVICES	EA	14
5	CONCRETE WASHOUT PIT	EA	1

DISCHARGE POINT SUMMARY

DISCHARGE POINT #1 TO LITTLE BEAVER CREEK ±4500 FT

TOTAL AREA DISTURBED TO DISCHARGE POINT	2.05 ACRES
STORAGE VOLUME REQUIRED (# OF ACRES*3600 CU FT)	7,380 CU FT
VOLUME PROVIDED IN SILT FENCE (2,085 LF @ 4.5 CU FT/LF OF FENCE)	9,383 CU FT
VOLUME PROVIDED IN DITCH CHECK (161 LF @ 4.5 CU FT/LF)	725 CU FT
TOTAL VOLUME PROVIDED	10,108 CU FT

NOTES:

1. IF DEWATERING IS NEEDED FOR ANY REASON, DISCHARGE OF WATER OFFSITE IS TO CONFORM WITH THE GENERAL PERMIT #2 REQUIREMENT.
2. DISTURBED AREAS SHALL BE TEMPORARILY SEEDED OR MULCHED IMMEDIATELY WHENEVER CLEARING, GRADING, EXCAVATING, OR OTHER EARTH DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS.
3. STORM SEWERS AND DRAINAGE WAYS SHALL BE PROTECTED FROM CONCRETE SLURRY PRODUCED BY SAWCUTTING AND CONCRETE GRINDING.

SWPPP LEGEND

- DRAINAGE ARROW (X.XX %)
- GRADING LIMITS
- FILTER SOCK
- SILT FENCE
- DITCH CHECK
- INLET PROTECTION
- PORTABLE RESTROOM (R)
- CONCRETE WASHOUT PIT
- AREA TO BE SEEDED
- UNDISTURBED AREA
- RIP-RAP
- GRAVEL ENTRANCE
- STAGING AREA

N

SCALE
0' 10' 20' 40'

4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
PHONE: (515) 369-4400 FAX: (515) 369-4410

DATE | REVISIONS | DRAFTED: | ENGINEER:

CIVIL DESIGN ADVANTAGE

INSPIRING DANCE
EROSION AND SEDIMENT CONTROL PLAN

2340 SE 3RD STREET GRIMES, IOWA

DATE: 05/30/2023

SHEET NUMBER: C4.1

2211.789

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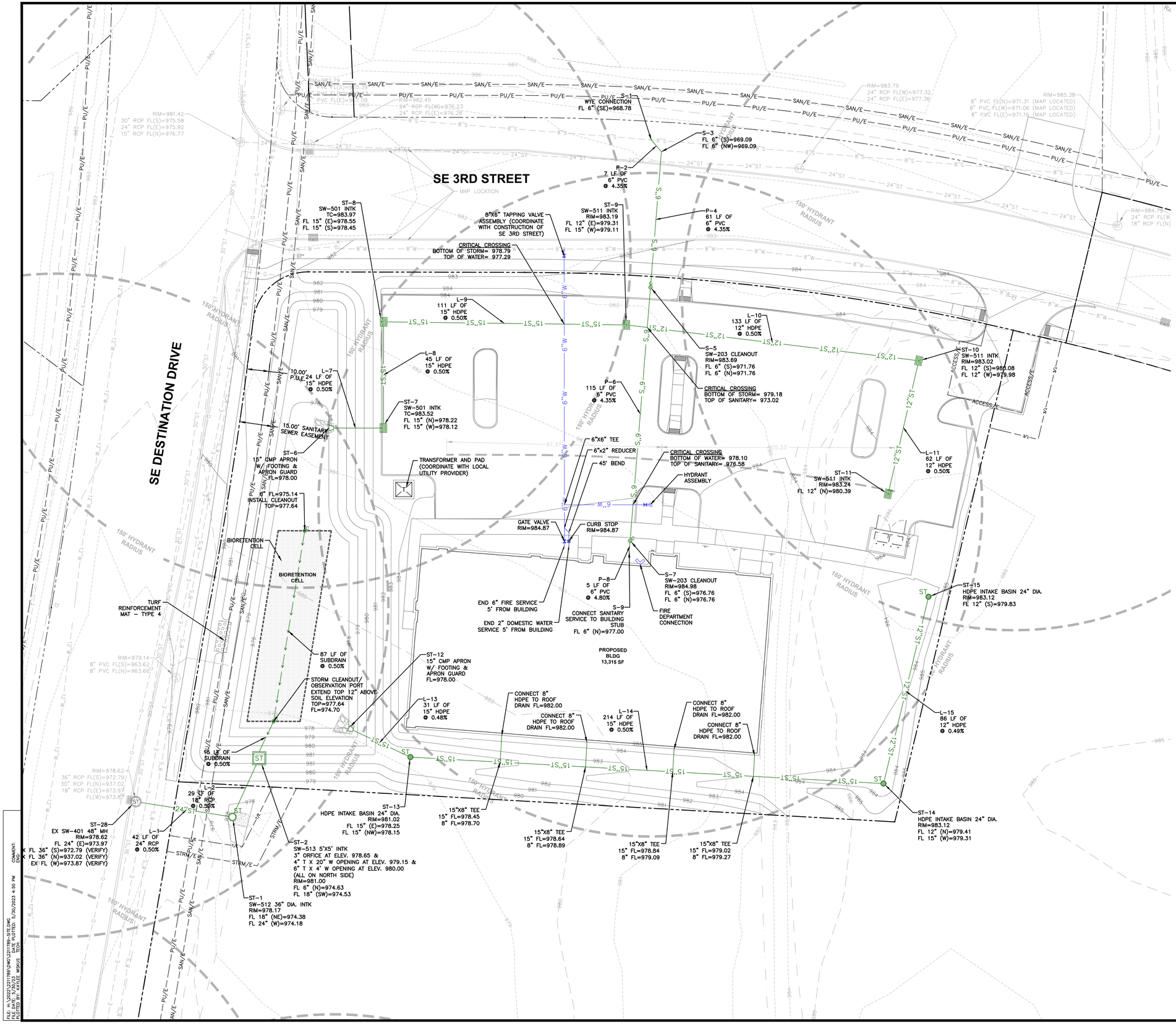

UTILITY NOTES

1. REFER TO MECHANICAL, ELECTRICAL AND PLUMBING PLANS FOR UTILITY SERVICE SIZES AND EXACT LOCATIONS. REFER TO ELECTRICAL PLANS FOR ELECTRIC AND TELEPHONE SERVICE CONSTRUCTION DETAILS. REFER TO MECHANICAL PLANS FOR GAS SERVICE CONSTRUCTION DETAILS.
2. FIELD VERIFY ELEVATIONS AND LOCATIONS OF ALL CONNECTIONS TO EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
3. PROVIDE TEMPORARY SUPPORT FOR EXISTING UTILITY LINES THAT ARE ENCOUNTERED DURING CONSTRUCTION UNTIL BACKFILLING IS COMPLETE.
4. BACKFILL ALL UTILITY TRENCHES ACCORDING TO THE MOST RECENT EDITION OF THE SUDAS STANDARD SPECIFICATIONS AND ALL CITY SUPPLEMENTALS. MAINTAIN A MINIMUM OF 5.5' COVER OVER ALL WATERMAINS.
5. ALL UTILITIES SHALL BE STUBBED TO 5 FEET FROM BUILDINGS. REFER TO MEP PLANS FOR DESIGN FROM 5' OUTSIDE OF BUILDING FACE.
6. ADJUST ALL MANHOLES AND INTAKES TO FINISHED GRADES.
7. ALL SANITARY SEWER AND WATER SERVICES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY'S PLUMBING CODE.
8. 18" MINIMUM VERTICAL CLEARANCE BETWEEN STORM SEWER AND SANITARY SEWER PIPES. 18" MINIMUM VERTICAL CLEARANCE BETWEEN SANITARY SEWER AND WATER MAIN.
9. MAINTAIN A MINIMUM OF 10' HORIZONTAL SEPARATION BETWEEN SANITARY SEWER LINES AND WATER MAINS.
10. WHERE PUBLIC UTILITY FIXTURES ARE SHOWN AS EXISTING ON THE PLANS OR ENCOUNTERED WITHIN THE CONSTRUCTION AREA, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNERS OF THOSE UTILITIES PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. THE CONTRACTOR SHALL AFFORD ACCESS TO THESE FACILITIES FOR NECESSARY MODIFICATION OF SERVICES. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS, AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS POSSIBLE THERE MAY BE OTHERS. THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN OR SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATIONS AND TO AVOID DAMAGE THERETO. NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK. THE CONTRACTOR IS REQUIRED TO UTILIZE THE UTILITY ONE-CALL SERVICE AT 800-292-8989 AT LEAST 48 HOURS PRIOR TO EXCAVATING ANYWHERE ON THE PROJECT.
11. ALL WATERMAIN WORK, PUBLIC OR PRIVATE SHALL BE DONE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE SUDAS STANDARD SPECIFICATIONS AND ALL CITY SUPPLEMENTALS.
12. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF WORK OF ALL SUBCONTRACTOR(S) INVOLVED IN THE PROJECT.
13. PRIVATE UTILITIES TO BE INSTALLED PER THE CITY'S STANDARD CONSTRUCTION SPECIFICATIONS FOR PUBLIC IMPROVEMENTS AND THE 2012 UNIFORM PLUMBING CODE. CONTACT BUILDING INSPECTION A MINIMUM OF 24 HOURS IN ADVANCE FOR UTILITY INSTALLATION INSPECTIONS.
14. OWNER IS RESPONSIBLE FOR MAINTENANCE OF PRIVATE RETENTION FACILITIES AND PRIVATE UTILITIES.
15. CONTRACTOR SHALL PREVENT ENTRY OF MUD, DIRT, DEBRIS AND OTHER MATERIAL INTO NEW AND EXISTING SEWER SYSTEMS. SHOULD ANY CONTAMINATION OCCUR DURING CONSTRUCTION, THE CONTRACTOR SHALL CLEAN AT NO COST TO THE OWNER. INSTALL SILT FENCE AT ALL PERMANENT STORM SEWER INLETS.

PRIVATE WATER MAIN QUANTITIES

HYDRANT ASSEMBLY	1 EA
6" SERVICE	170 LF
6" VALVE	1 EA
2" SERVICE	9 LF
CURB STOP	1 EA
6"X6" TEE	1 EA
TAPPING SLEEVE AND VALVE	1 EA

N

SCALE
0' 10' 20' 40'

4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
PHONE: (515) 369-4400 FAX: (515) 369-4410

DRAFTED:
ENGINEER:

DATE
REVISIONS

CIVIL DESIGN ADVANTAGE

GRIMES, IOWA

INSPIRING DANCE
UTILITY PLAN

2340 SE 3RD STREET

DATE:
05/30/2023

SHEET NUMBER:
C5.1
2211.789

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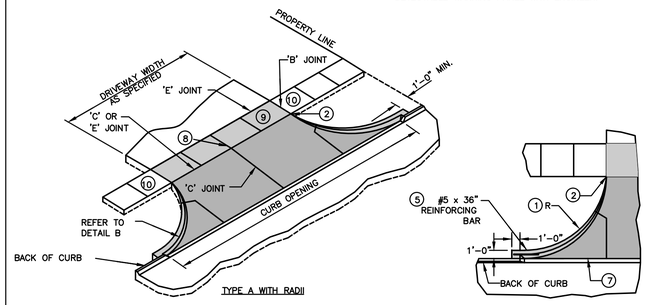
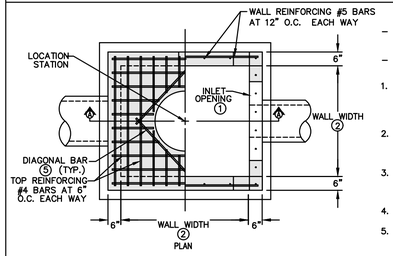
1. DRIVEWAY RADIUS (R).
2. TRANSITION THE CURB HEIGHT TO 0 INCHES AT END OF TAPER/RADIUS OR AT THE FRONT EDGE OF SIDEWALK. DO NOT EXTEND RAISED CURB ACROSS SIDEWALK.
3. PAVEMENT THICKNESS. RESIDENTIAL: 6 INCHES MINIMUM. COMMERCIAL AND INDUSTRIAL: 7 INCHES MINIMUM.
4. SIDEWALK THICKNESS THROUGH DRIVEWAY TO MATCH THICKNESS OF DRIVEWAY.
5. CENTER REINFORCING BAR VERTICALLY IN THE PAVEMENT.
6. MATCH THICKNESS OF ADJACENT ROADWAY, 8 INCHES MINIMUM.
7. PROVIDE 'E' JOINT AT BACK OF CURB UNLESS 'B' JOINT IS SPECIFIED.
8. FOR ALLEYS, INVERT THE PAVEMENT CROWN 2% TOWARD CENTER OF ALLEY.
9. TARGET CROSS SLOPE OF 1.5% WITH A MAXIMUM CROSS SLOPE OF 2.0%. IF SPECIFIED IN THE CONTRACT DOCUMENTS, CONSTRUCT THE SIDEWALK THROUGH THE DRIVEWAY 5 FEET WIDE TO SERVE AS A PASSING SPACE.
10. IF CROSS SLOPE OF ADJACENT SIDEWALK PANEL EXCEEDS 2.0%, REMOVE AND REPLACE TO TRANSITION FROM EXISTING SIDEWALK TO SIDEWALK THROUGH DRIVEWAY. IF ELEVATION CHANGE REQUIRES A CURB RAMP, COMPLY WITH FIGURE 7030.205; VERIFY NEED FOR DETECTABLE WARNING PANEL WITH ENGINEER.

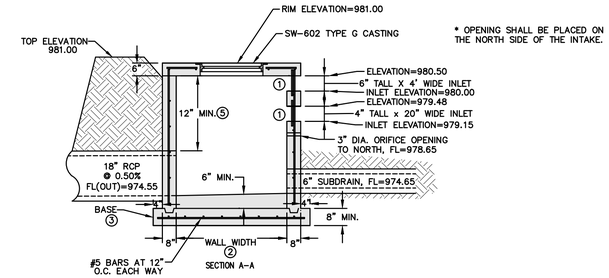


3 CONCRETE DRIVEWAY TYPE A
NOT TO SCALE



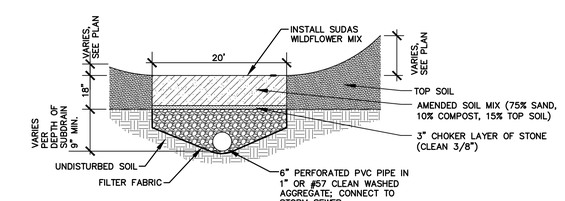
- STRUCTURE MAY BE BUILT WITH OPENINGS ON ANY OR ALL SIDES. PROVIDE OPENINGS AND ORIENTATION AS SPECIFIED IN THE CONTRACT DOCUMENTS.
- ADJACENT WALLS MAY HAVE DIFFERENT WIDTHS BASED UPON PIPE CONFIGURATION, BUT STRUCTURE MUST BE RECTANGULAR.

1. CONSTRUCT 1 INLET OPENING WITH 12-INCH #4 EPOXY-COATED BARS AT 8 INCHES ON CENTER. EMBED BARS A MINIMUM OF 3 INCHES INTO WALLS AND TOP AT ALL OPENINGS. CONSTRUCT 2 INLET OPENINGS, AS SHOWN.
2. WALL WIDTHS VARY WITH PIPE DIA. PROVIDE 6 INCHES OF WALL WIDTH (MINIMUM) EACH SIDE OF PIPE OPENING. MINIMUM WALL WIDTH IS 36 INCHES. MAXIMUM WALL WIDTH IS 72 INCHES.
3. CAST-IN-PLACE BASE SHOWN. IF BASE IS PRECAST INTEGRAL WITH WALLS, THE FOOTPRINT OF BASE IS NOT REQUIRED TO EXTEND BEYOND THE OUTER EDGE OF THE WALLS.
4. INSTALL FOUR #4 DIAGONAL BARS AT ALL PIPE OPENINGS.
5. 12" MINIMUM WALL HEIGHT ABOVE ALL PIPES.



* OPENING SHALL BE PLACED ON THE NORTH SIDE OF THE INTAKE.

2 ST-2 MODIFIED SW-513 INTAKE - 5'X5' (BASIN 1)
NOT TO SCALE



NOTE:
1. REFER TO IOWA STORMWATER MANAGEMENT MANUAL FOR FURTHER DETAILS.
2. CONTRACTOR SHALL INSTALL AND FINAL GRADE BIO-RETENTION AREA AFTER ALL DISTURBED AREAS ARE ESTABLISHED TO MINIMIZE THE AMOUNT OF SEDIMENT REACHING THE FILTER BED.
3. SUDAS WILDFLOWER MIX SHALL BE INSTALLED WITHIN THE BIO-RETENTION AREA.

1 BIORETENTION CELL DETAIL
NOT TO SCALE

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PHONE: (515) 369-4400 FAX: (515) 369-4410

REVISIONS	DATE

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CIVIL DESIGN ADVANTAGE

INSPIRING DANCE
DETAILS
2340 SE 3RD STREET GRIMES, IOWA

DATE: 05/30/2023

SHEET NUMBER: C6.1

2211.789

GA

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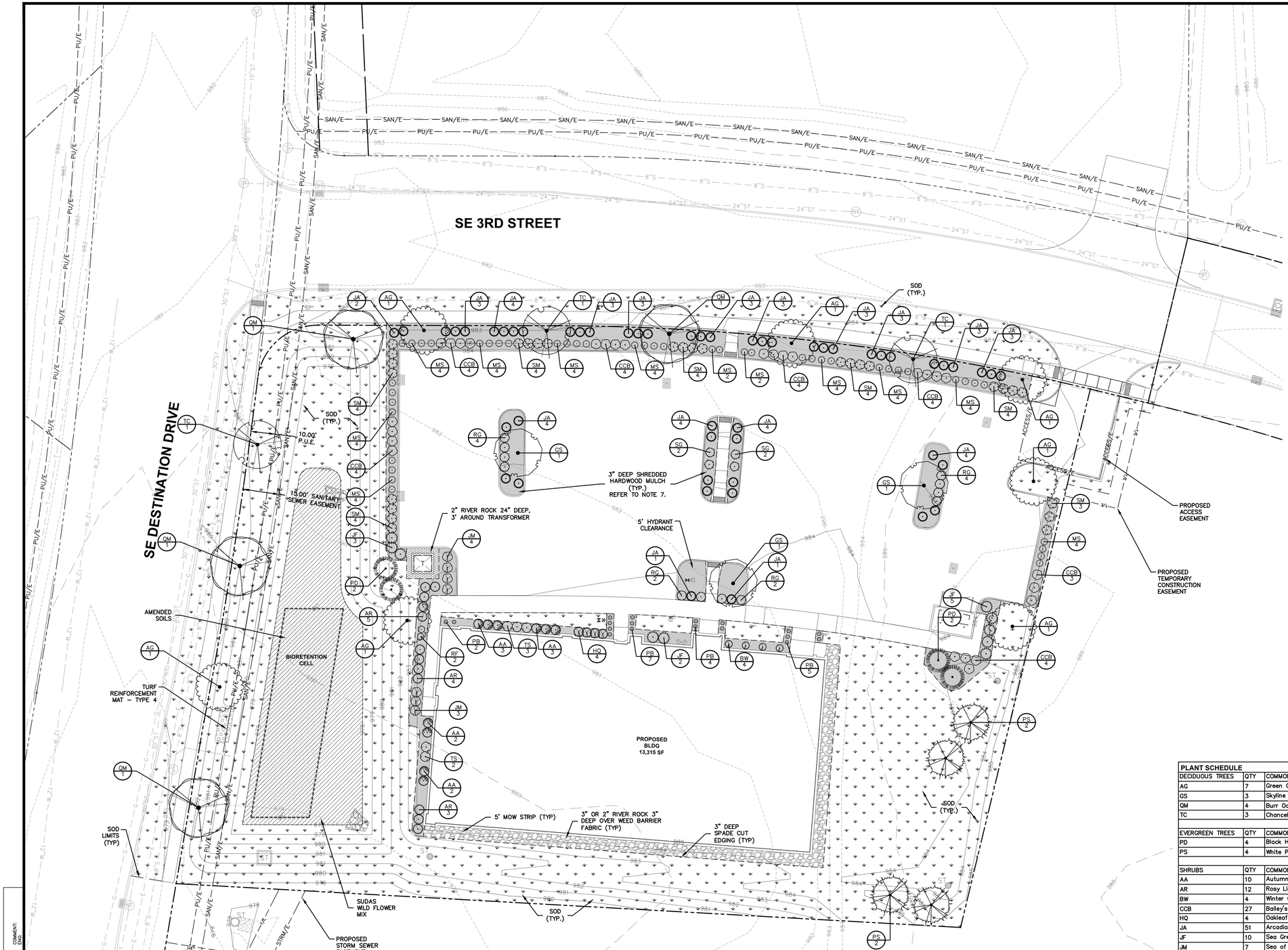

LANDSCAPE NOTES

1. LOCATE ALL UTILITIES BEFORE ANY PLANTING BEGINS.
2. THE MOST RECENT EDITION OF THE SUDAS STANDARD SPECIFICATIONS AND ALL CITY SUPPLEMENTALS, IF APPLICABLE, SHALL APPLY TO ALL WORK ON THIS PROJECT UNLESS OTHERWISE NOTED.
3. TYPE, SIZE, AND QUALITY OF PLANT MATERIAL SHALL CONFORM TO THE MOST CURRENT EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK ANSI Z60.1
4. ALL PLANT MATERIAL SHALL BE HEALTHY SPECIMENS WITHOUT DEFORMITIES, VOIDS AND OPEN SPACES, WITH WELL DEVELOPED BRANCH AND ROOT SYSTEMS; TRUE TO HEIGHT, SHAPE AND CHARACTER OF GROWTH OF THE SPECIES OR VARIETY.
5. SEED OR SOD ALL DISTURBED AREAS BASED ON APPROVED LANDSCAPE PLAN.
6. BACKFILL TO TOP OF CURB. (MINUS 1 1/2" FOR SOD, IF REQ.)
7. WEED PREVENTER (PRE-EMERGENT) SHALL BE SPREAD OVER SOIL AFTER PLANTING AND BEFORE MULCHING IN ALL PLANTING BEDS PER MANUFACTURER'S RECOMMENDATIONS.
8. MULCH OR RIVER ROCK SHALL BE PLACED AROUND ALL TREES, SHRUBS AND IN ALL PLANTING BEDS TO A (MIN) DEPTH OF 3".
9. ALL EDGING SHALL BE SPADE CUT EDGE.
10. PLANT QUANTITIES ARE SHOWN FOR INFORMATION ONLY, THE DRAWING SHALL PREVAIL IF ANY CONFLICTS ARISE.
11. ALL DEBRIS SPILLED IN THE PUBLIC R.O.W. SHALL BE PICKED UP BY THE CONTRACTOR AT THE END OF EACH WORK DAY.
12. CONTRACTOR SHALL WARRANTY ALL PLANT MATERIALS FOR A PERIOD OF ONE YEAR FROM DATE OF INSTALLATION.
13. CONTRACTOR SHALL PROVIDE IRRIGATION DESIGN TO OWNER, IF REQUESTED, FOR APPROVAL.

LANDSCAPE REQUIREMENTS

PARKING LOT PUBLIC RIGHT OF WAY BUFFER:
1 TREE PER 50 LF AND 1 SHRUB PER 4 L.F. BETWEEN VEHICLE USE AREAS AND RIGHT OF WAY

SE 3RD STREET (320 LF.)

	REQUIRED	PROVIDED
TREES	= 7	7
SHRUBS	= 73	73

NE DESTINATION DRIVE (211 LF.)

	REQUIRED	PROVIDED
TREES	= 5	5
SHRUBS	= 48	48*

*(INCLUDING SURPLUS FROM 3RD BUFFER)

OPEN SPACE CALCULATION:

A. 2 TREES PER 1000 SF REQUIRED OPEN SPACE (50% 2 IN. CALIPER, 50% 1.5 IN. CALIPER AT 8' MINIMUM)

B. 2 SHRUBS PER 1000 SF REQUIRED OPEN SPACE

C. IN NO CASE SHALL THE ADDITIONAL PARKING OVER 25% OF THE MINIMUM REQUIRED BE PROVIDED WITHOUT PROVIDING ADDITIONAL OPEN SPACE WITHIN THE SITE, EQUAL TO OR GREATER THAN THE AREA OF PARKING AND ADJOINING CIRCULATION AREA IN EXCESS OF THE MINIMUM REQUIRED.

TOTAL SITE	=	78,363 SF (1.80 AC.)
OPEN SPACE REQUIRED	=	7,836 SF (10%)
ADDITIONAL REQUIRED	=	2,223 SF
OPEN SPACE PROVIDED	=	30,746 SF (39%)

OPEN SPACE 10,059 SF

	REQUIRED	PROVIDED
TREES	= 21	25
SHRUBS	= 21	237

PLANT SCHEDULE

DECIDUOUS TREES	QTY	COMMON NAME	BOTANICAL NAME	CONDITION AND SIZE
AG	7	Green Column Black Maple	Acer nigrum 'Greencolumn'	B&B, 2" CALIPER
GS	3	Skyline Honey Locust	Gleditsia triacanthos inermis 'Skyline'	B&B, 2" CALIPER
QM	4	Burr Oak	Quercus macrocarpa	B&B, 2" CALIPER
TC	3	Chancellor®Littleleaf Linden	Tilia cordata 'Chancole'	B&B, 2" CALIPER
EVERGREEN TREES	QTY	COMMON NAME	BOTANICAL NAME	CONDITION AND SIZE
PD	4	Black Hills White Spruce	Picea glauca 'Densata'	B&B, 6' HEIGHT
PS	4	White Pine	Pinus strobus	B&B, 6' HEIGHT
SHRUBS	QTY	COMMON NAME	BOTANICAL NAME	CONDITION AND SIZE
AA	10	Autumn Magic Black Chokeberry	Aronia melanocarpa 'Autumn Magic'	3 GAL
AR	12	Rosy Lights Northern Lights Azalea	Azalea x 'Rosy Lights'	3 GAL
BW	4	Winter Gem Japanese Boxwood	Buxus microphylla japonica 'Winter Gem'	3 GAL
CCB	27	Bailey's Compact Cranberrybush	Viburnum trilobum 'Bailey Compact'	3 GAL
HQ	4	Oakleaf Hydrangea	Hydrangea quercifolia	3 GAL
JA	51	Arcadia Juniper	Juniperus sabina 'Arcadia'	3 GAL
JF	10	Sea Green Juniper	Juniperus chinensis 'Sea Green'	3 GAL
JM	7	Sea of Gold®Pfitzer Juniper	Juniperus x pfitzeriana 'Monsan'	3 GAL
RF	2	Alder Buckthorn	Rhamnus frangula	3 GAL
RG	12	Gro-Low Fragrant Sumac	Rhus aromatica 'Gro-Low'	3 GAL
SG	4	Goldflame Spirea	Spiraea x bumalda 'Goldflame'	3 GAL
SM	27	Dwarf Korean Lilac	Syringa meyeri 'Palibin'	3 GAL
TS	5	Sunburst Anglo-Japanese Yew	Taxus x media 'Sunburst'	3 GAL
GRASSES	QTY	COMMON NAME	BOTANICAL NAME	CONDITION AND SIZE
MS	44	Silver Feather Eulalia Grass	Miscanthus sinensis 'Silberfeder'	1 GAL
PB	18	Little Bunny Fountain Grass	Pennisetum alopecuroides 'Little Bunny'	1 GAL

N

SCALE
0' 10' 20' 40'

4121 NW URBANDALE DRIVE
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DATE | REVISIONS | DRAFTED: | ENGINEER:

CIVIL DESIGN ADVANTAGE

GRIMES, IOWA

INSPIRING DANCE
LANDSCAPE PLAN

2340 SE 3RD STREET

DATE: 05/30/2023

SHEET NUMBER: L1.1

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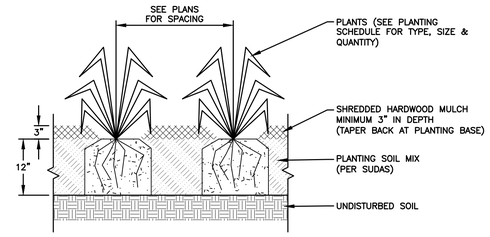

3 SHRUB PLANTING
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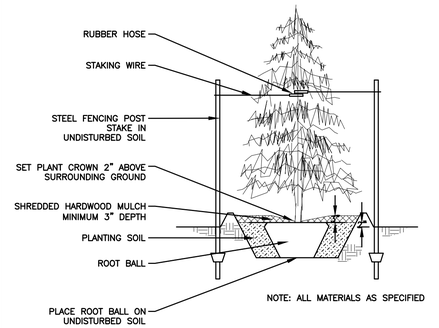

2 CONIFEROUS TREE PLANTING
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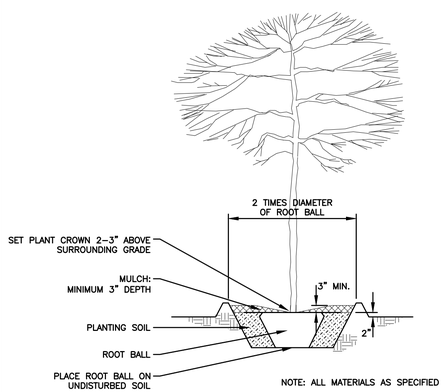

1 DECIDUOUS TREE PLANTING
NOT TO SCALE

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LANDSCAPE DETAILS

2340 SE 3RD STREET
GRIMES, IOWA

DATE:
05/30/2023

SHEET NUMBER:
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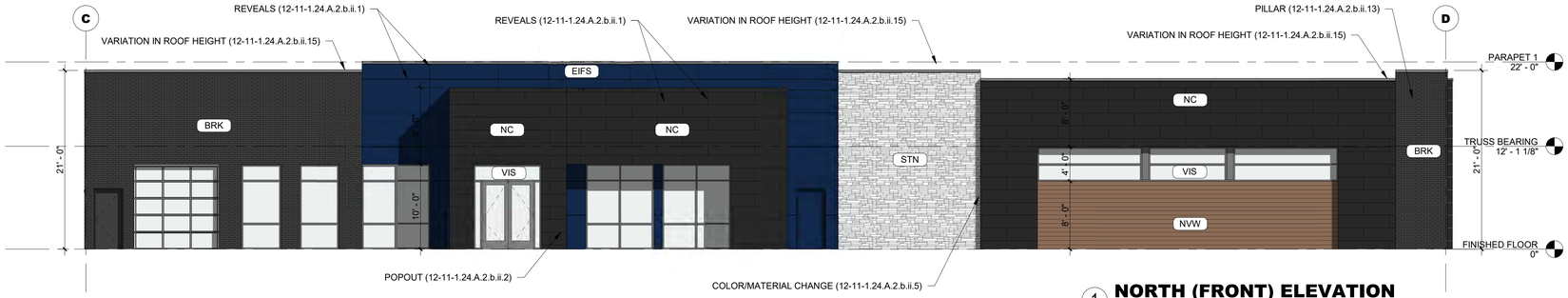
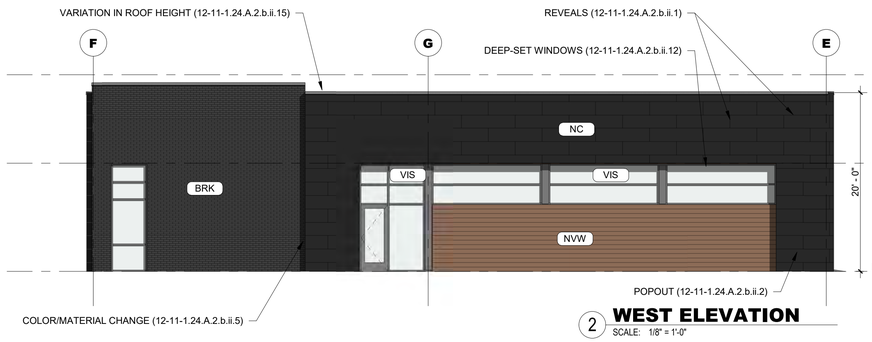


1 NORTH (FRONT) ELEVATION
SCALE: 1/8" = 1'-0"



2 WEST ELEVATION
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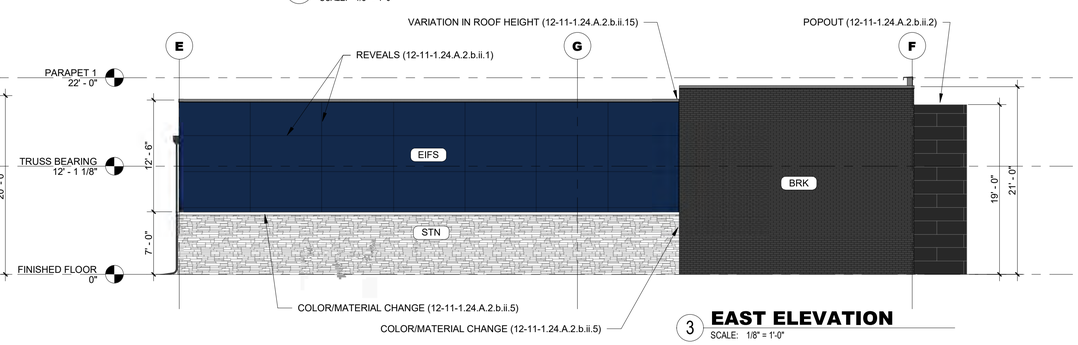
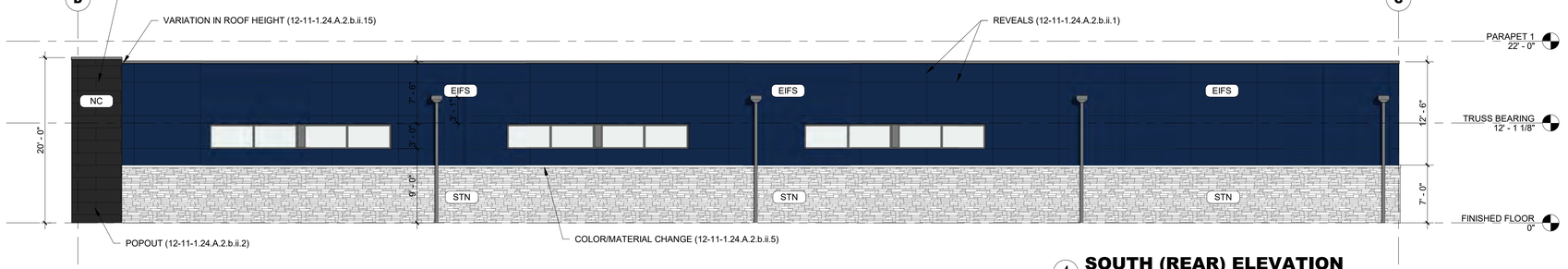
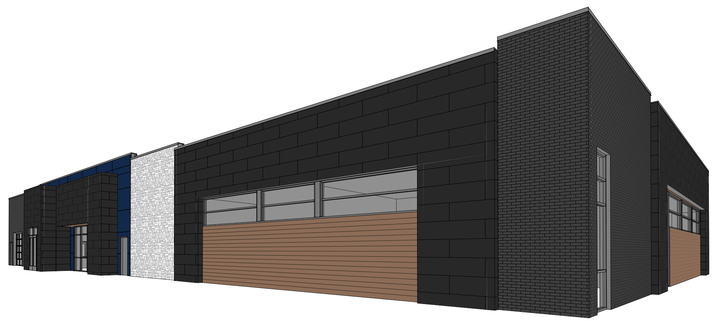


3 EAST ELEVATION
SCALE: 1/8" = 1'-0"



4 SOUTH (REAR) ELEVATION
SCALE: 1/8" = 1'-0"



GENERAL EXTERIOR ELEVATION NOTES

1. REFER TO ADDITIONAL NOTES AND REQUIREMENTS ON ALL OTHER DOCUMENTS AND OTHER DISCIPLINES DOCUMENTS.
2. ALL CONDUIT RUNS & SERVICE LINES SHALL BE GROUPED TOGETHER IN A NEAT & ORDERLY MANNER AND SHOULD PENETRATE THE WALL AT THE LOWEST POINT AND ARE NOT TO RUN OVER THE TOP OF PARAPET. ALL OTHER CONDUITS & JUNCTION BOXES FOR EXTERIOR FIXTURES & EQUIPMENT SHALL BE FULLY CONCEALED WITHIN THE BUILDING CONSTRUCTION.
3. ALL HORIZONTAL TRANSITIONS BETWEEN DIFFERENT MATERIALS SHALL BE FLASHED CONTINUOUS FROM UP BEHIND UPPER MATERIAL AND EXTEND OVER TO EXTERIOR FACE OF LOWER MATERIAL WITH DRIP EDGE.
4. ANY RETURNS OR BLIND ELEVATIONS NOT SHOWN SHALL BE SIMILAR IN MATERIAL AND MAKEUP TO ADJACENT CONDITIONS OR OTHER SIMILAR CONDITIONS.
5. MATERIALS ABOVE CANOPIES & AWNINGS TO BE CONTINUED DOWN BEHIND THEM U.O.N., TYP.
6. ANY EXPOSED ROOFING MEMBRANE VISIBLE FROM A PUBLIC RIGHT AWAY MUST MATCH THE PRIMARY WALL MATERIAL COLOR.
7. INSTALL VERTICAL EXPANSION JOINTS PER STRUCTURAL OR MINIMAL AT COLUMN/GRID LINES AND AT THE HEAD OF DOOR JAMBS/OPENINGS OR AS OTHERWISE NOTED OR WHERE REQUIRED PER STANDARD MATERIAL PRACTICE TO REDUCE STRESS CRACKING. NO CONTROL JOINT/EXPANSION JOINT AT MAIN STRUCTURAL BEARING LOCATIONS. VERIFY JOINTS WITH ARCHITECT.
8. CAULK & SEAL ALL TRANSITION-CONTROL-EXPANSION AT ALL EXTERIOR MATERIALS.
9. PROVIDE CAST REGLETS JUST IN FROM THE OUTER EDGE ON UNDERSIDE OF FACE MATERIAL OR DRIP EDGE AT ALL OVERHANGS & SOFFITS.
10. INSULATE AND SEAL TO ENSURE ADEQUATE AIR INFILTRATION BARRIER AROUND ALL EXTERIOR PENETRATIONS TO PREVENT WATER AND SPRINKLER PIPE FREEZING.
11. WHERE EXTERIOR PAVING ADJACENT TO BUILDING, TOP OF PAVING TO BE 1/4" LOWER THAN INTERIOR FINISH FLOOR, SLOPING CONTINUOUSLY AWAY FROM BUILDING A MINIMUM OF 5'. WHERE DOOR STOOP, 48" OUT FROM DOOR 1:48(2%) MAX. SLOPE, AFTER 48" AWAY FROM DOOR 1:20(5%) MAXIMUM SLOPE TO PUBLIC WAY. (REFER TO CIVIL)
12. WHERE NO EXTERIOR PAVING ADJACENT TO BUILDING, TOP OF FINISHED LANDSCAPE A MINIMUM OF 4" BELOW INTERIOR FINISH FLOOR AND 4" BELOW EXTERIOR WALL FLASHING/WEEPS, SLOPING CONTINUOUSLY AWAY FROM BUILDING A MINIMUM OF 5'. (REFER TO CIVIL)
13. ADDRESS SHALL BE PROVIDED ON STREET SIDE OF BUILDING AND ON MONUMENT SIGN. NUMBERS A MINIMUM 5 INCH CONTRASTING COLOR NUMBERS WITH MINIMUM 1/2" STROKE.
14. IF ANY SIGNAGE OR SIGN BASE IS SHOWN IT IS FOR REFERENCE ONLY, FINAL DESIGNS AND/OR ALLOWANCES SHALL BE DETERMINED WITH APPROVED SIGNAGE PERMIT(S).

ACTUAL DETAILS & DIMENSIONS MAY VARY AND ARE SUBJECT TO CHANGE. ALL DRAWINGS ARE SUBJECT TO AUTHORITY HAVING JURISDICTION APPROVAL. SIGNAGE SHOWN DOES NOT REPRESENT ALLOWABLE SIGNAGE PERMITTING/APPROVAL OF ALL SIGNAGE PER CURRENT CITY ORDINANCE BY OTHERS.

EXTERIOR MATERIAL LEGEND

MAT. LABEL	MATERIAL DESCRIPTION
BRK	THIN BRICK - COLOR CHARCOAL
EIFS	EIFS, STO OR EQUAL - COLOR NAVY
NC	NICHIHA CORBOSA - COLOR SHADOW
NVW	NICHIHA VINTAGE WOOD - COLOR CEDAR
STN	MANUFACTURED STONE - COLOR OFF WHITE
VIS	1" INSULATED VISION GLASS: CLEAR W/ LOW E COATING

MISC EXTERIOR MATERIAL FINISHES

TYPICAL U.O.N.
- EXPOSED CONCRETE: GRIND SMOOTH & RUB/COAT WITH CEMENT SLURRY.
- BOLLARDS: CONCRETE FILLED STEEL BOLLARDS PAINTED SAFETY YELLOW.
- EXPOSED LINTELS: GALVANIZED & PAINTED TO MATCH ADJACENT MATERIAL ABOVE.
- METAL STAIRS & RAILINGS: GALVANIZED & PAINTED TO MATCH ADJACENT MATERIAL.
- METAL BALCONIES & RAILINGS: GALVANIZED & PAINTED TO MATCH ADJACENT MATERIAL.
- FASCIA & SOFFIT: METAL PREFINISHED TO MATCH ADJACENT ROOF COLOR.
- SCUPPERS, GUTTERS & DOWNSPOUTS: METAL PREFINISHED TO MATCH ADJ. MATERIAL.
- CAULKS & SEALANTS: COLOR MATCHED TO ADJACENT MATERIAL.
- HOLLOW METAL MAN DOORS & FRAMES: PAINTED TO MATCH ADJACENT MATERIAL.
- OVERHEAD PANEL DOORS: METAL PRE-FINISHED TO MATCH ADJACENT MATERIAL.
- LOUVERS: METAL PRE-FINISHED TO MATCH ADJACENT MATERIAL COLOR.

- LIGHT FIXTURES: METAL PRE-FINISHED HOUSINGS TO MATCH ADJ. OPENING FRAMING.
- MECHANICAL EQUIPMENT: IF NOT SCREENED, COLOR TO MATCH ADJACENT MATERIAL.
- EXTERIOR UTILITY EQUIPMENT: IF ALLOWED, PAINTED TO MATCH ADJACENT MATERIAL.

- TRIM SIZES, TYP. U.O.N.:
  WINDOWS & DOORS 5-1/2"
  VERTICAL 5-1/2'
  HORIZONTAL 9-1/4"

EXTERIOR MATERIAL CALCULATIONS

FRONT (NORTH) - TOTAL SQFT = 3377 SF
GLAZING - 664 SF = 20%
PRIMARY - 2283 SF = 67% (EXCLUDING GLAZING = 84%)
NON PRIMARY - 430 SF = 13%

SIDE (WEST) - TOTAL SQFT = 1659 SF
GLAZING - 332 SF = 20%
PRIMARY - 1327 SF = 80% (EXCLUDING GLAZING = 100%)
NON PRIMARY - 0 SF = 0%

SIDE (EAST) - TOTAL SQFT = 1644 SF
GLAZING - 0 SF = 0%
PRIMARY - 944 SF = 57%
NON PRIMARY - 700 SF = 43%

REAR (SOUTH) - TOTAL SQFT = 3141 SF
GLAZING - 198 SF = 6%
PRIMARY - 1206 SF = 38%
NON PRIMARY - 1737 SF = 56%

PRIMARY TOTAL MATERIAL PERCENTAGE = 60% (EXCLUDING GLAZING = 68%)

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PLANNING ▪ ARCHITECTURE ▪ INTERIORS
Simonson + Associates Architects LLC
1717 Ingersoll Ave, Suite 117, Des Moines, Iowa 50309
Ph. 515-440-5626
www.simonsonassoc.com

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INSPIRING DANCE
SE DESTINATION DRIVE & SE 3RD STREET
GRIMES, IOWA

NOT FOR CONSTRUCTION

Rev. #	Issue / Revision	Date
1	Issued For PRS/MC	04-24-2023
2	2nd Site Plan Submittal	05-30-2023

Proj. No. 22128 | SAA | Proj. Mgr. SP

Sheet Title
EXTERIOR ELEVATIONS

Sheet No.
A-201

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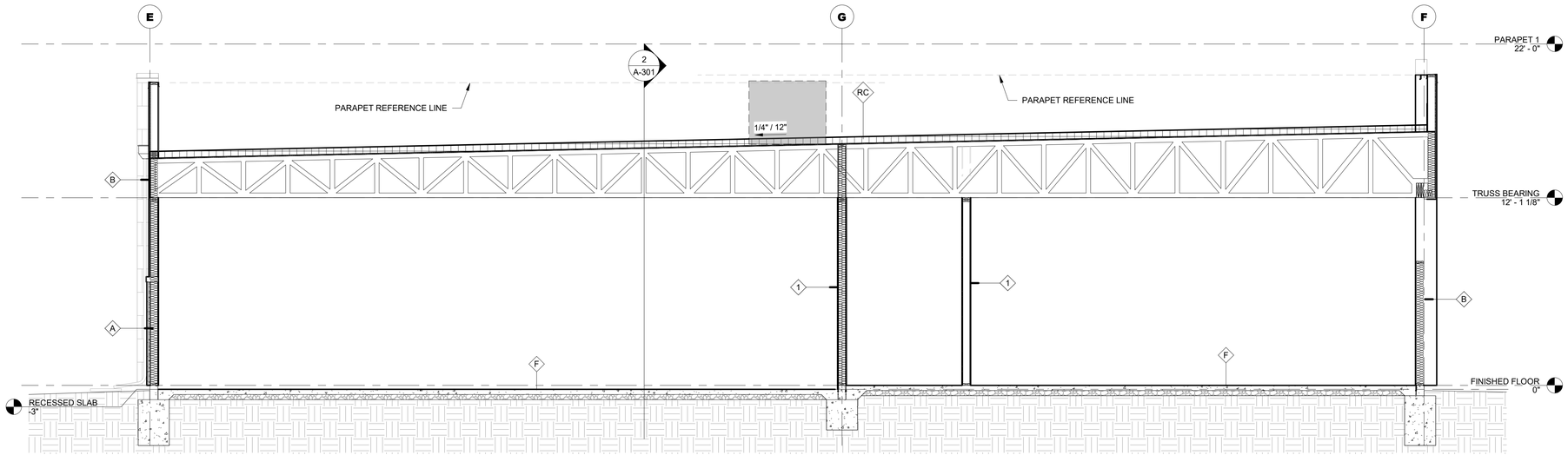
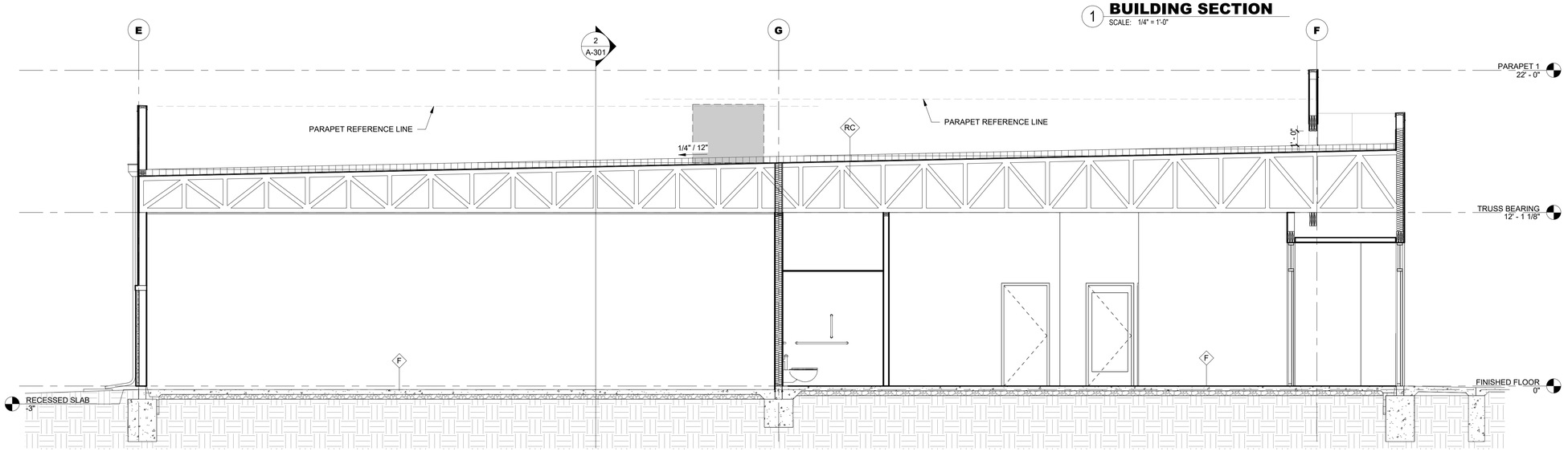
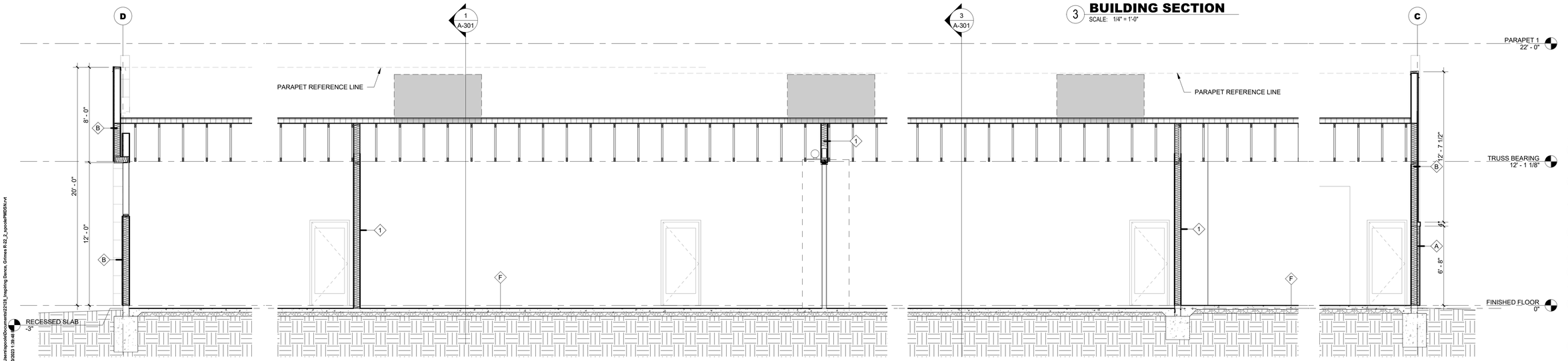


1 **BUILDING SECTION**
SCALE: 1/4" = 1'-0"



3 **BUILDING SECTION**
SCALE: 1/4" = 1'-0"



2 **BUILDING SECTION**
SCALE: 1/4" = 1'-0"

GENERAL SECTION NOTES

1. REFER TO ADDITIONAL NOTES AND REQUIREMENTS ON ALL OTHER DOCUMENTS AND OTHER DISCIPLINES DOCUMENTS.
2. REFER TO ALL NOTES ON ALL SECTIONS & DETAILS AND ALL SECTION SHEETS & DETAIL SHEETS FOR STANDARD TYPICAL CONDITIONS & SPECS THAT MAY RELATE TO ALL SECTIONS & DETAILS. VERIFY WITH ARCHITECT ANY CONDITIONS NOT NOTED OR CONTRADICTIONS PRIOR TO COMMENCEMENT OF WORK.
3. ALL HORIZONTAL TRANSITIONS BETWEEN DIFFERENT MATERIALS SHALL BE FLASHED CONTINUOUS FROM UP BEHIND TO UNDER UPPER MATERIAL AND EXTEND OVER TO EXTERIOR FACE OF LOWER MATERIAL. SOFT JOINTS REQUIRED BETWEEN DISSIMILAR MATERIALS.
4. INSTALL VERTICAL EXPANSION JOINT MINIMAL AT COLUMN/GRID LINES AND AT THE HEAD OF DOOR JAMBS/OPENINGS OR AS OTHERWISE NOTED OR WHERE REQUIRED PER STANDARD MATERIAL PRACTICE TO REDUCE STRESS CRACKING. NO CONTROL JOINT/EXPANSION JOINT NEAR MAIN LOAD BEARING AREAS, KEEP AWAY 2'-6" MIN.
5. CAULK & SEAL ALL TRANSITION-CONTROL-EXPANSION AT ALL EXTERIOR MATERIALS. ALL SEALANTS SHOULD BE COLOR-MATCHED TO ADJACENT MATERIAL.
6. INSULATE AND SEAL TO ENSURE ADEQUATE AIR INFILTRATION BARRIER AROUND ALL EXTERIOR PENETRATIONS TO PREVENT WATER AND SPRINKLER PIPE FREEZING.
7. INSTALL ALL RECOMMENDED & REQUIRED FLASHING AND SEALANTS PER MANUFACTURER DETAIL CONNECTIONS IN ORDER TO PREVENT WATER & MOISTURE INFILTRATION THROUGHOUT.
8. ALL METAL & STEEL EXPOSED TO EXTERIOR OR MOISTURE SHALL BE PRE-FINISHED OR GALVANIZED RESPECTIVELY, U.O.N.
9. ALL WOOD FRAMING MEMBERS, INCLUDING WOOD SHEATHING, THAT REST ON THE EXTERIOR FOUNDATION WALLS AND ARE LESS THAN 8" FROM EXPOSED EARTH AND ALL WOOD IN DIRECT CONTACT WITH MASONRY, CONCRETE, EARTH OR MATERIAL THAT RETAINS MOISTURE SHALL BE OF NATURALLY DURABLE OR PRESERVATIVE-TREATED WOOD.
10. PROVIDE PREFERABLY CAST REGLETS JUST IN FROM THE OUTER EDGE ON UNDERSIDE OF FACE MATERIAL AT OVERHANGS & SOFFITS.
11. PLYWOOD AT ALL POTENTIAL SIGNAGE AREAS, FIRE-RATED WHERE REQUIRED.
12. WHERE EXTERIOR PAVING ADJACENT TO BUILDING, TOP OF PAVING TO BE 1/4" LOWER THAN INTERIOR FINISH FLOOR, SLOPING CONTINUOUSLY AWAY FROM BUILDING A MINIMUM OF 5'. WHERE DOOR STOOP, 48" OUT FROM DOOR 1:48(2%) MAX. SLOPE, AFTER 48" AWAY FROM DOOR 1:20(5%) MAXIMUM SLOPE TO PUBLIC WAY. (REFER TO CIVIL)
13. WHERE NO EXTERIOR PAVING ADJACENT TO BUILDING, TOP OF FINISHED LANDSCAPE A MINIMUM OF 4" BELOW INTERIOR FINISH FLOOR AND 4" BELOW EXTERIOR WALL FLASHING/WEEPS, SLOPING CONTINUOUSLY AWAY FROM BUILDING A MINIMUM OF 5'. (REFER TO CIVIL)

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INSPIRING DANCE

SE DESTINATION DRIVE & SE 3RD STREET
GRIMES, IOWA

Rev. #	Issue / Revision	Date
1	Issued For PRS/MC	04-24-2023
2	2nd Site Plan Submittal	05-30-2023

Proj. No. 22128 | SAA | Proj. Mgr. SP

Sheet Title
BUILDING SECTIONS

Sheet No.
A-301

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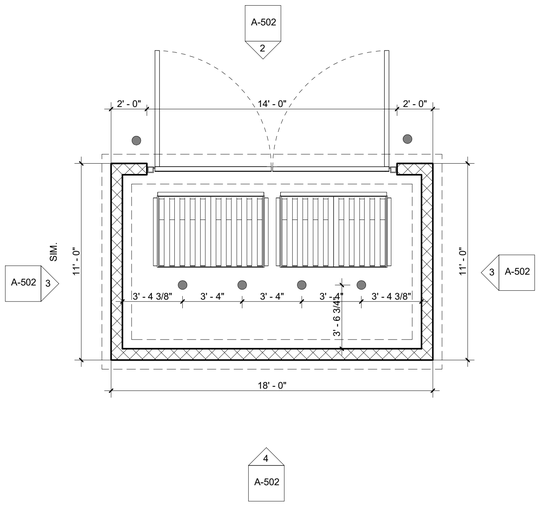
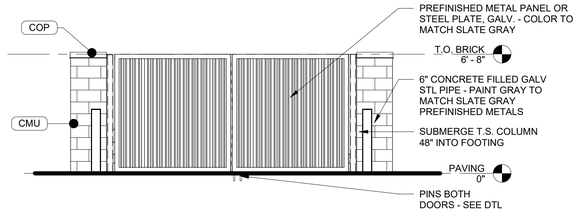
5/30/2023 1:39:47 PM



1 TRASH ENCLOSURE PLAN

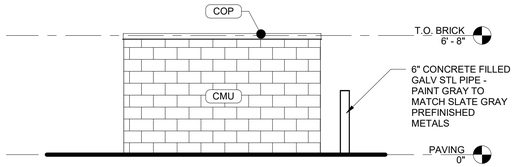
SCALE: 1/4" = 1'-0"

NORTH



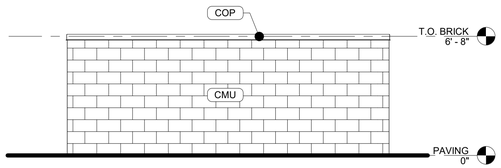
2 TRASH ENCLOSURE FRONT ELEVATION

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



3 TRASH ENCLOSURE SIDE ELEVATION

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



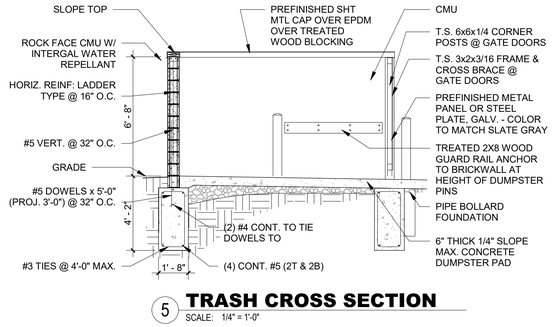
4 TRASH ELNCOSURE BACK ELEVATION

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

GENERAL DETAIL NOTES:

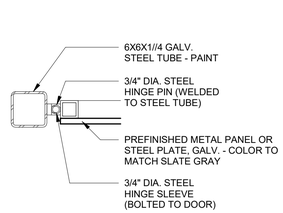
1. REFER TO ADDITIONAL NOTES & REQUIREMENTS ON ALL OTHER DOCUMENTS & OTHER DISCIPLINES DOCUMENTS.
2. ALL HORIZONTAL TRANSITIONS BETWEEN DIFFERENT MATERIALS SHALL BE FLASHED CONTINUOUS FROM UP BEHIND TO UNDER UPPER MATERIAL & EXTEND OVER TO EXTERIOR FACE OF LOWER MATERIAL. SOFT JOINTS REQUIRED BETWEEN DISSIMILAR MATERIALS.
3. INSTALL VERTICAL EXPANSION JOINTS MINIMAL AT COLUMN/GRID LINE AND & AT THE HEAD OF DOOR JAMBS/OPENING OR AS OTHERWISE NOTED OR WHERE REQUIRED PER STANDARD MATERIAL PRACTICES TO REDUCE STRESS CRACKING. NO CONTROL JOINTS/ EXPANSION JOINTS AT MAIN STRUCTURAL BEARING, KEEP AWAY 2'-6" MIN.
4. CAULK & SEAL ALL TRANSITION-CONTROL-EXPANSION AT ALL EXTERIOR MATERIALS. ALL SEALANTS SHOULD BE COLOR-MATCHED TO ADJACENT MATERIAL.
5. INSULATE AND SEAL TO ENSURE ADEQUATE AIR INFILTRATION BARRIER AROUND ALL EXTERIOR PENETRATIONS TO PREVENT WATER AND SPRINKLER PIPE FREEZING.
6. ALL METAL EXPOSED TO EXTERIOR OR EXPOSED TO MOISTURE SHALL BE GALVANIZED
7. STAINLESS STEEL CLIPS ARE REQUIRED FOR ANY MASONRY LARGER THAN 8x16 FACE SIZE

EXTERIOR MATERIAL LEGEND	
MAT. LABEL	**MATERIAL DESCRIPTIOIN**
CMU	8"x8"x16" ROCK FACE CMU, KINGS MATERIAL INC. ROCKFACE - SHADOW, VERTICAL JOINTS STAGGERED, GROUTED & REINFORCED CELLS (REFER TO STRUCTURAL FOR REINFORCEMENT)
COP	PREFINISHED ALUMINUM COPING: SLATE GRAY



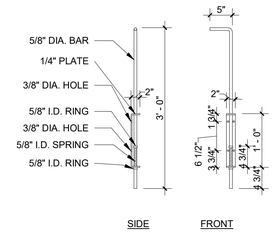
5 TRASH CROSS SECTION

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



6 TRASH HINGE

SCALE: 1 1/2" = 1'-0"



7 TRASH PIN

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

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INSPIRING DANCE

SE DESTINATION DRIVE & SE 3RD STREET
GRIMES, IA

Rev. #	Issues / Revision	Date
1	2nd Site Plan Submittal	05-30-2023

Proj. No. 22128 SAA Proj. Mgr.

Sheet Title

TRASH ENCLOSURE

Sheet No.

A-502

J:\2022\22128 Inspiring Dance, Grimes, IA\CAD-Arch\22128_Inspiring Dance, Grimes R-22_Trash Enclosure.rvt
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05/30/2023

Molly Mannel, Assistant Planner
City of Grimes Development Services
410 SE Main Street, Suite 102
Grimes, Iowa 50111

Ms. Mannel,

We understand that the amount of parking stalls shown on the site plan for review is in access of the over-parking limit. The amount of stalls shown is necessary for the efficient operation of our business. Many of our class start and end times overlap and therefore the parking lot becomes busier at certain times of the evening. In addition, from time to time throughout the year, we have additional need for parking such as dress rehearsals, picture day or start of class open house.

Our current facility has 50 stalls and parking overflow to neighboring properties or the street occurs on a semi-regular basis. The new proposed facility has one additional dance room from our current space and due to this we are projecting additional need for parking.

If you have additional questions regarding the proposed parking stall quantities, please contact me at the below email or phone number.

Sincerely,

Jacque Butzke

Jacque Butzke, Owner - Inspiring Dance LLC

Planning & Zoning Staff Report

CITY OF GRIMES

DATE

June 5, 2023

PROJECT NAME

Destination Ridge Plat 7

Final Plat

APPLICANT

All Points Development LC

REQUESTED ACTION

Plat one lot for development and street lot for SE 3rd Street

LOCATION

Southeast corner of SE 3rd Street and SE Destination Drive

ZONING

C-2

Highway 141 Mixed Use Development Corridor District requirements for architecture and landscaping

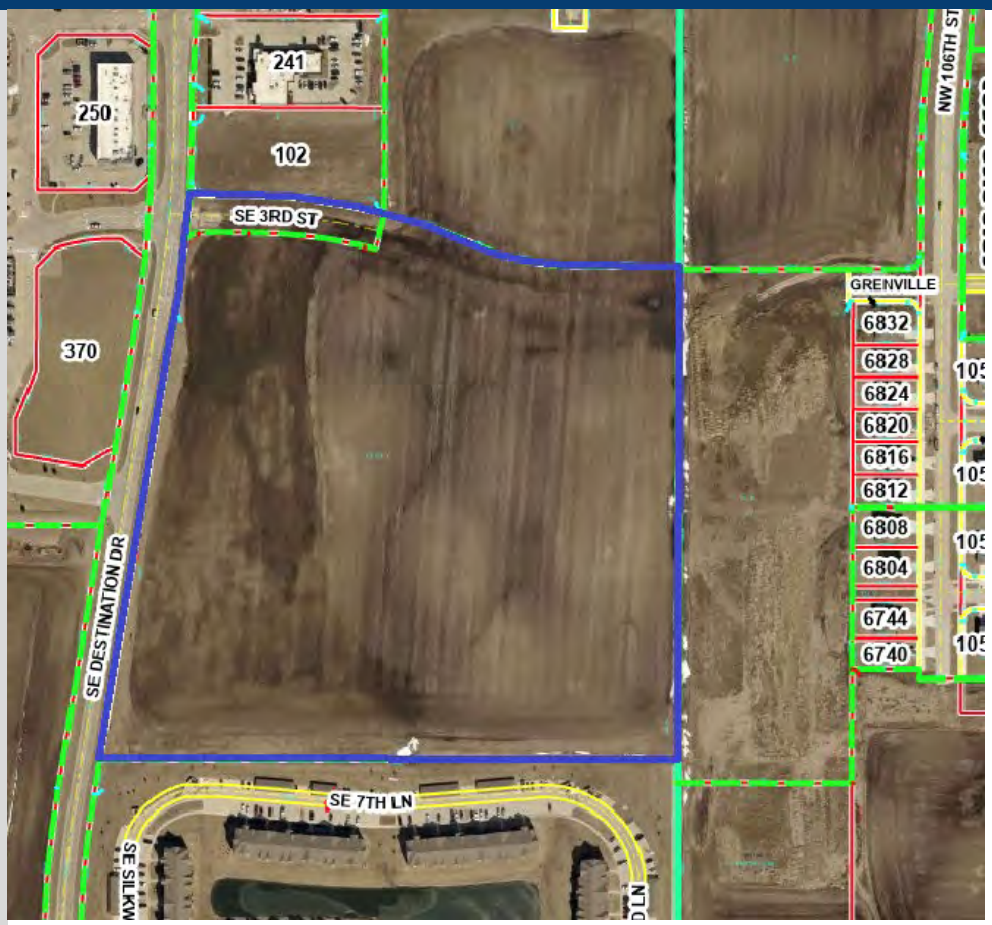
PLANNER

Evann Martin

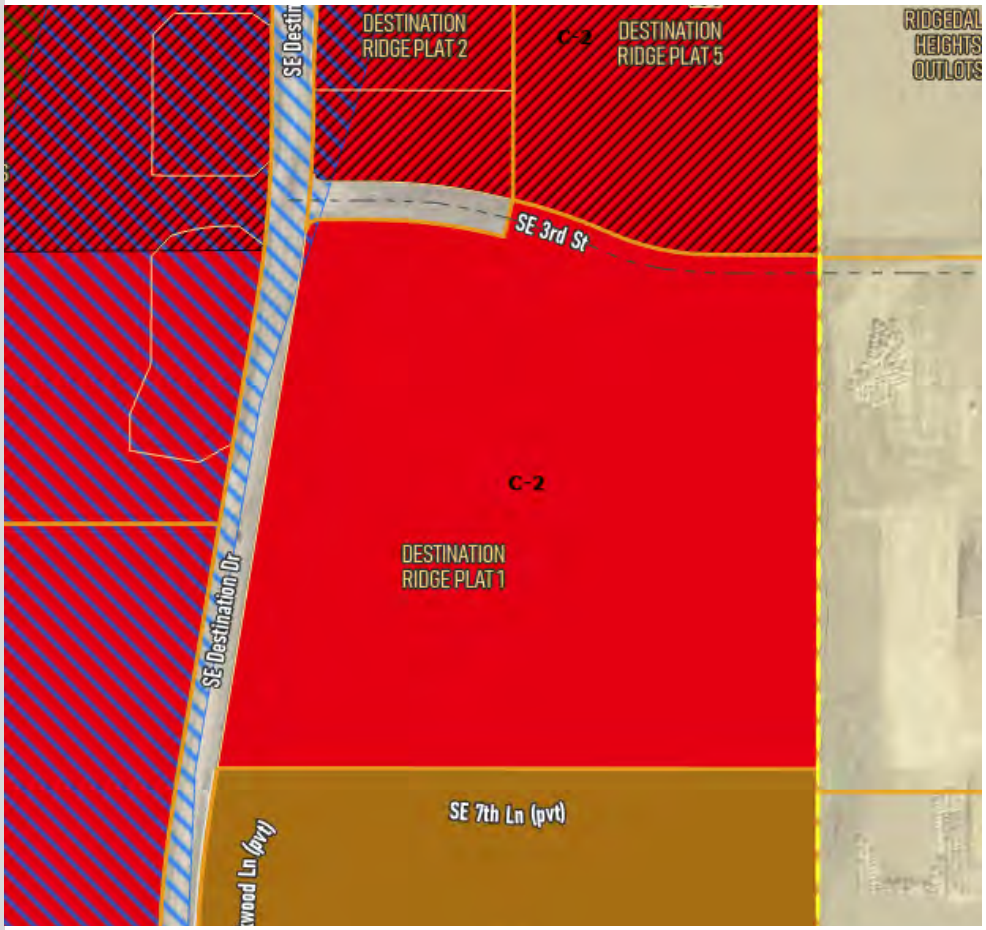
emartin@grimesiowa.gov

515-986-4050

Location Map



Zoning Map



Relation to Comprehensive & Neighborhood Plans

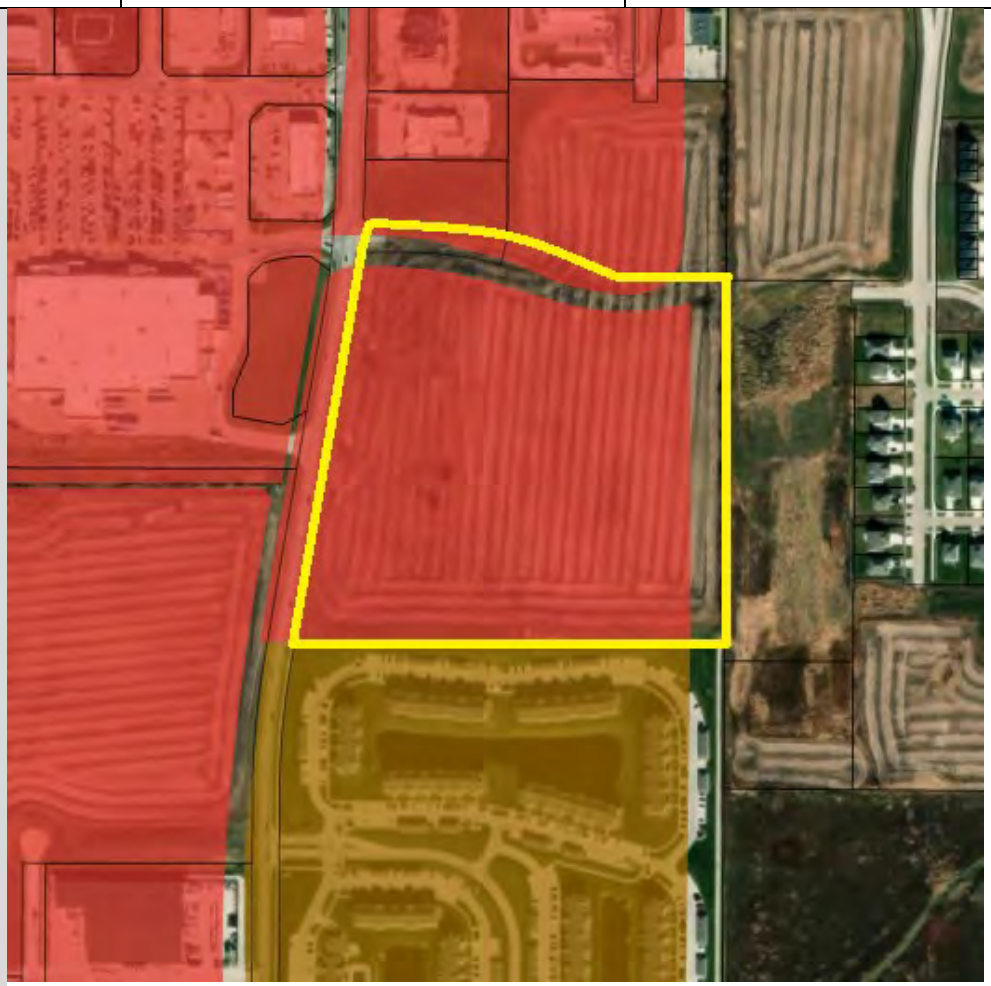
LAND USES & ZONING			
Location	**Existing Land Use**	**Land Use Plan Designation**	**Current Zoning**
Subject Site	Vacant	General Commercial	C-2
North	Vacant/Commercial	General Commercial	C-2
South	Residential	High Density Residential	R-3
East	Residential	Medium Density Residential (Johnston)	R-3 (Johnston)
West	Commercial	General Commercial	C-2

PARKS

The Parks & Trails Master Plan calls out a future trail along the east property line of the plat.

There is an existing trail easement for the trail construction. The trail will be constructed with each site plan neighboring the easement.

Since the site is commercial, no parkland dedication is required.



Future Land Use Map

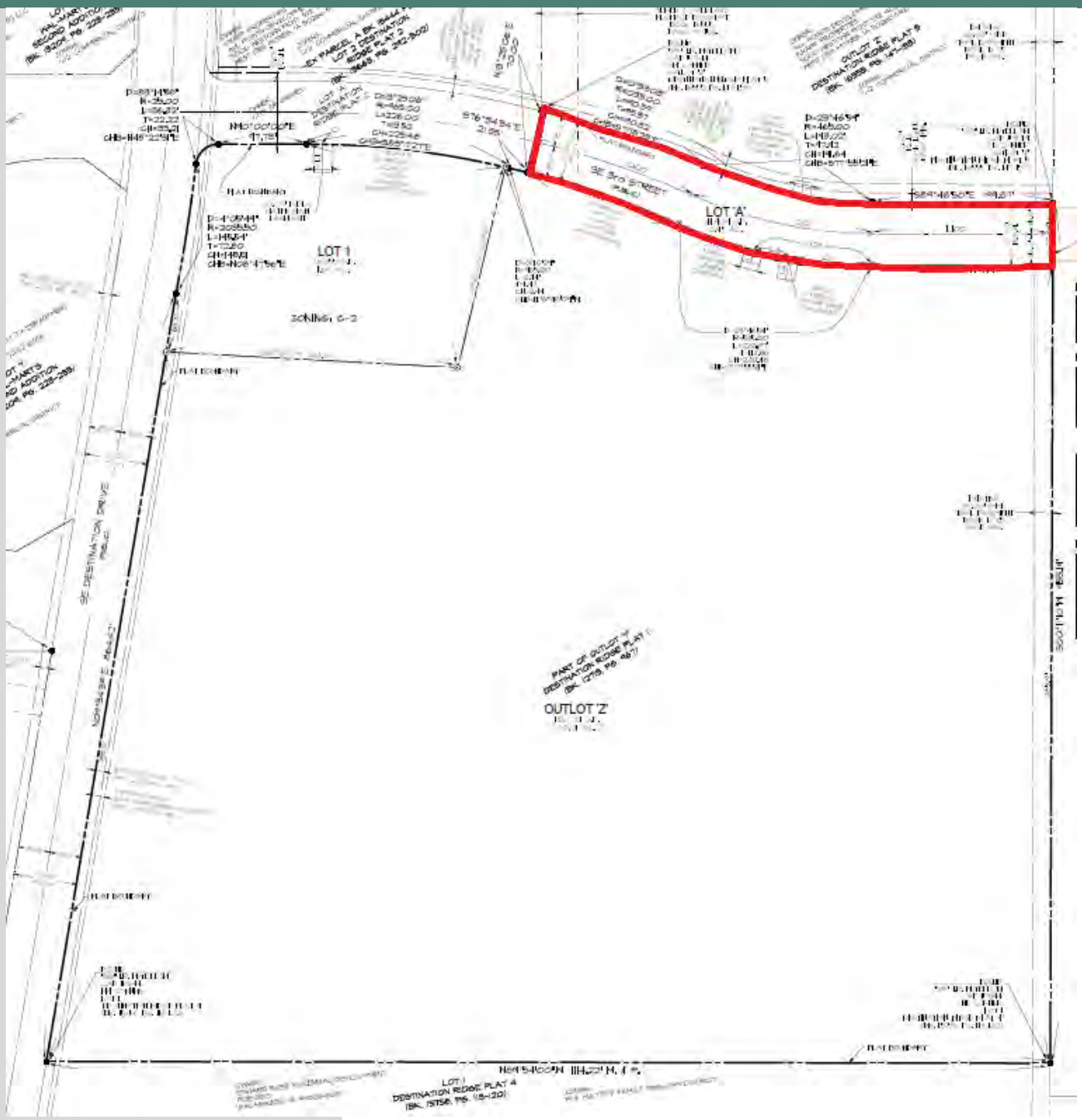
Legal

Legal

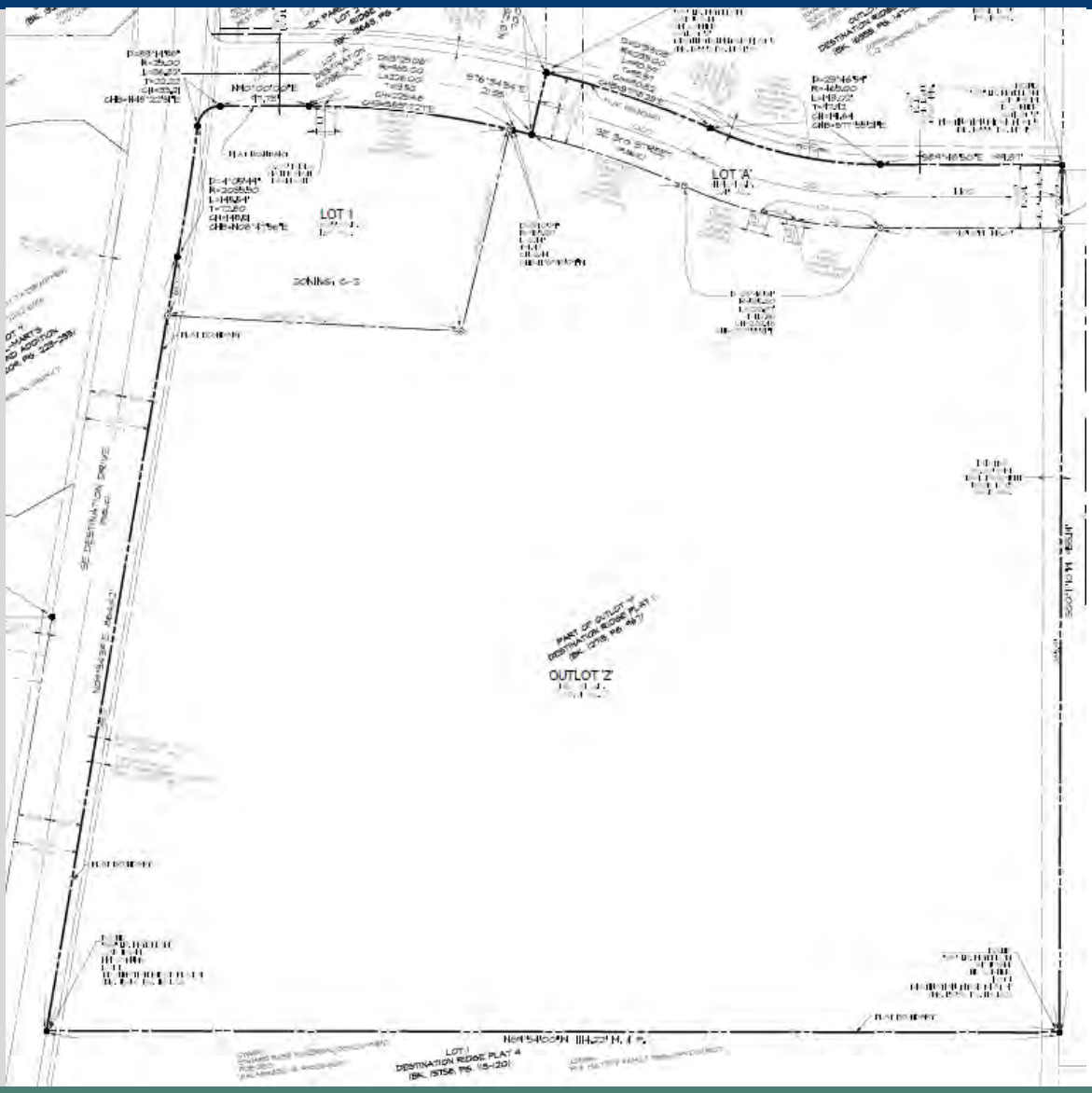
The plat includes a 70′ wide street lot for extension of SE 3rd Street to the Grimes boundary connecting to Grenville Drive in Johnston.

An Agreement to Complete public improvements for SE 3rd Street will be required as part of the platting documents.

The City attorney will assist in review of the platting legal documents.



Plat Layout & Utilities



PLAT LAYOUT

The property will be divided into one 1.8-acre development lot at the southeast corner of SE Destination Drive and SE 3rd Street. The remainder of the property will be an outlot for future development. A plat will be required for the outlot prior to development. An ingrees/egress easement will be provided for shared access between Lot 1 and future development to the east.

RIGHT-OF-WAY

The plat includes a street lot for the extension of SE 3rd Street to the eastern boundary of Grimes and will connect to future Grenville Drive in Johnston.

UTILITIES

Sanitary and water is available along SE Destination Drive and SE 3rd Street.

STORM WATER

Lot 1 will provide detention on site. Detention for the outlot will be determined with future platting.

Conclusion

STAFF RECOMMENDATION

Staff recommends approval of the final plat.

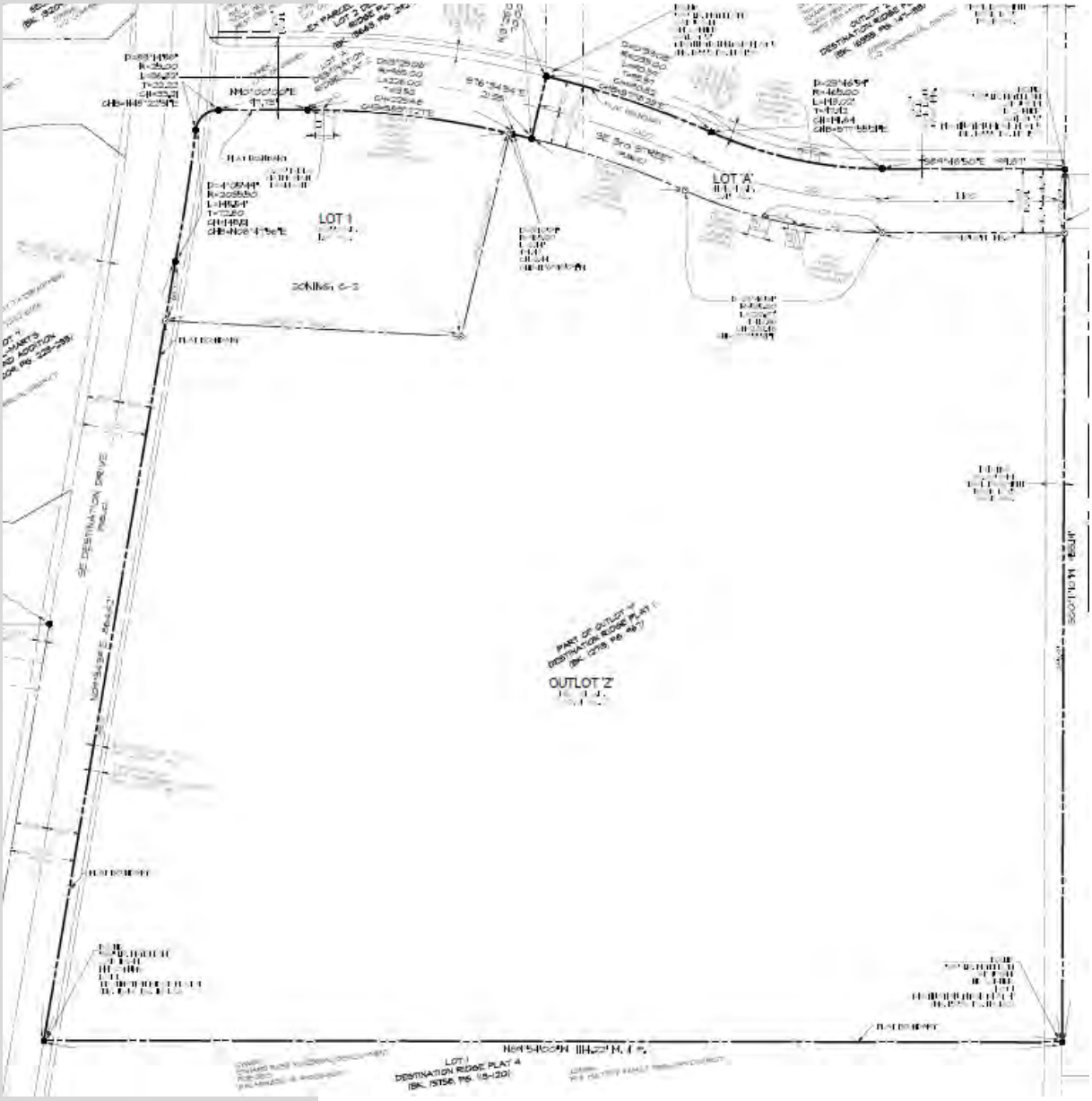
Conclusion

The plat will divide the property into one lot for development for the Inspiring Dance site plan. The remainder of the plat will be an outlot for future development.

Right-of-way for the extension of SE 3rd Street is provided. Construction drawings for the street are in review with street construction anticipated to begin this summer.

All plat legal documents need to be submitted and reviewed by staff and the City attorney.

The final plat will be recorded prior to issuing Certificate of Occupancy for Lot 1.



CITY OF GRIMES
Development Services
410 SE Main St, Suite 102
Grimes, IA 50111
(515)986-4050
www.grimesiowa.gov

May 25, 2023

Civil Engineering Consultants
Attn: Paul Clausen
2400 86th Street, Unit 12
Des Moines, IA 50322

RE: Destination Ridge Plat 7 Final Plat

Dear Mr. Clausen:

The Development Services Department is in receipt of a proposed Final Plat for Destination Ridge Plat 7. Based on the review of the provided submittal materials, staff have the following comments:

General Comments:

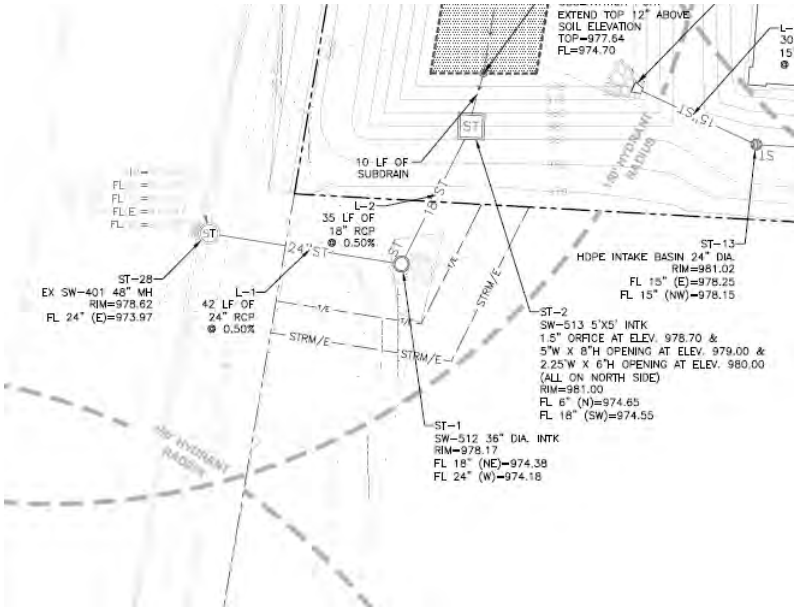
1. Provide $2000 plat fee. The check we received was for $3000.

Sheet 1:

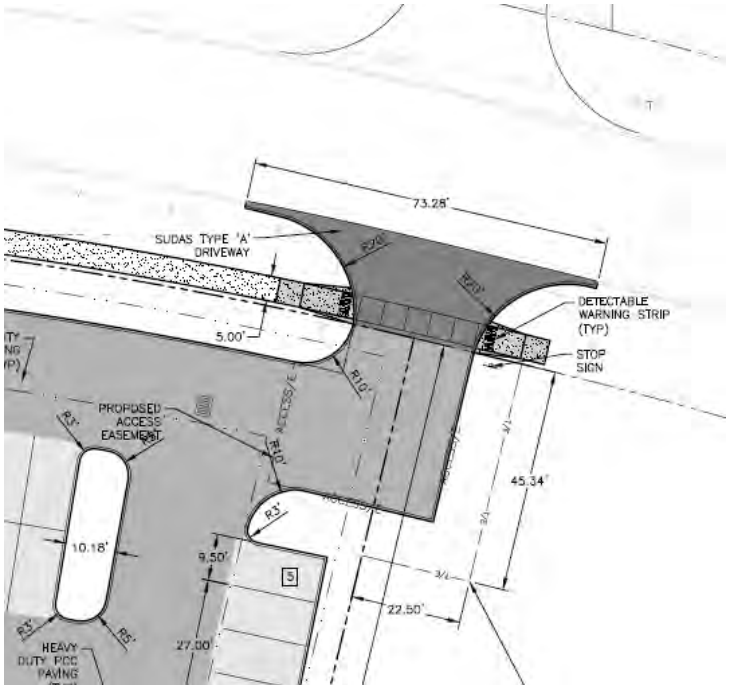
1. Update Note #2 to say Zone 2 instead of 1.

Sheet 2:

1. Label Lot 1 address – 2340 SE 3rd St
2. Remove water main easement on Lot 1. This is a private water service and does not need an easement.
3. Will PUE be needed along SE 3rd St?.
4. Label public storm sewer in Outlot Z along SE Destination Dr. as proposed in the site plan for Lot 1. See below.



5. Label private ingress/egress easement for the shared driveway.



6. Provide easement documents and legal descriptions for the water main and sanitary easements on north side of SE 3rd St. Update the sanitary easement area to match the sanitary construction in the CDs.

Legal Comments:

1. Title opinion
2. Consent(s) to Plat
    a. Owner consent
    b. Mortgagee consent (if applicable)
3. Treasurer's Certificate
4. County Subdivision Name Approval
5. Legal description in Word format
6. Easement documents and legal descriptions. Templates are provided.
7. Declaration and Covenants, Restrictions and Easements
8. Executed Mid-American Energy electric and Black Hills gas distribution agreement
9. Agreement to Complete with performance bond (if applicable)
10. 4-year maintenance bond
11. Letter from the surveyor confirming that monuments are in place. Confirmation is required prior to issuing a Certificate of Occupancy.

Please provide a letter addressing all comments on this comment letter and/or state what was modified on the site plan to address said comments.

SITE PLAN SUBMITTAL SCHEDULE:

SUBMITTAL DATE:	June 1, 2023 **(1 PDF of Final Plat and Legals)**
PLANNING & ZONING:	TBD July, 2023 at 5:30
COUNCIL MEETING:	TBD at 5:30

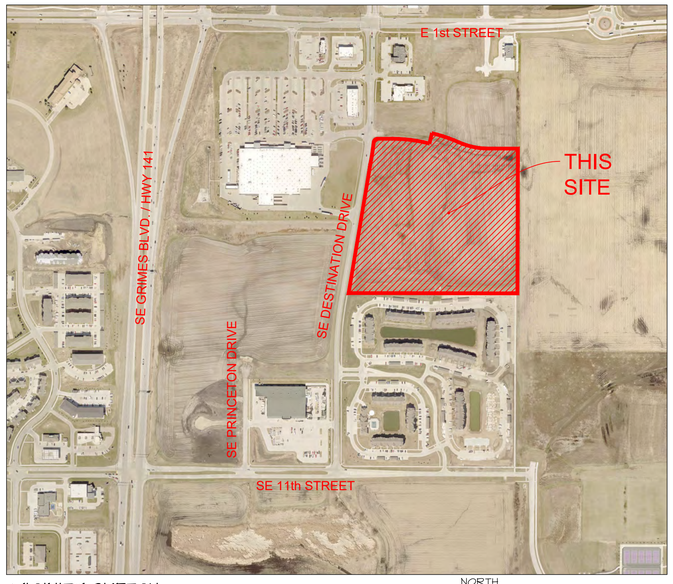
Please feel free to contact me at emartin@grimesiowa.gov or at (515) 986-4050 if you have any questions or need additional information.

Sincerely,
Evann Martin
Assistant Planner

INDEX LEGEND	
COUNTY:	POLK
CITY:	GRIMES
SUBDIVISION:	DESTINATION RIDGE PLAT 1
LOTS:.	OUTLOT 'Y'
PROPRIETOR (S):	ALL POINTS DEVELOPMENT L.C.
REQUESTED BY:	ALL POINTS DEVELOPMENT L.C.
PROFESSIONAL LAND SURVEYOR:	JEFFREY A. GADDIS, PLS
RETURN TO: COMPANY:	CIVIL ENGINEERING CONSULTANTS, INC ATTN: JEFFREY A. GADDIS 2400 86TH STREET, SUITE 12, URBANDALE, IA 50322 PHONE: 515-276-4884

FINAL PLAT
DESTINATION RIDGE PLAT 1
GRIMES, IOWA

ALL POINTS DEVELOPMENT L.C., KNAPP PROPERTIES,
5000 WESTOWN PARKWAY, SUITE 400, WEST DES MOINES, IA 50266



VICINITY SKETCH
1" = 500'

NORTH

Sheet List Table	
Sheet Number	Sheet Title
01	COVER
02	FINAL PLAT

SUBMITTAL TABLE	
SUBMITTAL DATE	SUBMITTAL NOTES
MAY 19, 2023	INITIAL SUBMITTAL
--	

PROPERTY OWNER / DEVELOPER
ALL POINTS DEVELOPMENT L.C.
KNAPP PROPERTIES
5000 WESTOWN PARKWAY SUITE 400
WEST DES MOINES, IA 50266-5921
CONTACT: TOM WITTMAN
515-223-4000
TOM.WITTMAN@KNAPPPROPERTIES.COM

PROFESSIONAL LAND SURVEYOR:
CIVIL ENGINEERING CONSULTANTS
ATTN: JEFFREY A. GADDIS, PLS #18381
2400 86TH STREET, SUITE #12
URBANDALE, IA 50322
PHONE: 515-276-4884 EXT 221
EMAIL: GADDIS@CECLAC.COM

PROJECT MANAGER:
PAUL CLAUSEN, PE
CIVIL ENGINEERING CONSULTANTS
2400 86TH STREET, #12
DES MOINES, IOWA 50322
PH. 515-276-4884 EXT. #217
EMAIL: CLAUSEN@CECLAC.COM

LEGAL DESCRIPTION
ALL OF OUTLOT 'Y', DESTINATION RIDGE PLAT 1, AN OFFICIAL PLAT RECORDED IN BOOK 12715, PAGE 967-979, AT THE POLK COUNTY RECORDER'S OFFICE, IN THE NW1/4 OF SECTION 4, TOWNSHIP 79 NORTH, RANGE 25 WEST OF THE 5th P.M., CITY OF GRIMES, POLK COUNTY IOWA; EXCEPT DESTINATION RIDGE PLAT 2, AN OFFICIAL PLAT RECORDED IN BOOK 13663, PAGE 242-302 AT THE POLK COUNTY RECORDER'S OFFICE; EXCEPT DESTINATION RIDGE PLAT 4, AN OFFICIAL PLAT RECORDED IN BOOK 15758, PAGE 113-120 AT THE POLK COUNTY RECORDER'S OFFICE; AND EXCEPT DESTINATION RIDGE PLAT 5, AN OFFICIAL PLAT RECORDED IN BOOK 16555, PAGE 147-153 AT THE POLK COUNTY RECORDER'S OFFICE AND CONTAINING 23.56 ACRES MORE OR LESS.

LAND AREA
23.56 ACRES

ZONING
C-2 (GENERAL AND HIGHWAY SERVICE COMMERCIAL DISTRICT)

BULK REGULATIONS

LOT AREA:	NO MINIMUM REQUIREMENT
LOT WIDTH:	NO MINIMUM REQUIREMENT
FRONT YARD SETBACK:	25 FT
SIDE YARD SETBACK:	NOT ANY UNLESS ADJOINING TO "R" DISTRICT OR STREET RIGHT-OF-WAY, IN WHICH CASE 25 FT
REAR YARD SETBACK:	25 FT
MAXIMUM HEIGHT:	45 FT
MAXIMUM STORIES:	3 STORIES

LOTS WITH FRONTAGE ALONG SE DESTINATION DRIVE ARE TO FOLLOW THE HIGHWAY 141 MIXED CORRIDOR DISTRICT ZONE 2 ARCHITECTURE AND LANDSCAPE REQUIREMENTS PER ORDINANCE 569.

NOTES
1. PROPERTIES WITHIN THIS DEVELOPMENT ARE REQUIRED TO ADHERE TO THE GRIMES' 'POST-CONSTRUCTION STORM WATER RUNOFF CONTROL ORDINANCE. EACH LOT WILL BE RESPONSIBLE FOR THEIR OWN DETENTION. THE ALLOWABLE DISCHARGE RATE IS THE 5-YEAR UNDEVELOPED RUNOFF.
2. LOT 1 IS WITHIN THE HWY 141 MIXED USE OVERLAY DISTRICT, ZONE 1.
3. NO DEVELOPMENT MAY OCCUR ON OUTLOT 'Z' OF THIS PLAT UNTIL SAID OUTLOT HAS BEEN FURTHER SUBDIVIDED INTO NUMBERED LOTS AND APPROVED BY THE CITY OF GRIMES.
4. LOT 'A' SHALL BE DEEDED TO THE CITY OF GRIMES, IOWA FOR PUBLIC STREET PURPOSES.

PROFESSIONAL LAND SURVEYOR NOTES:
1. THE ALLOWABLE ERROR OF CLOSURE FOR THE BOUNDARY IS 1:10,000 AND THE ALLOWABLE ERROR OF CLOSURE FOR EACH LOT IS 1:5,000.
2. THE EASEMENTS SHOWN ON ADJOINING OWNERS PROPERTY ARE NOT PART OF THIS PLAT AND ARE SHOWN FOR REFERENCE ONLY. THESE EASEMENTS SHALL BE ACQUIRED THROUGH A SEPARATE RECORDED DOCUMENT.
3. THIS PARCEL MAY BE SUBJECT TO EASEMENTS OF RECORD. NO TITLE WORK WAS PROVIDED IN PREPARATION OF THIS SURVEY.
4. MONUMENTS TO BE SET WITHIN ONE YEAR THE FINAL PLAT'S RECORDING DATE.
5. ALL EASEMENTS SHOWN ARE PROPOSED EASEMENTS UNLESS LABEL AS **(EXISTING)**.
6. IF THIS FINAL PLAT INDICATES SETTING AN IRON ROD AND THE EXISTING CONDITIONS WILL NOT ALLOW THIS TYPE OF MONUMENT, A CUT 'X' WILL BE SET IN PORTLAND CEMENT CONCRETE (P.C.C.) OR A 'MAG NAIL' WILL BE SET IN ASPHALTIC CEMENT CONCRETE (A.C.C. OR H.M.A.).

FEMA F.I.R.M. CLASSIFICATION
THIS PARCEL LIES WITHIN FLOOD ZONE 'X' AS IDENTIFIED ON FEMA FLOOD INSURANCE RATE MAP NO. 19153C0165F OF WITH EFFECTIVE DATE OF FEBRUARY 1, 2019

COMMUNITY PANEL NUMBER	PANEL	SUFFIX
• CITY OF GRIMES	190228	0165F
• POLK COUNTY	190901	0165F

AND

THIS PARCEL LIES WITHIN FLOOD ZONE 'X' AS IDENTIFIED ON FEMA FLOOD INSURANCE RATE MAP NO. 19153C0155F OF WITH EFFECTIVE DATE OF FEBRUARY 1, 2019

COMMUNITY PANEL NUMBER	PANEL	SUFFIX
• CITY OF GRIMES	190228	0165F

*** FEMA MAPS ARE SUBJECT TO CHANGE ***
PLEASE SEE FEMA FLOOD MAP SERVICE CENTER FOR CURRENT MAPS
WEB: WWW.FEMA.GOV
MAIL: FEMA REGION VII, 9221 WARD PARKWAY, KANSAS CITY, MO 64114
PHONE: 1-877-336-2627
EMAIL: FEMAMAPSPECIALIST@RISKMAPCDS.COM

BENCHMARK
GRIMES BENCH MARK GTC-002
BURY BOLT ON HYDRANT AT THE SE CORNER OF 1ST STREET & GATEWAY DRIVE.
ELEVATION = 940.51

CUT "Δ" ON THE TRAFFIC SIGNAL BASE AT THE SOUTHEAST CORNER OF THE IOWA HIGHWAY #141 AND THE HIGHWAY #44 INTERCHANGE.
ELEVATION = 972.49

LEGEND

▲	FOUND SECTION CORNER
●	FOUND CORNER W/ 5/8" I.R. W/YELLOW CAP #7844 UNLESS OTHERWISE NOTED
⊙	SET PROPERTY CORNER W/ 5/8" I.R. W/BLUE CAP #18381 UNLESS OTHERWISE NOTED
———	PLAT BOUNDARY
——— – – ———	EXISTING PROPERTY LINES
——— – – ———	PROPOSED LOTS
—— ——— ——	EASEMENT LINES
——— ———	BUILDING SETBACK LINES (B.S.L.)
—— – ——— – ——	CENTERLINE STREET
D.	DEEDED BEARING & DISTANCE
P.	PREVIOUSLY RECORDED BEARING & DISTANCE
M.	MEASURED BEARING & DISTANCE
I.R.	IRON ROD
I.P.	IRON PIPE
BK. XXX, PG. XXX	COUNTY RECORDER'S INDEXING BOOK
R.O.W.	RIGHT-OF-WAY
P.U.E.	PUBLIC UTILITY EASEMENT
P.O.B.	POINT OF BEGINNING
B.S.L.	BUILDING SETBACK LINE
(1234)	ADDRESS

*** THIS LAND SURVEYOR'S CERTIFICATION DOES NOT INCLUDE DESIGN SPOT ELEVATIONS, MINIMUM PROTECTION ELEVATIONS, MINIMUM OPENING ELEVATIONS, MINIMUM BASEMENT ELEVATIONS, DETENTION BASIN & STORM WATER EVENT ELEVATIONS, OR ANY OTHER ITEMS THAT MAY FALL UNDER THE PRACTICE OF A PROFESSIONAL CIVIL ENGINEER. ***

CERTIFICATION
PRELIMINARY

I HEREBY CERTIFY THAT THIS LAND SURVEYING DOCUMENT WAS PREPARED AND THE RELATED SURVEY WORK WAS PERFORMED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF IOWA.

JEFFREY A. GADDIS, IOWA LICENSE NO. 18381 DATE
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2024

SHEETS 1 & 2

IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com

Civil Engineering Consultants, Inc.
2400 86th Street, Unit 12 . Des Moines, Iowa 50322
515.276.4884 . Fax: 515.276.7084 . mail@ceclac.com
CEC

PUBLISH DATE: May 16, 2023
DATE OF SURVEY:
DESIGNED BY: PG
DRAWN BY: MEH

PRELIMINARY
DESTINATION RIDGE PLAT 1
GRIMES, IOWA
COVER

SHEET 01 OF 02

E8719

PLOT BY: MARTIN HILL - 2023/05/18 - q:\E-FILES\E-8000\E8719_c3d drawings\Plat\PPE8719 PP COVER.dwg, 5/18/2023 3:04:15 PM, mehill, 1:1
q:\E-FILES\E-8000\E8719_c3d drawings\Plat\PPE8719 PP COVER.dwg - q:\E-FILES\E-8000\E8719\PLOT\24x36 (ARCH D).ctb - PLOT SCALE = 1:1

LOT 'A' CENTERLINE LINE TABLE

LINE TABLE		
LINE #	DIRECTION	LENGTH
L100	S89°48'50"E	199.87'

LOT 'A' CENTERLINE CURVE TABLE

CURVE DATA						
CURVE	DELTA	RADIUS	LENGTH	TANGENT	CHORD	CH. BEARING
C100	10°33'03"	1000.00'	184.15'	92.33'	183.84'	S71°18'23"E
C101	23°46'59"	500.00'	207.55'	105.29'	206.06'	S77°55'21"E

EASEMENT LINE TABLE

LINE TABLE		
LINE #	DIRECTION	LENGTH
L1	S00°10'32"E	31.97'
L2	S10°33'06"W	24.96'
L3	S14°28'29"W	15.00'

EASEMENT CURVE TABLE

CURVE DATA						
CURVE	DELTA	RADIUS	LENGTH	TANGENT	CHORD	CH. BEARING
C1	1°04'03"	965.00'	17.98'	8.99'	17.98'	S84°27'58"E
C2	9°56'14"	535.00'	92.79'	46.51'	92.67'	N84°50'43"W
C3	4°21'05"	535.00'	40.63'	20.33'	40.62'	N77°42'04"W
C4	14°17'19"	535.00'	133.42'	67.06'	133.08'	N82°40'10"W

Civil Engineering Consultants, Inc.
2400 86th Street, Unit 12 . Des Moines, Iowa 50322
515.276.4884 . Fax: 515.276.7084 . mail@cecIac.com
CEC

PUBLISH DATE: May 16, 2023
DATE OF SURVEY: XX
DESIGNED BY: PC
DRAWN BY: MEH

PRELIMINARY

DESTINATION RIDGE PLAT 7

GRIMES, IOWA

FINAL PLAT

SCALE: 1"=60'
0' 20' 40' 60' 120'
ON 34"x22" SHEET
1"=120' ON 11"x17" SHEET

NORTH

SHEET 02 OF 02

E8719

PLOT BY: MARTIN HILL - 2023/05/16 - Q:\E-FILES\E-8000\E8719_c3d drawings\Plat FP\E8719 FP DIMENSION.dwg,) - ANSI EXPAND D (34.00 X 22.00 INCHES) - AUTOCAD PDF (GENERAL DOCUMENTATION).pc3
Q:\E-FILES\E-8000\E8719_c3d drawings\Plat FP\E8719 FP DIMENSION.dwg, 5/18/2023 3:04:29 PM, mehill, 1:1

Planning & Zoning Staff Report

CITY OF GRIMES

DATE

June 5, 2023

PROJECT NAME

Town of Grimes Plat 2

Final Plat

APPLICANT

City of Grimes

REQUESTED ACTION

Combine the existing three lots into one lot for future development

LOCATION

212 SE Main Street

ZONING

C-1

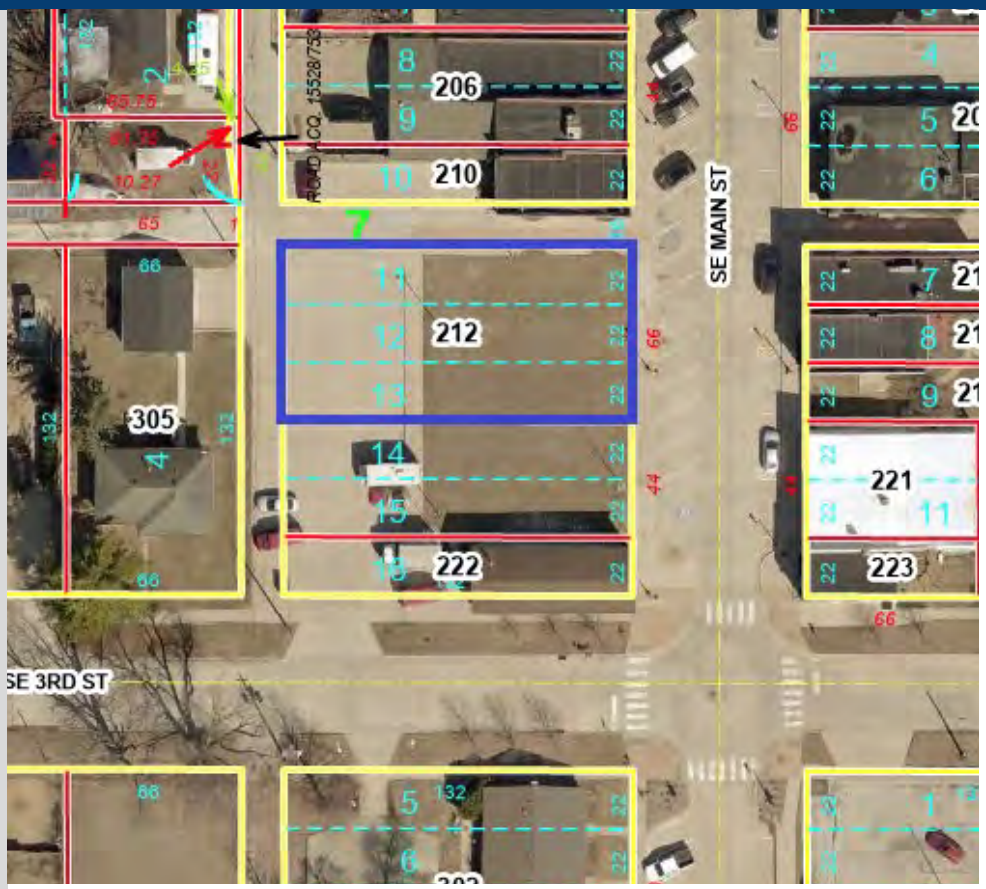
PLANNER

Evann Martin

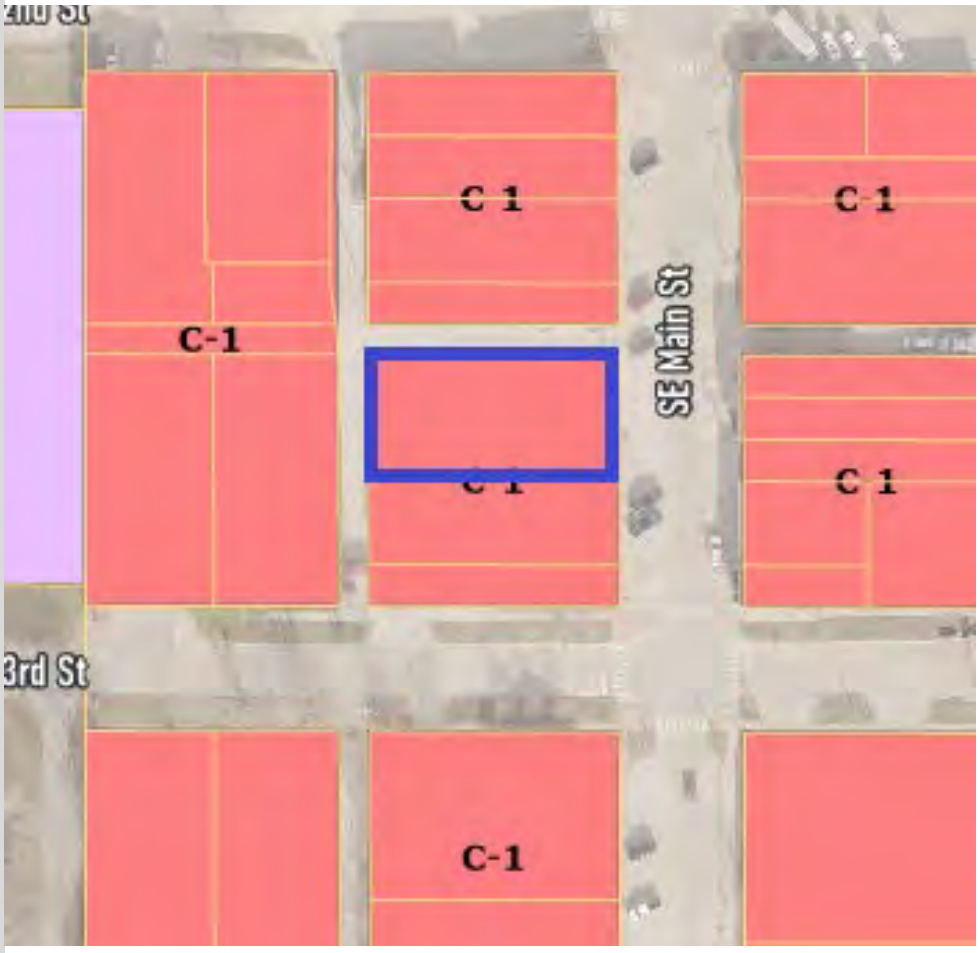
emartin@grimesiowa.gov

515-986-4050

Location Map



Zoning Map



Relation to Comprehensive & Neighborhood Plans

LAND USES & ZONING			
Location	**Existing Land Use**	**Land Use Plan Designation**	**Current Zoning**
Subject Site	Vacant	Downtown/Governor's District	C-1
North	Commercial	Downtown/Governor's District	C-1
South	Commercial	Downtown/Governor's District	C-1
East	Commercial	Downtown/Governor's District	C-1
West	Residential	Downtown/Governor's District	C-1

PARKS

A mixed-use building with commercial and multi-family units is proposed to be constructed on the site. Because there are residential units planned, parkland dedication is required. Due to the limited size of the property and small number of proposed units, the developer will provide a fee in lieu of dedicating land to the City. The fee will be used for improvements at Wallace Park.

Future Land Use Map

Legal

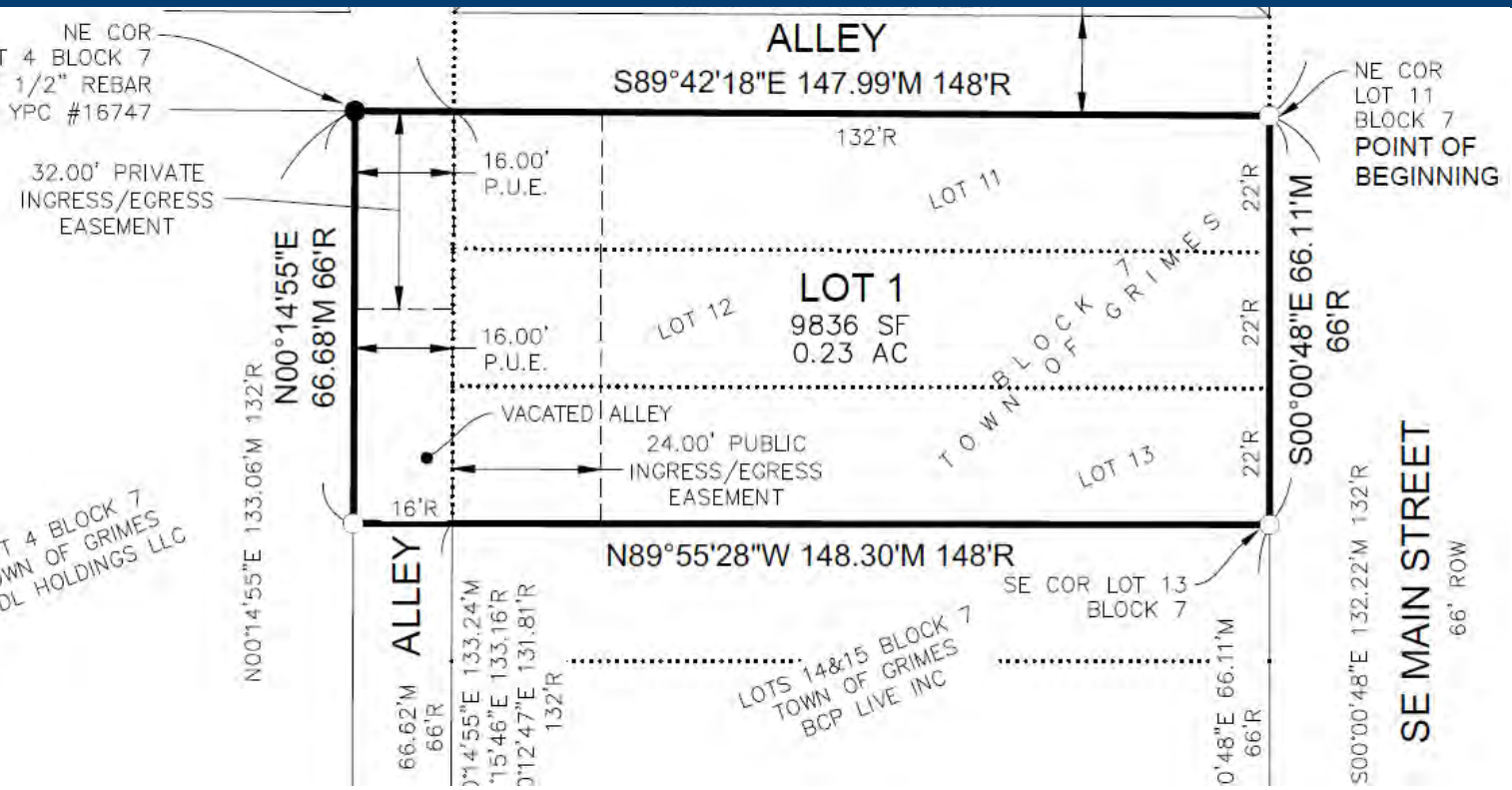
Legal

The final plat calls for a portion of the existing city-owned alley to the west to be vacated and incorporated into the plat boundary. Upon vacation, the alley would be part of the platted property and be privately owned once the City disposes of the property. Public and private ingress/egress easements are reserved on the plat to preserve the existing access patterns through the property. The alley vacation will be completed through a separate public hearing process.

Once the plat is recorded and the site plan is approved, the City will dispose of the property to the developer to begin construction. The disposal will require Council approval and associated legal documentation.

The City Attorney is in the process of preparing the legal documents associated with the final plat and property disposal.

Plat Layout & Utilities



Plat Map

SANITARY

Sanitary is provided north of the plat.

WATER

Water is available along SE Main Street.

STORM WATER

Because this property is located within the oldest part of town and was previously developed, no storm water detention was previously provided and is not required.

ACCESS

Access is provided along SE Main Street and via the alley on the west side of the property. Ingress-egress easements will be reserved to allow public access through the parking lot on the west side of the property as well as maintain private access for the residence to the west.

PLAT LAYOUT

The three existing lots will be platted into one lot for development.

DETAILS OF IMPORTANCE

The existing city-owned alley on the west side of the property will be vacated and included in the plat. When the City disposes of the property, that portion of the alley will become privately owned.

Conclusion

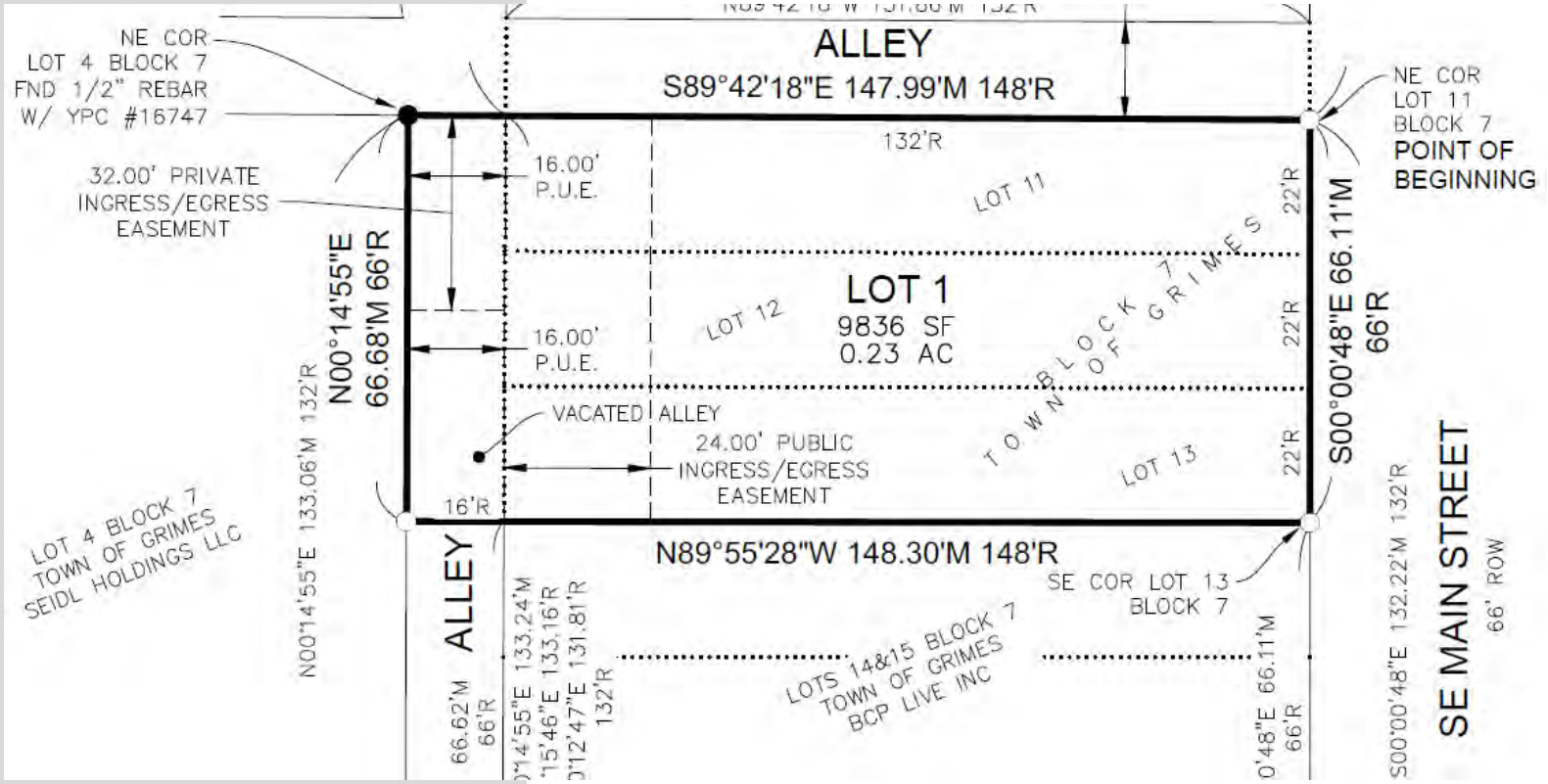
STAFF RECOMMENDATION

Staff recommends approval of the final plat.

Conclusion

The final plat will combine the existing three lots into one lot for future development.

A portion of the existing City alley with will vacated through the public hearing process. However, ingress/egress easements will be provided through the property to maintain the existing traffic pattern.



Development Services
410 SE Main St, Suite 102
Grimes, IA 50111
(515)986-4050
www.grimesiowa.gov

~~May 19, 2023~~
May 24, 2023

Civil design Advantage
Attn: Mike Brooner
4121 NW Urbandale Drive
Urbandale, IA 50322

RE: Town of Grimes Plat 2 Final Plat

Dear Mr. Brooner:

The Development Services Department is in receipt of a proposed Final Plat for the Town of Grimes Plat 2. Based on the review of the provided submittal materials, staff have the following comments:

General Comments:

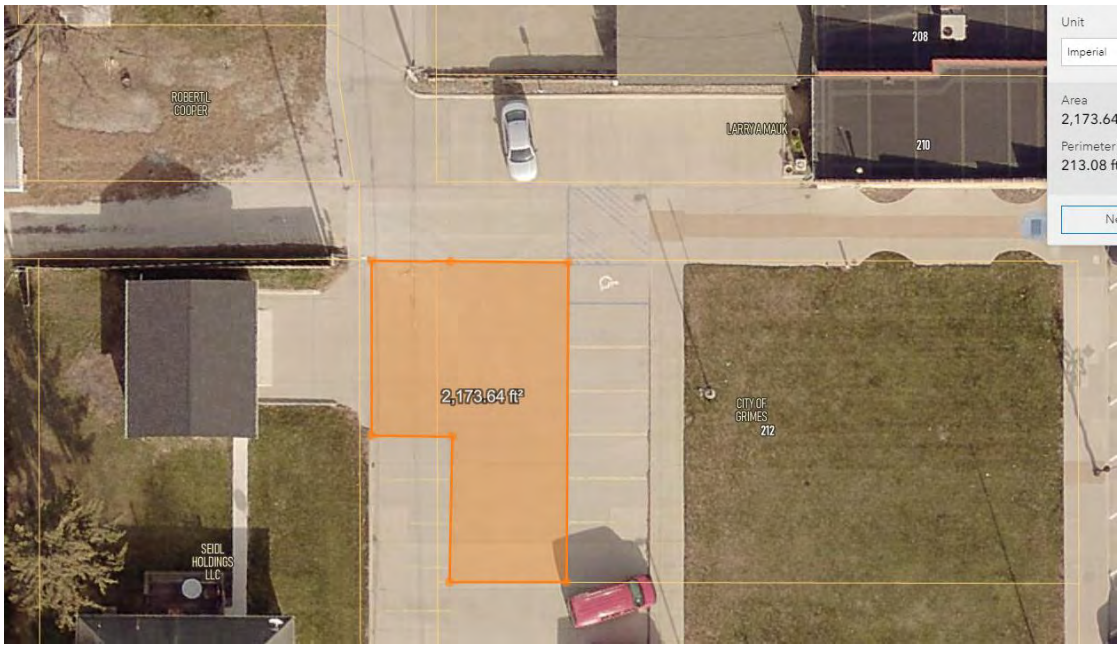
1. ~~Provide 24' north/south public ingress/egress easement through the property to line up with the existing drive aisle. See attached exhibit below.~~

2. ~~Please add a private ingress/egress easement for the driveway of the property to the west of the vacated alley. See attached exhibit below.~~

3. ~~A 16' wide PUE will be needed through the proposed alley vacation area.~~

4. ~~Please provide legal descriptions for the easements.~~

5. ~~Please provide letter or email confirming that monuments are in place.~~



Legal Comments: The City will prepare the legal documents

1. Title opinion

2. Consent(s) to Plat
    a. Owner consent
    b. Mortgagee consent (if applicable)

3. Treasurer's Certificate

4. County Subdivision Name Approval

5. Easement documents and legal descriptions

Please provide a letter addressing all comments on this comment letter and/or state what was modified on the site plan to address said comments.

SITE PLAN SUBMITTAL SCHEDULE:

SUBMITTAL DATE: May 26, 2023
(1 PDF of Final Plat and Legals)

PLANNING & ZONING: June 5th at 5:30

COUNCIL MEETING: June 27th at 5:30

Please feel free to contact me at emartin@grimesiowa.gov or at (515) 986-4050 if you have any questions or need additional information.

Sincerely,
Evann Martin
Assistant Planner

INDEX LEGEND

LOCATION: LOTS 11, 12, & 13, BLOCK 7 & PART OF VACATED ALLEY, ORIGINAL TOWN OF GRIMES, GRIMES, POLK COUNTY, IOWA

REQUESTOR: CITY OF GRIMES

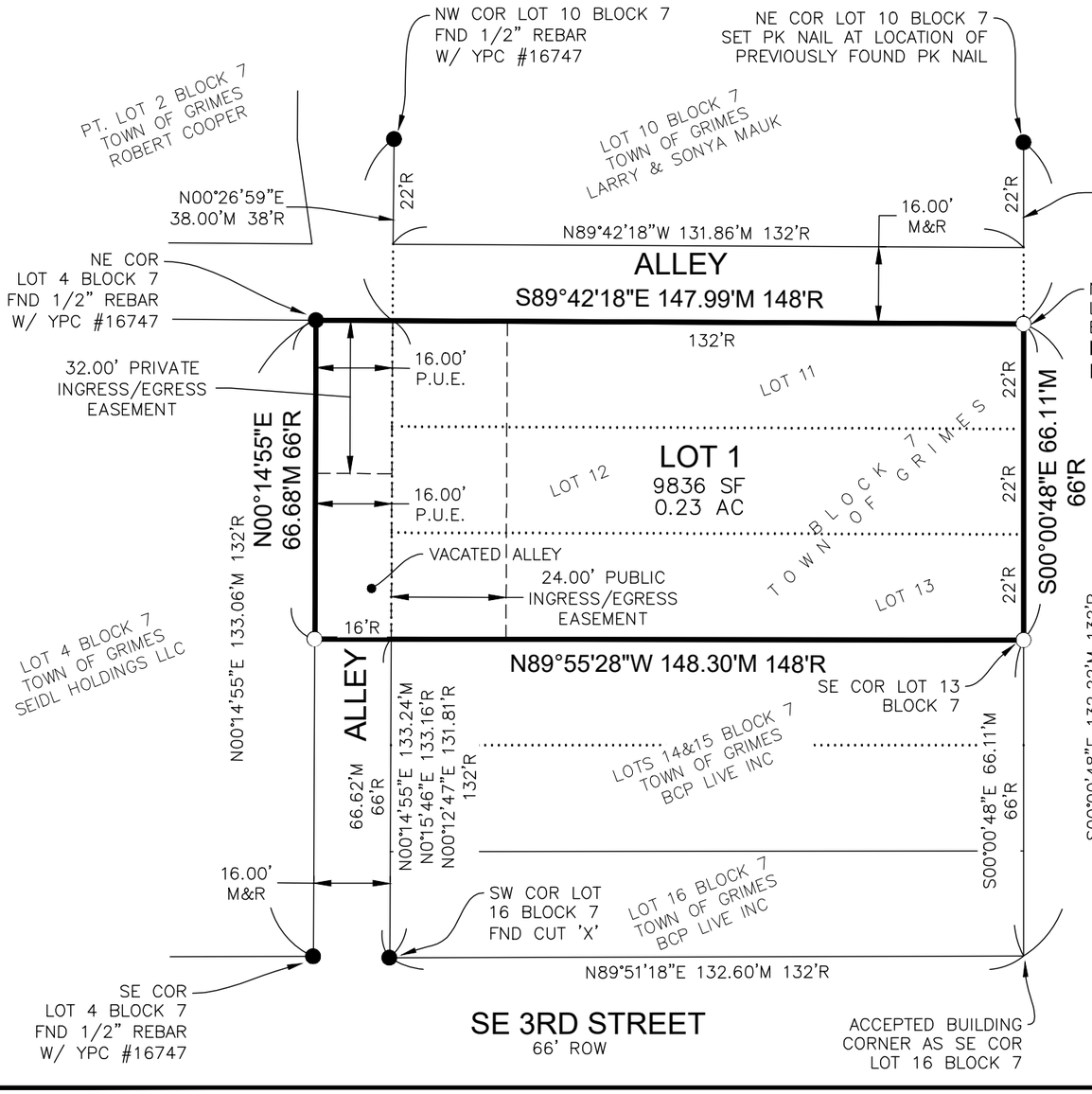
PROPRIETOR: CITY OF GRIMES
101 NE HARVEY ST
GRIMES, IA 50111–2051

SURVEYOR: MICHAEL A. BROONER

COMPANY: CIVIL DESIGN ADVANTAGE

PREPARED BY & RETURN TO: CIVIL DESIGN ADVANTAGE
4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
PH: 515–369–4400

TOWN OF GRIMES PLAT 2
FINAL PLAT



PLAT DESCRIPTION

ALL OF LOTS 11 THROUGH 13 OF BLOCK 7, AND THAT PORTION OF THE VACATED ALLEY LYING WESTERLY AND ADJACENT TO SAID LOTS, ALL IN THE TOWN OF GRIMES, AN OFFICIAL PLAT IN THE CITY OF GRIMES, POLK COUNTY, IOWA AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID LOT 11 OF BLOCK 7; THENCE SOUTH 00°00'48" EAST ALONG THE EAST LINE OF SAID BLOCK 7, A DISTANCE OF 66.11 FEET TO THE SOUTHEAST CORNER OF SAID LOT 13; THENCE NORTH 89°55'28" WEST ALONG THE SOUTH LINE SAID LOT 13 AND WESTERLY EXTENSION THEREOF, 148.30 FEET TO THE WESTERLY LINE OF SAID VACATED ALLEY; THENCE NORTH 00°14'55" EAST ALONG SAID WESTERLY LINE, 66.68 FEET TO THE NORTHEAST CORNER OF LOT 4 OF SAID BLOCK 7; THENCE SOUTH 89°42'18" EAST ALONG THE NORTHERLY LINE OF SAID LOT 11 AND THE WESTERLY EXTENSION THEREOF, 147.99 FEET TO THE POINT OF BEGINNING AND CONTAINING 0.23 ACRES (9,836 SQUARE FEET). THE PROPERTY IS SUBJECT TO ANY AND ALL EASEMENTS OF RECORD.

PROPERTY ADDRESS

212 SE MAIN ST
GRIMES, IA 50111

OWNER

CITY OF GRIMES
101 NE HARVEY ST
GRIMES, IA 50111–2051

DATE OF SURVEY

MARCH 7, 2023

ENGINEER/SURVEYOR

CIVIL DESIGN ADVANTAGE
4121 NW URBANDALE DRIVE
URBANDALE, IA 50322

BULK REGULATIONS

FRONT YARD: SAME AS REQUIRED IN R–3 HIGH DISTRICT FOR RESIDENTIAL USES; NO MINIMUM REQUIREMENTS FOR ANY OTHER PERMITTED USE
SIDE YARDS: SAME AS REQUIRED IN R–3 HIGH DISTRICT FOR RESIDENTIAL USES; NO MINIMUM REQUIREMENTS FOR ANY OTHER PERMITTED USE, EXCEPT WHEN ADJOINING ANY "R" DISTRICT, IN WHICH CASE – 10 FEET
REAR YARD: NONE REQUIRED, EXCEPT WHEN ADJOINING ANY "R" DISTRICT, IN WHICH CASE – 25 FEET

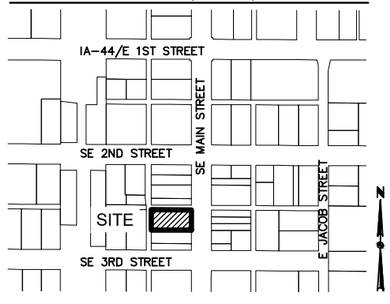
ZONING

C–1: COMMERCIAL DISTRICT

LEGEND

	FOUND	SET
1/2" REBAR, YELLOW PLASTIC CAP#15980 (UNLESS OTHERWISE NOTED)	●	○
MEASURED BEARING & DISTANCE	M	
RECORDED BEARING & DISTANCE	R	
DEEDED BEARING & DISTANCE	D	
CURVE ARC LENGTH	AL	
BUILDING SETBACK LINE		
PLAT BOUNDARY		

VICINITY MAP (1"=500')



I HEREBY CERTIFY THAT THIS LAND SURVEYING DOCUMENT WAS PREPARED AND THE RELATED SURVEY WORK WAS PERFORMED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF IOWA.

MICHAEL A. BROONER, P.L.S. DATE

LICENSE NUMBER 15980
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2024
PAGES OR SHEETS COVERED BY THIS SEAL:
THIS SHEET

LICENSED PROFESSIONAL LAND SURVEYOR
MICHAEL A. BROONER
15980
IOWA

REVISIONS	DATE
SECOND SUBMITTAL	05/23/23
FIRST SUBMITTAL	03/13/23

4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
PHONE: (515) 369-4400

ENGINEER: TECH: REVIEW:

CIVIL DESIGN ADVANTAGE
GRIMES, IOWA

TOWN OF GRIMES PLAT 2
FINAL PLAT

1/1

2302.124

FILE: H:\2023\2302124\DWG\230212-FINAL PLAT.DWG
PLOT DATE: 5/23/2023 2:57 PM
PLOTTED BY: CARTER YOUNGBLOOD
COMMENT:
TECH:
ENG:

Planning & Zoning Staff Report

CITY OF GRIMES

DATE

June 5, 2023

PROJECT NAME

Grimes Plex

Site Plan Amendment

APPLICANT

City of Grimes

REQUESTED ACTION

Approve the site buildings and field lighting

LOCATION

1000 NE Heritage Drive

ZONING

R-4

Hope Commercial PUD

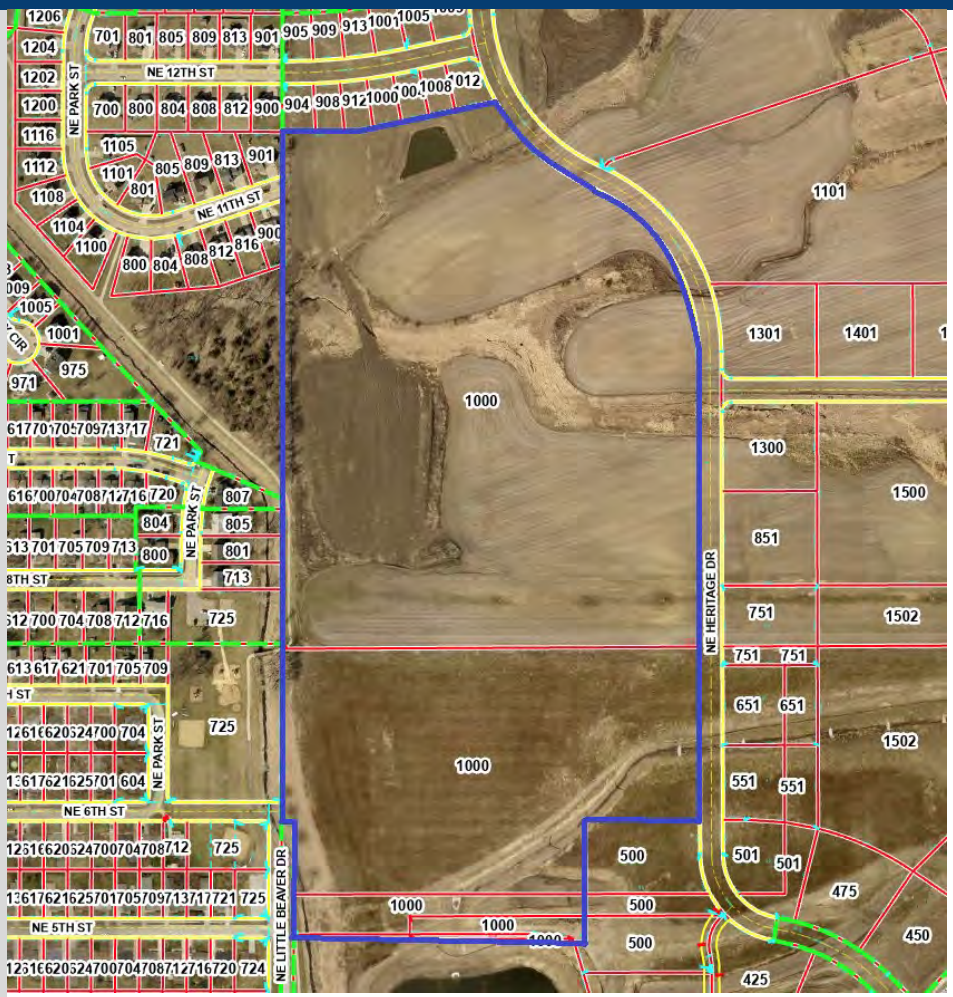
PLANNER

Evann Martin

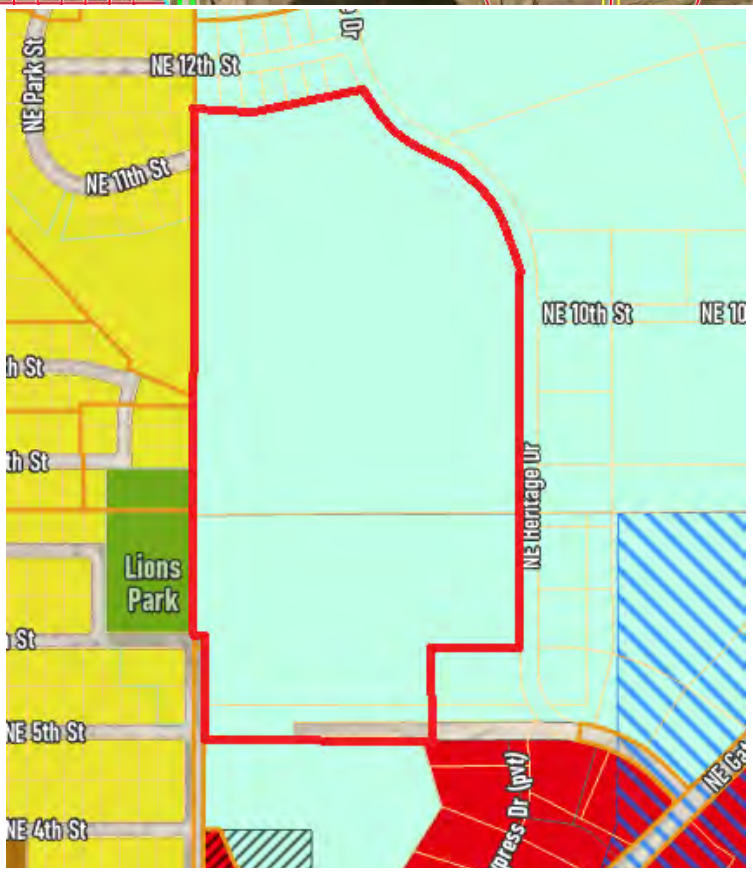
emartin@grimesiowa.gov

515-986-4050

Location Map



Zoning Map



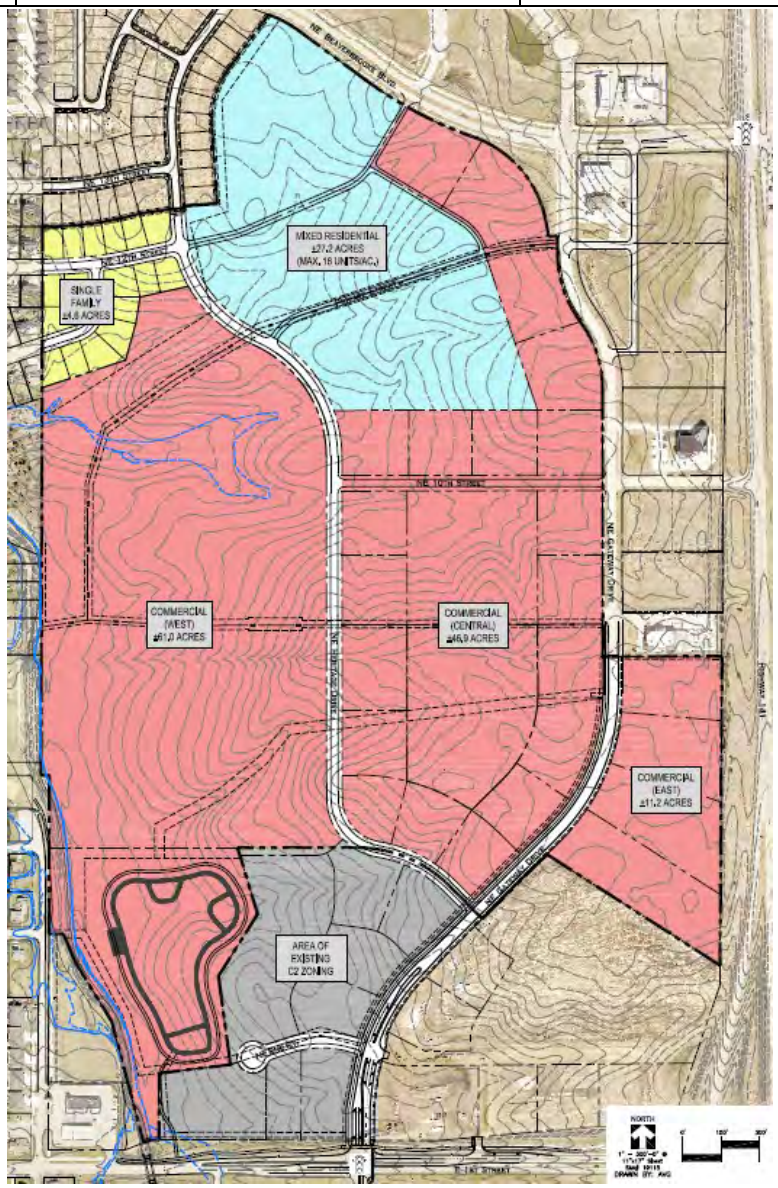
Relation to Comprehensive & Neighborhood Plans

LAND USES & ZONING			
Location	**Existing Land Use**	**Land Use Plan Designation**	**Current Zoning**
Subject Site	Vacant	General Commercial	R-4
North	Vacant	Single-Family/Mixed Residential	R-4
South	Vacant/Commercial	General Commercial	C-2
East	Vacant	General Commercial	R-4
West	Single-Family Residential	Low Density Residential	R-2

PARKS

The Parks and Trails Master Plan called for a park on the west side of the site but did not account for a large -scale sports facility like the Grimes Plex. The proposed trail connection from the existing trail to the west is not proposed. However, connectivity will still be provided through the Taylor Estates development out to NE Heritage Drive. Trail will connect from NE Heritage Drive to Gateway Drive as shown in the Master Plan. Additional trails along NE Heritage Drive and NE 10th Street have been planned and constructed that were not contemplated in the Master Plan.

Future Land Use Map



The Grimes Plex is located within the Commercial West land use area of the Hope Commercial PUD which permits sport facility development. The site is in conformance with the future land use plan.

Concession & Maintenance Buildings

CONCESSION BUILDINGS

Two 2,6000 square foot concession buildings are proposed for the site: one at each of the drop off locations on the north and south side of the complex. The concession buildings will also include restrooms for patrons and office space for tournament staff.

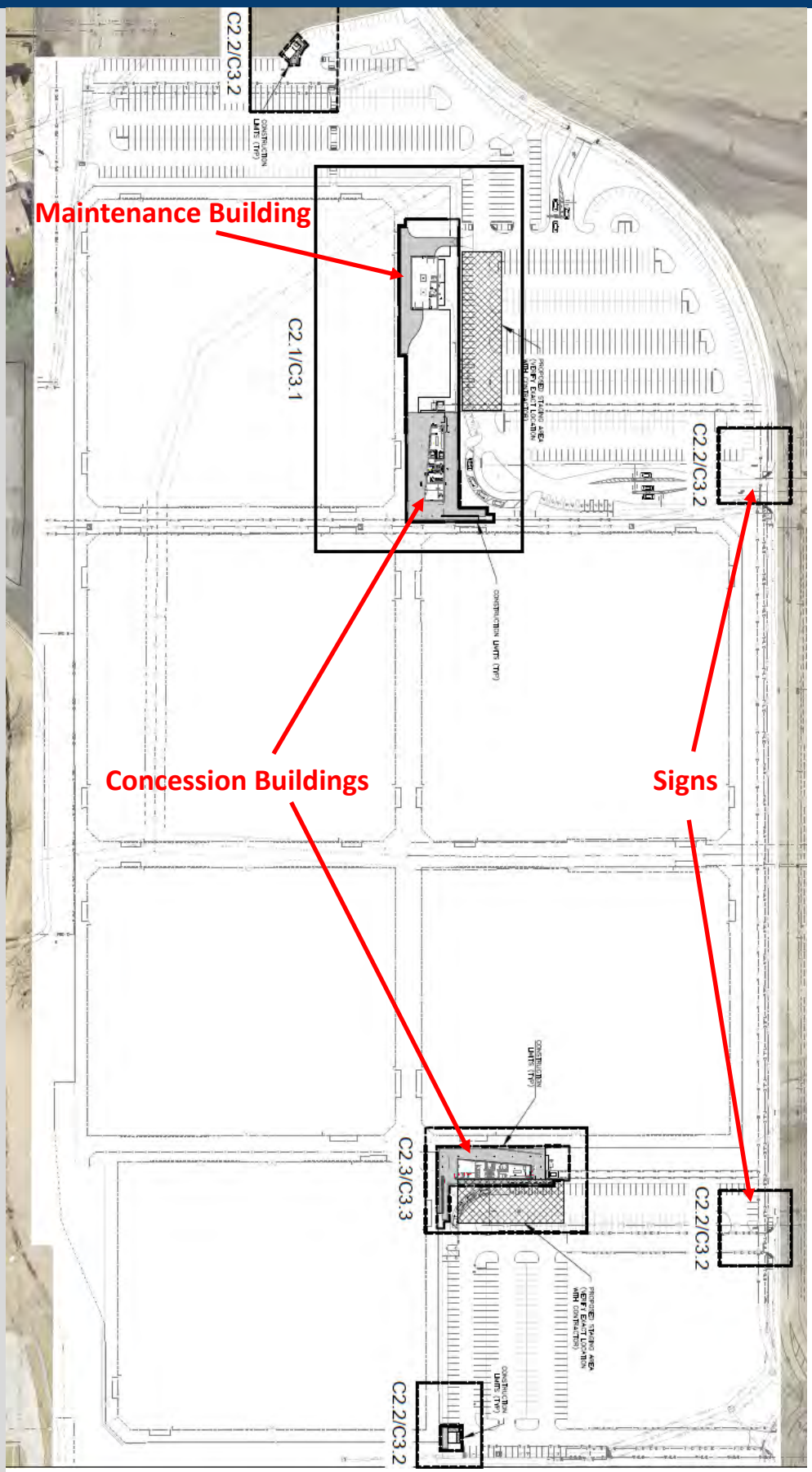
MAINTENANCE BUILDING

A 3,200 square foot maintenance building is proposed on the north side of the complex to house sports and facility maintenance equipment and a small office and break area. A gated driveway will connect from the parking lot to the building. Additional pavement is proposed to be constructed around the building to connect the overhead door access to the existing paved walkways within the facility.

COMPLEX SIGNAGE

Two ground-mounted signs are proposed at each of the entrances off of NE Heritage Drive. The signs will reserve space to display the Grimes Plex sponsor logo as well.

Site Layout



Architecture

BUILDING & ELEVATIONS

The maintenance building will be constructed of white CMU and wood-look Nichiha paneling with a slanted roof to be consistent with the shelter at Waterworks Park. An overhead door will be provided on the north and south side of the building.

The concession stand buildings will be constructed of the same materials with slanted roof. On the main entrance side of the concession buildings, there will be a randomized pattern of five different colors of CMU as shown below. The south concession building will feature a CMU wall with signage for photo opportunities.

Material Board

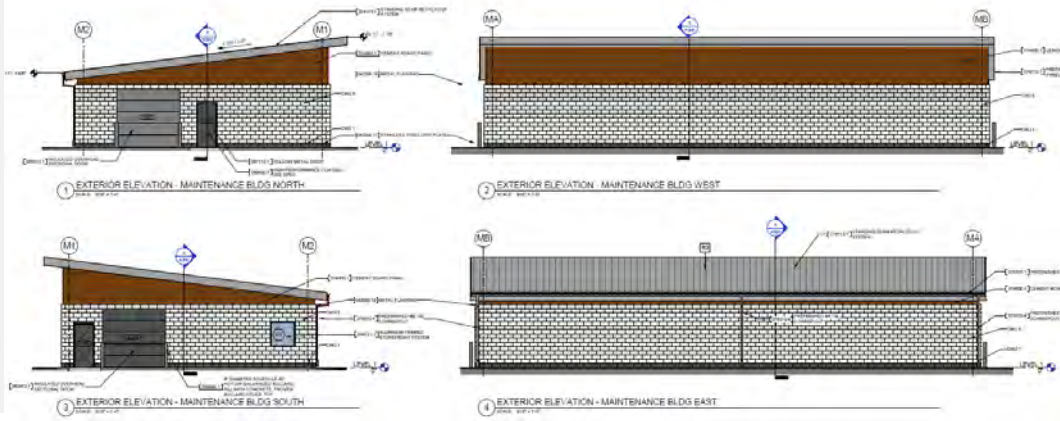
Onyx Split-Faced CMU—Onyx Travertine CMU—Ice White Burnished CMU—Ice White Travertine CMU—Grey Spice Travertine

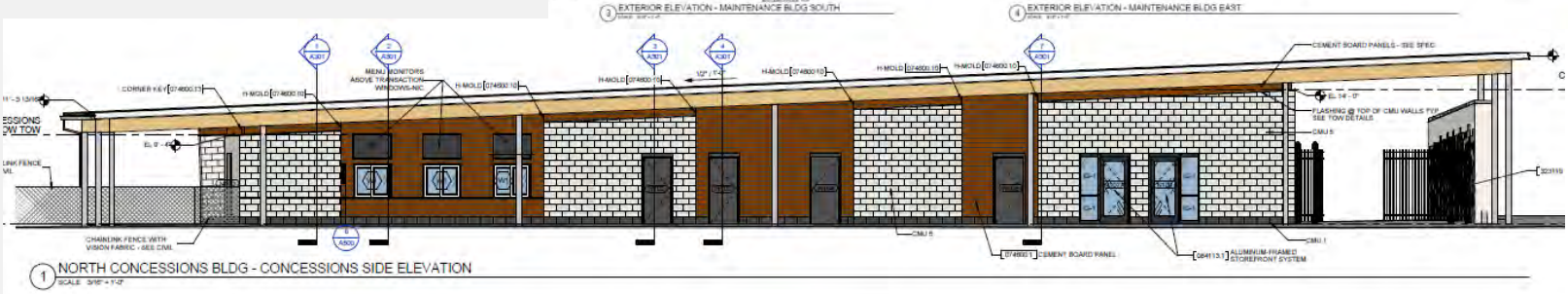
Nichiha Vintagewood Redwood

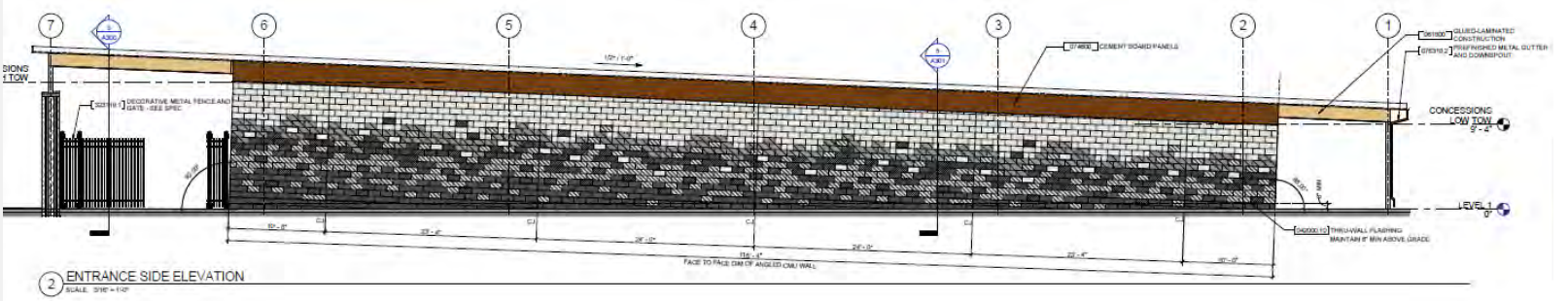
Example of travertine CMU. The color used will be onyx and ice white as shown above.

DUMPSTER ENCLOSURES

The dumpster enclosures with be constructed of white CMU to match the buildings with metal-framed composite gates.



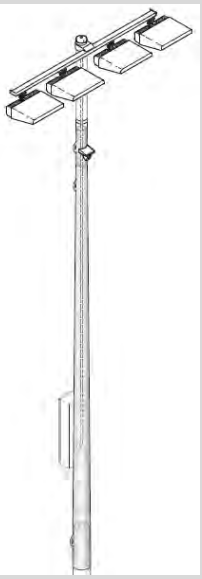




Field Lighting

FIELD LIGHTING

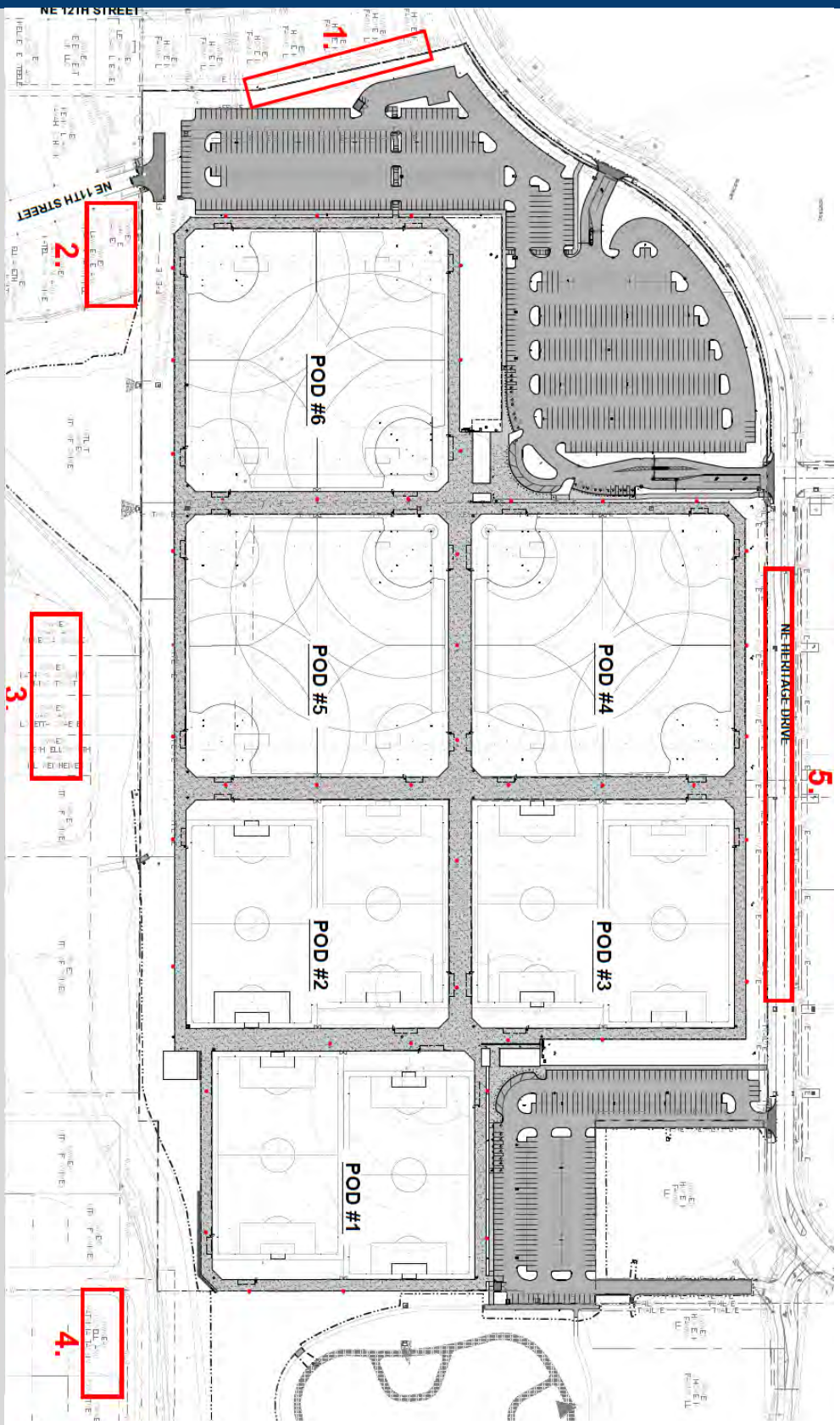
The field lighting is designed by Musco Lighting, who designs and manufactures lighting for sports fields. Across the complex, there will be 45 field light poles at 70 and 90 feet in height. Some of the light poles will have lighting mounted at 16 feet in height as well to provide lighting for the walkways within the complex. The light fixtures are high cutoff LED lights which are designed to focus lighting on the fields and minimize light spillover into neighboring properties.



LIGHTING ANALYSIS

Musco has provided renderings for five locations surrounding the Grimes Plex to demonstrate the view and lighting levels for the surrounding properties. These area were chosen because they are more sensitive areas surrounding the complex. Location 1-4 are residential and location 5 is NE Heritage Drive. The highlighted locations on the map correspond to the viewpoint renderings on the next page. The renderings demonstrate the field lighting will be highly concentrated on the fields and not spill over into the neighboring properties.

Lighting Layout

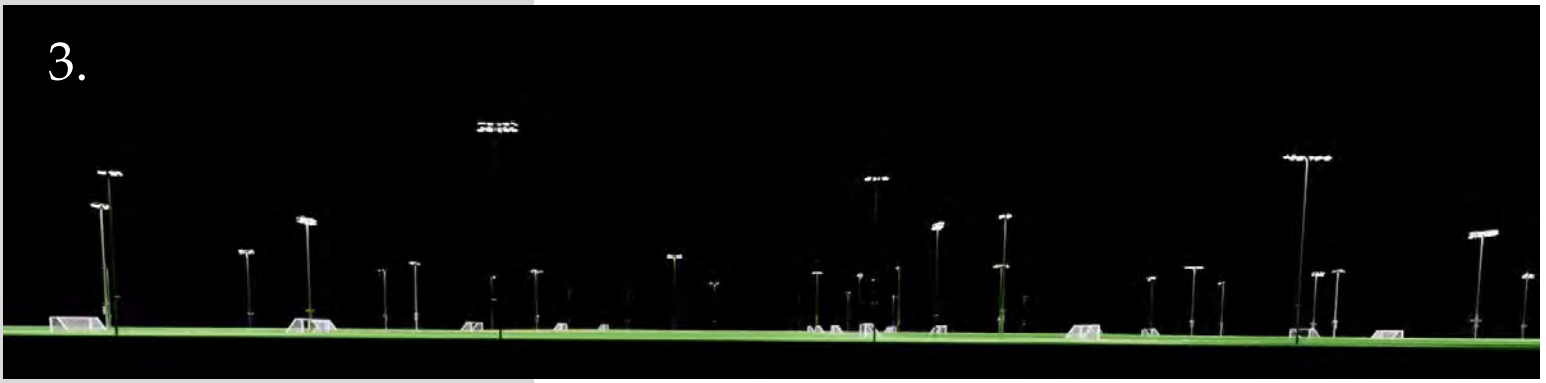


Field Lighting Analysis

1.

2.

3.



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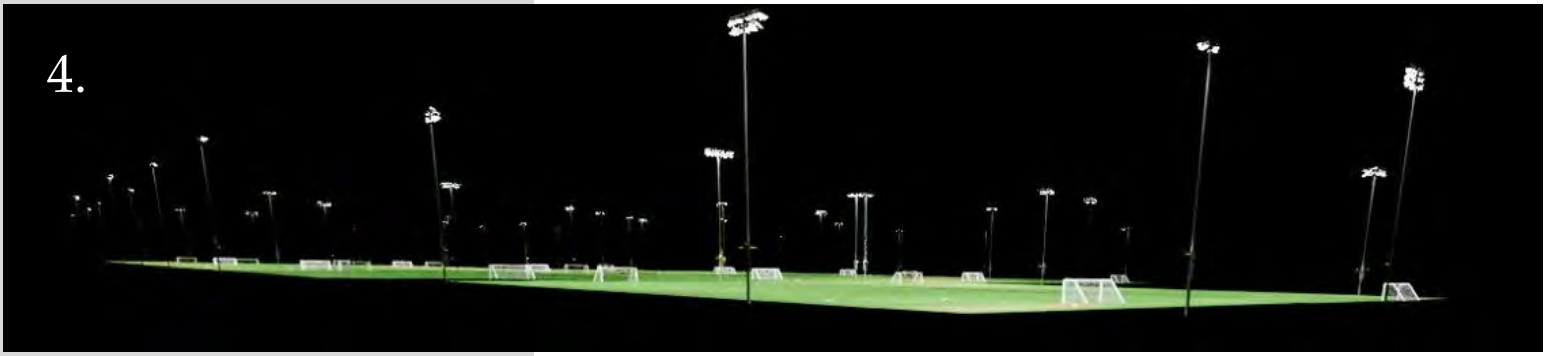
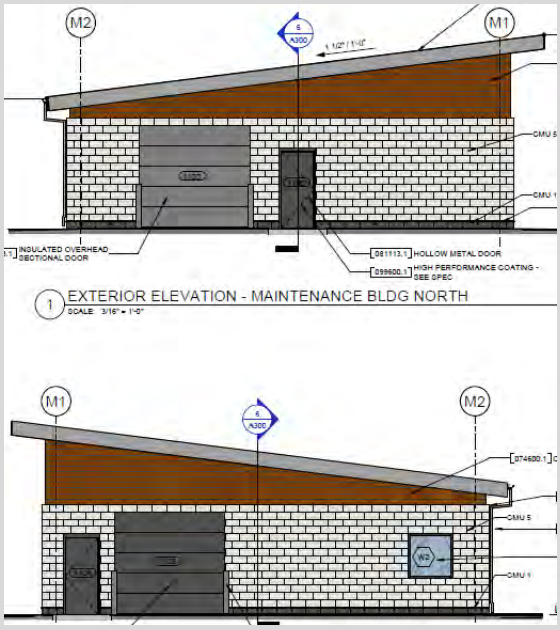


Conclusion



Conclusion

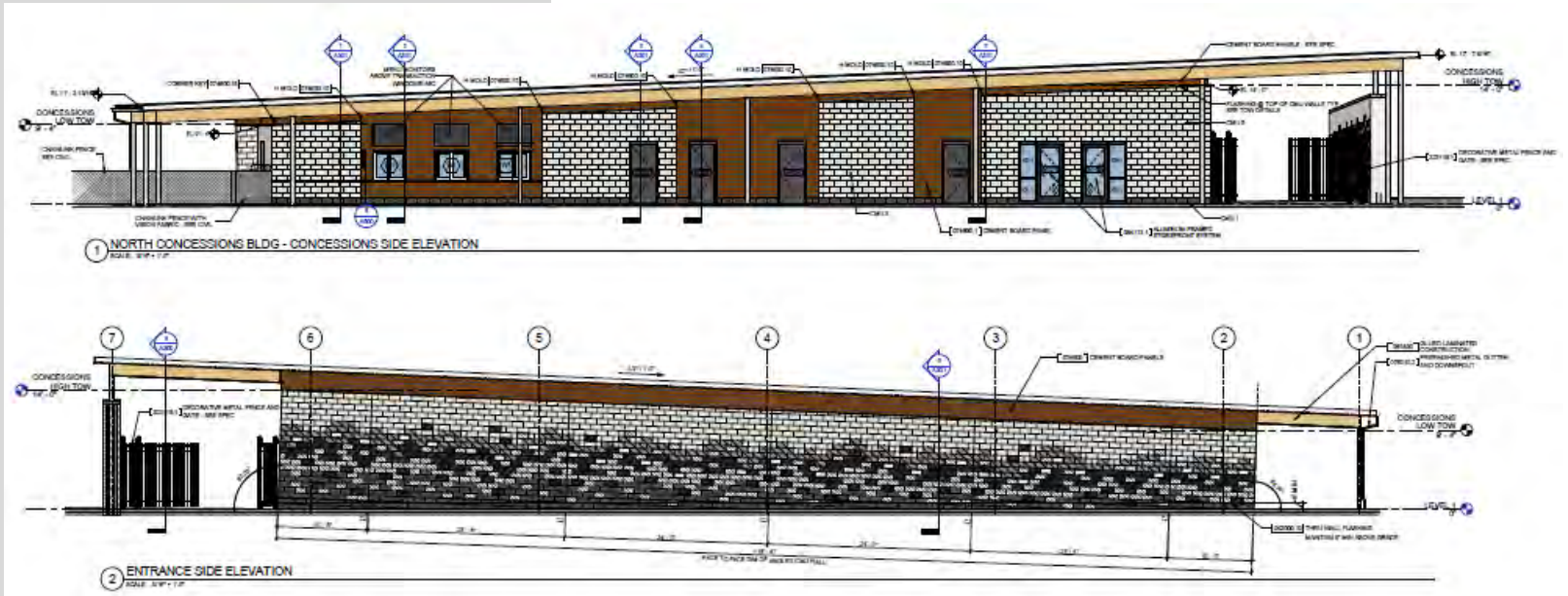
The site plan amendment includes the addition of the concession and maintenance buildings, dumpster enclosures, and field lighting.

The buildings will be designed with similar building materials and roof forms as the shelter at Waterworks Park.

Field lighting will be high cutoff LED fixtures concentrated on the fields to minimize light spillover into neighboring properties.

Musco's lighting analysis demonstrates that lighting will be highly concentrated on the fields and not spill over into the neighboring properties.

Staff recommends approval of the site plan amendment.



Grimes Plex Building & Site Plan Comments

Cover sheet

1. Address should be NE Heritage not NW.

C2.1

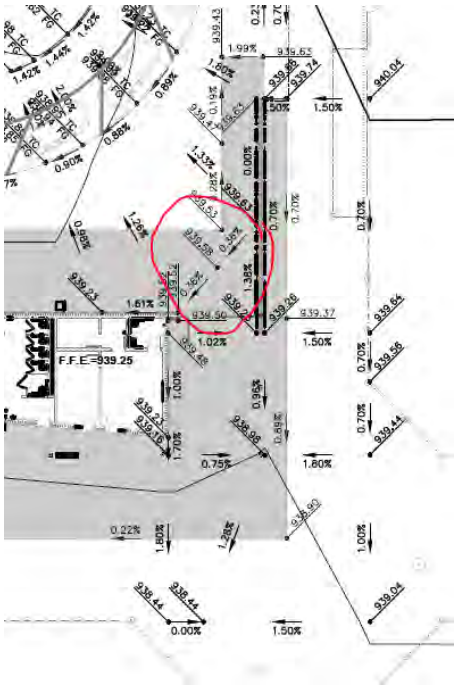
1. Add more plantings around the transformer. The spacing is large between the plants.

C2.2

1. Please ensure the sign is at least 5’ from the water main. Please label distance on the plans.

C3.1

1. It looks like the paving is graded toward the north concession building. Should this be revised?



C3.2

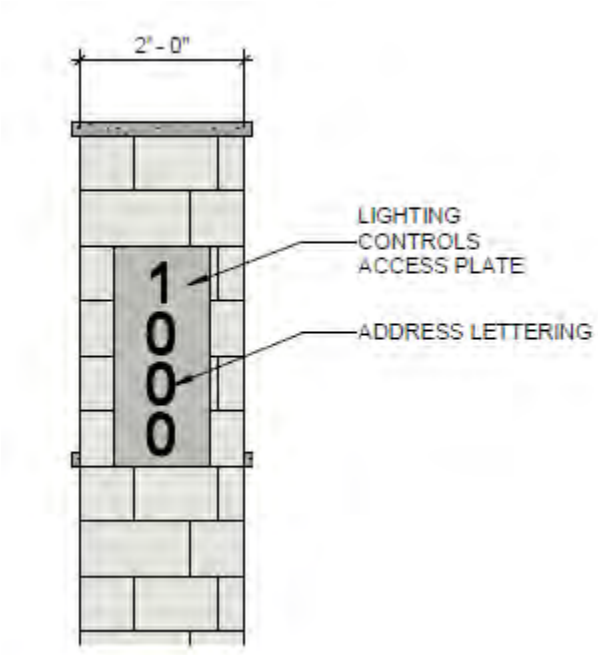
1. Label grades inside the dumpster enclosures.

A100N & A101

1. What will the roof venting look like and the dimensions of the structures?

A104

1. How will the access plate be installed? Will the panel be inset into the brick or attached over the brick to hide the controls? The panel needs to be finished and cannot look like an access. No exposed sign cabinetry or electrical equipment or switches shall be visible from the right-of-way.



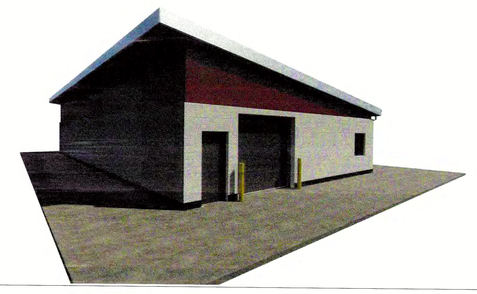
A200

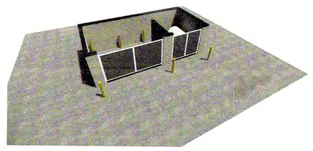
1. Where will the short fence with the vision fabric be located? The location is not shown on the site plan. Provide details for the fabric and fence height.

1. The CMU legend says “SEE SECTION 04 20 00 FOR FINISHES” but there are no details in the plans. Please provide.

A201

1. Label roof venting locations.





GRIMESPLEX

1000 NW HERITAGE DRIVE
GRIMES, IOWA 50111

GRIMES PARKS AND RECREATION
410 SE MAIN ST.
GRIMES, IOWA 50111

CONSTRUCTION DOCUMENTS
04/25/2023

ARCHITECT & INTERIOR DESIGNER
SVPA ARCHITECTS INC
1466 28TH ST, STE 200
WEST DES MOINES, IA 50266
(515) 327-5990

CIVIL CONSULTANT
CIVIL DESIGN ADVANTAGE
4121 URBANDALE DR.
URBANDALE, IA 50322
(515) 369-4400

STRUCTURAL CONSULTANT
IMEG
2882 106TH ST
URBANDALE, IA 50322
(515) 334-9906

M/E/P/T CONSULTANT
IMEG
2882 106TH ST
URBANDALE, IA 50322
(515) 334-9906

GENERAL

G001	COVER SHEET
G002	CODE REVIEW
G003	GENERAL INFORMATION

CIVIL

C1.1	SITE REFERENCE PLAN
C2.1	SITE DIMENSION, LANDSCAPE AND UTILITY PLAN
C2.2	SITE DIMENSION, LANDSCAPE AND UTILITY PLAN
C3.1	SITE GRADING PLAN
C3.2	SITE GRADING PLAN
C3.3	SITE GRADING PLAN
C4.1	SITE DETAILS
C4.2	SITE DETAILS

STRUCTURAL

S000	GENERAL NOTES
S001	TESTING, INSPECTIONS AND ABBREVIATIONS
S100	CONCESSIONS BUILDINGS PLANS
S101	MAINTENANCE BUILDING PLANS
S200	FOUNDATION DETAILS
S300	STRUCTURAL DETAILS

ARCHITECTURAL

A001	WALL TYPES
A100N	NORTH CONCESSION BUILDING PLANS
A100S	SOUTH CONCESSION BUILDING PLANS
A101	MAINTENANCE BUILDING PLANS
A104	TRASH ENCLOSURE & MONUMENT SIGN
A200	CONCESSION BUILDINGS - EXTERIOR ELEVATIONS
A201	MAINTENANCE BUILDING EXTERIOR ELEVATIONS
A300	BUILDING SECTIONS
A301	CONCESSION - WALL SECTIONS
A302	MAINTENANCE - WALL SECTIONS
A400	INTERIOR ELEVATIONS & ENLARGED FLOOR PLANS
A401	MILLWORK DETAILS
A500	SECTION DETAILS
A501	SECTION DETAILS
A510	PLAN DETAILS
A601	DOOR & WINDOW SCHEDULE AND TYPES
A800	FLOOR FINISH PLAN

PLUMBING

P000	PLUMBING COVERSHEET
P100N	NORTH CONCESSIONS BUILDING PLANS - PLUMBING
P100S	SOUTH CONCESSIONS BUILDING PLANS - PLUMBING
P101	MAINTENANCE BUILDING PLANS - PLUMBING
P400	PLUMBING DETAILS
P600	PLUMBING SCHEDULES

MECHANICAL

M000	VENTILATION COVERSHEET
M100N	NORTH CONCESSIONS BUILDING PLANS - VENTILATION
M100S	SOUTH CONCESSIONS BUILDING PLANS - VENTILATION
M101	MAINTENANCE BUILDING PLANS - VENTILATION
M400	VENTILATION DETAILS
M600	VENTILATION SCHEDULES

ELECTRICAL

E000	ELECTRICAL COVERSHEET
E001	SITE PLAN - ELECTRICAL
E100N	NORTH CONCESSIONS BUILDING PLANS - ELECTRICAL
E100S	SOUTH CONCESSIONS BUILDING PLANS - ELECTRICAL
E101	MAINTENANCE BUILDING PLANS- ELECTRICAL
E400	ELECTRICAL DETAILS
E500	ELECTRICAL DIAGRAMS
E600	ELECTRICAL SCHEDULES
E601	ELECTRICAL SCHEDULES
E700	ELECTRICAL PANEL SCHEDULES

TECHNOLOGY

T000	TECHNOLOGY COVERSHEET
T100N	NORTH CONCESSIONS BUILDING PLANS - TECHNOLOGY
T100S	SOUTH CONCESSIONS BUILDING PLANS - TECHNOLOGY
T101	MAINTENANCE BUILDING PLANS - TECHNOLOGY
T200	TECHNOLOGY DETAILS
T201	TECHNOLOGY DETAILS
T202	TECHNOLOGY DETAILS
T300	TECHNOLOGY SCHEDULES

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DANIELLE J. BARTLETT — DATE
MY LICENSE EXPIRATION DATE IS: 12/31/2024
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JOSHUA A. TRYGSTAD, P.E. — DATE
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DAVID C. INGHRAM — DATE
MY LICENSE EXPIRATION DATE IS: 12/31/2024
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LICENSED PROFESSIONAL ARCHITECT — RONALD E. PASKACH — NO. 5705 — IOWA

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RONALD E. PASKACH — (DATE)
LICENSE NO. 5705
LICENSE RENEWAL DATE: 07/01/2023
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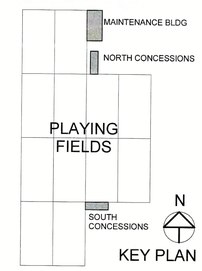
ISSUE DATE: 00/00/0000

SVPA ARCHITECTS
1466 28th Street, Suite 200 | West Des Moines, Iowa 50266 | 515.327.5990

CITY OF GRIMES

IMEG

CIVIL DESIGN ADVANTAGE



KEY PLAN

GRIMESPLEX
1000 NW HERITAGE DRIVE
GRIMES, IOWA 50111

ISSUANCE

CONSTRUCTION DOCUMENTS
04/25/2023

REVISIONS

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PROJECT NUMBER
22038

COVER SHEET

G001

4/25/2023 1:33:05 PM
Autodesk Docs://22038 Grimesplex/22038 Grimesplex_Arch_R22.rvt

CODE SHEET SYMBOLS

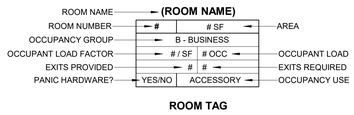
EXIT

K — KNOX BOX LOCATION
72" AFF, VERIFY HEIGHT

FEC — FIRE EXTINGUISHER CABINET

EMERGENCY LIGHT

EXIT SIGN



ROOM TAG

PROJECT AND CODE SUMMARY

FACILITY NAME:
ADDRESS: 7054 NW 114TH ST GRIMES, IA 50111

PROJECT DESCRIPTION:
THIS PROJECT IS NEW/EXISTING CONSTRUCTION. THE PROJECT INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING, AND AS SHOWN/DESCRIBED THROUGHOUT THE CONTRACT DOCUMENTS:

TWO CONCESSION / RESTROOM BUILDINGS AND A MAINTENANCE BUILDING. EACH OF THE RESTROOM/CONCESSION BUILDINGS WILL BE APPROXIMATELY 2,750 S.F.

THE BUILDINGS WILL INCLUDE WOMEN'S AND MEN'S PUBLIC RESTROOMS, JANITORIAL SPACE, CONTROL ROOM, OFFICE, MEETING ROOMS, PRIVATE INDIVIDUAL RESTROOMS, CONCESSIONS AREA WITH STORAGE ROOM AND A WALK-IN COOLER.

THE MAINTENANCE BUILDING HAS BEEN ESTIMATED AT APPROXIMATELY 3,000 S.F. AND WILL INCLUDE A RESTROOM. THE REMAINING SPACE WILL BE USED AS COLD STORAGE.

OTHER SITE AMENITIES WILL INCLUDE **TRASH ENCLOSURES AND MONUMENT SIGNAGE**.

OCCUPANCY: A-3, S-1
CONSTRUCTION TYPE: (III-B, NON SPRINKLED)

APPLICABLE CODES
AUTHORITY HAVING JURISDICTION: (CITY OR STATE)
- 2018 INTERNATIONAL BUILDING CODE (IBC)
- 2018 INTERNATIONAL FIRE CODE (IFC)
- 2020 NATIONAL ELECTRICAL CODE (NEC)
- 2018 INTERNATIONAL MECHANICAL CODE (IMC)
- 2018 UNIFORM PLUMBING CODE (UPC)
- 2012 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
- 2018 INTERNATIONAL FUEL GAS CODE
- 2010 ADA STANDARDS, US DEPT OF JUSTICE

- FROST DEPTH: 42 INCHES
- GROUND SNOW LOAD: 30 PSF
- WIND SPEED: 90 MPH BASED ON BUILDING RISK CATEGORY
- SEISMIC ZONE: A

CODE REVIEW - CONCESSIONS BUILDINGS

OCCUPANCY TYPE (CH 3)

A-3 ASSEMBLY (MOST RESTRICTIVE NON-SEPARATED USE)

BUILDING HEIGHTS & AREAS (CH 5)

TABLE 503
ALLOWABLE HEIGHT: 55' / 2 STORY

AREA ALLOWABLE PER FLOOR = 9,500 SF (TABLE 506.2)

ACTUAL AREA: 2,754 GSF
ACTUAL STORIES = 1
ACTUAL HEIGHT = 17'-8"

TYPES OF CONSTRUCTION (CH 6)

CONTRUCTION TYPE: III-B, NON SPRINKLED

REQUIRED FIRE-RESISTANCE RATING FOR BUILDING ELEMENTS (CHAPTER 6)

PRIMARY STRUCTURAL FRAME (HRS)	0
BEARING WALLS	
INTERIOR	0
EXTERIOR	0
NON-BEARING WALLS AND PARTITIONS	
EXTERIOR	0
FLOOR CONSTRUCTION AND SECONDARY MEMBERS	0
ROOF CONSTRUCTION AND SECONDARY MEMBERS	0

FIRE AND SMOKE PROTECTION FEATURES (CHAPTER 7)

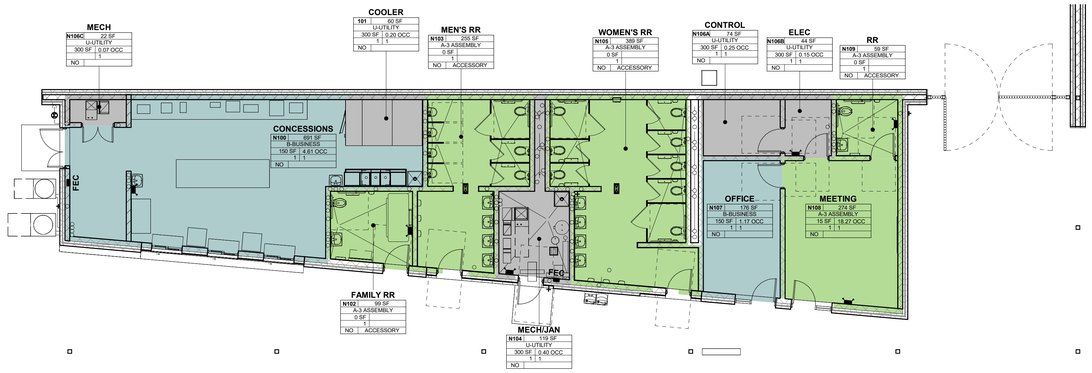
(2) ABC - SIZE II REQUIRED (906.3)

EGRESS (CH 10)

EGRESS COMPONENTS MINIMUM WIDTH = 25 X 0.2 = 5"
DOOR MINIMUM WIDTH = 32" (1009.1)

CALCULATED OCCUPANCY LOAD TOTALS - NORTH CONCESSIONS BLDG

ROOM NAME	ROOM #	OCCUPANCY	AREA	OCCUPANCY LOAD FACTOR	CALCULATED OCCUPANCY LOAD
LEVEL 1					
CONCESSIONS	N100	B-BUSINESS	691 SF	150	4.61
FAMILY RR	N102	A-3 ASSEMBLY	99 SF	0	
MEN'S RR	N103	A-3 ASSEMBLY	255 SF	0	
MECH/JAN	N104	U-UTILITY	119 SF	300	0.40
WOMEN'S RR	N105	A-3 ASSEMBLY	389 SF	0	
CONTROL	N106A	U-UTILITY	74 SF	300	0.25
ELEC	N106B	U-UTILITY	44 SF	300	0.15
MECH	N106C	U-UTILITY	22 SF	300	0.07
OFFICE	N107	B-BUSINESS	176 SF	150	1.17
MEETING	N108	A-3 ASSEMBLY	274 SF	15	18.27
RR	N109	A-3 ASSEMBLY	59 SF	0	
			2202 SF		24.92



1 CODE PLAN - NORTH CONCESSIONS BUILDING
SCALE: 1/8" = 1'-0"

PLUMBING FIXTURE REQUIREMENTS (IBC CHAPTER 29 / IPC CHAPTER 4)

TOTALS FOR BOTH CONCESSIONS BUILDINGS	WATER CLOSETS		URINALS	LAVATORIES		DRINKING FOUNTAINS
A-ASSEMBLY OCCUPANCY	MALE	FEMALE		MALE	FEMALE	
TOTAL OCC 1,246 MALE 623 FEMALE 623	(1 PER 75 FOR THE FIRST 1,500 + 1 PER 120 FOR REMAINDER EXCEEDING 1,500)	(1 PER 40 FOR THE FIRST 1,520 + 1 PER 60 FOR THE REMAINDER EXCEEDING 1,520)	2/3 OF REQUIRED WC MAY BE URINALS	1 PER 200	1 PER 150	1:1000
REQUIRED FIXTURES	MALE	FEMALE		MALE	FEMALE	
	9	16	8 (1/2 OF PROVIDED FIXTURES)	4	5	2
PROVIDED FIXTURES	MALE	FEMALE		MALE	FEMALE	
	16	18		10	10	4
PROJECT IN COMPLIANCE						

CODE REVIEW - MAINTENANCE BUILDING

OCCUPANCY TYPE (CH 3)

(TYPE) S-1 STORAGE

BUILDING HEIGHTS & AREAS (CH 5)

TABLE 503
ALLOWABLE HEIGHT: 55' / 2 STORY

AREA ALLOWABLE PER FLOOR = 17,500 SF (TABLE 506.2)

ACTUAL AREA: 3,279 GSF
ACTUAL STORIES = 1
ACTUAL HEIGHT = 17'-5"

TYPES OF CONSTRUCTION (CH 6)

CONTRUCTION TYPE: III-B, NON SPRINKLED

REQUIRED FIRE-RESISTANCE RATING FOR BUILDING ELEMENTS (CHAPTER 6)

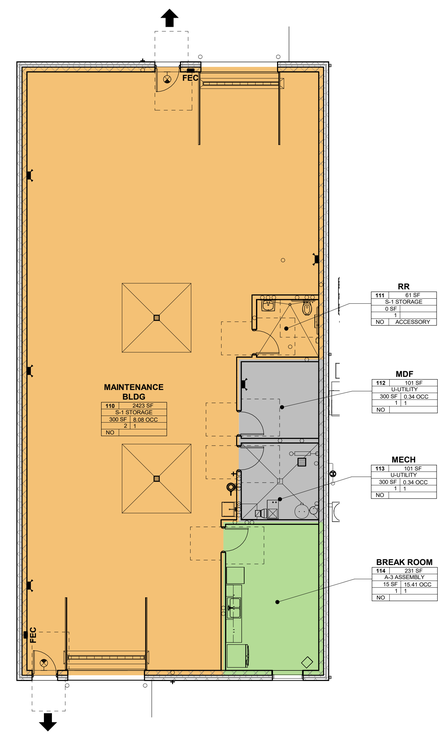
PRIMARY STRUCTURAL FRAME (HRS)	0
BEARING WALLS	
INTERIOR	0
EXTERIOR	0
NON-BEARING WALLS AND PARTITIONS	
EXTERIOR	0
FLOOR CONSTRUCTION AND SECONDARY MEMBERS	0
ROOF CONSTRUCTION AND SECONDARY MEMBERS	0

FIRE AND SMOKE PROTECTION FEATURES (CHAPTER 7)

(2) ABC - SIZE II REQUIRED (906.3)

EGRESS (CH 10)

EGRESS COMPONENT MINIMUM WIDTH = 30 X 0.2 = 6"
DOOR MINIMUM WIDTH = 32" (1009.1)



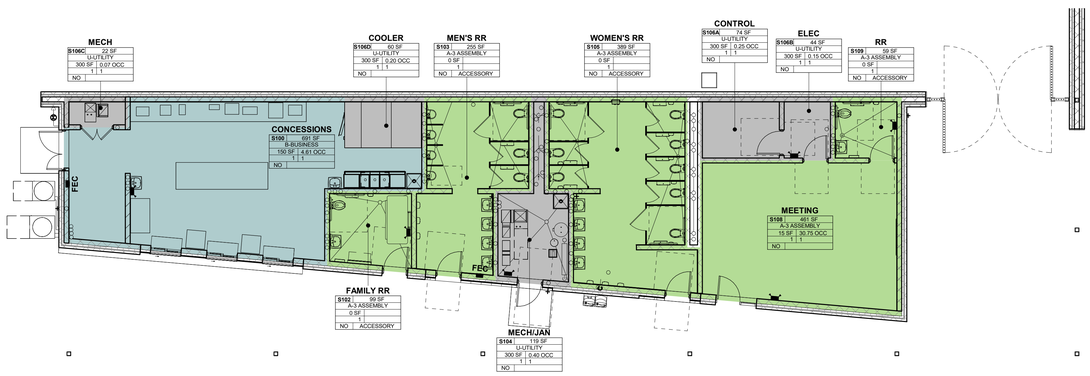
3 CODE PLAN - MAINTENANCE BUILDING
SCALE: 1/8" = 1'-0"

PLUMBING FIXTURE REQUIREMENTS (IBC CHAPTER 29 / IPC CHAPTER 4)

MAINTENANCE BUILDING	WATER CLOSETS		URINALS	LAVATORIES		DRINKING FOUNTAINS
S-1 STORAGE OCCUPANCY	MALE	FEMALE		MALE	FEMALE	
TOTAL OCC 25 MALE 13 FEMALE 13	(1 PER 100)	(1 PER 100)		1 PER 100	1 PER 100	1:1000
REQUIRED FIXTURES	MALE	FEMALE		MALE	FEMALE	
	1	1	N/A	1	1	1
PROVIDED FIXTURES	MALE	FEMALE		MALE	FEMALE	
	1 UNISEX		0	1 UNISEX		1
PROJECT IN COMPLIANCE						

CALCULATED OCCUPANCY LOAD TOTALS - MAINTENANCE BLDG

ROOM NAME	ROOM #	OCCUPANCY	AREA	OCCUPANCY LOAD FACTOR	CALCULATED OCCUPANCY LOAD
LEVEL 1					
MAINTENANCE BLDG	110	S-1 STORAGE	2423 SF	300	8.08
RR	111	S-1 STORAGE	61 SF	0	
MDF	112	U-UTILITY	101 SF	300	0.34
MECH	113	U-UTILITY	101 SF	300	0.34
BREAK ROOM	114	A-3 ASSEMBLY	231 SF	15	15.41
			2917 SF		24.16



2 CODE PLAN - SOUTH CONCESSIONS BUILDING
SCALE: 1/8" = 1'-0"

CALCULATED OCCUPANCY LOAD TOTALS - SOUTH CONCESSIONS BLDG

ROOM NAME	ROOM #	OCCUPANCY	AREA	OCCUPANCY LOAD FACTOR	CALCULATED OCCUPANCY LOAD
LEVEL 1					
CONCESSIONS	S100	B-BUSINESS	691 SF	150	4.61
FAMILY RR	S102	A-3 ASSEMBLY	99 SF	0	
MEN'S RR	S103	A-3 ASSEMBLY	255 SF	0	
MECH/JAN	S104	U-UTILITY	119 SF	300	0.40
WOMEN'S RR	S105	A-3 ASSEMBLY	389 SF	0	
CONTROL	S106A	U-UTILITY	74 SF	300	0.25
ELEC	S106B	U-UTILITY	44 SF	300	0.15
MECH	S106C	U-UTILITY	22 SF	300	0.07
COOLER	S106D	U-UTILITY	60 SF	300	0.20
MEETING	S108	A-3 ASSEMBLY	461 SF	15	30.75
RR	S109	A-3 ASSEMBLY	59 SF	0	
			2273 SF		36.42

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CITY OF GRIMES

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CIVIL DESIGN ADVANTAGE

GRIMESPLEX

1000 NW HERITAGE DRIVE
GRIMES, IOWA 50111

ISSUANCE

CONSTRUCTION DOCUMENTS
04/25/2023

REVISIONS

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PROJECT NUMBER
22038

CODE REVIEW

G002

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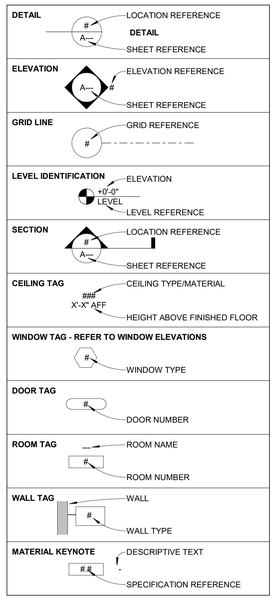
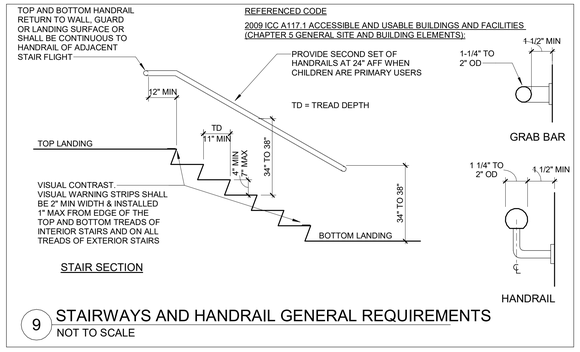
ABBREVIATIONS

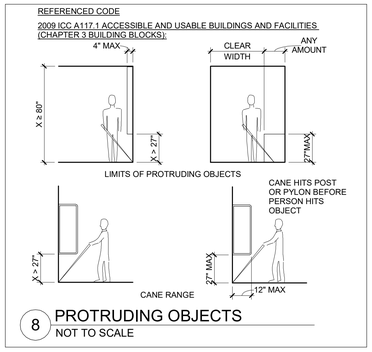
@	AT
&	AND
"	INCH
'	FOOT
#	NUMBER OR POUND
ABV	ABOVE
ACT	ACOUSTICAL CEILING TILE
ADA	AMERICANS WITH DISABILITIES ACT
ADMIN	ADMINISTRATION, ADMINISTRATIVE
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
ALUM	ALUMINUM
ANOD	ANODIZED
ARCH	ARCHITECT, ARCHITECTURAL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AUTO	AUTOMATIC
AVG	AVERAGE
BO	BOTTOM OF
BLDG	BUILDING
BLKG	BLOCKING
BP	BEARING PLATE
BRG	BEARING
C/C	CENTER TO CENTER
CCTV	CLOSED CIRCUIT TV
CG	CORNER GUARD
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT
CL	CENTERLINE
CLEAR	CLEARANCE
CLG	CEILING
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CONT	CONTINUOUS
CORR	CORRIDOR
CPT	CARPET
CT	CERAMIC TILE
CTOP	COUNTERTOP
DBL	DOUBLE
DEMO	DEMOLITION
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DN	DOWN
DR	DOOR
DS	DOWNSPOUT
DTL	DETAIL
E/E	END TO END
EA	EACH
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EJ	EXPANSION JOINT
ELEC	ELECTRIC, ELECTRICAL
ELEV	ELEVATOR
EQ	EQUAL
EQUIP	EQUIPMENT
EXST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
F/F	FACE TO FACE
FBO	FURNITURE BY OWNER/OTHER
FDC	FIRE DEPARTMENT CONNECTION
FE	FIRE EXTINGUISHER
FEB	FIRE EXTINGUISHER BRACKET
FEC	FIRE EXTINGUISHER CABINET
FF	FINISHED FLOOR
FFE	FIXTURES, FURNISHINGS & EQUIPMENT
FO	FACE OF
FNDN	FOUNDATION
FT	FOOT, FEET
FTG	FOOTING
FURN	FURNITURE
FV	FIELD VERIFY
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GL	GLASS
GWB	GYPSUM WALL BOARD
GB	GYPSUM BOARD
HB	HOSE BIB
HCP	HANDICAP
HDWR	HARDWARE
HGT	HEIGHT
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HR	HOUR
HVAC	HEATING, VENTILATING & AIR CONDITIONING
HWD	HARDWOOD
IN	INCH
INSUL	INSULATION
INT	INTERIOR
IJ	ISOLATION JOINT
JAN	JANITOR
KO	KNOCKOUT
LAB	LABORATORY
LAV	LAVATORY
LBS	POUNDS (WEIGHT)
LF	LINEAR FOOT/FEET
LVT	LUXURY VINYL TILE
MAX	MAXIMUM
MECH	MECHANICAL
MEZZ	MEZZANINE
MIN	MINIMUM
MFR	MANUFACTURER
MIR	MIRROR
MISC	MISCELLANEOUS
MKBD	MARKERBOARD
MO	MASONRY OPENING
MTL	METAL
MATL	MATERIAL
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OD	OVERFLOW DRAIN
OFCI	OWNER FURNISHED/CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED/OWNER INSTALLED
OPNG	OPENING
OPP	OPPOSITE, OPPOSITE HAND
PLAM	PLASTIC LAMINATE
PLY	PLYWOOD
PNT	PAINT, PAINTED, POINT
PREFAB	PREFABRICATE, PREFABRICATED
PT	PORCELAIN TILE
PNT	PAINT
QT	QUARRY TILE
QTY	QUANTITY
QTZ	QUARTZ
RAD	RADIUS
RAF	RESILIENT ATHLETIC FLOORING
RB	RESILIENT BASE
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REBAR	REINFORCING BAR
REF	REFRIGERATOR
REINF	REINFORCE, REINFORCEMENT
REQD	REQUIRED
REV	REVISION
RF	RESILIENT FLOORING
RO	ROUGH OPENING
ROW	RIGHT OF WAY
RSF	RESILIENT SHEET FLOORING
SC	SEALED CONCRETE
SCH	SCHEDULE
SF	SQUARE FOOT
SHWR	SHOWER
SIM	SIMILAR
SPKR	SPEAKER
SB	SPLASH BLOCK
SQ	SQUARE
SS	SOLID SURFACE
SSTL	STAINLESS STEEL
ST	STONE
STC	SOUND TRANSMISSION CLASS
STD	STANDARD
STL	STEEL
STOR	STORAGE
SV	SHEET VINYL
T	THERMOSTAT
TO	TOP OF
T&G	TONGUE & GROOVE
TEMP	TEMPORARY
TRZ	TERRAZZO
TYP	TYPICAL
UL	UNDERWRITERS' LABORATORIES
UNO	UNLESS NOTED OTHERWISE
VAR	VARIES
VB	VAPOR BARRIER
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
VOL	VOLUME
VWC	VINYL WALLCOVERING
W/	WITH
W/O	WITHOUT
WAF	WOOD ATHLETIC FLOORING
WB	WOOD BASE
WC	WATERCLOSET
WD	WOOD
W/D	WASHER/DRYER
WH	WATER HEATER
WOC	WALK OFF CARPET
WVW	WOOD VENEER WALLCOVERING
WWF	WELDED WIRE FABRIC
YD	YARD
YR	YEAR

DRAWING SYMBOLS

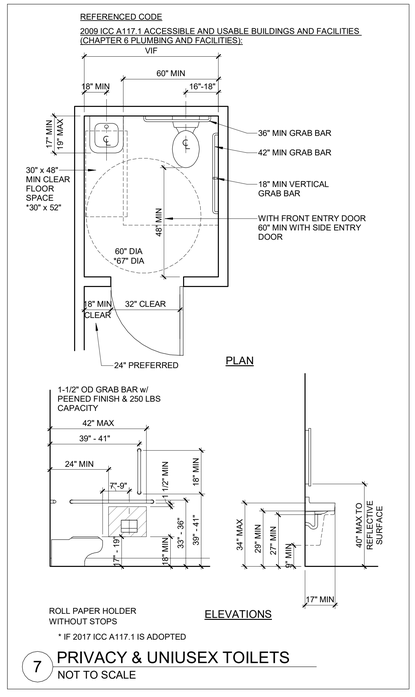




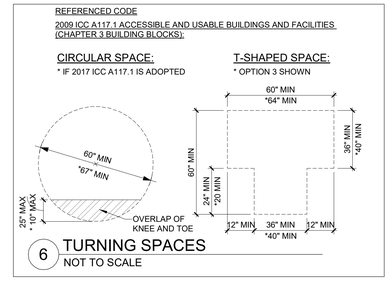
9 STAIRWAYS AND HANDRAIL GENERAL REQUIREMENTS
NOT TO SCALE



8 PROTRUDING OBJECTS
NOT TO SCALE



7 PRIVACY & UNIUSEX TOILETS
NOT TO SCALE



6 TURNING SPACES
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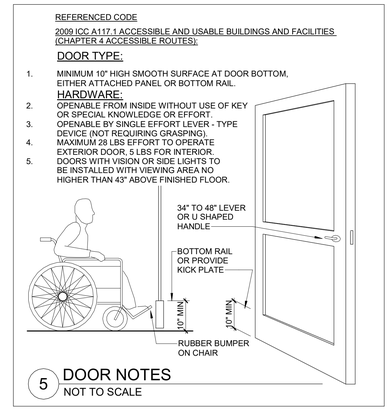
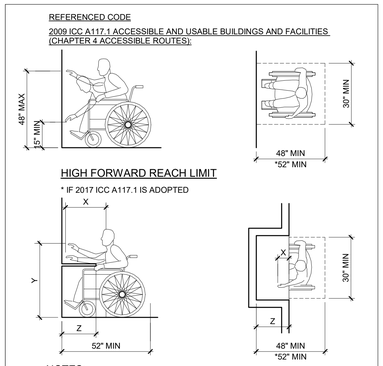
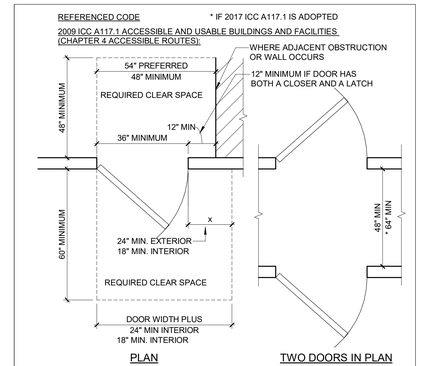


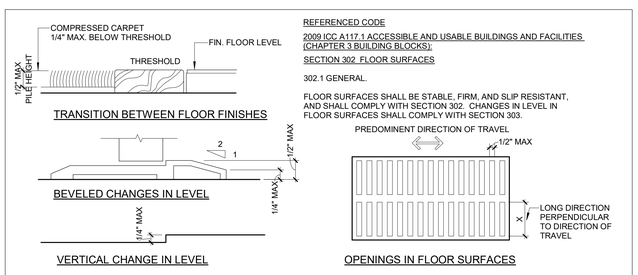
5 DOOR NOTES
NOT TO SCALE



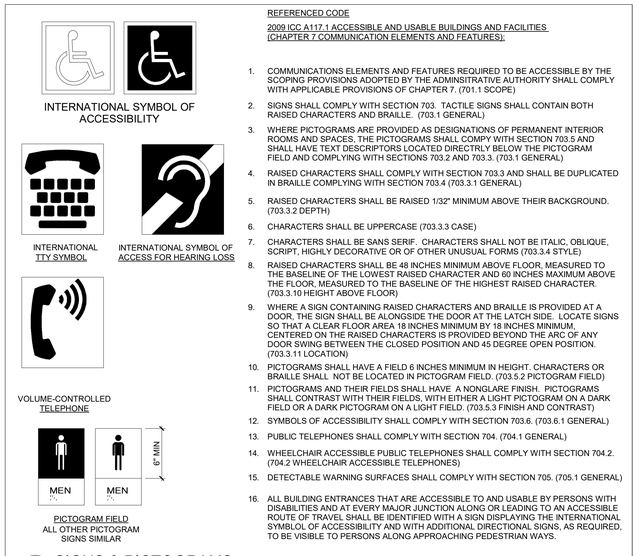
3 REACH REQUIREMENTS
NOT TO SCALE



2 DOOR CLEAR SPACE
NOT TO SCALE



4 THRESHOLD & LEVEL CHANGES
NOT TO SCALE



1 SIGNS & PICTOGRAMS
NOT TO SCALE

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ISSUANCE

CONSTRUCTION DOCUMENTS
04/25/2023

REVISIONS

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PROJECT NUMBER
22038

GENERAL INFORMATION

G003

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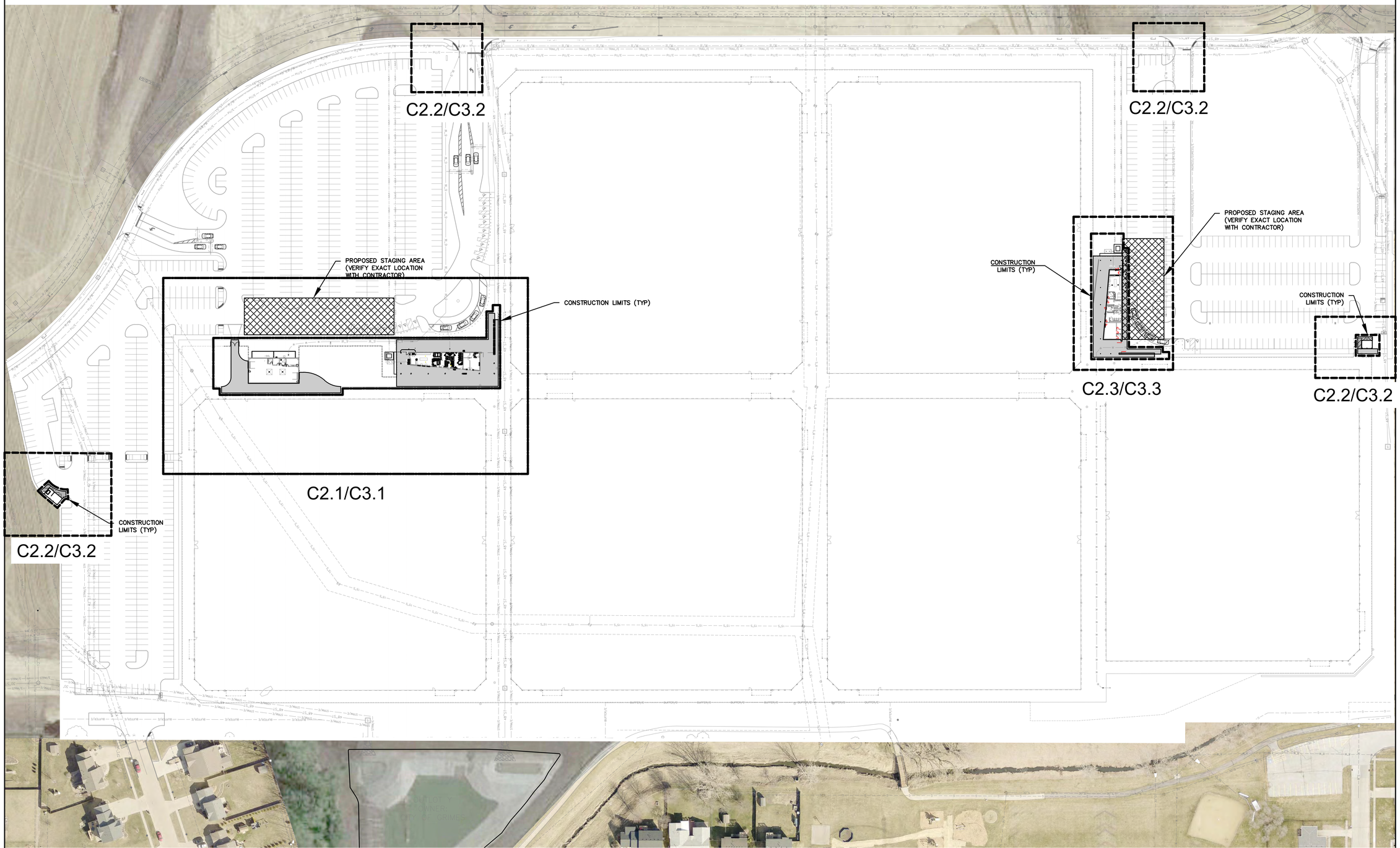

GENERAL LEGEND

PROPOSED	EXISTING	PROPOSED	EXISTING	PROPOSED	EXISTING
PROPERTY BOUNDARY	SANITARY MANHOLE	TYPE SW-402 STORM MANHOLE	ELECTRIC BOX	SILT FENCE	UNDERGROUND ELECTRIC
SECTION LINE	WATER VALVE BOX	FLARED END SECTION	ELECTRIC TRANSFORMER	USE AS CONSTRUCTED (UAC)	FIELD TILE
CENTER LINE	FIRE HYDRANT	TYPE SW-301 SANITARY MANHOLE	ELECTRIC MANHOLE OR VAULT	MINIMUM PROTECTION ELEVATION MPE	SANITARY SEWER W/ SIZE
RIGHT OF WAY	WATER CURB STOP	STORM/SANITARY CLEANOUT	TRAFFIC SIGN		STORM SEWER W/ SIZE
BUILDING SETBACK	WELL	WATER VALVE	TELEPHONE JUNCTION BOX		WATER MAIN W/ SIZE
PERMANENT EASEMENT	STORM SEWER MANHOLE	FIRE HYDRANT ASSEMBLY	TELEPHONE MANHOLE/VAULT		
TEMPORARY EASEMENT	STORM SEWER SINGLE INTAKE	SIGN	TELEPHONE POLE		
TYPE SW-501 STORM INTAKE	STORM SEWER DOUBLE INTAKE	DETECTABLE WARNING PANEL	GAS VALVE BOX		
TYPE SW-502 STORM INTAKE	FLARED END SECTION	WATER CURB STOP	CABLE TV JUNCTION BOX		
TYPE SW-503 STORM INTAKE	DECIDUOUS TREE	SANITARY SEWER	CABLE TV MANHOLE/VAULT		
TYPE SW-505 STORM INTAKE	CONIFEROUS TREE	SANITARY SERVICE	MAIL BOX		
TYPE SW-506 STORM INTAKE	DECIDUOUS SHRUB	STORM SEWER	BENCHMARK		
TYPE SW-512 STORM INTAKE	CONIFEROUS SHRUB	STORM SERVICE	SOIL BORING		
TYPE SW-513 STORM INTAKE	ELECTRIC POWER POLE	WATERMAIN WITH SIZE	UNDERGROUND TV CABLE		
TYPE SW-401 STORM MANHOLE	GUY ANCHOR	WATER SERVICE	GAS MAIN		
	STREET LIGHT	SAWCUT (FULL DEPTH)	FIBER OPTIC		
	POWER POLE W/ TRANSFORMER		UNDERGROUND TELEPHONE		
	UTILITY POLE W/ LIGHT		OVERHEAD ELECTRIC		

N

SCALE
0' 30' 60' 120'

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CITY OF GRIMES
IMEG CA
CIVIL DESIGN ADVANTAGE

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ISSUANCE

FINAL PLANS
04/20/2023

REVISIONS

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PROJECT NUMBER
2202.086

REFERENCE PLAN

C1.1

FILE: H:\2022\2202086\DWG\SITE PLAN\2202086-SHEET LAYOUT SWPPP.DWG
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PLOT BY: A. DOMENY
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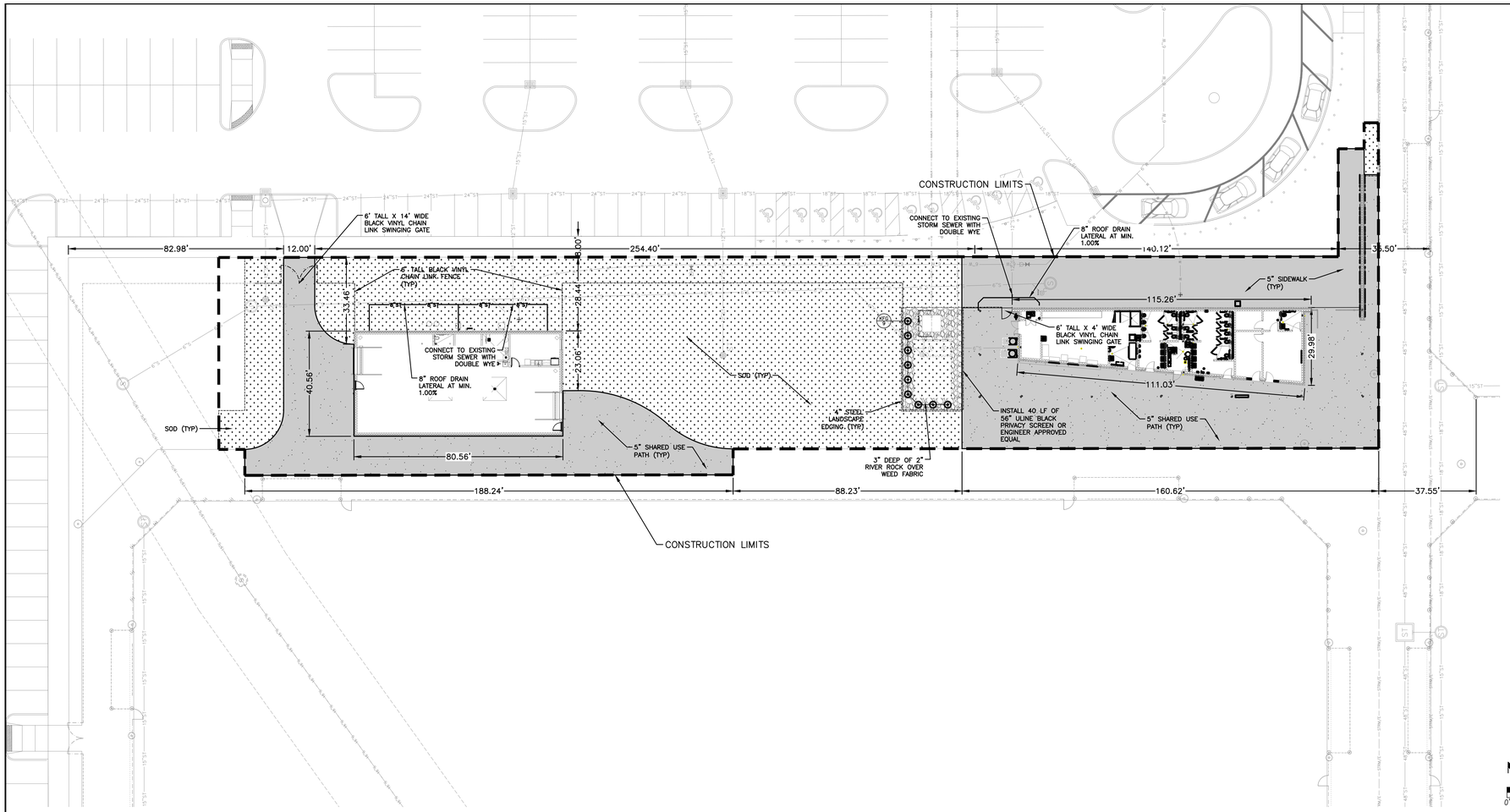

TRAFFIC CONTROL NOTES:

1. ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
2. PERMANENT SIGNING THAT CONVEYS A MESSAGE CONTRARY TO THE MESSAGE OF TEMPORARY SIGNING AND NOT APPLICABLE TO THE WORKING CONDITIONS SHALL BE COVERED BY THE CONTRACTOR WHEN DIRECTED BY THE CITY.
3. THE CONTRACTOR SHALL COORDINATE HIS TRAFFIC CONTROL WITH OTHER CONSTRUCTION PROJECTS IN THE AREA.
4. SIDEWALK CLOSED SIGNS REQUIRED FOR ALL SIDEWALK CLOSURES. SIGNAGE AND TEMPORARY PEDESTRIAN ACCESS ROUTE THROUGH CONSTRUCTION AREA SHALL MEET THE REQUIREMENTS OF PUBLIC RIGHT-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG), SECTION R205 AND IOWA DOT DESIGN MANUAL, CHAPTER 12A-4.
5. THE CONTRACTOR IS CAUTIONED NEITHER TO OBSTRUCT NOR REMOVE ANY EXISTING PAVEMENT, NOR TO DISTURB THE EXISTING TRAFFIC PATTERNS MORE THAN IS NECESSARY FOR THE PROPER EXECUTION OF THE WORK.
6. TRAFFIC CONTROL REQUIRED ON ALL PUBLIC STREETS DURING ANY WORK WITHIN EXISTING RIGHT-OF-WAY. CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE CITY FOR APPROVAL PRIOR TO CONSTRUCTION.
7. ALL APPLICABLE CITY PERMITS, INCLUDING BUT NOT LIMITED TO CLOSURE PERMITS, SHALL BE OBTAINED PRIOR TO ANY CONSTRUCTION WITHIN CITY R.O.W. OR LANE CLOSURES.
8. ALL SIGNING AND LANE STRIPING WILL NEED TO COMPLY WITH MUCTD. MAINTENANCE AND REPLACEMENT OF THE SIGNING AND STRIPING WILL BE THE RESPONSIBILITY OF THE APPLICANT.

LANDSCAPE LEGEND

SOD

SEED

SIGN LEGEND

01 ACCESSIBLE PARKING SIGN (R7-8)

02 VAN ACCESSIBLE PARKING SIGN (R7-8A)

03 STOP SIGN (R1-1)

PAVEMENT LEGEND

4" P.C.C.

5" P.C.C.

5" P.C.C. (SHARED USE PATH PLAZA)

GENERAL NOTES

1. THE 2023 EDITION OF THE SUDAS STANDARD SPECIFICATIONS AND ALL CITY SUPPLEMENTALS, IF APPLICABLE, SHALL APPLY TO ALL SITE WORK ON THIS PROJECT UNLESS OTHERWISE NOTED.
2. ALL WORK SHALL COMPLY WITH ADA ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES.
3. ALL WORK SHALL BE IN ACCORDANCE WITH OSHA CODES AND STANDARDS. NOTHING INDICATED ON THE DRAWINGS SHALL RELIEVE THE CONTRACTOR FROM COMPLYING WITH ANY APPROPRIATE SAFETY REGULATIONS.
4. PRIOR TO ANY WORK AT THE SITE, CONTRACTOR SHALL EXAMINE ANY APPLICABLE DRAWINGS AVAILABLE FROM THE OWNER, ENGINEER, AND/OR ARCHITECT, AND CONSULT WITH OWNER'S PERSONNEL AND UTILITY COMPANY REPRESENTATIVES. NO COMPENSATION WILL BE ALLOWED FOR DAMAGE FROM FAILURE TO COMPLY WITH THIS REQUIREMENT.
5. ONE WEEK PRIOR TO CONSTRUCTION SHALL NOTIFY THE CITY'S CONSTRUCTION DIVISION.
6. ALL CONSTRUCTION WITHIN PUBLIC R.O.W./ EASEMENTS, AND/OR ANY CONNECTION TO PUBLIC SEWERS AND STREETS, SHALL COMPLY WITH THE CITY OF GRIMES STANDARDS.
7. ALL DIMENSIONS ARE TO BACK OF CURB, BUILDING FACE OR PROPERTY LINE UNLESS OTHERWISE NOTED.
8. CONTRACTOR TO VERIFY BUILDING DIMENSIONS WITH ARCHITECTURAL PLANS.
9. PLACE 3/4 INCH EXPANSION JOINT BETWEEN ALL P.C.C. PAVEMENT/SIDEWALKS AND BUILDING. PLACE 1/2 INCH EXPANSION JOINT BETWEEN SIDEWALKS AND P.C.C. PAVEMENT.
10. REMOVE ALL DEBRIS SPILLED INTO R.O.W. AT THE END OF EACH WORK DAY.
11. ALL PROPERTY PINS SHALL BE PROTECTED FROM GRADING OR OTHER OPERATIONS. ANY PINS DISTURBED SHALL BE RESET AT THE CONTRACTOR'S EXPENSE.
12. DO NOT STORE CONSTRUCTION MATERIALS AND EQUIPMENT IN THE RIGHT OF WAY.
13. THE CONTRACTOR SHALL NOT DISTURB DESIRABLE GRASS AREAS AND DESIRABLE TREES OUTSIDE THE CONSTRUCTION LIMITS. THE CONTRACTOR WILL NOT BE PERMITTED TO PARK OR SERVICE VEHICLES AND EQUIPMENT OR USE THESE AREAS FOR STORAGE OF MATERIALS. STORAGE, PARKING AND SERVICE AREAS WILL BE SUBJECT TO THE APPROVAL OF THE OWNER.
14. THE CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY AREAS OF PAVEMENT OR SIDEWALK NOT TO BE REMOVED THAT IS DAMAGED DUE TO OPERATING EQUIPMENT ON THE PAVEMENT OR SIDEWALK.
15. THE CONTRACTOR SHALL BE REQUIRED TO PLACE TEMPORARY WARNING DEVICES AND SAFETY FENCE AT CERTAIN LOCATIONS WHERE REPLACEMENT FEATURES ARE NOT INSTALLED THE SAME DAY. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF WORK BETWEEN SUPPLIERS AND SUBCONTRACTORS INVOLVED IN THE PROJECT, INCLUDING STAGING OF CONSTRUCTION DETAILS.
16. CONCRETE REMOVAL FOR DRIVEWAY APPROACHES SHALL BE REMOVED TO THE NEAREST TRANSVERSE JOINT. CONTRACTOR SHALL VERIFY REMOVAL LIMITS WITH CITY OF GRIMES CONSTRUCTION INSPECTOR PRIOR TO ANY CONCRETE REMOVAL.
17. ALL PERMITS AND ADDITIONAL FEES REQUIRED TO COMPLETE THE WORK SHALL BE INCLUDED IN THE CONTRACTOR BID.
18. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL NOTIFY (48 HRS NOTICE) THE FOLLOWING:
    A. CITY OF GRIMES
    B. APPROPRIATE UTILITY COMPANIES
    C. CIVIL DESIGN ADVANTAGE
21. PARKING LOT STRIPING SHALL BE A 4" WHITE STRIPE UNLESS OTHERWISE NOTED (MINIMUM TWO COATS).
22. ALL EXTERIOR LIGHTING SHALL BE LOW-GLARE FULL CUTOFF TYPE FIXTURES AND SHALL NOT EXCEED ZERO FOOT-CANDLES BEYOND THE PROPERTY LINE. THE CONTRACTOR SHALL COORDINATE FINAL LIGHTING AND ELECTRICAL DESIGN WITH THE OWNER.
23. ANY SITE CHANGES THAT DIFFER FROM THE SITE PLAN MUST BE APPROVED BY THE CITY OF GRIMES PRIOR TO INSTALLATION/AMENDMENT.
24. WHERE PUBLIC UTILITY FIXTURES ARE SHOWN AS EXISTING ON THE PLANS OR ENCOUNTERED WITHIN THE CONSTRUCTION AREA, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNERS OF THOSE UTILITIES PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. THE CONTRACTOR SHALL AFFORD ACCESS TO THESE FACILITIES FOR NECESSARY MODIFICATION OF SERVICES. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS, AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS POSSIBLE THERE MAY BE OTHERS. THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN OR SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATIONS AND TO AVOID DAMAGE THERETO. NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK.
    THE CONTRACTOR IS REQUIRED TO UTILIZE THE UTILITY ONE-CALL SERVICE AT 800-292-8989 AT LEAST 48 HOURS PRIOR TO EXCAVATING ANYWHERE ON THE PROJECT.
25. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF WORK BETWEEN ALL SUPPLIERS AND SUBCONTRACTORS INVOLVED IN THE PROJECT, INCLUDING STAGING OF CONSTRUCTION DETAILS.
26. THE CONTRACTOR SHALL APPLY NECESSARY MOISTURE TO THE CONSTRUCTION AREA AND HAUL ROADS TO PREVENT THE SPREAD OF DUST.
27. THE CONTRACTOR MAY BE REQUIRED AS DIRECTED BY THE ENGINEER OR THE CITY, TO PLACE TEMPORARY WARNING DEVICES AND SAFETY FENCE AT CERTAIN LOCATIONS WHERE REPLACEMENT FEATURES ARE NOT INSTALLED THE SAME DAY.
28. SPECIAL CARE SHALL BE TAKEN WHEN FORMING AT INTERSECTIONS SO THE PROFILES SHOWN ON THE PLANS AND THE ELEVATIONS SHOWN ON THE INTERSECTION DETAILS ARE OBTAINED. SHORT LENGTHS OF FORMS OR FLEXIBLE FORMS MAY BE NECESSARY AT THESE LOCATIONS.
29. TO OBTAIN THE CORRECT FORM GRADES AT LOW POINTS WHERE INTAKES ARE LOCATED, THE CONTRACTOR MUST EXERCISE ADDITIONAL CARE WHEN PAVING FULL WIDTH PAVEMENTS. THIS MAY REQUIRE POURING ONE HALF OF THE PAVEMENT AT A TIME OR OTHER METHODS APPROVED BY THE ENGINEER.
30. THE CONTRACTOR SHALL CONFINE HIS GRADING OPERATIONS TO WITHIN THE PROPOSED AND EXISTING RIGHT OF WAY, CONSTRUCTION LIMITS AND EASEMENTS SHOWN ON THE PLANS.
31. PLAN AND PROFILE SHEETS INCLUDED IN THE PROJECT ARE FOR THE PURPOSE OF ALIGNMENT, LOCATION AND SPECIFIC DIRECTIONS FOR WORK TO BE PERFORMED UNDER THIS CONTRACT. IRRELEVANT DATA ON THESE SHEETS IS NOT TO BE CONSIDERED A PART OF THIS CONTRACT.
32. THE CONTRACTOR IS REQUIRED TO BE FAMILIAR WITH AND COMPLY WITH OSHA STANDARDS. NOTHING WITHIN THESE PLANS SHALL RELIEVE THE CONTRACTOR OF THIS REQUIREMENT.
33. CIVIL DESIGN ADVANTAGE WILL PROVIDE ALL CONSTRUCTION STAKING ON THIS PROJECT. NOTIFY MIKE BROONER (369-4400) A MINIMUM OF 48 HOURS BEFORE CONSTRUCTION STAKES ARE REQUIRED.
34. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF ALL EROSION CONTROL MEASURES REQUIRED IN THE STORM WATER POLLUTION PREVENTION PLAN.
35. IN THE EVENT OF A DISCREPANCY BETWEEN DETAILED PLANS AND QUANTITIES, THE DETAILED PLANS SHALL GOVERN.
36. THE CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL.
37. ALL SLOPES IN PAVEMENT SHALL BE UNIFORM TO AVOID PONDING.
38. ALL FIELD TILES ENCOUNTERED SHALL BE REPAIRED AND CONNECTED TO STORM SEWERS WHERE POSSIBLE. LOCATIONS SHALL BE PROVIDED TO ENGINEER FOR NOTATION ON AS-BUILTS.
39. CONTRACTOR SHALL COMPLY WITH ALL A.D.A. REQUIREMENTS FOR ACCESSIBLE SIDEWALK RAMPS INCLUDING RAISED TRUNCATED DOME DETECTABLE WARNINGS.
40. ALL MATERIAL TESTING SHALL BE CONSIDERED INCIDENTAL TO OTHER CONSTRUCTION.
41. CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH THE CITY'S CURRENT GRIMESPLEX SITE IMPROVEMENTS PROJECT. ANY DAMAGE TO THOSE IMPROVEMENTS CAUSED BY THE CONTRACTOR OR THEIR SUBCONTRACTORS SHALL BE REPLACED. COORDINATION OF ACTIVITIES AND REPLACEMENT OF DAMAGED IMPROVEMENTS SHALL BE CONSIDERED INCIDENTAL.
42. THE EXISTING SITE WILL BE OPEN TO THE PUBLIC INCLUDING PARKING LOT, ATHLETIC FIELDS SIDEWALKS, TRAILS, ETC. CONTRACTOR SHALL PROVIDE TEMPORARY BARRICADES AND FENCING TO MAINTAIN A SAFE SITE. ANY TEMPORARY BARRICADES OR FENCING SHALL BE CONSIDERED INCIDENTAL.

CITY OF GRIMES STANDARD NOTES FOR PUBLIC IMPROVEMENTS

1. GENERAL NOTES:

A. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT VERSION OF THE IOWA STATEWIDE URBAN DESIGN AND SPECIFICATIONS FOR PUBLIC IMPROVEMENTS ON THE DATE OF APPROVAL AND THE CITY OF GRIMES SUPPLEMENTAL SPECIFICATIONS.
B. PROVIDE GEOTECHNICAL EXPLORATION AND REPORT FOR ALL PROPOSED STREET, SANITARY AND STORM SEWER AND WATER MAIN PROJECTS IN ACCORDANCE WITH THE SUDAS DESIGN MANUAL; SUBMIT WRITTEN REPORT AND TEST RESULTS TO CITY FOR REVIEW.
C. A PRECONSTRUCTION MEETING IS REQUIRED PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE THIS MEETING. CONTACT CITY OF GRIMES ENGINEERING DEPT. (515.986.4050).
D. ALL PERMITS (IDNR, SWPP, IDOT, ARMY CORP., ETC.) SHALL BE OBTAINED PRIOR TO THE START OF CONSTRUCTION.
E. THE DEVELOPER AND/OR CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE THE CITY OF GRIMES WITH RECORD DRAWINGS OF ALL IMPROVEMENTS AS PER CITY STANDARD PROCEDURES.
F. TYPICAL BUILDING LAYOUT TO REFLECT THE CITY'S SERVICE ORDER FROM LEFT TO RIGHT FACING THE LOT, SANITARY, WATER, SUMP. MARK ENDS OF SERVICES WITH STEEL FENCE POST AND PAINT GREEN FOR SANITARY, BLUE FOR WATER, AND WHITE FOR STORM.
G. ALL SERVICES LOCATIONS ARE TO BE STAMPED INTO THE CURB WITH LETTER IRONS AS PER CITY STANDARD PROCEDURES.
H. PROVIDE A 4-YEAR MAINTENANCE BOND FOR ALL PUBLIC IMPROVEMENTS.

2. SANITARY SEWER NOTES:

A. THE CONTRACTOR IS REQUIRED TO PLACE A TEMPORARY PLUG IN THE EXISTING DOWNSTREAM SANITARY SEWER MANHOLE PRIOR TO THE START OF CONSTRUCTION. THE PLUG SHALL BE REMOVED FOLLOWING APPROVAL OF CONSTRUCTION BY THE CITY OF GRIMES.
B. SANITARY GRAVITY PIPE MATERIAL SHALL BE PVC SDR 26 OR TRUSS (8" TO 15").
C. SANITARY GRAVITY SERVICE PIPE MATERIAL SHALL BE PVC SDR 23.5 (4"TO 6").
D. ALL SANITARY SEWER MANHOLES SHALL HAVE STEPS.
E. ALL SANITARY SEWER MANHOLES CASTINGS SHALL BE SEALED WITH HEAT SHRINK SLEEVES.
F. ALL MANHOLES SHALL BE EXTERIOR COATED WITH BITUMINOUS WATERPROOFING.
G. ALL SANITARY SEWER MANHOLE CASTINGS LOCATED WITHIN PAVEMENT SHALL BE TYPE B: PCC W/ADJUSTING MECHANISM.
H. SANITARY SEWER CLEANING & TELEVISING SHALL BE COMPLETED PRIOR TO PAVING. THE SEWER SYSTEM SHALL BE FLUSHED WITH WATER PRIOR TO TELEVISING.

3. WATER MAIN NOTES:

A. ALL FIRE HYDRANTS SHALL BE AMERICAN FLOW CONTROL-WATEROUS PACER WB-67-250, MUELLER SUPER CENTURION 250 (3-WAY A-423), OR CLOW MEDALLION F-2545. ALL HYDRANTS SHALL HAVE THE FOLLOWING: 6"MJ SHOE, 2-1/2"HOSE NOZZLE, 4-1/2"STEAMER NOZZLE, NST THREADS, PENTAGON OPERATING NUT, CHAIN ON CAP, OPEN LEFT, 5-1/2' BURY, AND FACTORY PAINTED RED. THE MINIMUM SPOOL PIPE LENGTH FROM AUXILIARY VALVE TO HYDRANT SHOE SHALL BE 2.0'.
B. ALL HYDRANTS WILL IMMEDIATELY BE COVERED WITH A BLACK PLASTIC BAG (OR EQUIVALENT) ONCE THE HYDRANT IS INSTALLED. THE CITY OF GRIMES WILL NOTIFY THE CONTRACTOR WHEN THE BAGS CAN BE REMOVED.
C. A TRACER WIRE RECEPTACLE SHALL BE INSTALLED AT EACH HYDRANT, AA MANUFACTURING TRACER WIRE RECEPTACLE MODEL TW-18-2.
D. ALL VALVES SHALL BE RESILIENT WEDGE GATE VALVES.
E. WATER SERVICE SHALL BE 1-INCH MINIMUM TYPE K COPPER. CURB STOP TO BE LOCATED AT ROW LINE.
F. PROPOSED WATER MAIN SHALL BE PRESSURE TESTED AND CHLORINATED BY THE DEVELOPER. THE FILLING OF THE WATER MAIN SHALL BE DONE BY THE CITY OF GRIMES. THE BACTERIA TEST AND RESULTS SHALL BE PERFORMED BY THE DEVELOPER AND RESULTS PROVIDED TO THE CITY OF GRIMES ENGINEERING DEPT. AND BY FAX TO US WATER AT 515-986-7300. IF THE TEST DOES NOT PASS, THE CONTRACTOR WILL BE REQUIRED TO PAY FOR ALL THE WATER USED TO REPEAT THE TEST.
G. ALL WATERMAIN FITTINGS TO BE RESTRAINED JOINT, MEGA-LUG OR APPROVED EQUAL.

4. STORM SEWER NOTES:

A. ALL STORM SEWER IN THE ROW SHALL BE RCP, UNLESS OTHERWISE APPROVED BY THE CITY.
B. ALL FLARED END SECTIONS SHALL HAVE FOOTINGS AND APRON GRATES. THE LAST 3 PIPE SECTIONS AND THE FLARED END SECTION ON ALL CULVERTS SHALL BE TIED. ALL STORM SEWER JOINTS SHALL BE WRAPPED WITH ENGINEERING FABRIC.
C. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY FIELD TILE DAMAGED DURING CONSTRUCTION. THE TILE SHOULD BE DIRECTED TO PUBLIC STORM SEWER IF POSSIBLE. THE CONTRACTOR SHALL RECORD THE ELEVATION AND LOCATION OF ALL TILES.
D. STORM SEWER CLEANING & TELEVISING SHALL BE COMPLETED PRIOR TO PAVING. THE SEWER SYSTEM SHALL BE FLUSHED WITH WATER PRIOR TO TELEVISING.
E. USE O RING GASKETS ON STORM SEWERS CROSSING OVER WATERMAIN PER IDNR REQUIREMENT.

5. SIGNAGE NOTES:

A. ALL SIGNAGE SHALL BE SUPPLIED AND INSTALLED BY THE CITY OF GRIMES. THE CITY WILL BILL THE DEVELOPER FOR THE COSTS ASSOCIATED WITH THE SIGNAGE.
B. THE HEIGHT OF SIGNS SHALL BE 7-FEET FROM THE BASE OF THE SIGN TO THE GROUND.
C. ALL SIGNS SHALL BE NOT LESS THAN 1.5' FROM EDGE OF SIGN TO BACK OF CURB.
D. STOP SIGNS SHALL BE AS PER MUTCD R1-1 TYPE, 30"X30".
E. NO PARKING SIGNS SHALL BE AS PER MUTCD R8-3 TYPE, 12"X12". IF POSSIBLE, PLEASE MOUNT THE NO PARKING SIGNS TO LIGHT POLES (1ST/ PREFERENCE).
F. ALL SPEED LIMIT SIGNS SHALL BE AS PER MUTCD R2-1 (25 MPH), 24"X30".
G. ALL STREET NAME SIGNS SHALL BE WHITE ON BLACK ON A 6"BLANK WITH 4"LETTERS (LOCALCS) OR 8"BLANK WITH 6"LETTERS (COLLECTORS/ARTERIALS) AND SHALL BE DIRECTLY FASTENED TO SQUARE TUBE POSTS. EACH SIGN POST SHALL HAVE FOUR (4) STREET SIGNS THAT SHALL BE CONNECTED TO POST BY RIVETING THE SIGNS BACK TO BACK ON OPPOSITE SIDES OF THE SQUARE TUBE POST. THE BACK TO BACK ENDS OF STREET NAME SIGNS SHALL BE CONNECTED WITH CIRCULAR STABILIZERS.
H. ALL SIGN POSTS SHALL BE TELESPAR 2"X2" SQUARE TUBE POWDER COATED BLACK GALVANIZED STEEL (14-GAUGE MIN.) WITH 7/16"KNOCK-OUT STYLE PERFORATIONS THAT ARE PRE-PUNCHED.
I. ROAD CLOSED SIGNS SHALL BE AS PER IDOT ROAD STANDARD SI-182.
J. ALL SIGNS SHALL BE HIGH INTENSITY PRISMATIC.

UTILITY NOTES

1. REFER TO MECHANICAL, ELECTRICAL AND PLUMBING PLANS FOR UTILITY SERVICE SIZES AND EXACT LOCATIONS. REFER TO ELECTRICAL PLANS FOR ELECTRIC AND TELEPHONE SERVICE CONSTRUCTION DETAILS. REFER TO MECHANICAL PLANS FOR GAS SERVICE CONSTRUCTION DETAILS.
2. FIELD VERIFY ELEVATIONS AND LOCATIONS OF ALL CONNECTIONS TO EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
3. PROVIDE TEMPORARY SUPPORT FOR EXISTING UTILITY LINES THAT ARE ENCOUNTERED DURING CONSTRUCTION UNTIL BACKFILLING IS COMPLETE.
4. BACKFILL ALL UTILITY TRENCHES ACCORDING TO THE 2020 EDITION OF THE SUDAS STANDARD SPECIFICATIONS AND ALL CITY OF GRIMES SUPPLEMENTALS. MAINTAIN A MINIMUM OF 5.5' COVER OVER ALL WATERMAINS.
5. ALL UTILITIES SHALL BE STUBBED TO 5 FEET FROM BUILDINGS. REFER TO MEP PLANS FOR DESIGN FROM 5' OUTSIDE OF BUILDING FACE.
6. ADJUST ALL MANHOLES AND INTAKES TO FINISHED GRADES.
7. ALL SANITARY SEWER AND WATER SERVICES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY'S PLUMBING CODE.
8. 18" MINIMUM VERTICAL CLEARANCE BETWEEN STORM SEWER AND SANITARY SEWER PIPES. 18" MINIMUM VERTICAL CLEARANCE BETWEEN SANITARY SEWER AND WATER MAIN.
9. MAINTAIN A MINIMUM OF 10' HORIZONTAL SEPARATION BETWEEN SANITARY SEWER LINES AND WATER MAINS.
10. WHERE PUBLIC UTILITY FIXTURES ARE SHOWN AS EXISTING ON THE PLANS OR ENCOUNTERED WITHIN THE CONSTRUCTION AREA, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNERS OF THOSE UTILITIES PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. THE CONTRACTOR SHALL AFFORD ACCESS TO THESE FACILITIES FOR NECESSARY MODIFICATION OF SERVICES. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS, AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS POSSIBLE THERE MAY BE OTHERS. THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN OR SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATIONS AND TO AVOID DAMAGE THERETO. NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK. THE CONTRACTOR IS REQUIRED TO UTILIZE THE UTILITY ONE-CALL SERVICE AT 800-292-8989 AT LEAST 48 HOURS PRIOR TO EXCAVATING ANYWHERE ON THE PROJECT.
11. ALL WATERMAIN WORK, PUBLIC OR PRIVATE SHALL BE DONE IN ACCORDANCE WITH THE 2020 EDITION OF THE SUDAS STANDARD SPECIFICATIONS AND ALL CITY SUPPLEMENTALS.
12. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF WORK OF ALL SUBCONTRACTOR(S) INVOLVED IN THE PROJECT.
13. OWNER IS RESPONSIBLE FOR MAINTENANCE OF PRIVATE RETENTION FACILITIES AND PRIVATE UTILITIES. PERIODIC MAINTENANCE AND CLEANING OF STORM AND SANITARY SEWER MAY BE NECESSARY.
14. CONTRACTOR SHALL PREVENT ENTRY OF MUD, DIRT, DEBRIS AND OTHER MATERIAL INTO NEW STORM AND SANITARY SEWER SYSTEMS. SHOULD ANY CONTAMINATION OCCUR DURING CONSTRUCTION, THE CONTRACTOR SHALL CLEAN AT NO COST TO THE OWNER. INSTALL SILT FENCE AT ALL PERMANENT STORM SEWER INLETS.
15. ALL MANHOLE CASTINGS IN 5" P.C.C. PAVEMENT SHALL BE BOXED OUT PER FIGURE 7010.103.

PAVEMENT NOTES

1. ALL PAVEMENT WORK, PUBLIC OR PRIVATE SHALL BE DONE IN ACCORDANCE WITH SUDAS STANDARDS SPECIFICATIONS.
2. SIDEWALKS, DRIVEWAYS, DRIVE LANES WITHIN PARKING AND PARKING SPACES SHALL BE CLASS C PORTLAND CEMENT CONCRETE (P.C.C.) COARSE AGGREGATE FOR P.C.C. CONSTRUCTION SHALL BE CLASS 3 DURABILITY.
3. PLACE 3/4 INCH EXPANSION JOINT BETWEEN ALL P.C.C. PAVEMENT/SIDEWALKS AND BUILDING. PLACE 1/2 INCH EXPANSION JOINT BETWEEN SIDEWALKS AND P.C.C. PAVEMENT.
4. PAVEMENT THICKNESS:

SIDEWALKS	5" P.C.C.
SHARED USE PATH	5" P.C.C.
STANDARD DUTY PAVING	6" P.C.C.

LANDSCAPE NOTES

1. LOCATE ALL UTILITIES BEFORE ANY PLANTING BEGINS.
2. TYPE, SIZE, AND QUALITY OF PLANT MATERIAL SHALL CONFORM TO THE MOST CURRENT EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK ANSI Z60.1
3. ALL PLANT MATERIAL SHALL BE HEALTHY SPECIMENS WITHOUT DEFORMITIES, VOIDS AND OPEN SPACES, WITH WELL DEVELOPED BRANCH AND ROOT SYSTEMS; TRUE TO HEIGHT, SHAPE AND CHARACTER OF GROWTH OF THE SPECIES OR VARIETY.
4. SEED OR SOD ALL DISTURBED AREAS AS DIRECTED BY OWNER. SEED SHALL BE SUPER TURF II LS FROM UNITED SEEDS.
5. BACKFILL TO TOP OF CURB. (MINUS 1 1/2" FOR SOD, IF REQ.)
6. WEED PREVENTER (PRE-EMERGENT) SHALL BE SPREAD OVER SOIL AFTER PLANTING AND BEFORE MULCHING IN ALL PLANTING BEDS PER MANUFACTURER'S RECOMMENDATIONS.
7. SHREDDED HARDWOOD MULCH SHALL BE PLACED AROUND ALL TREES, SHRUBS AND IN ALL PLANTING BEDS TO A MINIMUM DEPTH OF 3". ALL GROUPS OF MORE THAN ONE SHRUB SHALL BE MULCHED IN A CONTINUOUS BED, SEPARATED FROM TURF BY A 3" SPADE-CUT EDGE. MULCH AROUND ALL CONIFEROUS TREES SHALL BE A 10' DIAMETER CIRCLE. ALL EDGING SHALL BE METAL EDGE.
8. PLANT QUANTITIES ARE SHOWN FOR INFORMATION ONLY, THE DRAWING SHALL PREVAIL IF ANY CONFLICTS ARISE.
9. ALL DEBRIS SPILLED IN THE PUBLIC R.O.W. SHALL BE PICKED UP BY THE CONTRACTOR AT THE END OF EACH WORK DAY.
10. CONTRACTOR SHALL WARRANTY ALL PLANT MATERIALS FOR A PERIOD OF ONE YEAR FROM DATE OF INSTALLATION.

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04/20/2023

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PROJECT NUMBER
2202.086

UTILITY, DIMENSION, AND LANDSCAPE PLAN

C2.1

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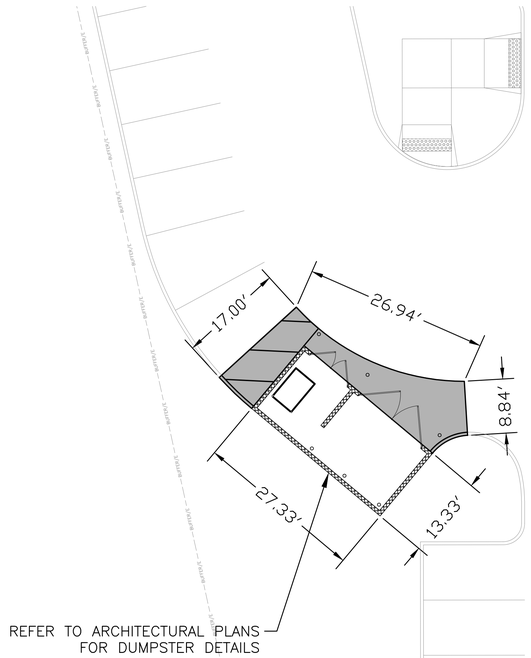

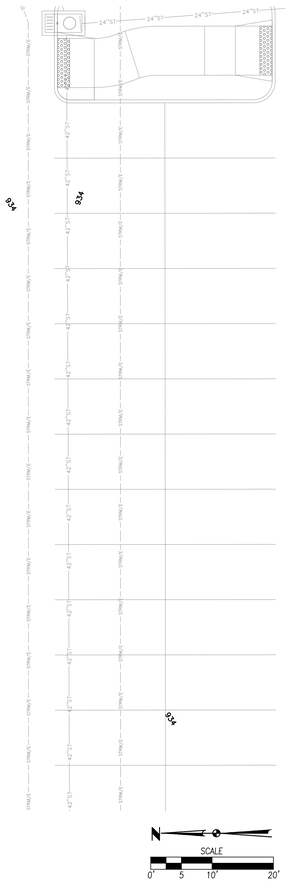

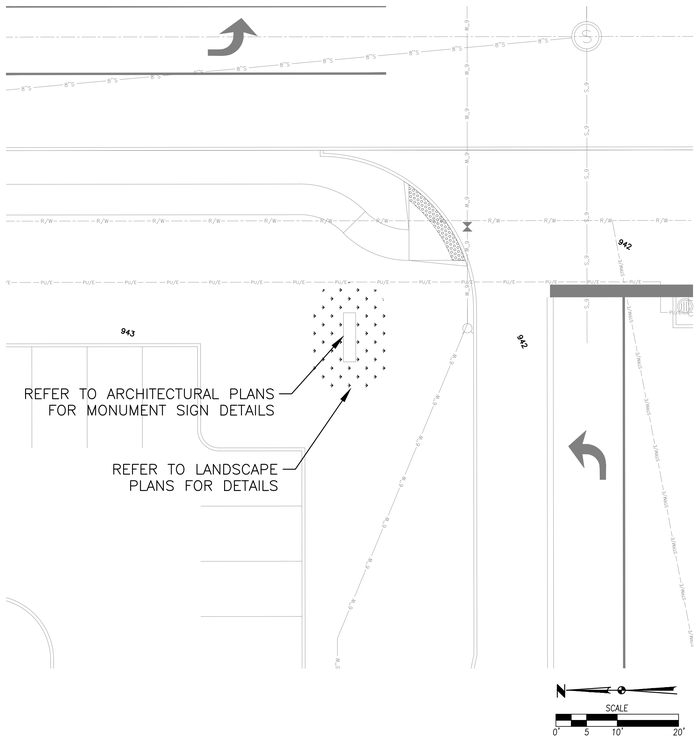

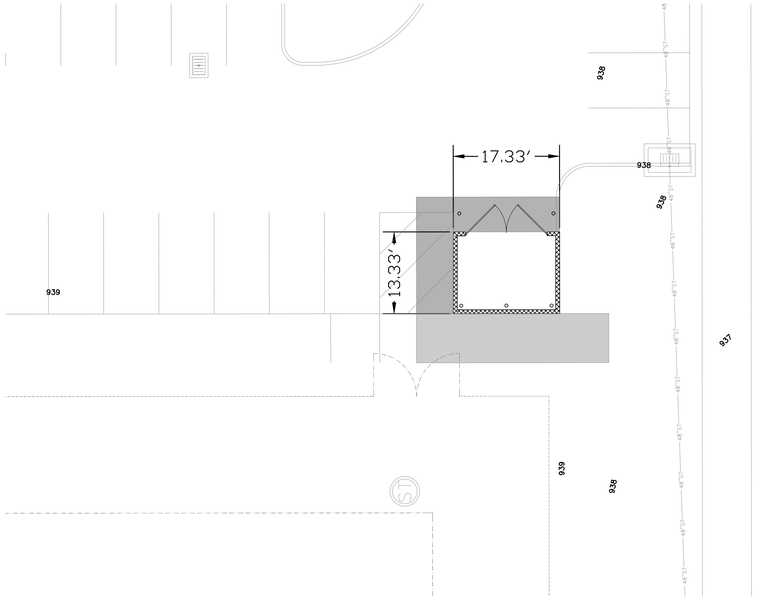

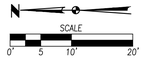

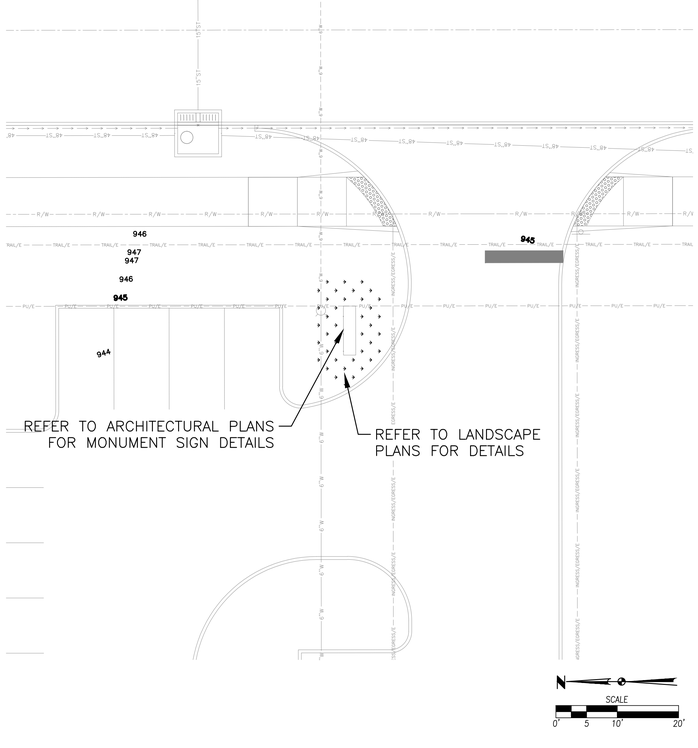

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UTILITY, DIMENSION, AND LANDSCAPE PLAN

C2.2

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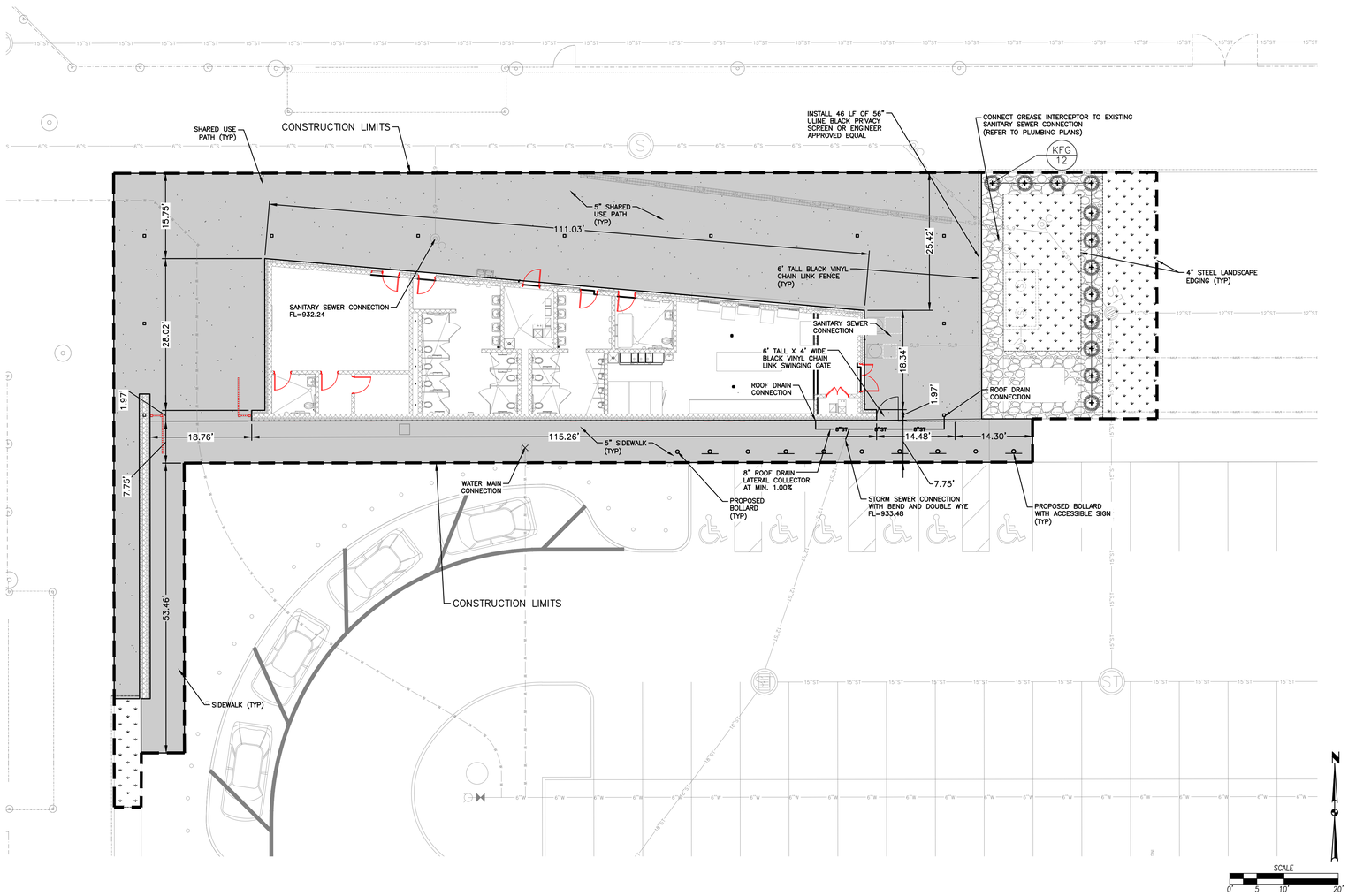

PLANT SCHEDULE				
SHRUBS	QTY	COMMON NAME	BOTANICAL NAME	CONDITION AND SIZE
KFG	21	Karl Foerster Feather Reed Grass	Calamagrostis x acutiflora 'Karl Foerster'	CONT, 1 GAL

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UTILITY, DIMENSION, AND LANDSCAPE PLAN

C2.3

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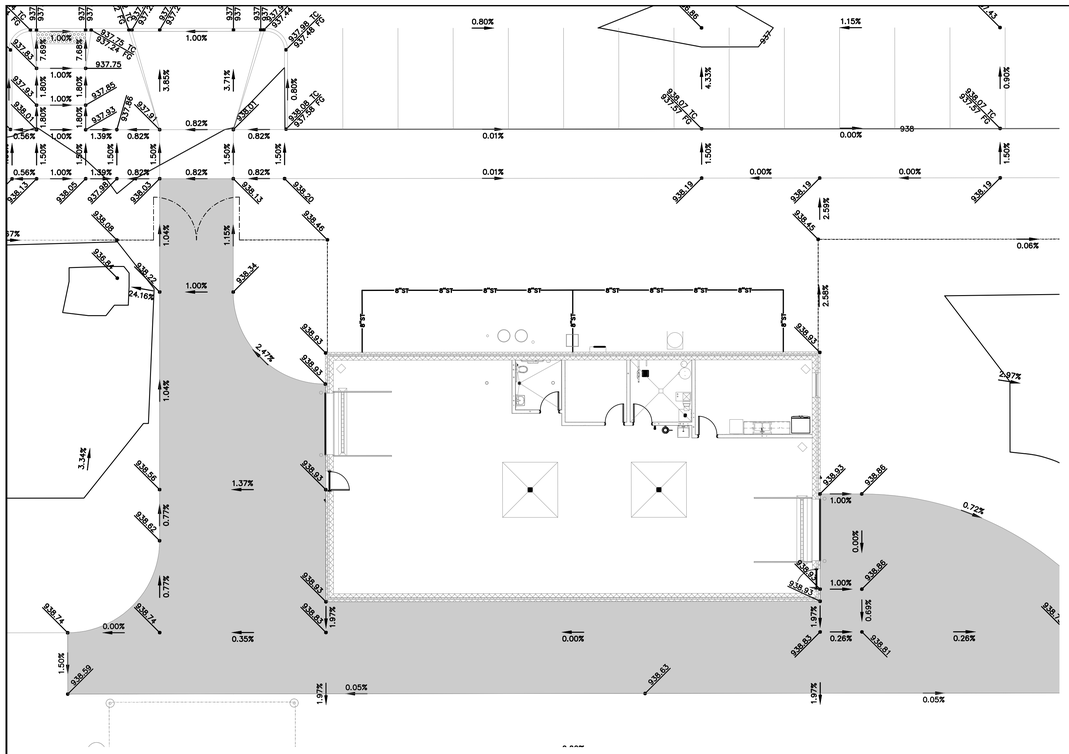

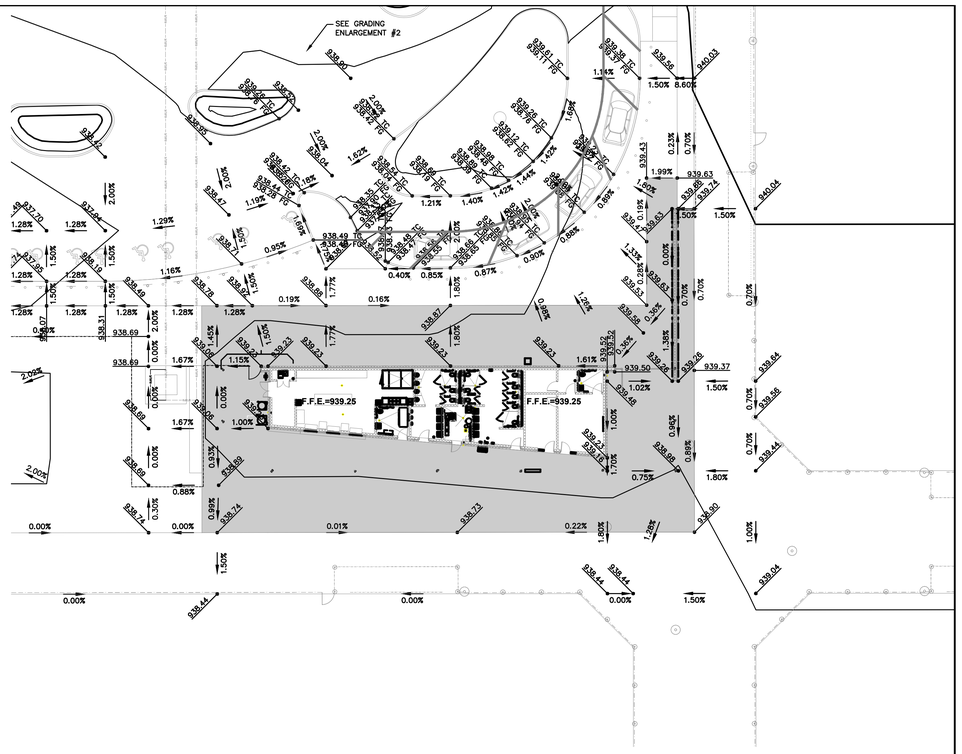

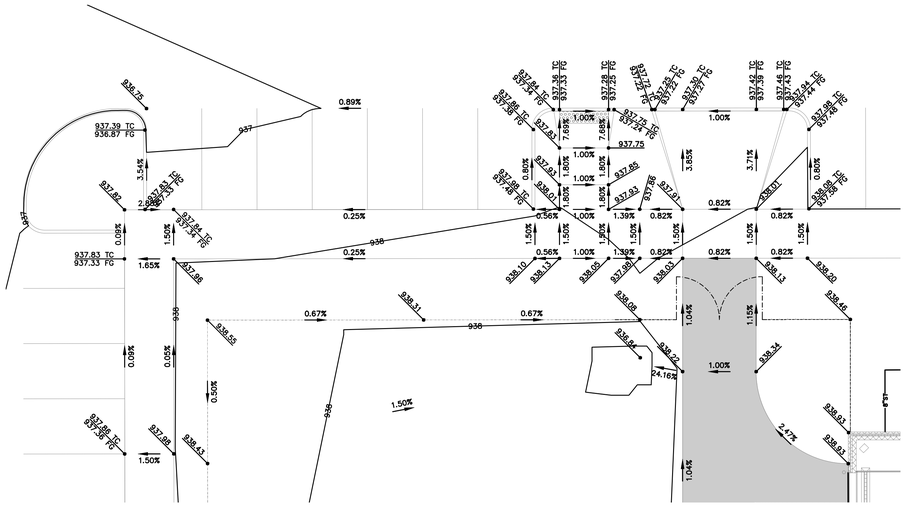

1 **GRADING ENLARGMENT**
1"=10'

GRADING NOTES

1. PRIOR TO ANY GRADING, A COPY OF THE NPDES PERMIT SHALL BE PROVIDED TO THE CITY OF GRIMES' BUILDING DIVISION.
2. THE PROJECT REQUIRES AN IOWA NPDES PERMIT #2 AND CITY OF GRIMES GRADING PERMIT. CIVIL DESIGN ADVANTAGE WILL PROVIDE THE PERMITS AND THE INITIAL STORM WATER POLLUTION PREVENTION PLAN (SWPPP) FOR THE CONTRACTORS USE DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR UPDATING THE SWPPP THROUGHOUT CONSTRUCTION AND MEETING LOCAL, STATE AND FEDERAL REQUIREMENTS.
3. CONTRACTOR SHALL STRIP ALL DELETERIOUS MATERIAL. THE TOP 6" OF TOPSOIL IS TO BE STOCKPILED AND RESPREAD AFTER GRADING IS COMPLETE. CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING A SUITABLE TOPSOIL STOCKPILE SITE.
4. EXCAVATION SHALL BE IN ACCORDANCE WITH THE 2020 EDITION OF THE SUDAS STANDARD SPECIFICATIONS AND ALL CITY OF GRIMES SUPPLEMENTALS, IF APPLICABLE.
5. MATCH EXISTING GRADES AT PROPERTY LINES AND/OR CONSTRUCTION LIMITS.
6. ALL SPOT ELEVATIONS ARE FORM GRADE (FG) OR TOP OF FINISHED SURFACES UNLESS OTHERWSE NOTED.
7. SITE SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS.
8. SLOPES IN PAVEMENT SHALL BE UNIFORM TO AVOID PONDING.
9. THE CONTRACTOR SHALL CONFINE HIS GRADING OPERATIONS TO WITHIN THE CONSTRUCTION LIMITS AND EASEMENTS SHOWN ON THE PLANS. ANY DAMAGE TO PROPERTIES OUTSIDE THE SITE BOUNDARY SHALL BE AT THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
10. THE CONTRACTOR SHALL APPLY NECESSARY MOISTURE CONTROL TO THE CONSTRUCTION AREA AND HAUL ROADS TO PREVENT THE SPREAD OF DUST.
11. REFER TO SEPARATE STORM WATER POLLUTION PREVENTION PLAN FOR DETAILS ON EROSION CONTROL.
12. FINAL FINISH GRADING TO BE APPROVED BY THE ARCHITECT AND CIVIL ENGINEER. MATCH EXISTING GRADES AT THE INTERFACE OF NEW AND EXISTING GRADES OR PAVING.
13. SIDEWALKS:
    MAINTAIN 1% MINIMUM AND 5% MAXIMUM LONGITUDINAL SLOPES ON ALL PAVED WALKWAYS. ALL WALKS TO HAVE 2.0% MAXIMUM TRANSVERSE SLOPE IN THE DIRECTION OF NATURAL DRAINAGE. SAW CUT JOINTS AS SOON AS CONCRETE HAS SET. SAW CUTS TO BE 1/8" TO 1/4" WIDE; DEPTH: LONGITUDINAL T/3, TRANSVERSE T/4.
14. EXISTING TOPO FOR THIS AREA WAS TAKEN FROM PROPOSED CONTOURS FOR THE HOPE COMMERCIAL PLAT 1 & HOPE COMMERCIAL PLAT 2. TIE-IN POINTS MAY VARY BASED ON CONSTRUCTED ELEVATIONS.

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GRADING PLAN

C3.1

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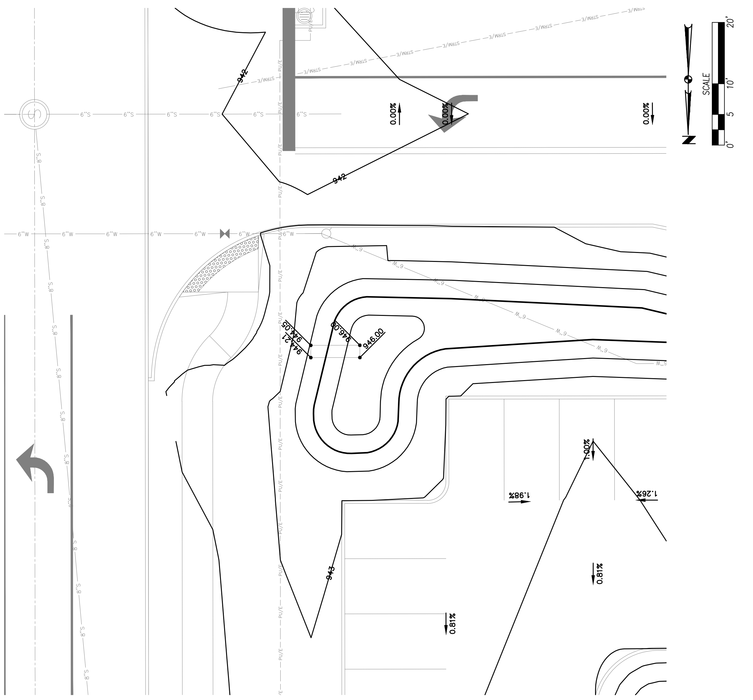

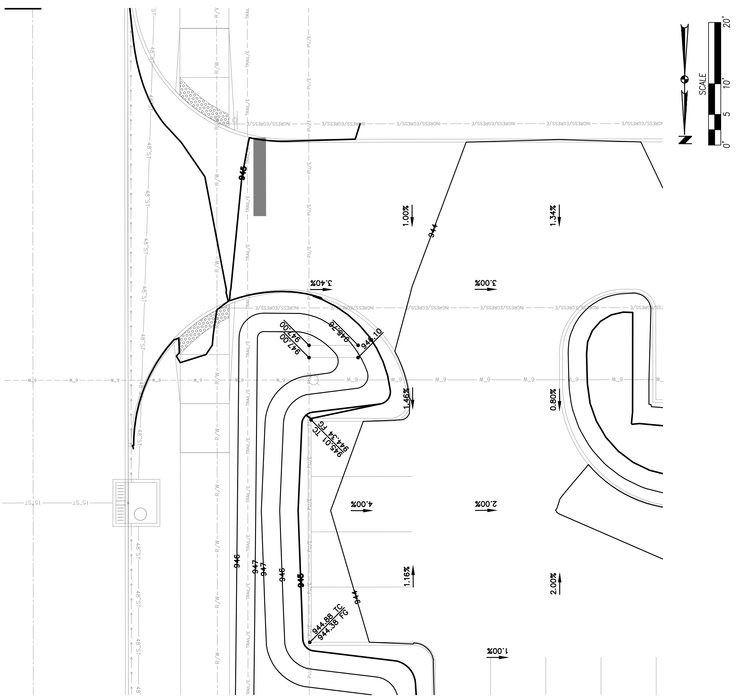

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20'
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938
939
930.17 FG
930.67 TC
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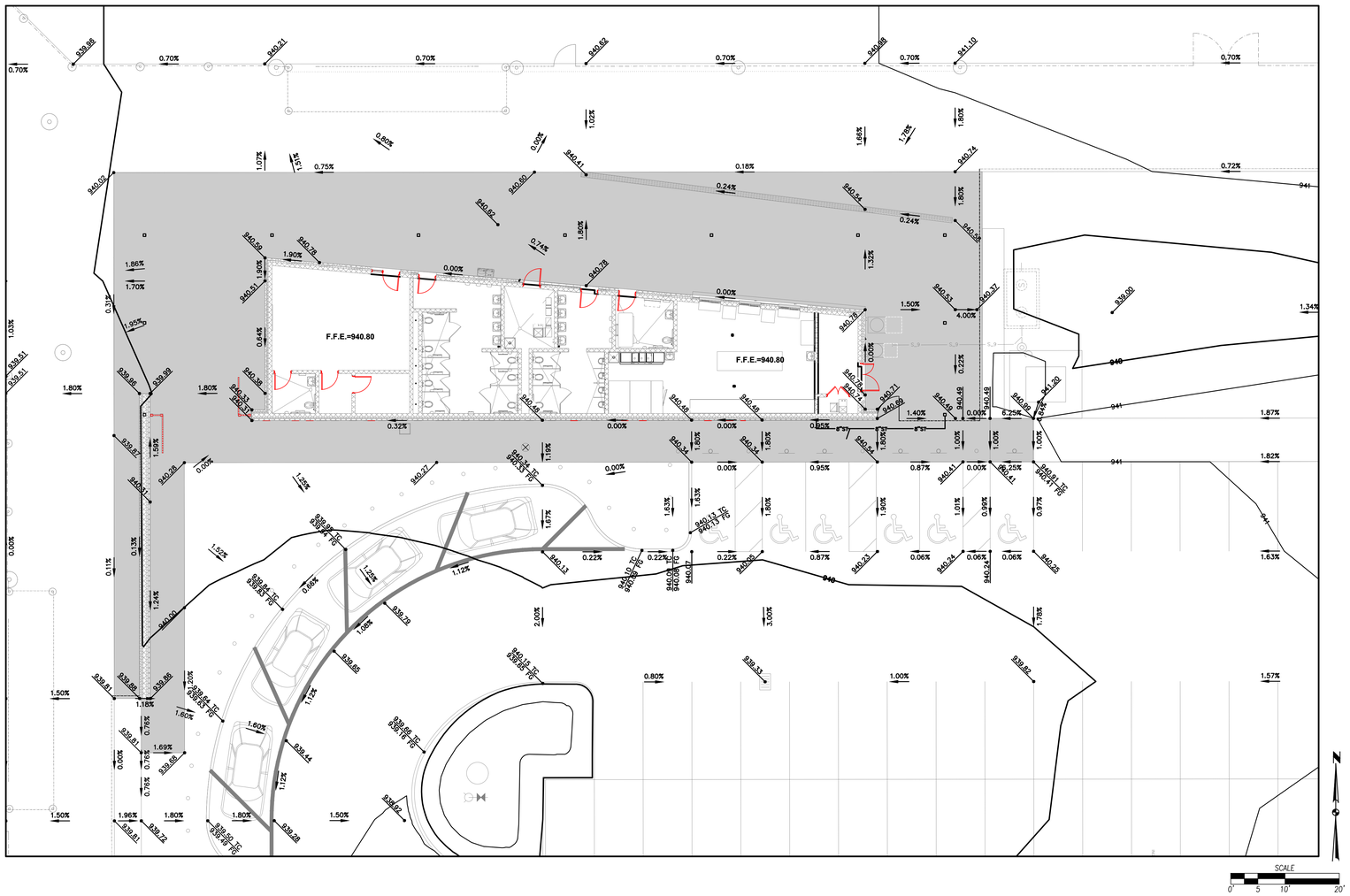
930.17 FG
930.67 TC



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CITY OF GRIMES
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CIVIL DESIGN ADVANTAGE

GRIMESPLEX

7054 NW 114th St
GRIMES, IOWA 50111

ISSUANCE

CONSTRUCTION DOCUMENTS
04/25/2023

REVISIONS

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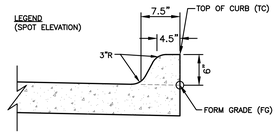
PROJECT NUMBER
2202.086

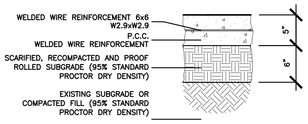
GRADING PLAN

C3.3

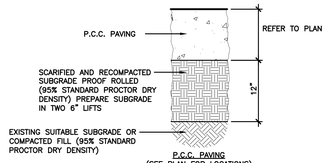
FILE: R:\2022\2202086\DWG\SITE PLAN\2202086-SHEET LAYOUT SVPA.DWG
PLOT DATE: 4/26/2023 8:18 AM
PLOT SCALE: 1 = 20.0'
PLOTTED BY: Nicole Hansen
STATE PLOTTED: Revised
COMMENTS:
Default



1 6" STANDARD CURB
NOT TO SCALE

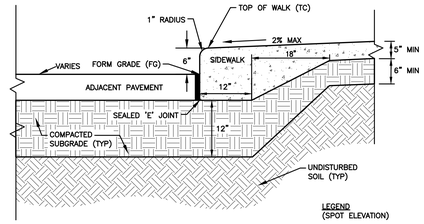


2 SHARED USE PATH DETAIL
NOT TO SCALE

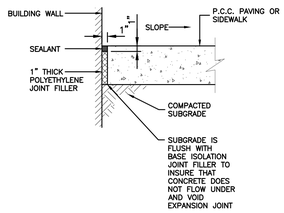


NOTE:
1. SUBGRADE PREPARATION SHALL EXTEND 24" BEYOND EDGE OF PAVING OR BACK OF CURB. EXCEPT WHEN ABUTTING EXISTING PAVEMENT.
2. TRANSVERSE JOINTS SHALL BE "C" JOINTS FOR 6" PCC AT 12' MAX. SPACING.
3. LONGITUDINAL JOINTS SHALL BE INTERCHANGEABLE, L-1 OR KT-1 FOR 6" AND 7" PCC, L-2 OR KT-2 FOR 8" PCC.

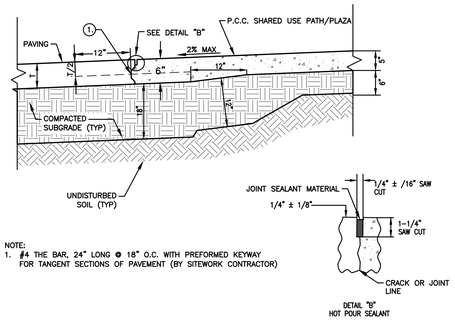
3 TYPICAL SECTION - P.C.C. PAVEMENT
NOT TO SCALE



4 CLASS "A" INTEGRAL CURB AND SIDEWALK
NOT TO SCALE

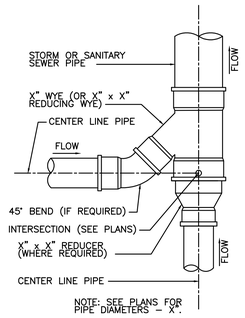


5 ISOLATION JOINT AT BUILDING
NOT TO SCALE

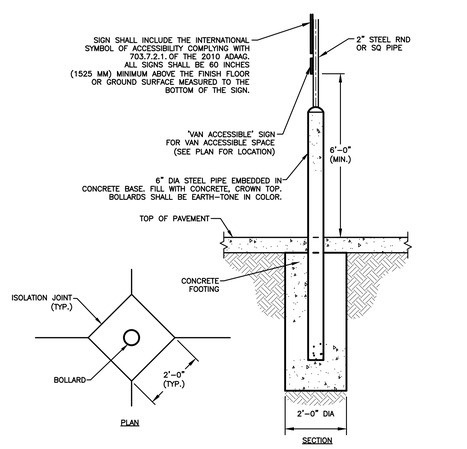


NOTE:
1. #4 THE BAR, 24" LONG @ 18" O.C. WITH PREFORMED KEYWAY FOR TANGENT SECTIONS OF PAVEMENT (BY SITEWORK CONTRACTOR)

6 SIDEWALK AT PAVEMENT (NO CURB)
NOT TO SCALE

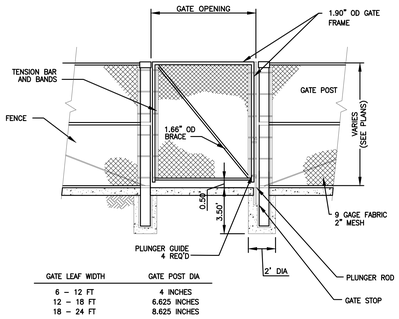


7 WYE CONNECTION
NOT TO SCALE



8 BOLLARD WITH SIGN
NOT TO SCALE

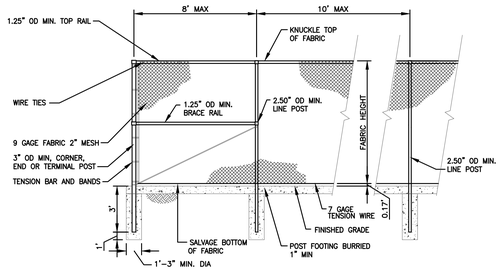
FOR REFERENCE ONLY.
(REFER TO MANUFACTURER PLANS FOR CONSTRUCTION DETAILS)



GATE LEAF WIDTH	GATE POST DIA
6 – 12 FT	4 INCHES
12 – 18 FT	6.625 INCHES
18 – 24 FT	8.625 INCHES

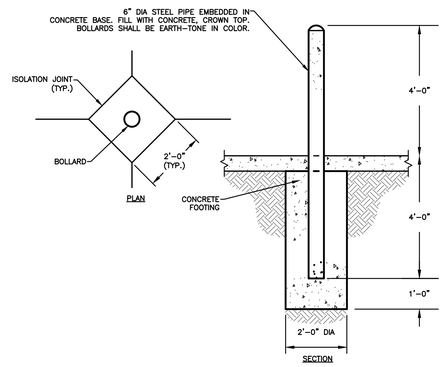
9 SINGLE LEAF GATE
NOT TO SCALE

FOR REFERENCE ONLY.
(REFER TO MANUFACTURER PLANS FOR CONSTRUCTION DETAILS)

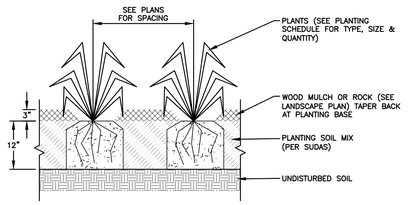


NOTES: 1. 1. ALL POLYVINYL CHLORIDE (PVC) COATED FENCE MATERIALS (FRAMEWORK, FENCE FABRIC, FITTINGS, TENSION WIRES, ETC.) SHALL BE BLACK.
2. AT A MINIMUM, RAIL & POST DIAMETERS SHALL MEET SUDAS SPECIFICATIONS.

10 CHAINLINK FENCING
NOT TO SCALE



11 BOLLARD WITHOUT SIGN
NOT TO SCALE



12 SHRUB PLANTINGS
NOT TO SCALE

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ISSUANCE

FINAL PLANS
04/20/2023

REVISIONS

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PROJECT NUMBER
2202.086

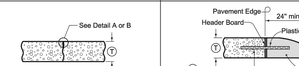
DETAILS

C4.1

FILE: H:\2022\2202086\DWG\SHT_PLAN\2202086-SHEET LAYOUT_SVPA.DWG
PLOTTED: 4/26/2023 8:17 AM BY: ANDREW.RIDGWAY
PLOTTED BY: ANDREW.RIDGWAY
DOMAIN: DWG

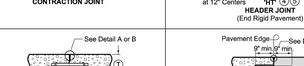
'B' (5)
PLAIN JOINT
(Abutting Pavement Slabs)

'DW' (3)(4)(7)
DAY'S WORK JOINT(Non-working)



'C' (6)
CONTRACTION JOINT

'HT' (4)(5)
HEADER JOINT
(End Rigid Pavement)



'CD' (1)(4)(6)
DOWELED CONTRACTION JOINT

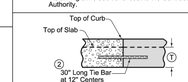
'RD' (4)(5)
ABUTTING PAVEMENT JOINT

'CT' (4)
TIED CONTRACTION JOINT

'RT' (4)
ABUTTING PAVEMENT JOINT
RIGID TIE

TRANSVERSE CONTRACTION

1. See dowel assemblies for fabrication details.
2. See Bar Size Table for Contraction Joints on Sheet 2.
3. Locate 'DW' joint at a mid-panel location between future 'C' or 'CD' joints. Place no closer than 5 feet to a 'C' or 'CD' joint.
4. Place bars within the limits shown under dowel assemblies.
5. Edge with 1/8 inch tool for length of joint. For HT joint, remove header block and board when second slab is placed.
6. Unless specified otherwise, use 'CD' transverse contraction joints in mainline pavement where (T) is greater or equal to 8 inches. Use 'C' joints when (T) is less than 8 inches.
7. 'RT' joint may be used in lieu of 'DW' joint at the end of the days work. Remove any pavement damaged due to the drilling at no additional cost to the Contracting Authority.



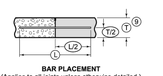
'DW - CG' (3)(4)
DAY'S WORK JOINT
CURB AND GUTTER UNIT

LEGEND
Existing Pavement
Proposed Pavement

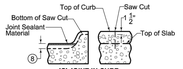
SUDAS | IOWA DOT | REVISION 11 | 04-19-22
FIGURE 7010.101 | STANDARD ROAD PLAN | PV-101 | SHEET 1 of 8
REVISIONS: Modified circle note 22.
Frank J. Wiegand, 21815, REGISTERED PROFESSIONAL ENGINEER | Heather Wilson, 24918, REGISTERED PROFESSIONAL ENGINEER
JOINTS

FIGURE 7010.101 SHEET 1 OF 8

14 JOINTS
NOT TO SCALE



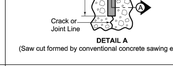
BAR PLACEMENT
(Applies to all joints unless otherwise detailed.)



'C' JOINT IN CURB
(Match 'CT', 'CD', or 'C' joint in pavement.)

SECTION A-A
(Detail at Edge of Pavement)

DETAIL A
(Saw cut formed by conventional concrete sawing equipment.)



DETAIL B
(Saw cut formed by approved early concrete sawing equipment.)

DETAIL C

8. Saw 'CD' joint to a depth of T/3 ± 1/4"; saw 'C' joint to a depth of T/4 ± 1/4".
9. When tying into old pavement, (T) represents the depth of sound PCC.

BAR SIZE TABLE FOR CONTRACTION JOINTS			
(T)	Solid Dowel Diameter	Tubular Dowel Diameter	Tie Bar Size
< 8"	1"	7/8"	#6
≥ 8" but < 10"	1 1/4"	1 3/8"	#10
≥ 10"	1 1/2"	1 5/8"	#11

Tubular Dowel Bars will not be allowed for RD joints.

LEGEND
Existing Pavement
Proposed Pavement

SUDAS | IOWA DOT | REVISION 11 | 04-19-22
FIGURE 7010.101 | STANDARD ROAD PLAN | PV-101 | SHEET 2 of 8
REVISIONS: Modified circle note 22.
Frank J. Wiegand, 21815, REGISTERED PROFESSIONAL ENGINEER | Heather Wilson, 24918, REGISTERED PROFESSIONAL ENGINEER
JOINTS

FIGURE 7010.101 SHEET 2 OF 8

TRANSVERSE CONTRACTION

14 JOINTS
NOT TO SCALE

'B'
PLAIN JOINT
(Abutting Pavement Slabs)

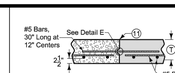
'BT'
ABUTTING PAVEMENT JOINT - RIGID TIE

(T)	Joint	Bars	Bar Length and Spacing
< 8"	'BT-1'	#4	36" Long at 30" Centers
		#5	30" Long at 30" Centers
≥ 8"	'BT-2'	#5	36" Long at 30" Centers

'BT'
ABUTTING PAVEMENT JOINT - RIGID TIE (Drilled)

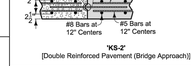
(T)	Joint	Bars	Bar Length and Spacing
< 8"	'BT-5'	#4	24" Long at 30" Centers
	'BT-3'		24" Long at 30" Centers
≥ 8"	'BT-4'	#5	24" Long at 15" Centers

'K'
KEYED JOINT FOR ADJACENT SLABS
(Where T is 8" or more)



'KS-1'
[Single Reinforced Pavement (Bridge Approach)]

'KS-2'
[Double Reinforced Pavement (Bridge Approach)]



'KT'
ABUTTING PAVEMENT JOINT - KEYWAY TIE

(T)	Joint	Bars	Bar Length and Spacing
< 8"	'KT-1'	#4	30" Long at 30" Centers
≥ 8"	'KT-2'	#5	30" Long at 30" Centers
	'KT-3'		30" Long at 15" Centers

LONGITUDINAL CONTRACTION

19. Bar supports may be necessary for fixed form paving to ensure the bar remains in a horizontal position in the plastic concrete.
11. Sawing or sealing of joint not required.
12. The following joints are interchangeable, subject to the pouring sequence:
'BT-1', 'L-1', and 'KT-1'
'KT-2' and 'L-2'
'KT-3' and 'L-3'

'L'
CONTRACTION JOINT

(T)	Joint	Bars	Bar Length and Spacing
< 8"	'L-1'	#4	36" Long at 30" Centers
	'L-2'		36" Long at 30" Centers
≥ 8"	'L-3'	#5	36" Long at 15" Centers

LEGEND
Existing Pavement
Proposed Pavement

SUDAS | IOWA DOT | REVISION 11 | 04-19-22
FIGURE 7010.101 | STANDARD ROAD PLAN | PV-101 | SHEET 3 of 8
REVISIONS: Modified circle note 22.
Frank J. Wiegand, 21815, REGISTERED PROFESSIONAL ENGINEER | Heather Wilson, 24918, REGISTERED PROFESSIONAL ENGINEER
JOINTS

FIGURE 7010.101 SHEET 3 OF 8

14 JOINTS
NOT TO SCALE

TIE BAR PLACEMENT
(Applies to all joints unless otherwise detailed.)

DETAIL D-1
(Required when specified in the contract documents.)

DETAIL D-2
(Required when the Department of Transportation is not the Contracting Authority, or when specified in the contract documents)

DETAIL D-3
(Required when the Department of Transportation is the Contracting Authority, or when specified in the contract documents)

LONGITUDINAL CONTRACTION

DETAIL E

KEYWAY DIMENSIONS			
Keyway Type	Pavement Thickness (T)	(A)	(B)
Standard	8" or greater	1 3/4"	2 3/4"
Narrow	Less than 8"	1"	2"

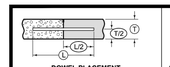
9. When tying into old pavement, (T) represents the depth of sound PCC.
13. Sealant or cleaning not required.

LEGEND
Existing Pavement
Proposed Pavement

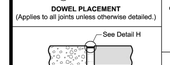
SUDAS | IOWA DOT | REVISION 11 | 04-19-22
FIGURE 7010.101 | STANDARD ROAD PLAN | PV-101 | SHEET 4 of 8
REVISIONS: Modified circle note 22.
Frank J. Wiegand, 21815, REGISTERED PROFESSIONAL ENGINEER | Heather Wilson, 24918, REGISTERED PROFESSIONAL ENGINEER
JOINTS

FIGURE 7010.101 SHEET 4 OF 8

14 JOINTS
NOT TO SCALE

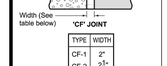


DOWEL PLACEMENT
(Applies to all joints unless otherwise detailed.)

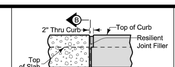


'CF' JOINT

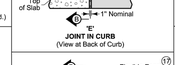
TYPE	WIDTH
CF-1	2"
CF-2	2 1/2"
CF-3	3"
CF-4	3 1/2"



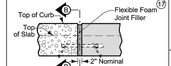
'E'
1" EXPANSION JOINT



'E'
JOINT IN CURB
(View at Back of Curb)

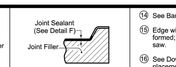


'EE'
JOINT IN CURB
(View at Back of Curb)

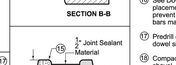


'ES'
JOINT IN CURB
(View at Back of Curb)

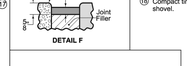
'ED', 'EE', 'EF' (16)
DOWELED EXPANSION JOINT



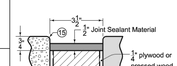
SECTION B-B



DETAIL F



DETAIL G



DETAIL H

EXPANSION

14. See Bar Size Table for Doweled Expansion Joints.
15. Edge with 1/4 inch tool for length of joint indicated if formed; edging not required when cut with diamond blade saw.
16. See Dowel Assemblies for fabrication details and placement limits. Coat the free end of dowel bar to prevent bond with pavement. At intaks locations, dowel bars may be cast-in-place.
17. Predrill or preform holes in joint material for appropriate dowel size.
18. Compact tire buffings by spading with a square-nose shovel.

DOWELED EXPANSION JOINTS		
TYPE	WIDTH	FILLER MATERIAL (17)
ED	1"	Resilient (Detail F)
EE	2"	Flexible Foam (Detail F)
EF	3 1/2"	Flexible Foam (Detail G)

BAR SIZE TABLE FOR DOWELED EXPANSION JOINTS			
(T)	< 8"	8" but < 10"	≥ 10"
Dowel Diameter	1"	1 1/4"	1 1/2"

Tubular Dowel Bars will not be allowed for expansion joints.

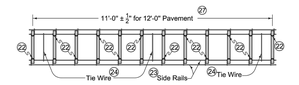
LEGEND
Existing Pavement
Proposed Pavement

SUDAS | IOWA DOT | REVISION 11 | 04-19-22
FIGURE 7010.101 | STANDARD ROAD PLAN | PV-101 | SHEET 5 of 8
REVISIONS: Modified circle note 22.
Frank J. Wiegand, 21815, REGISTERED PROFESSIONAL ENGINEER | Heather Wilson, 24918, REGISTERED PROFESSIONAL ENGINEER
JOINTS

FIGURE 7010.101 SHEET 5 OF 8

14 JOINTS
NOT TO SCALE

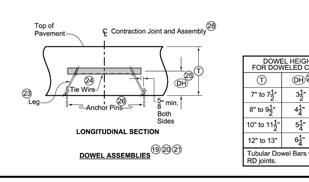
CONTRACTION JOINTS



PLAN

Spaces between dowel bars are nominal dimensions with a ± allowable tolerance.

ELEVATION



LONGITUDINAL SECTION

DOWEL ASSEMBLIES (19)(20)(21)

DOWEL HEIGHT AND DIAMETER FOR DOWELED CONTRACTION JOINTS			
(T)	DH (25)	Diameter (Solid)	Diameter (Tubular)
7" to 7 1/2"	3 1/2"	3/4"	7/8"
8" to 9 1/2"	4 1/2"	1 1/4"	1 3/8"
10" to 11 1/2"	5 1/2"	1 1/2"	1 5/8"
12" to 13"	6 1/2"	1 1/2"	1 5/8"

Tubular Dowel Bars will not be allowed for RD joints.

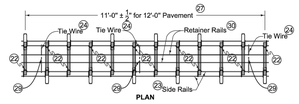
18. Use 18 inch long dowel bars with a tolerance of ± 1/8 inch. Ensure the centerlines of individual dowels are parallel to the other dowels in the assembly within ± 1/8 inch.
20. Use wires with a minimum tensile strength of 50 ksi.
21. Details apply to both transverse contraction and expansion joints.
22. Weld alternately throughout.
23. 0.306 inch diameter wire. Wire sizes shown are the minimum required.
24. Maximum 0.177 inch diameter wire, welded or friction fit to upper side rail, both sides.
25. Measured from the centerline of dowel bar to bottom of lower side rail + 1/4 inch.
26. Per lane width, install a minimum of 8 anchor pins evenly spaced (4 per side), to prevent movement of assembly during construction. Anchor assemblies placed on pavement or PCC base with devices approved by the Engineer.
27. If dowel basket assemblies are required for curbed pavements, the assembly length is based on the jointing layout. See PV-101, sheet 8.
28. Ensure dowel basket assembly centerline is within 2 inches of the intended joint location longitudinally and has no more than 1/4 inch horizontal skew from end of basket to end of basket.

SUDAS | IOWA DOT | REVISION 11 | 04-19-22
FIGURE 7010.101 | STANDARD ROAD PLAN | PV-101 | SHEET 6 of 8
REVISIONS: Modified circle note 22.
Frank J. Wiegand, 21815, REGISTERED PROFESSIONAL ENGINEER | Heather Wilson, 24918, REGISTERED PROFESSIONAL ENGINEER
JOINTS

FIGURE 7010.101 SHEET 6 OF 8

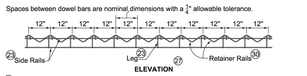
14 JOINTS
NOT TO SCALE

EXPANSION JOINTS

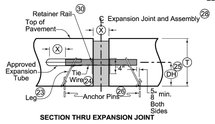


PLAN

Spaces between dowel bars are nominal dimensions with a ± allowable tolerance.



ELEVATION



SECTION THRU EXPANSION JOINT

JOINT OPENING AND EXPANSION TUBE EXTENSION		
Joint Type	(X)	Minimum Tube Length
"ED"	1"	6"
"EE"	2"	7"
"EF"	3 1/2"	9"

DOWEL HEIGHT AND DIAMETER FOR DOWELED EXPANSION JOINTS		
(T)	DH (25)	Diameter
7" to 7 1/2"	3 1/2"	3/4"
8" to 9 1/2"	4 1/2"	1 1/4"
10" to 11 1/2"	5 1/2"	1 1/2"
12" to 13"	6 1/2"	1 1/2"

Tubular Dowel Bars will not be allowed for expansion joints.

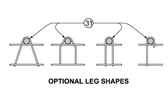
DOWEL ASSEMBLIES (19)(20)(21)

18. Use 18 inch long dowel bars with a tolerance of ± 1/8 inch. Ensure the centerlines of individual dowels are parallel to the other dowels in the assembly within ± 1/8 inch.
20. Use wires with a minimum tensile strength of 50 ksi.
21. Details apply to both transverse contraction and expansion joints.
22. Weld alternately throughout.
23. 0.306 inch diameter wire. Wire sizes shown are the minimum required.
24. Maximum 0.177 inch diameter wire, welded or friction fit to upper side rail, both sides.
25. Measured from the centerline of dowel bar to bottom of lower side rail + 1/4 inch.
26. Per lane width, install a minimum of 8 anchor pins evenly spaced (4 per side), to prevent movement of assembly during construction. Anchor assemblies placed on pavement or PCC base with devices approved by the Engineer.
27. If dowel basket assemblies are required for curbed pavements, the assembly length is based on the jointing layout. See PV-101, sheet 8.
28. Ensure dowel basket assembly centerline is within 2 inches of the intended joint location longitudinally and has no more than 1/4 inch horizontal skew from end of basket to end of basket.
29. Clip and remove center portion of tie during field assembly.
34. 1/4 inch diameter wire.

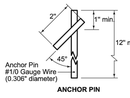
SUDAS | IOWA DOT | REVISION 11 | 04-19-22
FIGURE 7010.101 | STANDARD ROAD PLAN | PV-101 | SHEET 7 of 8
REVISIONS: Modified circle note 22.
Frank J. Wiegand, 21815, REGISTERED PROFESSIONAL ENGINEER | Heather Wilson, 24918, REGISTERED PROFESSIONAL ENGINEER
JOINTS

FIGURE 7010.101 SHEET 7 OF 8

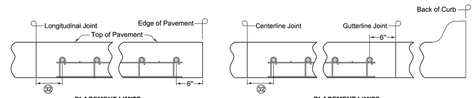
14 JOINTS
NOT TO SCALE



OPTIONAL LEG SHAPES

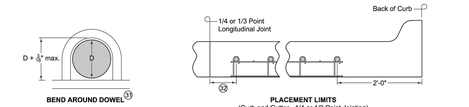


ANCHOR PIN



PLACEMENT LIMITS
(Rural Section)

PLACEMENT LIMITS
(Curb and Gutter - Gutterline Jointing)



BEND AROUND DOWEL

PLACEMENT LIMITS
(Curb and Gutter - 1/4 or 1/3 Point Jointing)

DOWEL ASSEMBLIES (19)(20)(21)

19. Use 18 inch long dowel bars with a tolerance of ± 1/8 inch. Ensure the centerlines of individual dowels are parallel to the other dowels in the assembly within ± 1/8 inch.
20. Use wires with a minimum tensile strength of 50 ksi.
21. Details apply to both transverse contraction and expansion joints.
31. Diameter of bend around dowel is dowel diameter + 1/8 to 3/16 inches.
32. For uniform lane widths: 3 to 6 inches. For taper and variable width pavements: 3 to 12 inches.

SUDAS | IOWA DOT | REVISION 11 | 04-19-22
FIGURE 7010.101 | STANDARD ROAD PLAN | PV-101 | SHEET 8 of 8
REVISIONS: Modified circle note 22.
Frank J. Wiegand, 21815, REGISTERED PROFESSIONAL ENGINEER | Heather Wilson, 24918, REGISTERED PROFESSIONAL ENGINEER
JOINTS

FIGURE 7010.101 SHEET 8 OF 8

14 JOINTS
NOT TO SCALE

SVPA ARCHITECTS
1466 28th Street, Suite 200 | West Des Moines, Iowa 50266 | 515.327.5990
CIVIL DESIGN ADVANTAGE

GRIMESPLEX

7054 NW 114th St
GRIMES, IOWA 50111

ISSUANCE

FINAL PLANS
04/20/2023

REVISIONS

THESE DOCUMENTS HAVE BEEN PREPARED SPECIFICALLY FOR THE ABOVE REFERENCED PROJECT. THEY ARE NOT SUITABLE FOR USE ON OTHER PROJECTS OR IN OTHER LOCATIONS WITHOUT THE EXPRESS WRITTEN APPROVAL AND PARTICIPATION OF SVPA ARCHITECTS INC. REPRODUCTION IS PROHIBITED.
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PROJECT NUMBER
2202.086

DETAILS

C4.2

FILE: K:\2022\2202086\DWG\SITE PLAN\2202086-SHEET LAYOUT SVPA.DWG
PLOTTED: 4/26/2023 8:17 AM BY: Mitchell Tate
PLOT BY: Autodesk Docs
COMMENT:
DESC:

DESIGN CRITERIA

1. STRUCTURE HAS BEEN DESIGNED TO COMPLY WITH:
   - IBC 2018
   - ASCE 7-16
   - ACI 318-14
   - AISC 360-16
   - AISI S100
   - NDS-18 AND SDPWS-15
   - TMS 402/602-16
2. RISK CATEGORY — II
3. SNOW:

GROUND SNOW	30 PSF
SNOW EXPOSURE FACTOR	0.9
THERMAL FACTOR	1.0
IMPORTANCE FACTOR	1.0
FLAT-ROOF SNOW	19 PSF
DESIGN SNOW	25 PSF

4. SEISMIC:

SEISMIC DESIGN CATEGORY	B
IMPORTANCE FACTOR	1.0
SOIL CLASS	D
Ss	0.06 g
S1	0.05 g
Sds	0.064 g
Sd1	0.081 g
SEISMIC FORCE RESISTING SYSTEM	INTERMEDIATE REINFORCED MASONRY WALLS
R	3.5
ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE

5. WIND:

BASIC WIND SPEED	V ULT = 115 MPH
IMPORTANCE FACTOR	1.0
EXPOSURE CLASS	C
INTERNAL PRESSURE COEFFICIENT, GCpi	± 0.18
MWFRS PRESSURE (1.0WL)	33 PSF

6. ALL LATERAL LOAD RESISTANCE AND STABILITY OF THE BUILDINGS IN THE COMPLETED STRUCTURES IS PROVIDED BY MASONRY SHEAR WALLS IN EACH ORTHOGONAL DIRECTION. SEE PLANS FOR LOCATIONS. THE WOOD SHEATHING SERVES AS HORIZONTAL DIAPHRAGMS DISTRIBUTING THE LATERAL FORCES TO THE VERTICAL LATERAL ELEMENTS WHICH IN TURN CARRY THE LOAD TO THE BUILDING FOUNDATIONS.

GENERAL

1. DURING THE CONSTRUCTION PERIOD, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF PERSONNEL AND PROPERTY ON AND AROUND THE JOBSITE. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING, BRACING, GUYS, ETC. IN ACCORDANCE WITH ALL NATIONAL, STATE, AND LOCAL SAFETY ORDINANCES.
2. ALL DRAWINGS ARE CONSIDERED TO BE A PART OF THE CONTRACT DOCUMENTS. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO THE START OF CONSTRUCTION SO A CLARIFICATION CAN BE ISSUED. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENTS SHALL BE CORRECTED BY THE CONTRACTOR AT THEIR OWN EXPENSE AND AT NO EXPENSE TO THE OWNER OR ARCHITECT.
3. ALL DIMENSIONS AND SITE CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE JOBSITE PRIOR TO CONSTRUCTION, START OF SHOP DRAWINGS, START OF CONSTRUCTION, AND/OR FABRICATION OF MATERIALS. IF DISCREPANCIES ARE ENCOUNTERED, OR CONDITIONS DEVELOP THAT ARE NOT COVERED BY THE CONTRACT DOCUMENTS, THE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION.
4. STRUCTURAL DRAWINGS INCLUDE DESIGN REQUIREMENTS AND DIMENSIONS FOR STRUCTURAL INTEGRITY BUT DO NOT SHOW ALL DETAIL DIMENSIONS TO FIT INTRICATE ARCHITECTURAL AND MECHANICAL DETAILS. CONTRACTOR SHALL SO CONSTRUCT THE WORK SO IT WILL CONFORM TO THE CLEARANCES REQUIRED BY ARCHITECTURAL, MECHANICAL AND ELECTRICAL DESIGN.
5. ALL SYMBOLS AND ABBREVIATIONS USED ON THE DRAWINGS ARE CONSIDERED TO BE CONSTRUCTION STANDARDS. IF CLARIFICATION IS REQUIRED, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
6. DO NOT SCALE DRAWINGS. PRINTED DIMENSIONS HAVE PRECEDENCE OVER SCALED DRAWINGS AND LARGE-SCALE OVER SMALL-SCALE DRAWINGS. CONTRACTOR TO DETERMINE FINAL DIMENSION WITH ARCHITECT.
7. TYPICAL DETAILS SHALL APPLY TO SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY REFERENCED. WHERE NO DETAILS ARE GIVEN, CONSTRUCTION SHALL BE AS SHOWN FOR SIMILAR WORK.
8. THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE AND SAFETY OF WORKMEN DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING AND SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE ARCHITECT OR STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OR APPROVAL OF THE ABOVE ITEMS AND DO NOT IN ANY WAY RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITIES FOR THE ABOVE.
9. SEE ARCHITECTURAL, ELECTRICAL AND MECHANICAL DRAWINGS FOR DETAILS, CONDITIONS, PITS, TRENCHES, PADS, DEPRESSIONS, ROOF/FLOOR OPENINGS, STAIRS, SLEEVES, ITEMS TO BE EMBEDDED OR ATTACHED TO STRUCTURAL ELEMENTS, ETC., NOT SHOWN ON THE STRUCTURAL DRAWINGS.
10. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR MECHANICAL, ELECTRICAL AND PLUMBING WITH APPROPRIATE TRADE CONTRACTORS. OPENING SIZES AND LOCATIONS SHOWN FOR DUCTS, PIPE, INSERTS AND OTHER PENETRATIONS WHEN SHOWN ARE FOR GENERAL INFORMATION ONLY AND SHALL BE VERIFIED PRIOR TO FORMING.

SUBMITTALS

1. SUBMITTALS ARE:
   a. CONCRETE MIX DESIGNS
   b. MATERIAL PRODUCT DATA FOR STRUCTURAL MATERIALS
   c. CONCRETE AND MASONRY REINFORCING
   d. ENGINEERED LUMBER
   e. CLT DECKING
2. SUBMITTALS SHALL BE REVIEWED AND COORDINATED PRIOR TO SUBMITTING TO THE ARCHITECT. EACH SHOP DRAWING SUBMITTED SHALL BE STAMPED INDICATING REVIEW BY THE CONSTRUCTION MANAGER/GENERAL CONTRACTOR AND REVIEW BY THE ARCHITECT SHALL NOT BEGIN UNTIL THIS IS COMPLETE. WORK SHALL NOT BEGIN WITHOUT REVIEW BY THE ARCHITECT/STRUCTURAL ENGINEER.
3. SUBMITTALS SHALL BE REVIEWED BY THE ARCHITECT/STRUCTURAL ENGINEER FOR GENERAL CONFORMANCE WITH DESIGN CONCEPT ONLY. NOTATIONS MADE BY THE ARCHITECT/STRUCTURAL ENGINEER ON THE SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH THE REQUIREMENTS OF THE DRAWINGS.
4. FOR ADDITIONAL INFORMATION ON REQUIRED SUBMITTALS, SEE INDIVIDUAL MATERIAL SECTIONS.

DELEGATED DESIGN

1. DELEGATED DESIGNS PER SECTION 107.3.4.1 SHALL BE SUBMITTED TO THE BUILDING OFFICIAL AND THE DESIGN PROFESSIONALS AND REVIEWED PRIOR TO INSTALLATION.
2. DELEGATED DESIGNS ARE:
   a. PREFABRICATED TRUSSES
3. ALL DELEGATED DESIGNS SHALL BEAR THE STAMP AND SIGNATURE OF THE QUALIFIED PROFESSIONAL ENGINEER, REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED, RESPONSIBLE FOR THE PREPARATION OF THESE DOCUMENTS.

EARTHWORK

1. FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL REPORT DATED AUGUST 24, 2022 BY TERRACON. REPORT IS ON FILE WITH THE ARCHITECT.
2. SOIL PROPERTIES PER THE GEOTECHNICAL REPORT:

ALLOWABLE NET SOIL BEARING PRESSURE:	
FOOTINGS	2000 PSF
FROST DEPTH	3.5 FT
EQUIVALENT FLUID PRESSURE	
ACTIVE PRESSURE	60 PSF/FT, DRAINED
PASSIVE PRESSURE	285 PSF/FT OF DEPTH
COEFFICIENT OF FRICTION	0.35

3. ALL EXCAVATIONS SHALL BE PROPERLY AND SAFELY BACKFILLED.
4. CARE SHALL BE EXERCISED WHEN EXCAVATING OR GRADING ADJACENT TO EXISTING STRUCTURES OR IMPROVEMENTS TO NOT DAMAGE OR UNDERMINE FOUNDATIONS, WALLS, SLABS, UTILITIES, ETC.
5. CONTRACTOR SHALL INVESTIGATE SITE DURING CLEARING AND EARTHWORK OPERATIONS FOR FILL MATERIAL OR BURIED STRUCTURES SUCH AS CESSPOOLS, CISTERNS AND FOUNDATIONS. IF ANY SUCH MATERIAL OR STRUCTURES ARE FOUND, ARCHITECT/ENGINEER SHALL BE NOTIFIED IMMEDIATELY. ALL ABANDONED FOUNDATIONS, UTILITIES AND OTHER STRUCTURES THAT INTERFERE WITH NEW CONSTRUCTION SHALL BE REMOVED.
6. ALL FOOTINGS AND SLABS ON GRADE SHALL BE PLACED ONTO FIRM UNDISTURBED SOIL OR CONTROLLED COMPACTED FILL, REMOVING ANY EXISTING FILL, ORGANIC MATERIAL, OR UNSUITABLE SOILS, AS RECOMMENDED BY THE GEOTECHNICAL REPORT. EXPOSED NATURAL SOIL SHALL BE PROOF ROLLED BELOW SLABS ON GRADE.

REINFORCING STEEL

1. ALL REINFORCING STEEL SHALL BE DETAILED AND PLACED IN CONFORMANCE WITH THE AMERICAN CONCRETE INSTITUTE "ACI DETAILING MANUAL" (SP-066) EXCEPT AS OTHERWISE SHOWN, NOTED OR SPECIFIED.
2. CONCRETE REINFORCING STEEL SHALL BE HIGH STRENGTH NEW BILLET STEEL CONFORMING TO THE FOLLOWING STANDARDS:

DEFORMED BARS	ASTM A615, GR 60	Fy = 60 KSI
WELDED WIRE REINFORCING	ASTM A1064	Fy = 65 KSI
DEFORMED BAR ANCHORS	ASTM A1064	Fy = 70 KSI

3. MINIMUM CONCRETE COVER SHALL BE PROVIDED AS FOLLOWS TO THE OUTERMOST REINFORCING BARS:

CAST AGAINST AND PERMANENTLY IN CONTACT WITH GROUND	3"
EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	
#6 BARS OR LARGER	2"
#5 BARS OR SMALLER	1 1/2"

4. ALL WELDED WIRE REINFORCING (WWR) SHALL BE LAPPED 2 PANELS AT EDGES AND ENDS.
5. WHERE REINFORCEMENT LENGTH IS SPECIFIED, NO SPLICES ARE PERMITTED WITHIN THE SPECIFIED LENGTH WITHOUT APPROVAL BY THE STRUCTURAL ENGINEER.
6. SUBMIT SHOP DRAWINGS FOR FABRICATION AND PLACEMENT OF REINFORCING STEEL. INCLUDE SCHEDULES AND DIAGRAMS OF BENT BARS AND SHOW ARRANGEMENT OF REINFORCEMENT, INCLUDING CONCRETE COVER. STRUCTURAL ENGINEER'S REVIEW WILL BE FOR COMPLIANCE WITH DESIGN REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING DIMENSIONS AND QUANTITIES.
7. ALL CONCRETE NOT OTHERWISE SPECIFIED SHALL BE REINFORCED TO THE MINIMUM REQUIREMENT OF ACI 318.

CAST-IN-PLACE CONCRETE

1. ALL CONCRETE WORK SHALL CONFORM TO THE CORRESPONDING EDITION OF THE AMERICAN CONCRETE INSTITUTE PUBLICATIONS: ACI 117, ACI 301, ACI 305.1, ACI 306.1, ACI 308.1, ACI 318 AND SP-066, UNLESS OTHERWISE NOTED.
2. CONCRETE MATERIALS SHALL CONFORM TO:

CEMENT	ASTM C150, TYPE I OR II
FLY ASH	ASTM C618, TYPE C OR F
FINE AND COARSE AGGREGATE	ASTM C33
WATER	POTABLE
AIR-ENTRAINING ADMIXTURE	ASTM C260
WATER REDUCING ADMIXTURE	ASTM C494

CONCRETE STRENGTHS SHALL CONFORM TO:

INTENDED USE	STRENGTH (PSI)
FOOTINGS	3000
FOUNDATIONS	4000
SLAB ON GRADE	4000
UNLESS OTHERWISE NOTED	4000

NORMAL-WEIGHT 28-DAY STRENGTH UNLESS OTHERWISE NOTED.

3. SLAB-ON-GRADE CONSTRUCTION: LOCATE SAW-CUT CONTROL JOINTS ALONG COLUMN LINES WITH INTERMEDIATE JOINTS SPACED PER THE TABLE BELOW, UNLESS OTHERWISE NOTED. SLAB PANELS SHALL HAVE A MAXIMUM LENGTH TO WIDTH RATIO OF 1.5:1. PROVIDE ADDITIONAL CONTROL JOINTS AT ALL RE-ENTRANT CORNERS. SEE PLAN FOR SPECIAL CASES.

THICKNESS (IN)	MAXIMUM JOINT SPACING EACH WAY (FT)
4	12
5	13

4. PROVIDE SLEEVES FOR PLUMBING AND ELECTRICAL PENETRATIONS THROUGH CONCRETE BEFORE PLACING. SECURE SLEEVES TO PREVENT MOVEMENT DURING PLACING OPERATIONS. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATIONS.
5. NO CONCRETE SHALL BE PLACED ONTO OR AGAINST SUBGRADES CONTAINING FREE WATER, FROST, ICE OR SNOW.
6. THE PROPOSED MATERIALS AND MIX DESIGN SHALL BE FULLY DOCUMENTED AND REVIEWED BY THE TESTING AGENCY, RESPONSIBILITY FOR OBTAINING THE REQUIRED DESIGN STRENGTH IS THE CONTRACTOR'S. SUBMIT TEST DATA ON EACH PROPOSED MIX FOR REVIEW IN ACCORDANCE WITH THE APPLICABLE CODE. MIX DESIGNS SUBMITTED WITHOUT THE REQUIRED TEST DATA WILL BE RETURNED WITHOUT REVIEW.

MASONRY

1. CMU CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH TMS 402/602 "BUILDING CODE REQUIREMENTS AND SPECIFICATION FOR MASONRY STRUCTURES".
2. MINIMUM 28-DAY COMPRESSIVE STRENGTHS FOR CMU CONSTRUCTION SHALL BE:

DESIGN ASSEMBLY STRENGTH, f'm	2500 PSI
INDIVIDUAL CONCRETE MASONRY UNITS	3250 PSI
GROUT	2500 PSI

3. CMU MATERIALS SHALL CONFORM TO THE FOLLOWING STANDARDS:

CONCRETE MASONRY UNITS	ASTM C90, NORMAL WEIGHT
MORTAR	ASTM C270, TYPE S
GROUT	ASTM C476
JOINT REINFORCING	ASTM A82

4. WIRE REINFORCING PER ASTM A82 FOR SINGLE-WYTHE CMU WALLS, CMU CAVITY WALLS, AND MULTI-WYTHE COMPOSITE CMU WALLS SHALL BE HOT-DIP GALVANIZED PER ASTM A153, CORROSION RESISTANT HORIZONTAL JOINT REINFORCING WITH THE FOLLOWING GAUGE AND VERTICAL SPACING:

RUNNING BOND	9 GA @ 16" OC (ALL WIDTHS)
BELOW GRADE WALLS	9 GA @ 8" OC

5. ALL LOAD BEARING CMU WALLS TO HAVE FULL MORTAR BED, HEAD, AND COLLAR JOINTS.
6. GROUT SOLID ALL JAMBS FULL HEIGHT IN LOAD BEARING CMU WALLS TO UNDERSIDE OF LINTEL PLUS ONE CELL BEYOND BEARING LENGTH.
7. PROVIDE MINIMUM 1 INCH GROUT BETWEEN MAIN REINFORCING AND/OR BOLTS AND CMU UNIT FACE. VERTICAL REINFORCEMENT SHALL BE CENTERED IN WALL, UNLESS OTHERWISE NOTED. VERTICAL REINFORCING BARS SHALL SECURELY BE HELD IN POSITION BY WIRE TIES OR OTHER APPROVED MEANS TO ENSURE DESIGN LOCATION AND LAP. PLACE BARS AND LAP PRIOR TO GROUTING.
8. COORDINATE ANY UNIDENTIFIED PIPE OR DUCT PASSING THROUGH STRUCTURAL CMU WALLS WITH TYPICAL DETAILS, UNLESS OTHERWISE NOTED.
9. SEE ARCHITECTURAL DRAWINGS FOR SURFACE AND HEIGHT OF UNITS, LAYING PATTERN, AND JOINT TYPE. ALL BLOCK SHALL BE LAID IN RUNNING BOND, UNLESS OTHERWISE NOTED.

LINTELS

1. PROVIDE LINTELS OVER ALL OPENINGS AND RECESSES IN MASONRY CONSTRUCTION. LINTELS ARE NOT REQUIRED OVER OPENINGS 12" WIDE OR LESS THAT IS AT LEAST 1 COURSE BELOW THE BOND BEAM AT THE TOP OF WALL.
2. PENETRATIONS NOT IDENTIFIED ON THE DOCUMENTS ARE TO BE TREATED IN A MANNER SIMILAR TO THE IDENTIFIED LOCATIONS.
3. LINTELS IN NON-BEARING WALLS SHALL BE SIZED PER THE FOLLOWING:

SPAN, L	STEEL OPTION (FOR EA 4" OF MASONRY) *
0' < L ≤ 4'-0"	L3 1/2x3 1/2x1/4
4'-0" < L ≤ 6'-0"	L4x3 1/2x5/16 (LLV)
6'-0" < L ≤ 8'-0"	L5x3 1/2x5/16 (LLV)
8'-0" < L ≤ 10'-0"	L6x3 1/2x3/8 (LLV)

SPAN, L	CMU OPTIONS			
	6" BLOCK	8" BLOCK	10" BLOCK	12" BLOCK
0' < L ≤ 4'-0"	8" DEEP W/ (1) #4 BOTT	8" DEEP W/ (1) #4 BOTT	8" DEEP W/ (1) #5 BOTT	8" DEEP W/ (1) #5 BOTT
4'-0" < L ≤ 6'-0"	8" DEEP W/ (1) #4 BOTT	8" DEEP W/ (1) #4 BOTT	8" DEEP W/ (1) #5 BOTT	8" DEEP W/ (1) #5 BOTT
6'-0" < L ≤ 8'-0"	16" DEEP W/ (1) #4 BOTT	16" DEEP W/ (1) #4 BOTT	16" DEEP W/ (1) #5 BOTT	16" DEEP W/ (1) #5 BOTT
8'-0" < L ≤ 10'-0"	16" DEEP W/ (1) #5 BOTT	16" DEEP W/ (2) #5 BOTT	16" DEEP W/ (2) #5 BOTT	16" DEEP W/ (2) #5 BOTT

*ALL ANGLES THAT ARE BACK-TO-BACK SHALL BE WELDED TOP AND BOTTOM 3" @ 12" OC MINIMUM.

4. ALL LINTELS SHALL HAVE A MINIMUM OF 8" END BEARING AND DO NOT REQUIRE BEARING PLATES, UNLESS OTHERWISE NOTED.
5. TEMPORARY SHORING OF MASONRY LINTELS MUST BE PROVIDED UNTIL MASONRY HAS REACHED 75% OF DESIGN STRENGTH.
6. ALL STEEL LINTELS IN EXTERIOR WALL CONSTRUCTION SHALL BE HOT-DIP GALVANIZED, UNLESS OTHERWISE NOTED.

STEEL

1. STRUCTURAL STEEL SHALL BE DETAILED IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "DETAILING FOR STEEL CONSTRUCTION" AND FABRICATED AND ERECTED IN ACCORDANCE WITH THE "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS".
2. STRUCTURAL STEEL SHALL CONFORM TO ASTM STANDARDS AS NOTED BELOW:

WIDE FLANGE SHAPES	ASTM A992	Fy = 50 KSI
OTHER ROLLED SHAPES	ASTM A36	Fy = 36 KSI
PIPE SECTIONS	ASTM A53, GR B	Fy = 35 KSI
HSS SECTIONS, ROUND	ASTM A500, GR C	Fy = 46 KSI
HSS SECTION, SQ/RECT	ASTM A500, GR C	Fy = 50 KSI
HP SHAPES	ASTM A572	Fy = 50 KSI
BASE AND CONNECTION PLATES	ASTM A36	Fy = 36 KSI
ANCHOR RODS	ASTM F1554, GR 36	Fy = 36 KSI
HIGH STRENGTH BOLTS	ASTM F3125, GR A325	Fy = 120 KSI
HEAVY HEX NUTS	ASTM A563	
WASHERS	ASTM F436	
HEADED STUD ANCHORS	ASTM A108, TYPE B	
ELECTRODES FOR ARC WELDING	AWS 5.1, E70XX	

3. HIGH STRENGTH BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH AISC "SPECIFICATIONS FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS". SEE DETAILS FOR BOLT SIZE AND MATERIAL ASTM DESIGNATION.
4. ALL BOLTED CONNECTIONS SHALL BE GRADE A325N BEARING TYPE BOLTS, UNLESS OTHERWISE NOTED. ALL BOLTS SHALL BE INSTALLED TO A MINIMUM "SNUG TIGHT" CONDITION, UNLESS OTHERWISE NOTED.
5. ALL STEEL EXPOSED TO WEATHER OR AS NOTED ON PLAN SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 G90. ABRADED AREAS TO BE TOUCHED UP WITH COLD GALVANIZING COMPOUND IN ACCORDANCE WITH ASTM A780.
6. ALL GALVANIZED HOLLOW SECTIONS SHALL HAVE WELDED CAP PLATES TO SEAL EXPOSED ENDS.
7. CUTS, HOLES, OPENINGS, ETC., REQUIRED IN STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES SHALL BE SHOWN ON THE SHOP DRAWINGS. BURNING OF HOLES AND CUTS IN THE FIELD SHALL NOT BE ALLOWED, EXCEPT BY WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER.
8. FURNISH AND INSTALL MISCELLANEOUS STEEL (CURBS, HANGERS, EXPANSION JOINT ANGLES, STRUTS, ETC.) AS CALLED FOR OR AS NECESSARY PER ARCHITECTURAL AND MECHANICAL/ELECTRICAL DRAWINGS.
9. GROUT FOR BASE AND BEARING PLATES SHALL BE A NON-SHRINK, NON-METALLIC PRODUCT. MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS SHALL BE 7000 PSI. INSTALL GROUT PRIOR TO APPLYING SIGNIFICANT LOADING TO MEMBER.
10. THE STRUCTURAL STEEL FABRICATOR SHALL FURNISH SHOP DRAWINGS OF ALL STRUCTURAL STEEL FOR ARCHITECT/STRUCTURAL ENGINEER'S REVIEW BEFORE FABRICATION.

WOOD

1. STRUCTURAL SHEATHING
   A. ALL PANELS TO BE PLYWOOD OF MINIMUM 5 PLY CONSTRUCTION. EACH PANEL SHALL BEAR THE QUALITY TRADEMARK STAMP OF THE AMERICAN PLYWOOD ASSOCIATION (APA).
   B. ROOFS:
      i. GRADE:
         a. 5/8", "C-D", GROUP 1, SPAN INDEX 40/20, EXPOSURE 1
      ii. PANEL EDGE SUPPORT SHALL BE EITHER TONGUE-AND-GROOVE EDGE. PANEL EDGE CLIP MIDWAY BETWEEN SUPPORTS, OR LUMBER BLOCKING (MIN 2x4 SIZE).
   C. MINIMUM NAILING REQUIREMENTS UNLESS OTHERWISE NOTED:
      i. ROOF:
         a. NAIL SIZE: USE 0.148" x 2 1/4" GUN NAIL
         b. SPACING:
            1) PANEL EDGES @ 6" OC
            2) INTERIOR BEARINGS @ 12" OC
            3) GLULAM BEAMS AND SHEAR COLLECTORS @ 6" OC
   D. PANEL LAYOUT:
      i. LONG DIMENSION OF PANEL TO BE PERPENDICULAR TO FRAMING MEMBERS, EXCEPT PANELS AT WALLS MAY BE INSTALLED WITH LONG DIMENSION PARALLEL TO STUDS UNLESS OTHERWISE NOTED.
      ii. END JOINTS IN ADJACENT RUNS SHALL BE STAGGERED 4 FEET.
      iii. MINIMUM PANEL WIDTH SHALL BE 12".
      iv. EDGES OF ALL PANELS LESS THAN 24" WIDE SHALL BE BACKED BY BLOCKING (MIN 2x4 SIZE).
      v. PROVIDE 1/8" GAP AT ALL SHEATHING JOINTS FOR FLOORS AND WALLS UNLESS OTHERWISE NOTED ON PLAN OR DETAILS.
   E. IF SHEATHING PANELS EXHIBIT SWELLING, NAIL HEAD PULL-THROUGH, SOFT SPOTS OR OTHER CONDITIONS WHEREBY REDUCING THE STRUCTURAL CAPACITY, REMOVE AND REPLACE.
2. LUMBER:
   A. COMPLY WITH ANSI/AWC NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION.
   B. ALL FRAMING LUMBER SHALL BE SPRUCE PINE FIR, GRADED BY WESTERN WOOD PRODUCTS ASSOCIATION. NOTED ALLOWABLE STRESSES ARE MINIMUMS AND FOR NONREPETITIVE USES PRIOR TO ALLOWABLE STRESS INCREASES AND CONFORMING TO THE NDS AS FOLLOWS:

2" THICK - 4" TO 6" WIDE (WALL STUD ONLY)	NO. 2 Fb = 875 PSI, E = 1,400,000 PSI
2" TO 4" THICK - 6" AND WIDER	NO. 2 Fb = 875 PSI, E = 1,400,000 PSI
5" THICK - 5" AND WIDER	NO. 1 Fb = 900 PSI, E = 1,300,000 PSI

   C. ALL LUMBER STRESSES SHOWN ABOVE ARE FOR VISUALLY STRESS-RATED LUMBER USED AT 19% MAXIMUM MOISTURE CONTENT WHEN BUILDING IS ENCLOSED, SINGLE MEMBER USE. ALL LUMBER SHALL BE GRADE MARKED.
   D. PROVIDE A MINIMUM OF 1 1/2" JOIST BEARING UNLESS OTHERWISE NOTED.
   E. NOTCHING OR DRILLING HOLES IN LUMBER FRAMING MEMBERS MUST BE AS APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.
3. MANUFACTURED WOOD PRODUCTS:
   A. NOTCHING OR DRILLING HOLES IN MANUFACTURED WOOD PRODUCTS THAT ARE DIFFERENT FROM THE MANUFACTURER'S GUIDELINES MUST BE AS APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.
   B. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION PER DETAILED INSTALLATION RECOMMENDATIONS AND GUIDELINES OF THE MANUFACTURER.
   C. ALL HANGERS SELECTED SHALL MATCH THE SIZE OF SUPPORTED MEMBER AND SHALL HAVE FULL NAILING AS SHOWN IN THE ICC REPORT.
   D. SUBSTITUTIONS MUST BE APPROVED BY THE STRUCTURAL ENGINEER AND HAVE ICC APPROVED LOAD CAPACITIES EQUAL TO OR GREATER THAN THE SIMPSON STRONG-TIE CONNECTORS.
   E. SIMPSON HANGERS AT PRESSURE TREATED MEMBERS SHALL HAVE ZMAX COATING.
   F. SEE ARCHITECTURAL DETAILS AND SPECIFICATIONS FOR MATERIAL TYPES AND FINISHES.
   G. SEE MANUFACTURER REQUIREMENTS FOR MINIMUM BEARING LENGTHS.
4. FASTENING:
   A. ALL NAILS SHALL BE COMMON WIRE NAILS. AT ALL EXPOSED NAILING TO WEATHER OR INSTALLED IN PRESSURE TREATED WOOD (E.G.-DECKING & SIDING), USE HOT-DIP GALVANIZED NAILS. USE OF PLASTIC COATED OR CASING NAILS IS NOT ALLOWED. NAIL DESIGNATIONS SHALL MEET THE FOLLOWING LENGTHS AND DIAMETERS:
      i. 6d - 2" x 0.113"
      ii. 8d - 2 1/2" x 0.131"
      iii. 10d - 3" x 0.148"
      iv. 12d - 3 1/4" x 0.148"
      v. 16d - 3 1/2" x 0.162"
      vi. 20d - 4" x 0.192"
   B. THE NAILING SCHEDULE AND STRUCTURAL DETAILS ARE BASED ON THE USAGE OF "COMMON" WIRE NAILS EXCEPT THAT 16d "SINKER" NAILS (3 1/4" x 0.148") MAY BE USED WHERE 16d IS SPECIFIED. IF GUN NAILS ARE USED, THE CONTRACTOR SHALL SUBMIT NAIL DATA FOR REVIEW PRIOR TO BEGINNING CONSTRUCTION.
   C. THE NUMBER AND SIZE OF NAILS CONNECTING WOOD MEMBERS SHALL NOT BE LESS THAN THE FOLLOWING SCHEDULE:

CONNECTION	FASTENING
JOIST TO SILL, TOP PLATE OR GIRDER	(3) 8d TOENAILS
BRIDGING OR BLOCKING BETWEEN JOISTS OR TRUSSES NOT AT WALL TOP PLATE	(2) 8d TOENAILS, EACH END OR (2) 16d END NAILS
SILL PLATE TO JOIST, RIM JOIST OR BLOCKING	16d @ 16" OC, FACE NAIL
BLOCKING BETWEEN JOIST OR RAFTERS TO TOP PLATE	(3) 8d TOENAILS
RIM JOIST TO TOP PLATE OR FRAMING BELOW	8d @ 6" OC, TOENAIL
RAFTER OR ROOF TRUSS TO PLATE	(3) 10d TOENAILS
FLAT BLOCKING TO TRUSS AND WEB FILLER	16d @ 16" OC, FACE NAIL

   D. PILOT HOLES SHALL BE PROVIDED FOR ALL NAILS 20d AND LARGER. PILOT HOLES SHALL HAVE A DIAMETER OF APPROXIMATELY 75% OF THE NAIL SHANK DIAMETER.
   E. USE OF MACHINE NAILING IS SUBJECT TO A SATISFACTORY JOBSITE DEMONSTRATION AND THE APPROVAL OF THE ARCHITECT/STRUCTURAL ENGINEER.
   F. CONTRACTOR TO AVOID SPLITTING WOOD MEMBERS DURING FASTENER INSTALLATION. NAIL HEADS SHOULD BE DRIVEN NO GREATER THAN 1/16 OF AN INCH BELOW WOOD SURFACE.
   G. ALL BOLTED WOOD CONNECTIONS SHALL BE MADE WITH A307 BOLTS CONFORMING TO THE REQUIREMENTS OF THE CURRENT VERSION OF ANSI/ASME UNLESS OTHERWISE NOTED. BOLT HOLES SHALL BE 1/32" TO 1/16" LARGER THAN THE BOLT. FORCIBLE DRIVING OF BOLTS IS NOT ALLOWED. RETIGHTEN ALL BOLTS BEFORE CONCEALING CONNECTION.
   H. USE STANDARD CUT WASHERS BETWEEN THE BOLTS HEADS, BOLT NUTS AND LAG SCREW HEADS AND WOOD FRAMING, UNLESS OTHERWISE NOTED.
   I. ALL WOOD CONNECTIONS MADE WITH LAG SCREWS SHALL BE MADE WITH SCREWS CONFORMING TO THE REQUIREMENTS OF THE CURRENT VERSION OF ANSI/ASME. LEAD HOLES FOR THE SHANK SHALL HAVE THE SAME DIAMETER AS THE SHANK AND THE SAME DEPTH AS THE LENGTH OF UNTHREADED SHANK. THE LEAD HOLE SHALL HAVE A DIAMETER EQUAL TO 60-75% OF THE SHANK DIAMETER.
   J. WHERE THERE ARE CONNECTOR NAILING ALTERNATIVES LISTED IN THE MANUFACTURER'S CATALOG, THE NAILING PROVIDING THE HIGHEST LOAD CAPACITY SHALL BE USED, UNLESS OTHERWISE NOTED.
5. GENERAL CONSTRUCTION REQUIREMENTS:
   A. METAL FRAMING CONNECTORS NOTED ON THE DRAWINGS USE SIMPSON STRONG-TIE AS BASIS OF DESIGN, UNLESS OTHERWISE NOTED. SUBSTITUTIONS OF ALTERNATE MANUFACTURERS WILL BE ACCEPTABLE AS LONG AS LOAD CAPACITIES ARE MET OR EXCEEDED AND ARE SUBSTANTIATED BY AN ICC REPORT.
   B. FRAMING PLANS INDICATE GENERAL LAYOUT AND DIMENSIONAL CONTROL ONLY. SEE SHOP DRAWINGS FOR ENGINEERING AND ERECTION.
   C. ALL LUMBER, UNLESS NOTED, SHALL BE MILL SIZED AND SURFACED ON FOUR SIDES AND SHALL BE STRAIGHT STOCK, FREE FROM WARP OR CUP, AND SINGLE LENGTH PIECES.
   D. ALL ROUGH CARPENTRY SHALL PRODUCE JOINTS TRUE, TIGHT, AND WELL NAILED WITH MEMBERS ASSEMBLED IN ACCORDANCE WITH THE DRAWINGS AND ALL PERTINENT BUILDING CODES. THE SHIMMING OF SILLS, JOISTS, SHORT STUDS, TRIMMERS, HEADERS, OR OTHER FRAMING MEMBERS SHALL NOT BE PERMITTED. ALL WALLS AND PARTITIONS SHALL BE STRAIGHT, PLUMB, AND ACCURATELY LOCATED. CAREFULLY SELECT ALL STRUCTURAL MEMBERS SO KNOTS AND OBVIOUS MINOR DEFECTS WILL NOT INTERFERE WITH MAKING SOUND CONNECTIONS.
   E. INSTALL ALL BLOCKING AS REQUIRED TO SUPPORT ALL REQUIRED FINISHES AND EQ

TESTING, INSPECTIONS, AND OBSERVATIONS

1. THE STRUCTURAL ENGINEER DOES NOT PROVIDE INSPECTIONS OF CONSTRUCTION. STRUCTURAL ENGINEER MAY MAKE PERIODIC OBSERVATIONS OF THE CONSTRUCTION. SUCH OBSERVATIONS SHALL NOT REPLACE REQUIRED INSPECTIONS BY THE GOVERNING AUTHORITIES OR SERVE AS "SPECIAL INSPECTIONS" AS MAY BE REQUIRED BY CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE.
2. SEE ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS OR SPECIFICATIONS FOR TESTING AND INSPECTION REQUIREMENTS OF NON-STRUCTURAL COMPONENTS.
3. DUTIES OF THE INSPECTION AGENCY PER IBC CHAPTER 17:
   a. SUBMIT A PROPOSED TESTING AND INSPECTION PROGRAM TO THE OWNER, THE ARCHITECT AND THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL AT LEAST TWO WEEKS PRIOR TO COMMENCEMENT OF WORK.
   b. PERFORM ALL TESTING AND INSPECTION REQUIRED PER APPROVED TESTING AND INSPECTION PROGRAM.
   c. FURNISH INSPECTION REPORT TO THE BUILDING OFFICIAL, THE OWNER, THE ARCHITECT, STRUCTURAL ENGINEER AND THE GENERAL CONTRACTOR. THE REPORTS SHALL BE COMPLETED AND FURNISHED WITHIN 48 HOURS OF INSPECTED WORK.
   d. SUBMIT A FINAL SIGNED REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE SPECIAL INSPECTION AGENCY'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.
4. SPECIAL INSPECTIONS AND TESTS ARE REQUIRED FOR MATERIALS AND SYSTEMS REQUIRED TO BE INSTALLED IN ACCORDANCE WITH ADDITIONAL MANUFACTURER'S INSTRUCTIONS THAT PRESCRIBE REQUIREMENTS NOT CONTAINED IN CHAPTER 17 OF THE IBC OR IN STANDARDS REFERENCED BY THE IBC. THESE ITEMS INCLUDE:
   a. POST-INSTALLED ANCHORS - INSPECTION
5. THE FOLLOWING WORK SHALL BE INSPECTED BY THE SPECIAL INSPECTOR UNLESS SPECIFICALLY WAIVED BY THE BUILDING OFFICIAL.

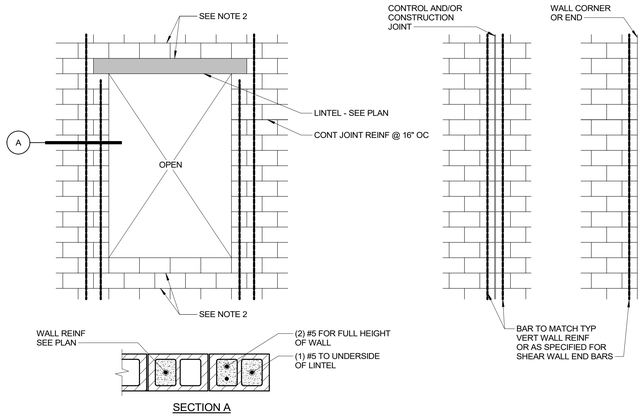
VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	MATERIAL STD REFERENCE	IBC REFERENCE
CONCRETE CONSTRUCTION				
1. INSPECT REINFORCEMENT AND VERIFY PLACEMENT		X	ACI 318: CH 20, 25.2, 25.3, 26.2.1-26.6.3	1908.4
2. MATERIAL IDENTIFICATION OF REINFORCING (TYPE/GRADE)		X		
3. REINFORCING STEEL HAS NOT BEEN REBENT IN THE FIELD		X		
4. REINFORCING STEEL HAS BEEN TIED AND SUPPORTED AS REQUIRED		X		
5. REINFORCING STEEL CLEARANCES HAVE BEEN PROVIDED		X		
6. INSPECT ANCHORS CAST IN CONCRETE		X	ACI 318: 17.8.2	
7. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS:				
a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS	X		ACI 318: 17.8.2.4	
b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.a		X	ACI 318: 17.8.2	
8. VERIFY USE OF REQUIRED DESIGN MIX		X	ACI 318: CH 19, 26.4.2, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
9. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	X		ASTM C172, ASTM C31, ACI 318: 26.5, 26.12	1908.10
10. INSPECT CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X		ACI 318: 26.5	1908.6, 1908.7, 1908.8
11. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES		X	ACI 318: 26.5.3-26.5.5	1908.9
12. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS		X	ACI 318: 26.11.2	
13. INSPECT FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED		X	ACI 318: 26.11.2(b)	

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	TMS 402	TMS 602
MASONRY CONSTRUCTION - LEVEL 2				
1. PRIOR TO CONSTRUCTION:				
a. VERIFICATION OF COMPLIANCE OF SUBMITTALS		X		ART. 1.5
b. VERIFICATION OF f'm		X		ART. 1.4 B
2. AS CONSTRUCTION BEGINS, VERIFY THE FOLLOWING ARE IN COMPLIANCE:				
a. PROPORTIONS OF SITE-PREPARED MORTAR		X		ART. 2.1, 2.6 A & 2.6 C
b. GRADE AND SIZE OF ANCHORAGES		X		ART. 2.4 B & 2.4 H
c. GRADE, TYPE AND SIZE OF REINFORCEMENT, CONNECTORS, ANCHOR BOLTS, AND ANCHORAGES		X		ART. 3.4 & 3.6 A
3. PRIOR TO GROUTING, VERIFY THE FOLLOWING ARE IN COMPLIANCE:				
a. GROUT SPACE		X		ART. 3.2 D & 3.2 F
b. PLACEMENT OF ANCHORAGES		X	SEC. 10.8 & 10.9	ART. 2.4 & 3.6
c. PLACEMENT OF REINFORCEMENT, CONNECTORS, AND ANCHOR BOLTS		X	SEC. 6.1, 6.3.1, 6.3.6 & 6.3.7	ART. 3.2 E & 3.4
d. PROPORTIONS OF SITE-PREPARED GROUT		X		ART. 2.6 B & 2.4 G.1.b
4. DURING CONSTRUCTION:				
a. VERIFICATION OF SLUMP FLOW AND VISUAL STABILITY INDEX (VSI) WHEN SELF-CONSOLIDATING GROUT IS DELIVERED TO THE PROJECT SITE		X		ART. 1.5 & 1.6.3
b. MATERIALS AND PROCEDURES WITH THE APPROVED SUBMITTALS		X		ART. 1.5
c. PLACEMENT OF MASONRY UNITS AND MORTAR JOINT CONSTRUCTION		X		ART. 3.3 B
d. SIZE AND LOCATION OF STRUCTURAL MEMBERS		X		ART. 3.3 F
e. TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION		X	SEC. 1.2.1(e), 6.2.1 & 6.3.1	
f. WELDING OF REINFORCEMENT	X		SEC. 6.1.6.1.2	
g. PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F) OR HOT WEATHER (TEMPERATURE ABOVE 90°F)		X		ART. 1.8 C & 1.8 D
5. OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS		X		ART. 1.4 B.2.a.3, 1.4 B.2.b.3, 1.4 B.2.c.3, 1.4 B.3 & 1.4 B.4

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	MATERIAL STD REFERENCE	IBC REFERENCE
WOOD FRAMING				
1. PREFABRICATED WOOD STRUCTURAL ELEMENTS		X		1704.2.5
a. METAL-PLATE-CONNECTED WOOD TRUSSES SPANNING 60 FEET OR GREATER:				
i. TEMPORARY AND PERMANENT INSTALLATION RESTRAINT/BRACING		X		1705.5.3
2. HIGH-LOAD DIAPHRAGMS:				
a. SHEATHING GRADE AND THICKNESS		X		1705.5.1
b. MEMBER SIZES AT ADJOINING PANEL EDGES		X		1705.5.1
c. DIAPHRAGM NAILING		X		1705.5.1
3. LATERAL FORCE RESISTING SYSTEM (SHEAR WALLS, DIAPHRAGMS, DRAG STRUTS, BRACES, AND HOLDOWNS, WHERE FASTENER SPACING AT PANEL EDGES IS 4" OR LESS):				
a. GLUING OF ELEMENTS OF THE LATERAL FORCE RESISTING SYSTEM	X			1705.12.1, 1705.13.2
b. NAILING, BOLTING, ANCHORING AND OTHER FASTENING TO OTHER ELEMENTS OF THE LATERAL FORCE RESISTING SYSTEM		X		1705.12.1, 1705.13.2

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	MATERIAL STD REFERENCE	IBC REFERENCE
MASS TIMBER CONSTRUCTION				
4. INSPECTION OF ANCHOR AND CONNECTIONS OF MASS TIMBER CONSTRUCTION TO TIMBER DEEP FOUNDATION SYSTEMS		X		TABLE 1705.5.3
5. INSPECT ERECTION OF MASS TIMBER CONSTRUCTION		X		TABLE 1705.5.3
6. INSPECTION OF CONNECTIONS WHERE INSTALLATION METHODS ARE REQUIRED TO MEET DESIGN LOADS:				
a. THREADED FASTENERS:				
i. VERIFY USE OF PROPER INSTALLATION EQUIPMENT		X		TABLE 1705.5.3
ii. VERIFY USE OF PREDRILLED HOLES WHERE REQUIRED		X		TABLE 1705.5.3
iii. INSPECT SCREWS, INCLUDING DIAMETER, LENGTH, HEAD TYPE, SPACING, INSTALLATION ANGLE AND DEPTH		X		TABLE 1705.5.3
b. ADHESIVE ANCHORS INSTALLED IN HORIZONTAL OR UPWARDLY INCLINED ORIENTATION TO RESIST SUSTAINED TENSION LOADS	X			TABLE 1705.5.3
c. ADHESIVE ANCHORS NOT DEFINED IN PRECEDING CELL		X		TABLE 1705.5.3
d. BOLTED CONNECTIONS		X		TABLE 1705.5.3
e. CONCEALED CONNECTIONS		X		TABLE 1705.5.3

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	MATERIAL STD REFERENCE	IBC REFERENCE
SOILS				
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY		X		
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL		X		
3. PERFORM CLASSIFICATIONS AND TESTING OF COMPACTED FILL MATERIAL		X		
4. VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	X			
5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY		X		



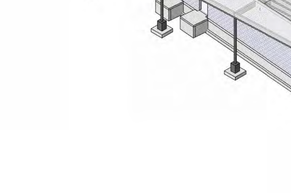
SECTION A

NOTES:

1. SEE ARCH ELEVATIONS FOR CONTROL JOINT LOCATIONS.
2. TWO COURSES OF JOINT REINF ARE REQUIRED ABOVE THE LINTEL AND BELOW THE SILL AND SHALL EXTEND A MIN OF 24 INCHES PAST THE OPENING.

1 TYPICAL CMU WALL OPENING DETAIL

3/4" = 1'-0"

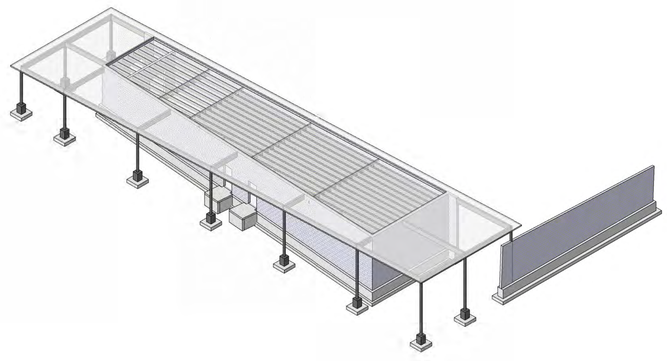


NOTES:

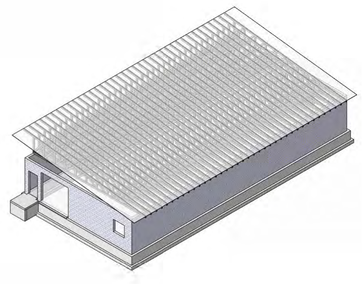
1. SEE ARCH DRAWINGS FOR INSULATION, THROUGH-WALL FLASHING, AND WEEP HOLES.
2. SHORE UNTIL GROUT FOR LINTEL HAS REACHED ITS SPECIFIED STRENGTH.

2 BOND BEAM LINTEL DETAIL

3/4" = 1'-0"



3D VIEW – FOR REFERENCE ONLY

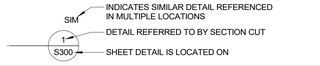


STRUCTURAL ABBREVIATION KEY	
ABBR:	**DESCRIPTION:**
#	NUMBER OR POUNDS
@	AT
°	DEGREE
ø	DIAMETER
(E)	EXISTING
A.B.	ANCHOR BOLT
ARCH	ARCHITECT, -URE, -URAL
B.O.	BOTTOM OF
bf	BEAM FLANGE WIDTH
BF	BRACE FRAME
BM	BEAM
B.N.	BOUNDARY NAILING
BOTT	BOTTOM
BTWN	BETWEEN
CFSF	COLD FORM STEEL FRAMING
CGS	CENTER OF GRAVITY OF THE TENDON
CJP	COMPLETE JOINT PENETRATION WELD
CLR	CLEAR
CL	CENTERLINE
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
COORD	COORDINATION
DIA	DIAMETER
DL	DEAD LOAD
DET	DETAIL
DWG	DRAWING
DWL	DOWEL
EA	EACH
EF	EACH FACE
EFF	EFFECTIVE
EL	ELEVATION
ELEC	ELECTRICAL
EMBED	EMBEDMENT
E.N.	EDGE NAILING
EOD	EDGE OF DECK
EOS	EDGE OF SLAB
EQ	EQUAL
EQUIP	EQUIPMENT
ETC	ETCETERA
EW	EACH WAY
EXP	EXPANSION
EXT	EXTERIOR
f'c	CONCRETE COMPRESSIVE STRENGTH
FDN	FOUNDATION
F.N.	FIELD NAILING
FT	FOOT
FTG	FOOTING
Fy	YIELD STRESS
GA	GAGE OR GAUGE
GALV	GALVANIZED
GLB	GLULAM BEAM
GT	GIRDER TRUSS
HORIZ	HORIZONTAL
HSA	HEADED STUD ANCHOR
HSB	HIGH STRENGTH BOLT
JT	JOINT
K, KIP	KILOPOUND (1,000 POUNDS)
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
L	LENGTH
LBS	POUNDS
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG	LONGITUDINAL
LSH	LONG SIDE HORIZONTAL
LSV	LONG SIDE VERTICAL
LT WT	LIGHTWEIGHT
MAX	MAXIMUM
MECH	MECHANICAL
MANUF	MANUFACTURER
MIN	MINIMUM
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OH	OPPOSITE HAND
OPNG	OPENING
OSB	ORIENTED STRAND BOARD
PCF	POUNDS PER CUBIC FOOT
P.H.	PENTHOUSE
PJP	PARTIAL JOINT PENETRATION WELD
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POST-TENSION, -ED, -ING
R	RADIUS
REINF	REINFORCING, -MENT, -ED
REQD	REQUIRED
RTU	ROOF TOP UNIT
SC	SLIP CRITICAL
SCHED	SCHEDULE
SFRS	SEISMIC FORCE-RESISTING SYSTEM
SIM	SIMILAR
SL	SNOW LOAD
S.M.S.	SHEET METAL SCREW
SP	SPACE(S)
SPECS	SPECIFICATION(S)
SQ	SQUARE
STIFF	STIFFENER
STL	STEEL
SYM	SYMMETRICAL
T&B	TOP AND BOTTOM
T.O.	TOP OF
TC	PRE-TENSIONED BOLT
TEMP	TEMPERATURE
tf	BEAM FLANGE THICKNESS
THK	THICK
TRANS	TRANSVERSE
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
VERT	VERTICAL
VIF	VERIFY IN FIELD
W/	WITH
WP	WORK POINT
WT	WEIGHT
WWR	WELDED WIRE REINFORCING

VIEW KEY

NAME — LEVEL NAME
10'-0" — HEIGHT ABOVE PROJECT 0'-0"

1 — INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED. SPECIFIC TO THE SHEET AND/OR DETAIL

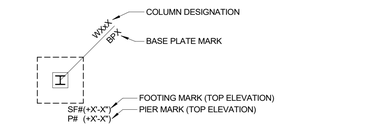


LINE TYPE KEY:

- NEW WORK (DARK SOLID LINE/LINE WEIGHT WILL VARY)
- NEW WORK BELOW OR BEYOND VIEW (DARK DASH LINE)
- EXISTING TO BE REMOVED (DARK DASH LINE)
- EXISTING WORK TO REMAIN (HALFTONED SOLID LINE/LINE WEIGHT WILL VARY)
- NON STRUCTURAL (HALFTONED LIGHT SOLID LINE)
- GRID OR CENTERLINE

MATERIAL LEGEND:

- CONCRETE - CAST-IN-PLACE
- CONCRETE - EXISTING
- EARTH
- GRAVEL OR GRANULAR FILL
- GROUT OR DRYPACK OR SAND
- MASONRY
- METAL / COLD-FORM STUD
- PRECAST CONCRETE
- STEEL



STRUCTURAL SYMBOL LIST

GENERAL SYMBOLS:

SYMBOL	DESCRIPTION	DETAIL REFERENCE
(+16'-3")	TOP OF STRUCTURAL FRAMING ABOVE ELEVATION (+0'-0")	N/A
(-2'-0")	TOP OF STRUCTURAL FOUNDATION BELOW ELEVATION (+0'-0")	N/A

FOUNDATION SYMBOLS:

SYMBOL	DESCRIPTION	DETAIL REFERENCE
-1"	SLAB DEPRESSION	

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TESTING, INSPECTIONS AND ABBREVIATIONS

S001

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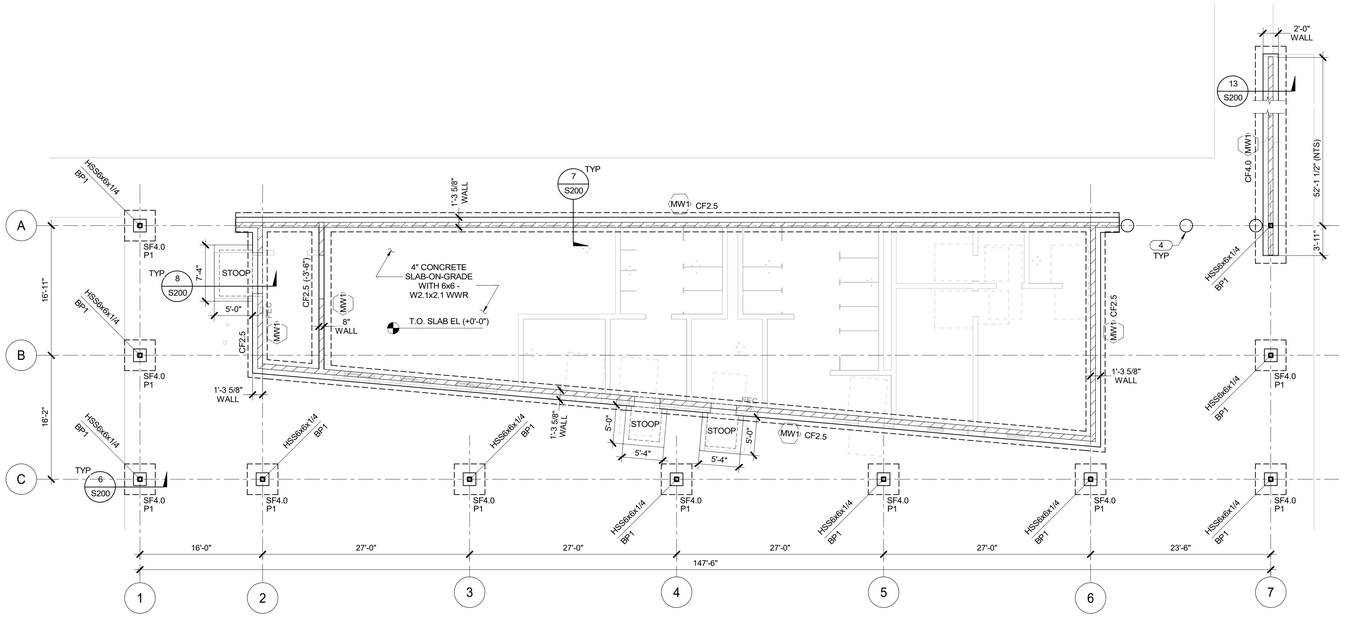
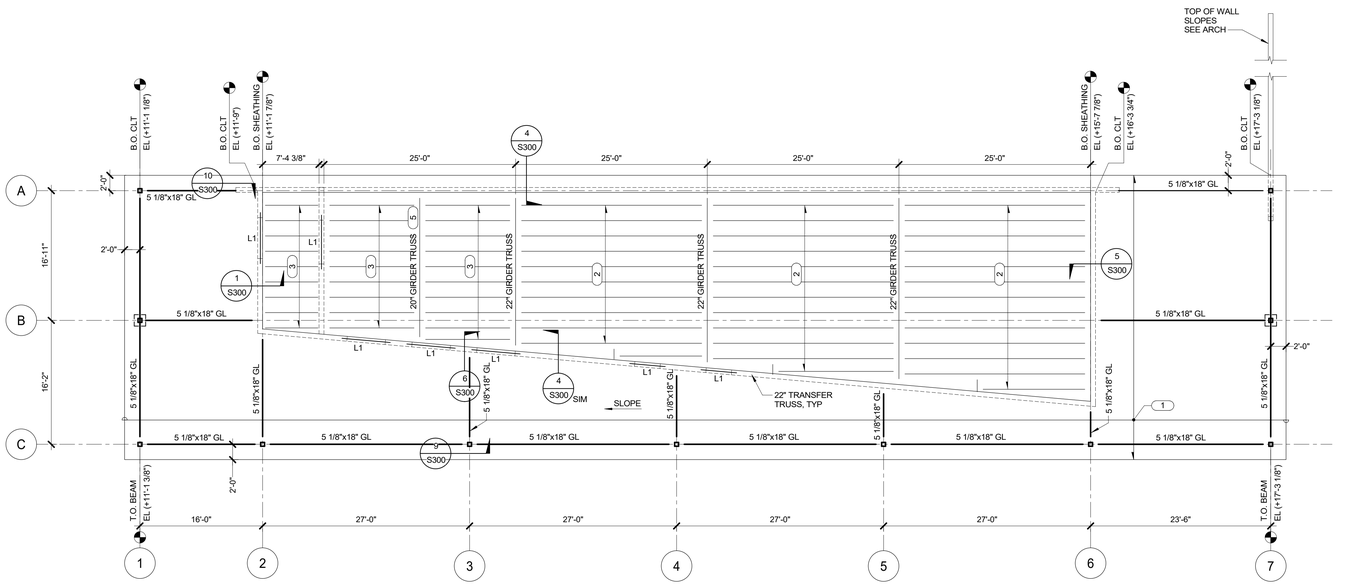


1 FOUNDATION PLAN - CONCESSIONS

1/8" = 1'-0"



2 ROOF FRAMING PLAN - CONCESSIONS

1/8" = 1'-0"

NOTES:

1. SEE S200 FOR TYPICAL SLAB ON GRADE CONSTRUCTION DETAILS.
2. TOP OF FOOTING EL (-3'-6") UNO.
3. TOP OF FOUNDATION WALL EL (-0'-8") UNO.
4. TOP OF PIER EL (-1'-0") UNO. SEE 5/S200.
5. SEE 12/S200 FOR BASE PLATE DETAIL.
6. PROVIDE 2'-6" x 2'-6" CORNER BARS FOR FOOTING AND WALL INTERSECTIONS. BAR SIZE AND QUANTITY TO MATCH LONGITUDINAL AND HORIZONTAL BARS.
7. FOR PIPING AND CONDUIT THROUGH FOUNDATIONS, SEE 10 AND 11/S200.
8. SEE S100 FOR CMU WALL SCHEDULE.
9. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT GIVEN HERE.
10. ROOF SHEATHING = 5/8" OSB SHEATHING - SEE GENERAL NOTES FOR FASTENING AND STRENGTH REQUIREMENTS. SEE 3/S300 FOR TYPICAL DETAIL.
11. SEE S100 FOR LINTELS IN STRUCTURAL CMU WALLS AND S000 FOR NON-STRUCTURAL WALLS.
12. TRUSS MANUFACTURER TO DESIGN FOR 24" OC SPACING. TRUSS LAYOUT ON PLAN IS SCHEMATIC.
13. TRUSS MANUFACTURER TO COORDINATE ALL OPENINGS WITH MECHANICAL. PROVIDE FRAMING AS REQUIRED.
14. TRUSS MANUFACTURER IS RESPONSIBLE FOR MAINTAINING WEB OPENING ALIGNMENT BETWEEN ADJACENT TRUSSES AT TYPICAL AND ATYPICAL SPANS. GENERAL CONTRACTOR SHALL COORDINATE WEB OPENING MIS-ALIGNMENT WITH MEP ROUTING.
15. GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING STRONGBACK LOCATIONS BETWEEN TRUSS SUPPLIER AND MEP ROUTING.

KEYNOTES: (#)

1. CROSS-LAMINATED TIMBER PANELS, INDUSTRIAL GRADE, 3 PLY, 4 1/8" THICK.
2. WOOD TRUSS AT 24" OC. SEE 3/S100 FOR DIAGRAM.
3. 2x10 AT 24" OC.
4. 1'-8"Ø SONOTUBE x 3'-6" DEEP, UNREINFORCED, AT FENCE/GATE POST. SEE CIVIL FOR LOCATIONS.
5. DUCTWORK TO PASS THROUGH TRUSS WEB. SEE MECHANICAL FOR SIZE AND LOCATION.

FOUNDATION WALL REINFORCING SCHEDULE

WALL THICKNESS	HORIZONTAL		VERTICAL		REMARKS
	EXTERIOR FACE	INTERIOR FACE	EXTERIOR FACE	INTERIOR FACE	
1'-0" TO 1'-4"	#5 @ 12" OC	#5 @ 12" OC	#5 @ 12" OC	#5 @ 12" OC	-
1'-5" TO 2'-0"	#5 @ 8" OC	#5 @ 8" OC	#5 @ 12" OC	#5 @ 12" OC	-

CONTINUOUS FOOTING SCHEDULE

MARK	WIDTH	THICKNESS	REINFORCING	
			LONG DIRECTION	SHORT DIRECTION
CF2.5	2'-6"	1'-0"	(3) #5	-
CF4.0	4'-0"	1'-0"	(4) #5	#5 @ 12" OC

SPREAD FOOTING SCHEDULE

MARK	LENGTH	WIDTH	THICKNESS	REINFORCING	
				LONG DIRECTION	SHORT DIRECTION
SF4.0	4'-0"	4'-0"	1'-0"	(4) #5	(4) #5

CMU WALL REINFORCING SCHEDULE

MARK (MW#)	WALL THICKNESS	VERTICAL WALL REINFORCING SIZE AND SPACING	HORIZONTAL WALL REINFORCING SIZE AND SPACING
MW1	8"	#5 @ 48" OC	TYP @ 16" OC

NOTES:

1. TYP HORIZ REINF PER SPECIFICATIONS AND IS INTENDED TO BE A 'DUROWALL - TRUSS TYPE' OR EQUIVALENT.
2. 'GROUT ALL CORES' INDICATES EVERY REINFORCED CORE AND UNREINFORCED CORE.
3. REINFORCED CORES ARE ALWAYS GROUTED.
4. SEE 1/S001 FOR TYP CMU DETAILING.

LINTEL SCHEDULE

MARK	MEMBER SIZE	REFERENCE DETAIL	REMARKS
L1	8" DEEP BOND BEAM WITH (2) #5	2/S001	-
L2	16" DEEP BOND BEAM WITH (2) #5	2/S001	-

NOTE:

1. BEARING LENGTH EACH END = 8" UON.

NOTES:

1. DESIGN TRUSS FOR THE FOLLOWING SERVICE LOADS:
   TOP CHORD DL = 15 PSF
   BOTTOM CHORD DL = 5 PSF
   TOP CHORD SL = 25 PSF
   TOP CHORD UPLIFT WL = 5 PSF

3 ROOF TRUSS DIAGRAM

3/4" = 1'-0"

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CONCESSIONS BUILDINGS PLANS

S100

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NOTES:
1. SEE S200 FOR TYPICAL SLAB ON GRADE CONSTRUCTION DETAILS.
2. TOP OF EXTERIOR FOOTING EL (-3'-6") UNO.
3. TOP OF FOUNDATION WALL EL (+0'-0") UNO.
4. PROVIDE 2'-6" x 2'-6" CORNER BARS FOR WALL INTERSECTIONS. BAR SIZE TO MATCH LONGITUDINAL AND HORIZONTAL BARS.
5. PROVIDE THICKENED SLAB UNDER ALL NON-STRUCTURAL
   CMU WALLS - SEE 14/S300 FOR DETAIL AND ARCHITECTURAL PLANS FOR EXTENT AND LOCATIONS.
6. FOR PIPING AND CONDUIT THROUGH FOUNDATIONS, SEE 10 AND 11/S200.
7. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT GIVEN HERE.
8. SEE S100 FOR CMU WALL SCHEDULE.
9. SEE S100 FOR LINTELS IN STRUCTURAL CMU WALLS AND S000 FOR NON-STRUCTURAL WALLS.
10. TRUSS MANUFACTURER TO DESIGN FOR 24" OC SPACING. TRUSS LAYOUT ON PLAN IS SCHEMATIC.
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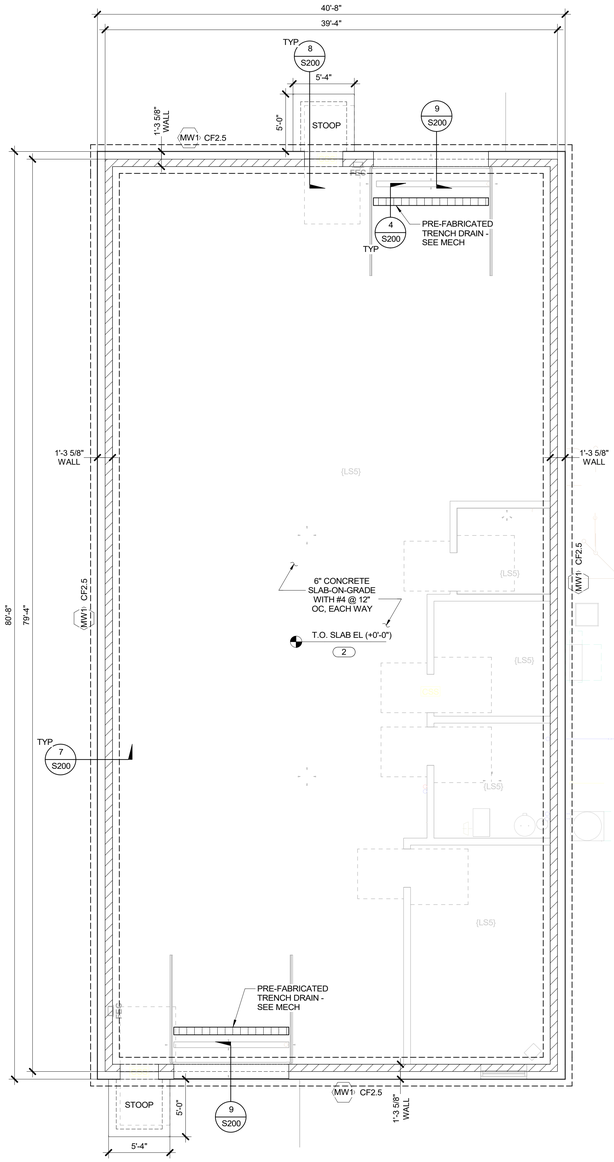
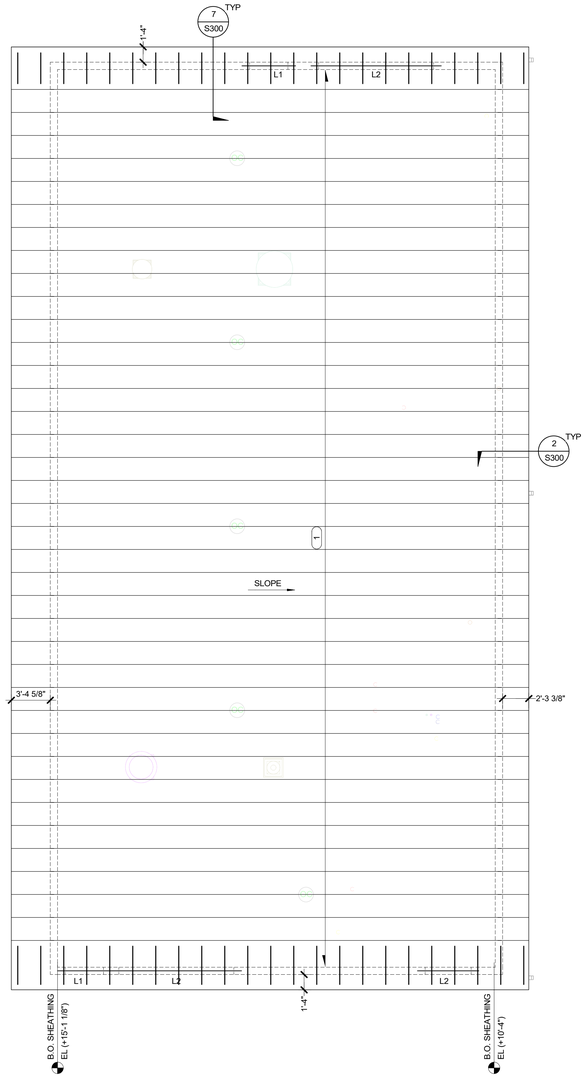
13. GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING STRONGBACK LOCATIONS BETWEEN TRUSS SUPPLIER AND MEP ROUTING.
14. ROOF SHEATHING = 5/8" OSB SHEATHING - SEE GENERAL NOTES FOR SHEATHING AND STRENGTH REQUIREMENTS. SEE 3/S300 FOR TYPICAL DETAIL.

KEYNOTES: (#)
1. WOOD TRUSS AT 24" OC. SEE 3/S101 FOR DIAGRAM.
2. SLAB SLOPES IN VARIOUS LOCATIONS FOR DRAINAGE. SEE ARCHITECTURAL FOR SLOPED AREAS.



NORTH

1 FOUNDATION PLAN - MAINTENANCE BUILDING
3/16" = 1'-0"

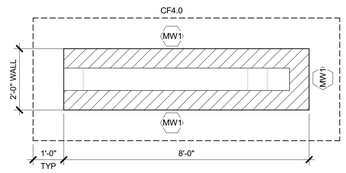


NORTH

2 ROOF FRAMING PLAN - MAINTENANCE BUILDING
3/16" = 1'-0"

NOTES:
1. DESIGN TRUSS FOR THE FOLLOWING SERVICE LOADS:
   TOP CHORD DL = 15 PSF
   BOTTOM CHORD DL = 5 PSF
   TOP CHORD SL = 25 PSF
   TOP CHORD UPLIFT WL = 5 PSF

3 ROOF TRUSS DIAGRAM
3/4" = 1'-0"



4 MONUMENT SIGN FOUNDATION PLAN
1/2" = 1'-0"

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MAINTENANCE BUILDING PLANS

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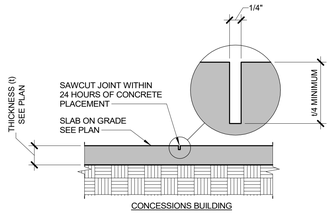
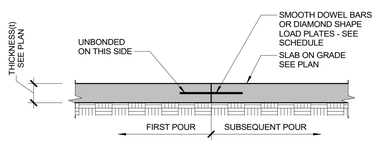


NOTES:

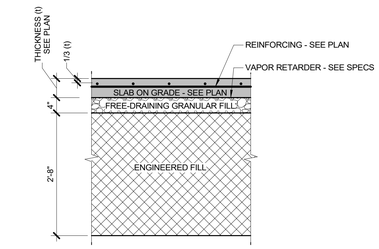
1. SEE CAST-IN-PLACE CONCRETE GENERAL NOTES CONCERNING LOCATION OF JOINTS.

1 TYPICAL CONTROL JOINT
3/4" = 1'-0"



SLAB THICKNESS	SMOOTH DOWEL BAR	DIAMOND SHAPE LOAD PLATES
4"	1/2"Ø x 1'-4" @ 18" OC	1/4"x4 1/2" x 0'-4 1/2" @ 18" OC
5"	3/4"Ø x 1'-4" @ 12" OC	
6"		
> 6"	1"Ø x 1'-4" @ 12" OC	3/8"x4 1/2" x 0'-4 1/2" @ 18" OC

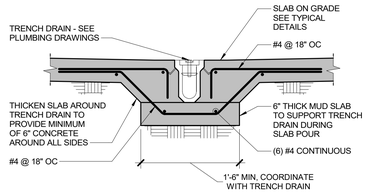
2 TYPICAL CONSTRUCTION JOINT
3/4" = 1'-0"



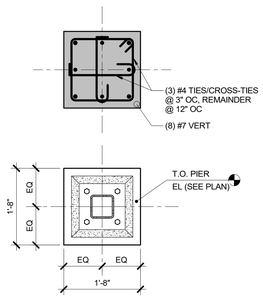
NOTES:

1. REFERENCE SPECIFICATIONS FOR MATERIAL AND COMPACTION REQUIREMENTS.

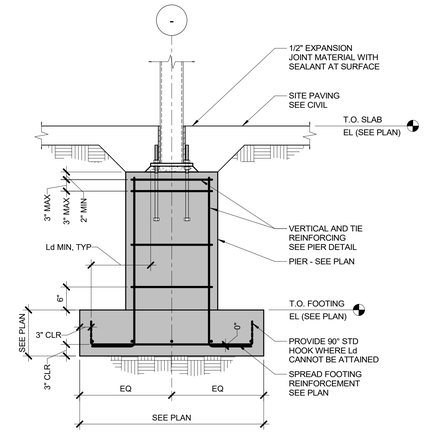
3 TYPICAL SLAB SECTION
3/4" = 1'-0"



4 TRENCH DRAIN DETAIL
3/4" = 1'-0"



5 STANDALONE PIER (P1) DETAIL
3/4" = 1'-0"



6 COLUMN ON PIER/FOOTING DETAIL
3/4" = 1'-0"

NOTE:

1. FOR HEIGHTS EXCEEDING 4'-0", EACH SIDE OF THE WALL SHALL BE BACKFILLED AT THE SAME TIME.

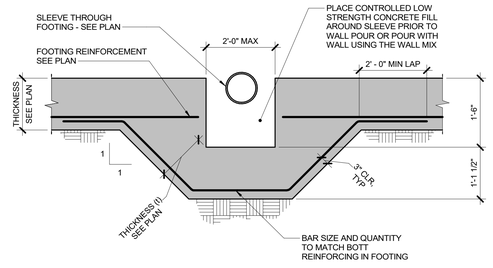
7 TYPICAL PERIMETER FROST WALL
3/4" = 1'-0"

NOTE:

1. SEE ARCHITECTURAL DRAWINGS FOR EXACT STOOP LAYOUT AND LOCATIONS.

8 TYPICAL STOOP DETAIL
3/4" = 1'-0"

9 SLAB EDGE AT GARAGE DOOR
3/4" = 1'-0"



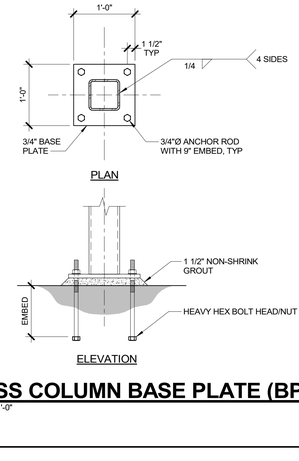
10 PIPE THROUGH FOOTING DETAIL
3/4" = 1'-0"

NOTES:

1. PIPE DIAMETER SHALL NOT EXCEED 8".
2. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR ALL LOCATIONS, ELEVATIONS, ETC. OF SITE UTILITIES.
3. DETAIL REQUIRED AT ALL UTILITIES HAVING A PLAN WIDTH UP TO 1'-0". FOR WIDTHS GREATER THAN 1'-0", SEE PLAN FOR REQUIRED DETAIL.
4. PIPE IS NOT ALLOWED UNDER SPREAD FOOTINGS.

SECTION A

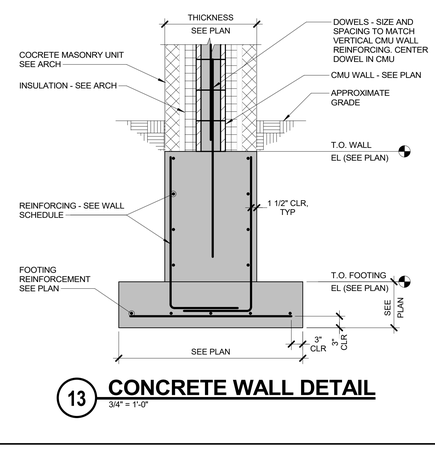
11 TYPICAL PIPE TRENCH DETAIL
3/4" = 1'-0"



PLAN

ELEVATION

12 HSS COLUMN BASE PLATE (BP1)
1" = 1'-0"



13 CONCRETE WALL DETAIL
3/4" = 1'-0"

NOTE:

1. TO BE USED AT INTERIOR, NON-STRUCTURAL WALLS BRACED AT TOP OF THE WALL.

14 NON-STRUCTURAL CMU WALL DETAIL
3/4" = 1'-0"

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FOUNDATION DETAILS

S200

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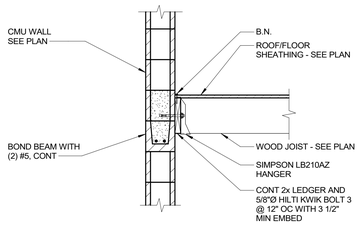
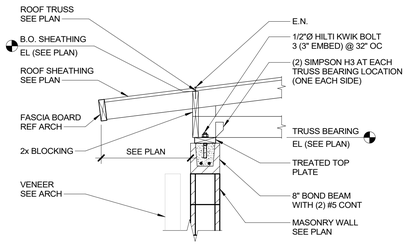
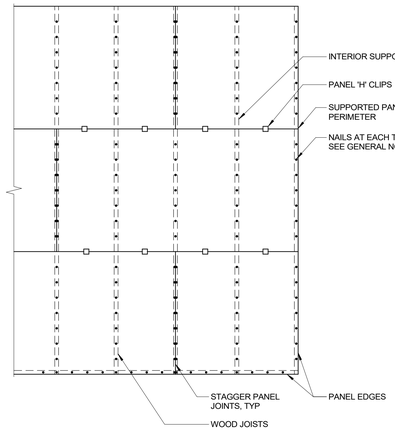


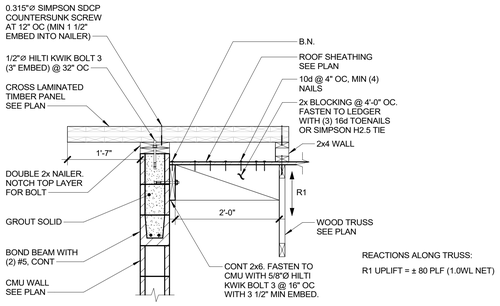
1 WOOD JOIST BEARING AT CMU WALL
3/4" = 1'-0"



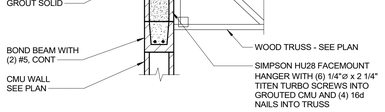
2 TRUSS BEARING AT EXTERIOR WALL
3/4" = 1'-0"



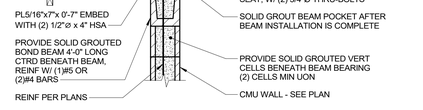
3 ROOF SHEATHING LAYOUT AND FASTENING
1/2" = 1'-0"



4 WOOD JOIST PARALLEL TO CMU WALL
3/4" = 1'-0"



5 WOOD JOIST BEARING AT CMU WALL
3/4" = 1'-0"

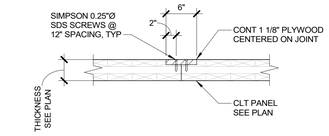


6 WOOD BEAM BEARING AT CMU WALL
3/4" = 1'-0"

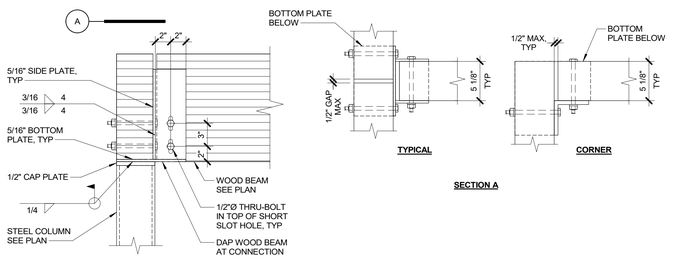
NOTES:

1. GABLE END TRUSS TO HAVE VERTICAL @ 24" OC MAX. TRUSS SUPPLIER TO DESIGN FOR COMPONENTS AND CLADDING WIND LOADS.
2. TRUSS SUPPLIER TO DESIGN FOR LOADS GIVEN ABOVE.

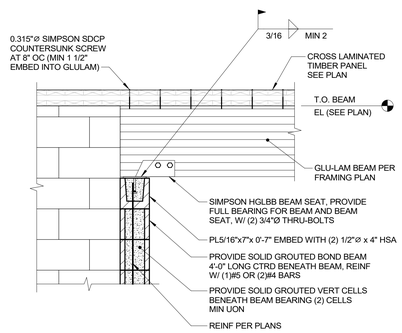
7 OUTRIGGER DETAIL
3/4" = 1'-0"



8 TYPICAL CLT PANEL - SIDE JOINT
1" = 1'-0"



9 WOOD BEAM AT STEEL COLUMN
1 1/2" = 1'-0"



10 GLU-LAM BEAM TO CMU CONNECTION
3/4" = 1'-0"

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S300

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0 1 2 3
REF. SCALE IN INCHES

PROJECT #23000288.00

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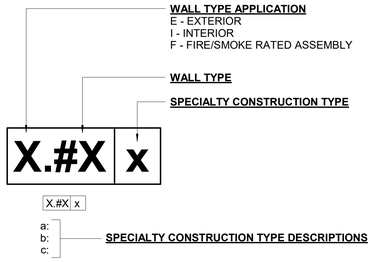
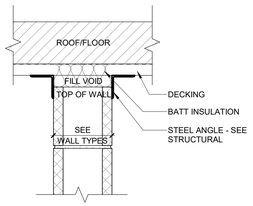
WALL TYPE NOTES:

1. ALL INTERIOR WALLS SHALL RUN TO, AND SEAL TO STRUCTURAL DECKING, UNLESS NOTED OTHERWISE

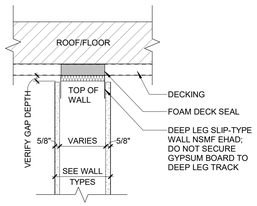
2. INSTALL ACOUSTICAL SEALANT AT THE BASE AND HEAD OF ALL INTERIOR AND EXTERIOR WALLS, UNLESS NOTED OTHERWISE.

WALL TAG LEGEND

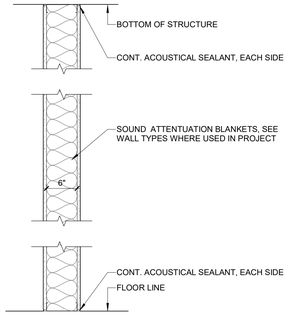




TYPICAL CEILING AT T.O.W. NON-BEARING CMU



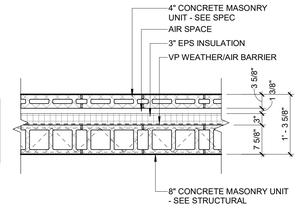
TYPICAL CEILING AT T.O.W. NON-BEARING STUDS



TYPICAL INTERIOR PARTITION

EXTERIOR WALL TYPES

E.2A



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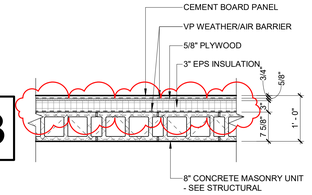

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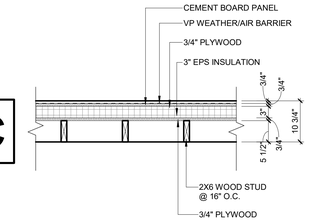
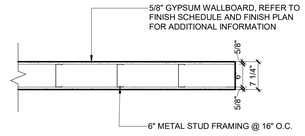


INTERIOR WALL TYPES

I.1A



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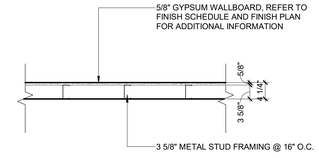

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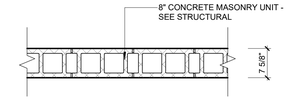

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WALL TYPES

A001

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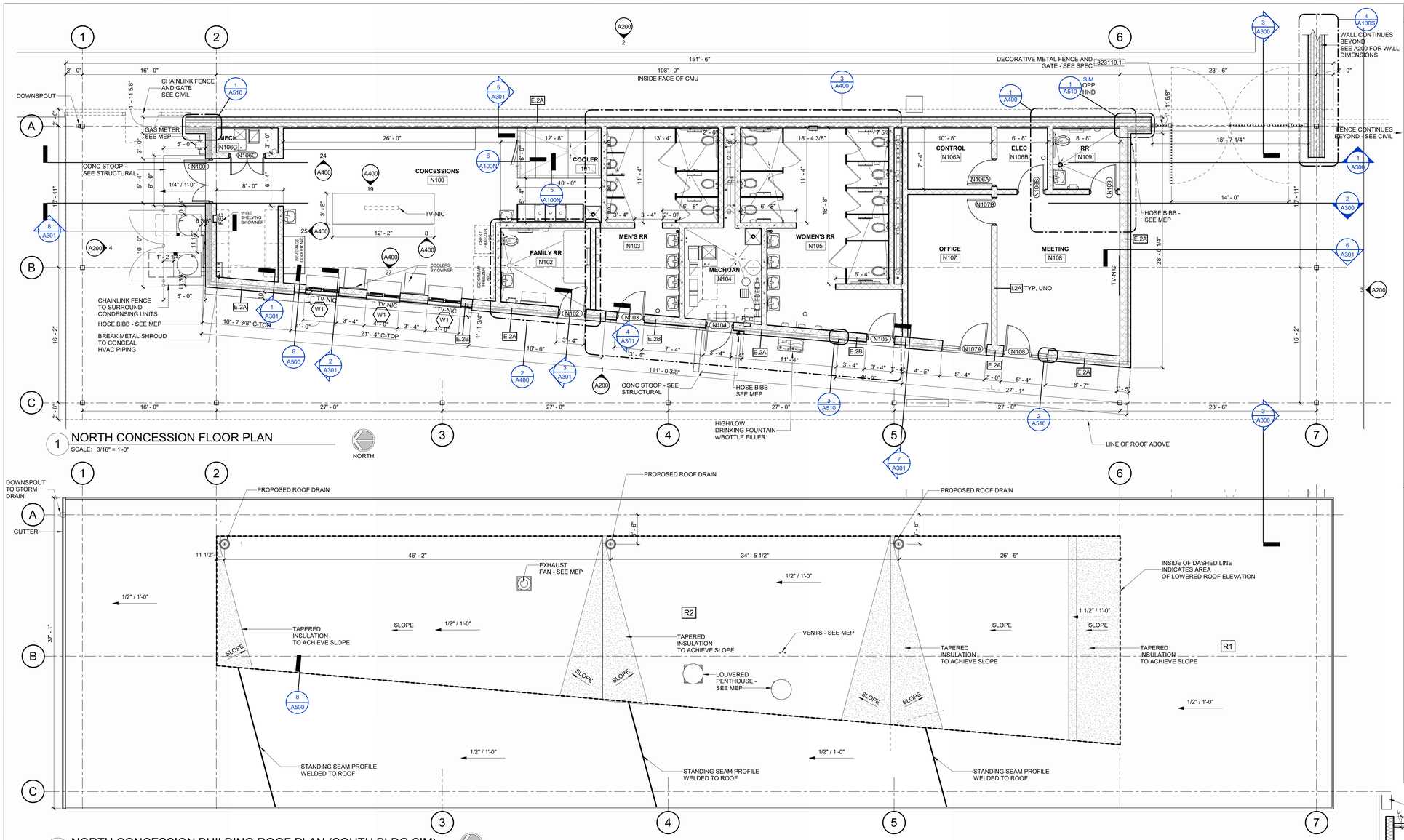
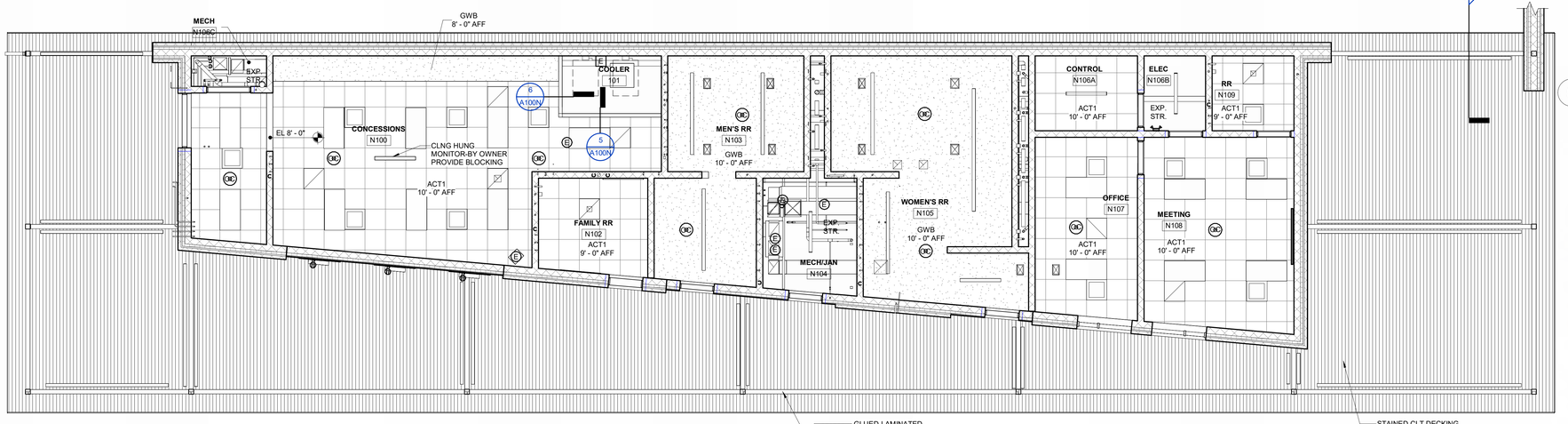


1 NORTH CONCESSION FLOOR PLAN
SCALE: 3/16" = 1'-0"

2 NORTH CONCESSION BUILDING ROOF PLAN (SOUTH BLDG SIM)
SCALE: 3/16" = 1'-0"

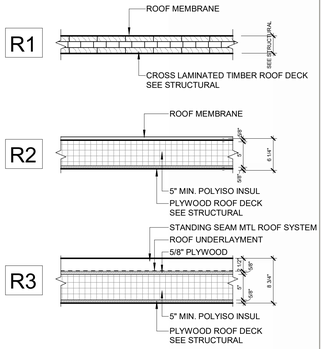


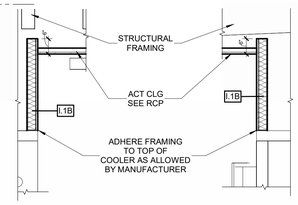
3 NORTH CONCESSION BUILDING REFLECTED CEILING PLAN
SCALE: 3/16" = 1'-0"

FLOOR PLAN GENERAL NOTES

1. THESE GENERAL NOTES APPLY TO ALL FLOOR PLAN SHEETS
2. FLOOR SPOT ELEVATIONS ARE SHOWN THUS +0'-0" ON THE FLOOR PLAN.
   ELEVATION OF NORTH CONCESSIONS: +0-0" = 939.25
   ELEVATION OF SOUTH CONCESSIONS: +0-0" = 940.80
   ELEVATION OF MAINTENANCE BUILDING: +0-0" = 938.95
3. ALL INTERIOR METAL STUD WALLS INDICATED TO HAVE ACOUSTICAL INSULATION, PROVIDE FULL DEPTH OF CAVITY AND EXTEND THE FULL HEIGHT OF WALL.
4. ALL DIMENSIONS ARE TO FACE OF FINISHED WALLS, FACE OF CMU WALLS, OR CENTERLINE OF STRUCTURE/COLUMNS, UNO.
5. PROVISIONS SHALL BE MADE AT FULL HEIGHT NONBEARING WALLS FOR POTENTIAL VERTICAL MOVEMENT OF BUILDING STRUCTURE WITHOUT TRANSFER OF COMPRESSION LOADS TO WALL. VERIFY USE OF SLIP TRACK CONNECTIONS AT TOP OF WALL WITH STRUCTURAL.
6. GENERAL CONTRACTOR TO PROVIDE WOOD BLOCKING IN METAL STUD PARTITIONS FOR PROPER ANCHORAGE OF ALL WALL ATTACHED ITEMS (IE: TOILET ACCESSORIES, CASEWORK, MILLWORK, WALL-MOUNTED FIXTURES, MARKER BOARDS, TACK BOARDS, ETC.) TV MOUNTING BRACKETS SHALL BE FURNISHED AND INSTALLED BY OWNER. GENERAL CONTRACTOR TO COORDINATE LOCATIONS WITH OWNER AND PROVIDE BLOCKING AS REQUIRED.
7. GYPSUM BOARD ASSEMBLIES SHALL HAVE CONTROL JOINTS PROVIDED IN ACCORDANCE WITH INDUSTRY STANDARDS, MANUFACTURERS' RECOMMENDATIONS, AND SHALL BE LOCATED WHERE SHOWN ON DRAWINGS AND AS DESCRIBED IN PROJECT MANUAL.
8. DIMENSIONS FOR DOOR AND WINDOW OPENINGS ARE NOMINAL. VERIFY AND ALLOW RECOMMENDED SHIM AND SEALANT GAPS AS REQUIRED AT DOOR AND WINDOW FRAMES.
9. FLOOR FINISHES, WALL COVERINGS, PAINT FINISHES, AND ACOUSTICAL WALL TREATMENTS TO BE INSTALLED BEFORE INSTALLATION OF CASEWORK OR MILLWORK
10. CONTRACTOR SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS AND CABINETS AS REQUIRED BY CODE, LOCAL AUTHORITIES HAVING JURISDICTION, AND AS NOTED ON DRAWINGS AND PROJECT MANUAL.
11. GENERAL CONTRACTOR SHALL VERIFY LOCATION, MOUNTING HEIGHT, AND BLOCKING REQUIREMENTS OF BRACKETS FOR WALL MOUNTED TV AND VIDEO EQUIPMENT.
12. DOOR OPENINGS SHALL BE INSTALLED SUCH THAT THE EDGE OF THE HINGE JAMB IS 4" AWAY FROM THE ADJACENT PERPENDICULAR WALL IN CMU ASSEMBLIES AND GYP BD. WALL ASSEMBLIES TYPICAL, UNO
13. CONTRACTOR SHALL PROVIDE A CONCRETE STOOP WITH POSITIVE DRAINAGE AWAY FROM BUILDING, CONSTRUCTED ON FROST FOOTINGS AT ALL OUTSWINGING EXTERIOR DOOR LOCATIONS, SEE PLANS AND STRUCTURAL SHEETS FOR ADDITIONAL DETAIL. THRESHOLDS TO INCLUDE 2" RIGID INSULATION AND FIBERGLASS ANGLE FOR ANCHORING THE THRESHOLD. SEE DRAWINGS FOR FURTHER DETAILS.
14. CONCRETE FLOORS SHALL SLOPE TO FLOOR DRAINS WHERE INDICATED. SLOPE FLOORS TO DRAIN, NOT TO EXCEED 2% SLOPE TO MAXIMUM SLOPES TO COMPLY WITH ADA AND LOCAL CODES. SEE DRAWINGS FOR ADDITIONAL INFORMATION.

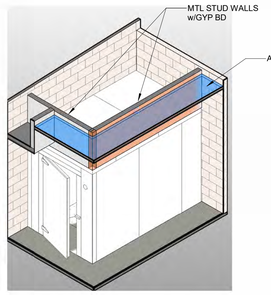
ROOF TYPES





5 T.O. COOLER DETAIL
SCALE: 1/2" = 1'-0"

6 T.O. COOLER DETAIL
SCALE: 1/2" = 1'-0"



4 COOLER 3D
SCALE:

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NORTH CONCESSION BUILDING PLANS

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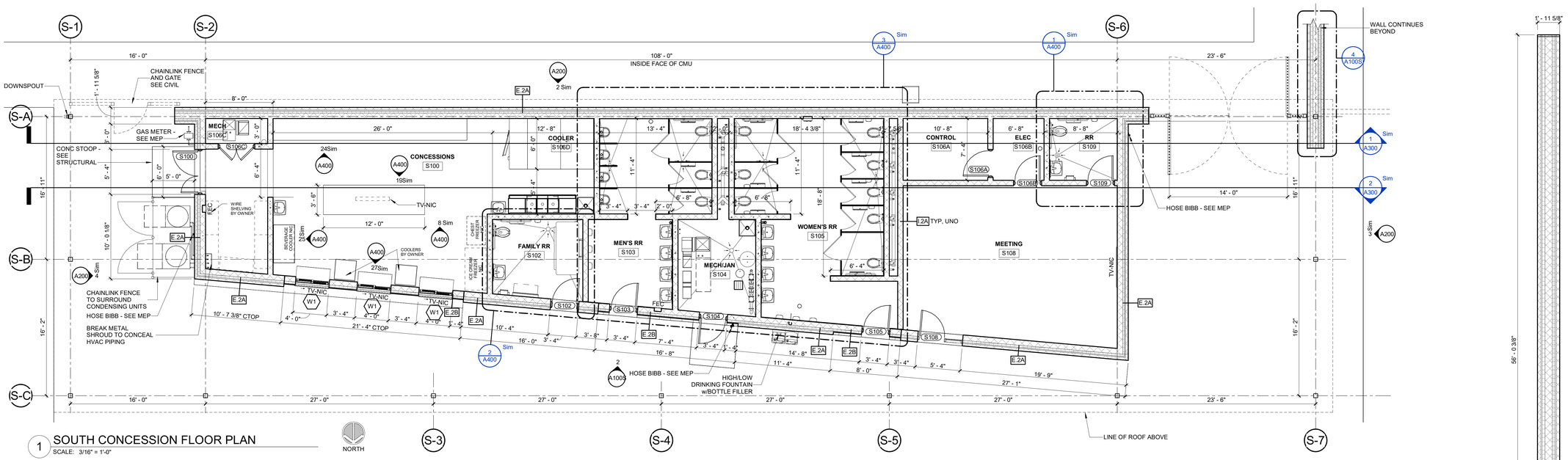
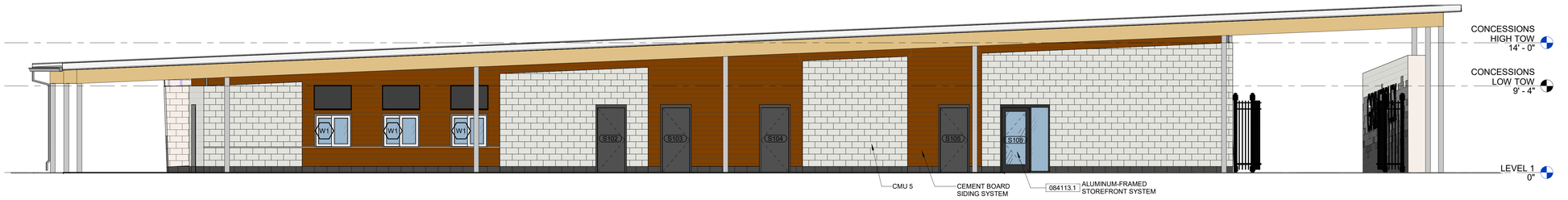


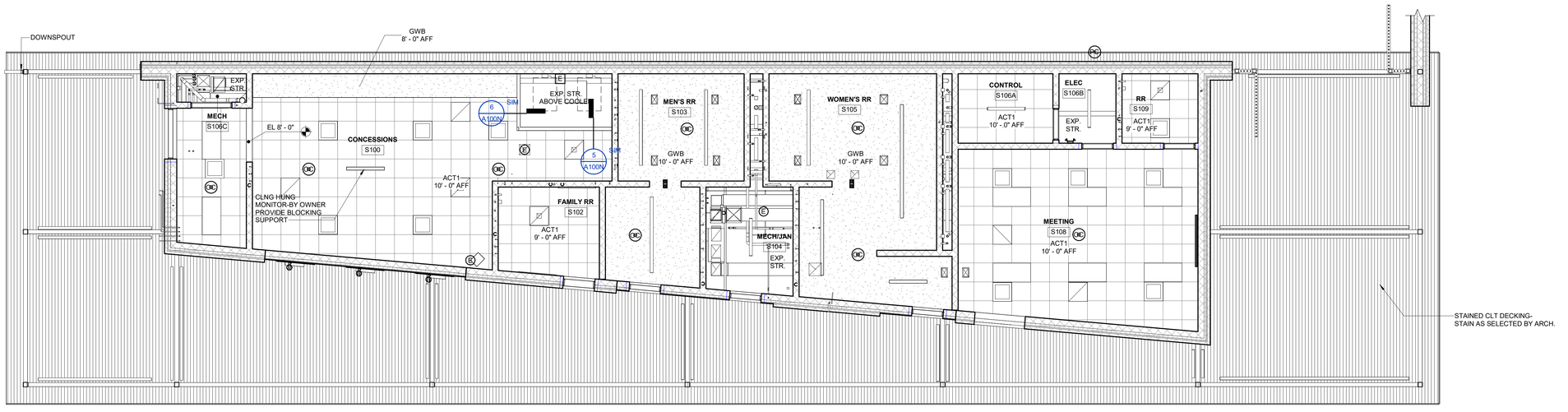
1 SOUTH CONCESSION FLOOR PLAN
SCALE: 3/16" = 1'-0"

NORTH



2 SOUTH CONCESSION - NORTH ELEVATION
SCALE: 3/16" = 1'-0"

*NOTE: OTHER ELEVATIONS SIMILAR TO NORTH CONCESSION BUILIDING (SEE SHEET A200)



3 SOUTH CONCESSION BUILDING REFLECTED CEILING PLAN
SCALE: 3/16" = 1'-0"

4 FREE STANDING WALL - TYPICAL
SCALE: 1/4" = 1'-0"

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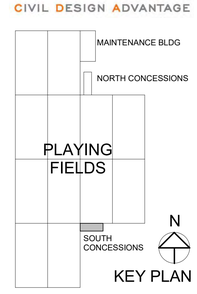

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SOUTH CONCESSION BUILDING PLANS

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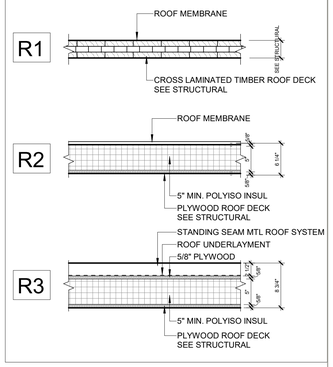
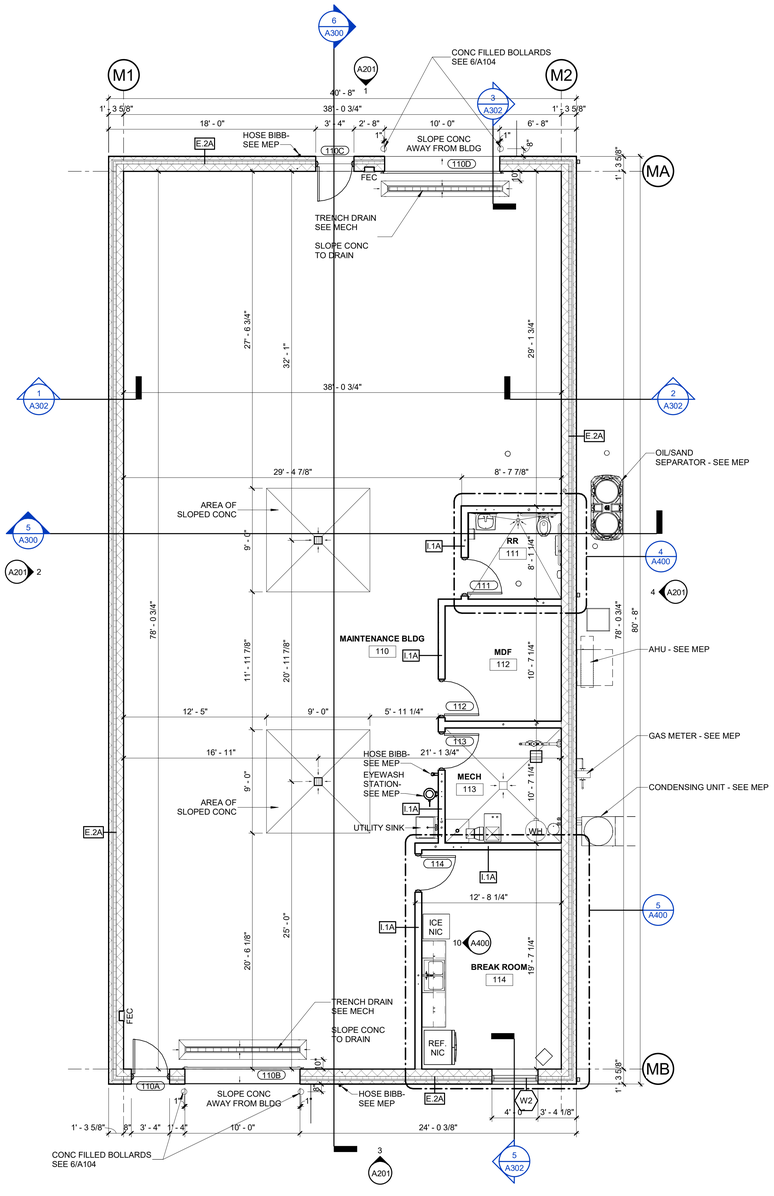
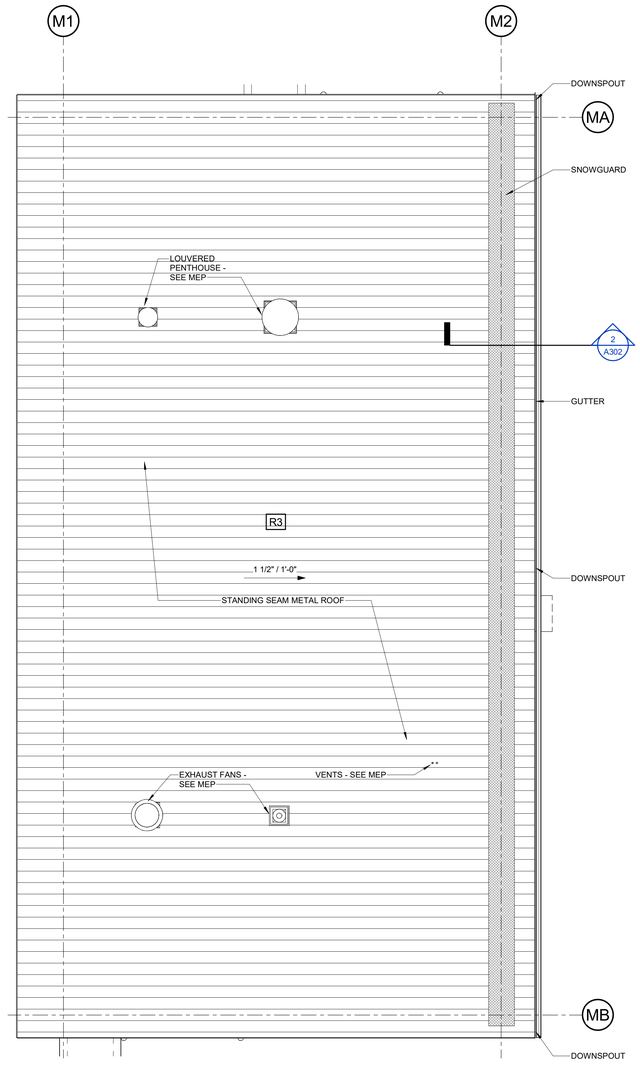
ROOF TYPES





1 MAINTENANCE BUILDING PLAN
SCALE: 3/16" = 1'-0"



2 MAINTENANCE BUILDING ROOF PLAN
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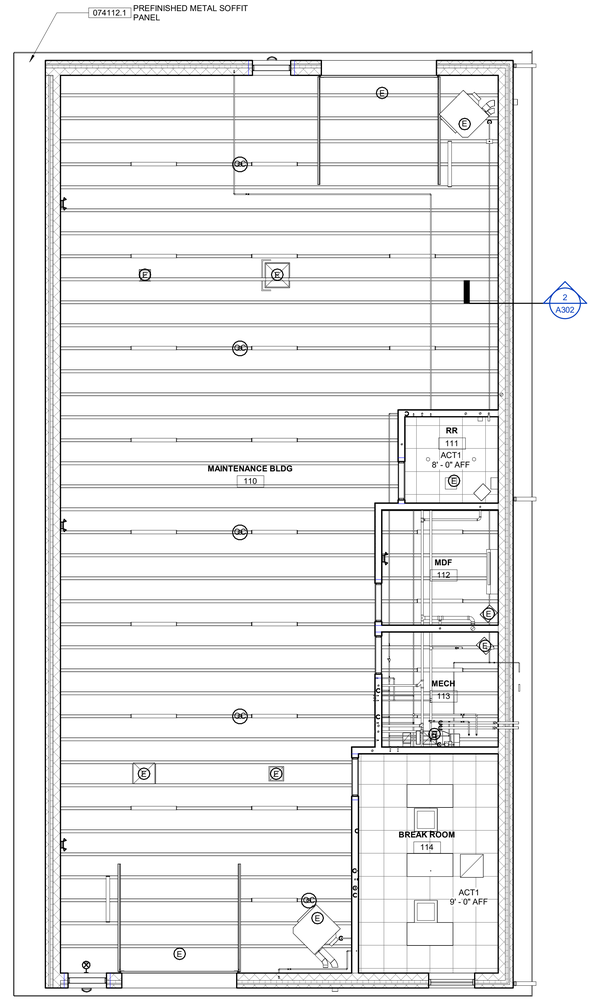

3 MAINTENANCE BUILDING REFLECTED CEILING PLAN
SCALE: 3/16" = 1'-0"

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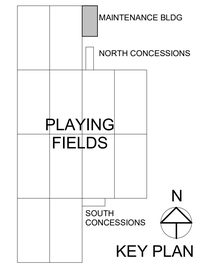

KEY PLAN

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MAINTENANCE BUILDING PLANS

A101

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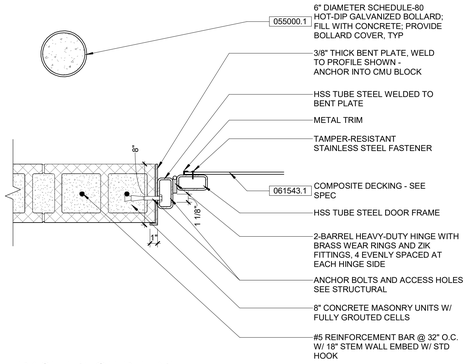
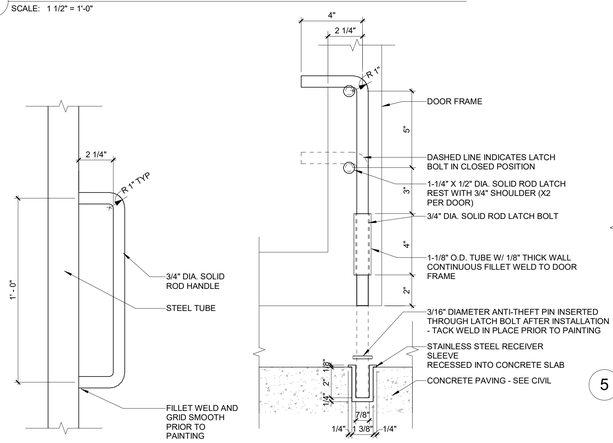
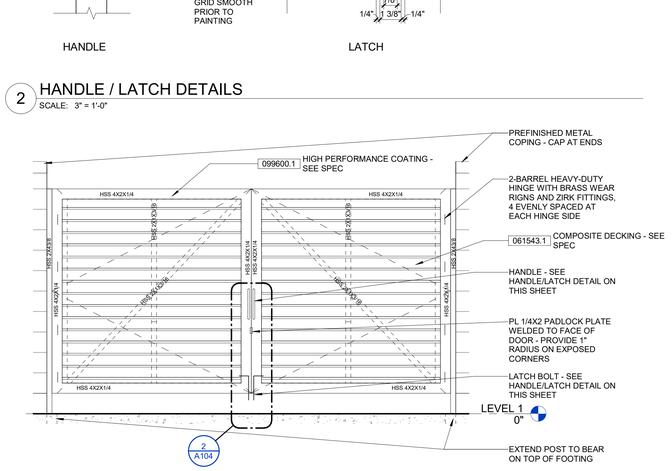


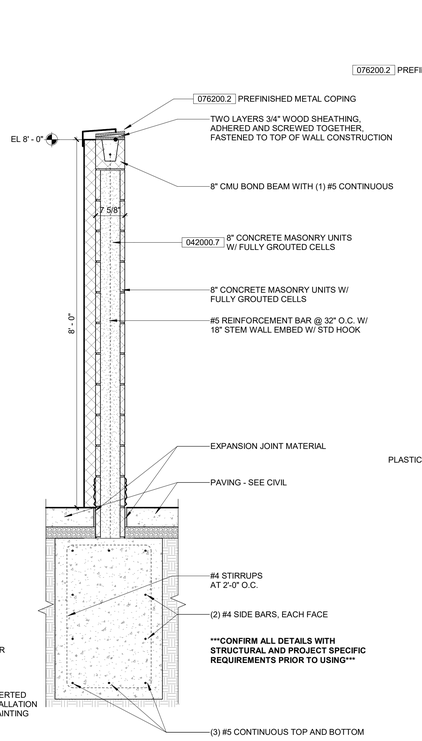
1 TRASH HINGE DETAIL
SCALE: 1 1/2" = 1'-0"



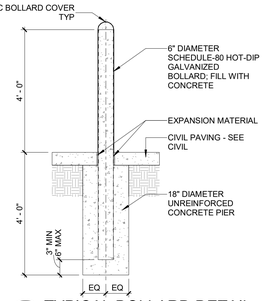
2 HANDLE / LATCH DETAILS
SCALE: 3" = 1'-0"



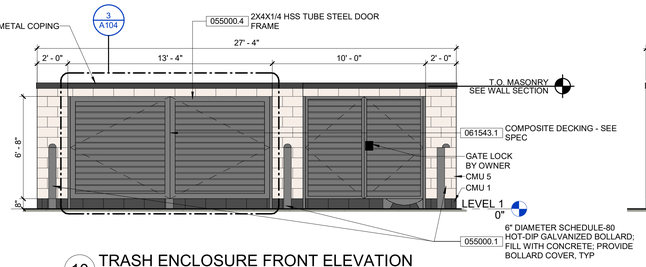
3 TRASH ENCLOSURE DOOR ELEVATION DETAIL
SCALE: 1/2" = 1'-0"



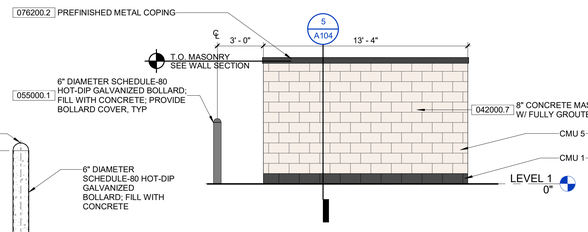
5 TRASH ENCLOSURE TYPICAL WALL SECTION
SCALE: 3/4" = 1'-0"



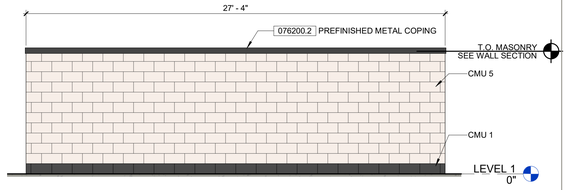
6 TYPICAL BOLLARD DETAIL
SCALE: 1/2" = 1'-0"



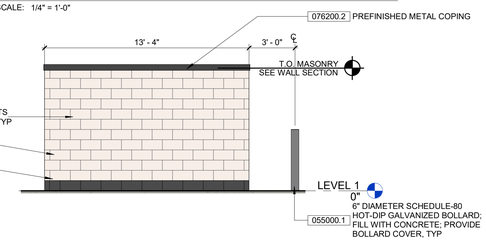
10 TRASH ENCLOSURE FRONT ELEVATION
SCALE: 1/4" = 1'-0"



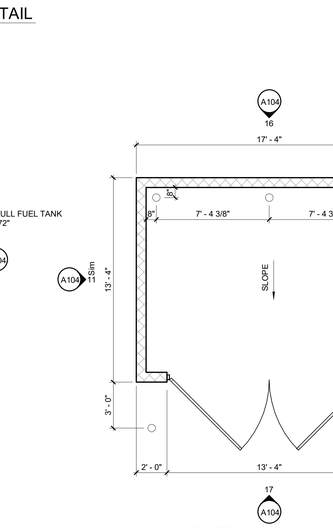
11 TRASH ENCLOSURE RIGHT ELEVATION
SCALE: 1/4" = 1'-0"



14 TRASH ENCLOSURE REAR ELEVATION
SCALE: 1/4" = 1'-0"

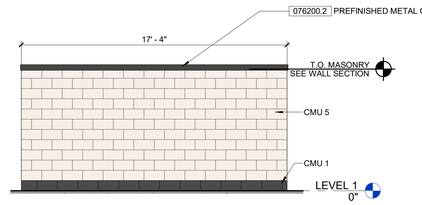


15 TRASH ENCLOSURE LEFT ELEVATION
SCALE: 1/4" = 1'-0"

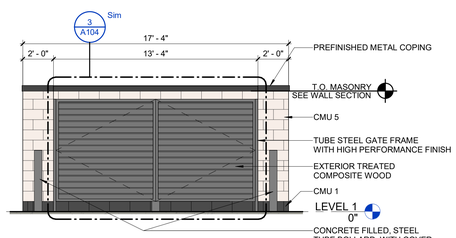


7 NORTH TRASH ENCLOSURE PLAN
SCALE: 1/4" = 1'-0"

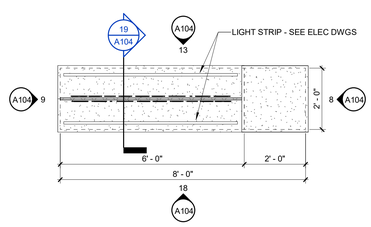
12 SOUTH TRASH ENCLOSURE PLAN
SCALE: 1/4" = 1'-0"



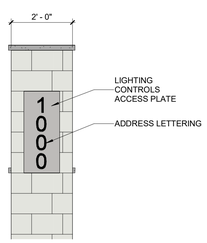
16 SOUTH TRASH ENCLOSURE REAR ELEVATION
SCALE: 1/4" = 1'-0"



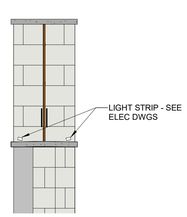
17 SOUTH TRASH ENCLOSURE FRONT ELEVATION
SCALE: 1/4" = 1'-0"



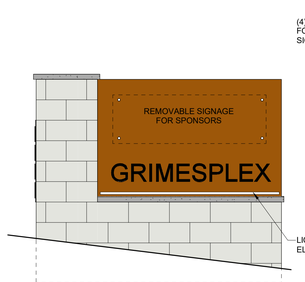
4 MONUMENT SIGN PLAN
SCALE: 1/2" = 1'-0"



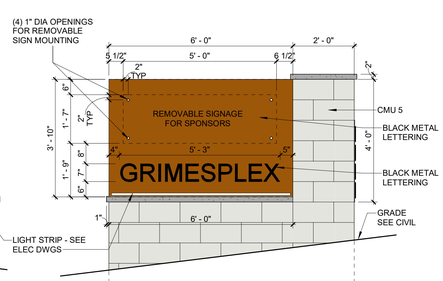
8 MONUMENT SIGN RIGHT ELEVATION
SCALE: 1/2" = 1'-0"



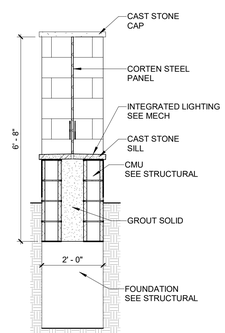
9 MONUMENT SIGN LEFT ELEVATION
SCALE: 1/2" = 1'-0"



13 MONUMENT SIGN REAR ELEVATION
SCALE: 1/2" = 1'-0"



18 MONUMENT SIGN FRONT ELEVATION
SCALE: 1/2" = 1'-0"



19 MONUMENT WALL SECTION
SCALE: 1/2" = 1'-0"

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TRASH ENCLOSURE & MONUMENT SIGN

A104

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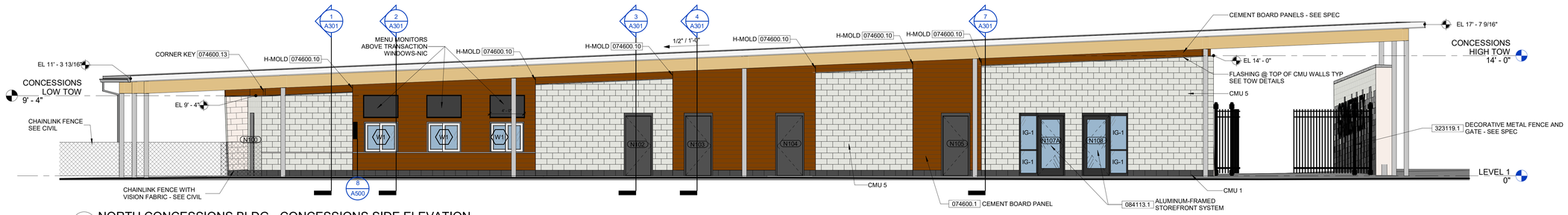
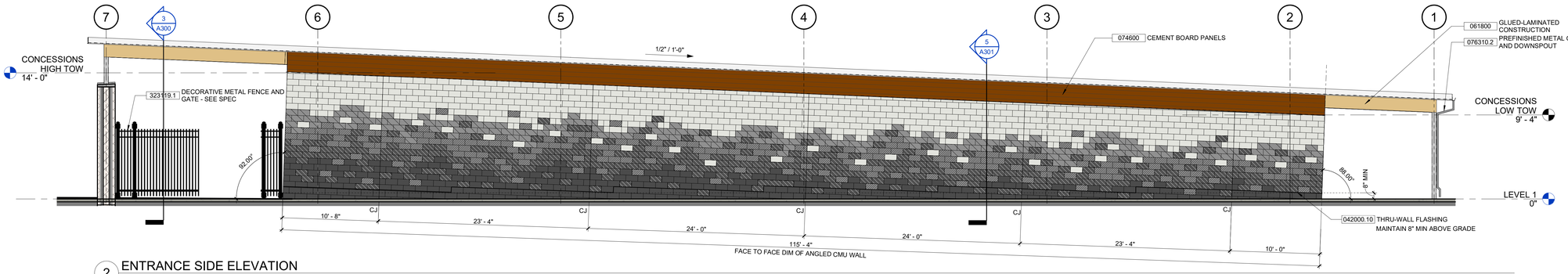


1 NORTH CONCESSIONS BLDG - CONCESSIONS SIDE ELEVATION
SCALE: 3/16" = 1'-0"



2 ENTRANCE SIDE ELEVATION
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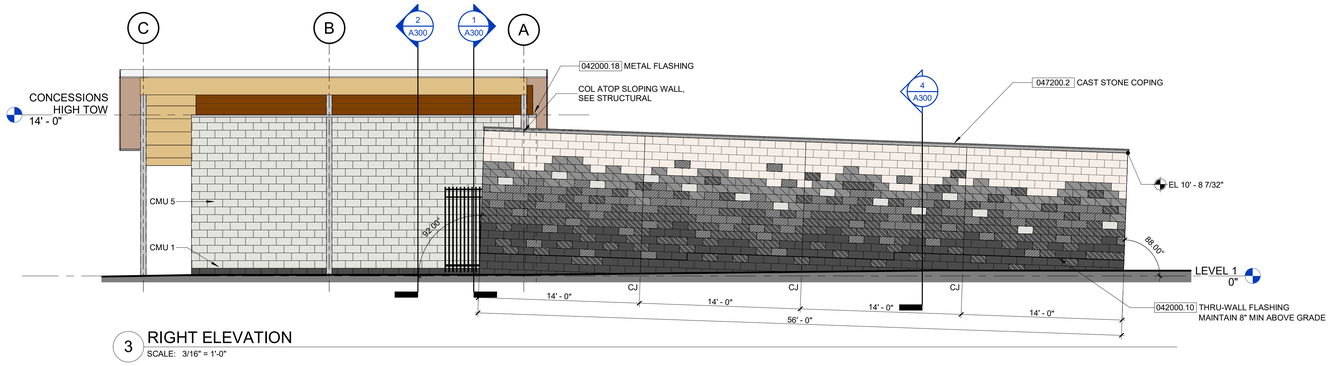
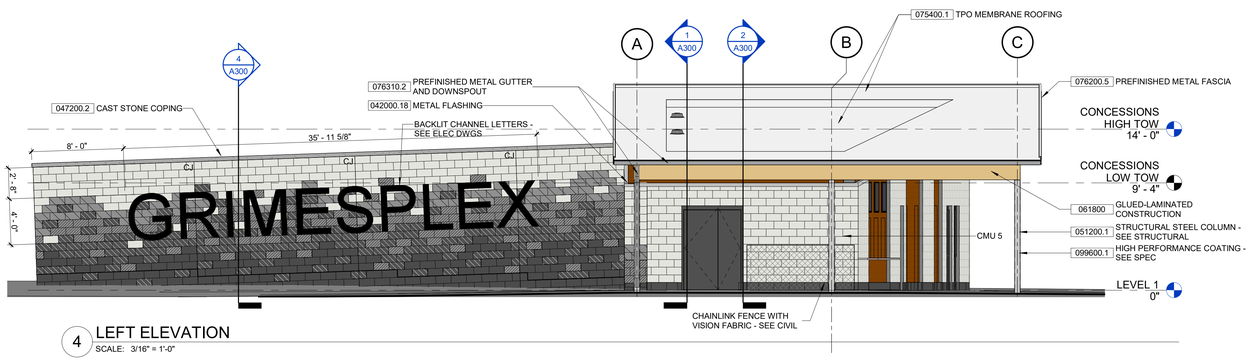


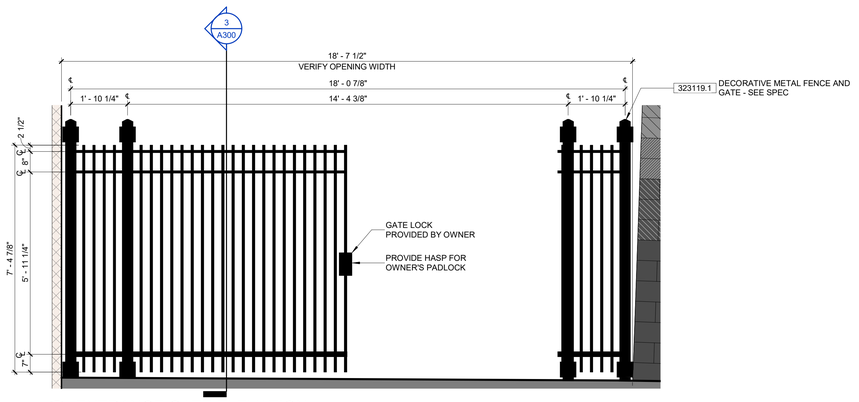
3 RIGHT ELEVATION
SCALE: 3/16" = 1'-0"



4 LEFT ELEVATION
SCALE: 3/16" = 1'-0"

CMU LEGEND
SEE SECTION 04 20 00 FOR FINISHES

- CMU 5
- CMU 4
- CMU 3
- CMU 2
- CMU 1



5 ENTRANCE GATE ELEVATION
SCALE: 1/2" = 1'-0"

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CONCESSION BUILDINGS - EXTERIOR ELEVATIONS

A200

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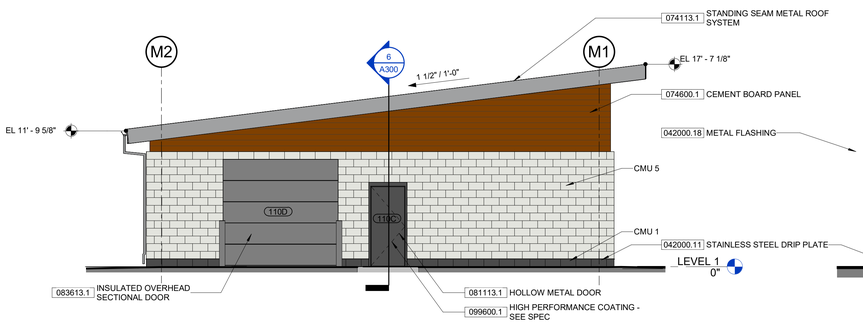
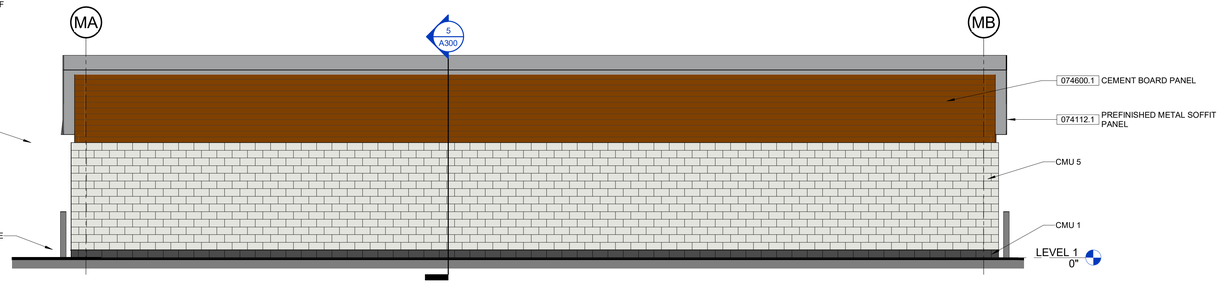


1 EXTERIOR ELEVATION - MAINTENANCE BLDG NORTH

SCALE: 3/16" = 1'-0"



2 EXTERIOR ELEVATION - MAINTENANCE BLDG WEST

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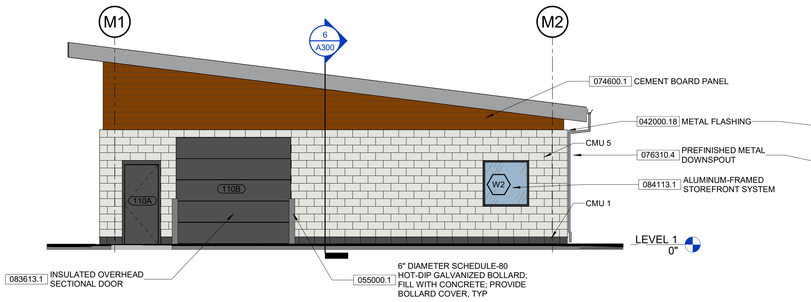
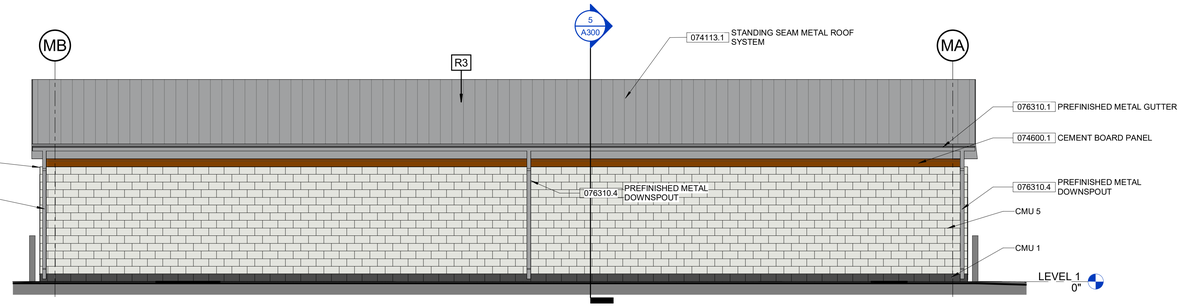


3 EXTERIOR ELEVATION - MAINTENANCE BLDG SOUTH

SCALE: 3/16" = 1'-0"



4 EXTERIOR ELEVATION - MAINTENANCE BLDG EAST

SCALE: 3/16" = 1'-0"

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MAINTENANCE BUILDING EXTERIOR ELEVATIONS

A201

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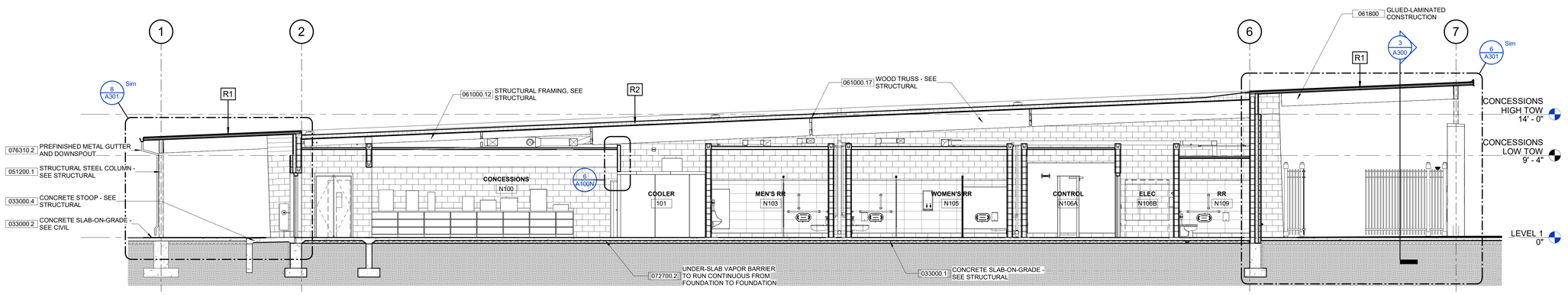

1 CONCESSIONS BUILDING SECTION
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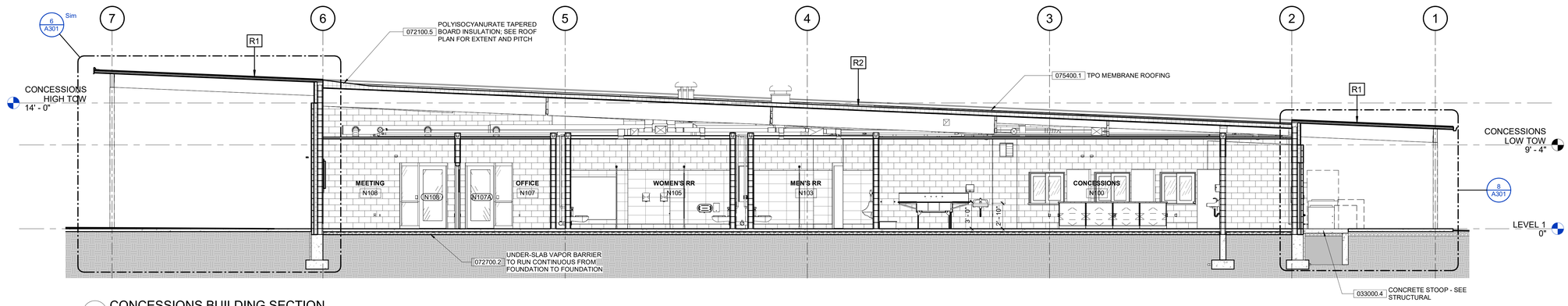

2 CONCESSIONS BUILDING SECTION
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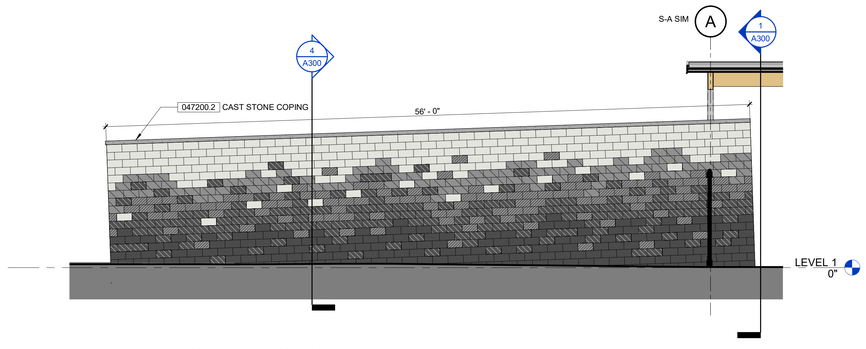
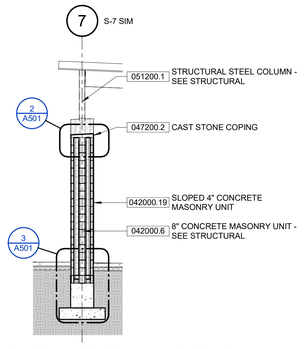


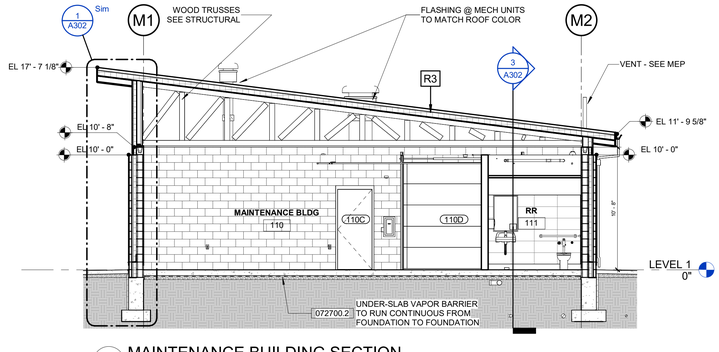
3 FREE-STANDING WALL SECTION/ELEVATION
SCALE: 3/16" = 1'-0"



4 FREE STANDING WALL SECTION
SCALE: 3/16" = 1'-0"

CMU LEGEND
SEE SECTION 04 20 00 FOR FINISHES

- CMU 5
- CMU 4
- CMU 3
- CMU 2
- CMU 1



5 MAINTENANCE BUILDING SECTION
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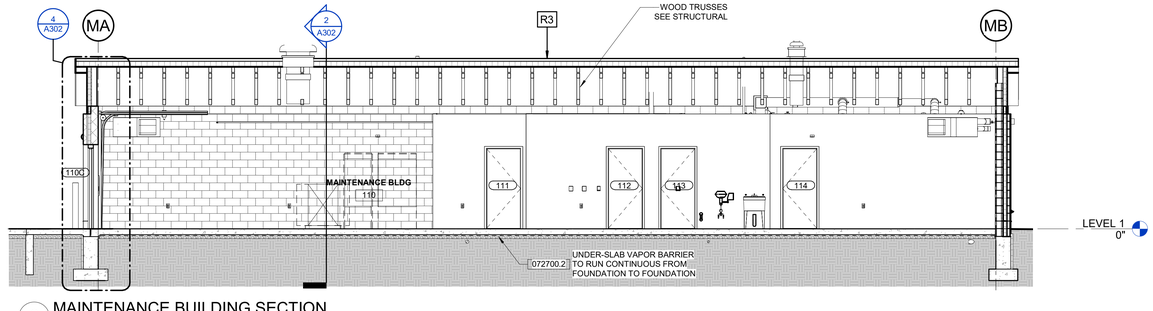

6 MAINTENANCE BUILDING SECTION
SCALE: 3/16" = 1'-0"

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BUILDING SECTIONS

A300

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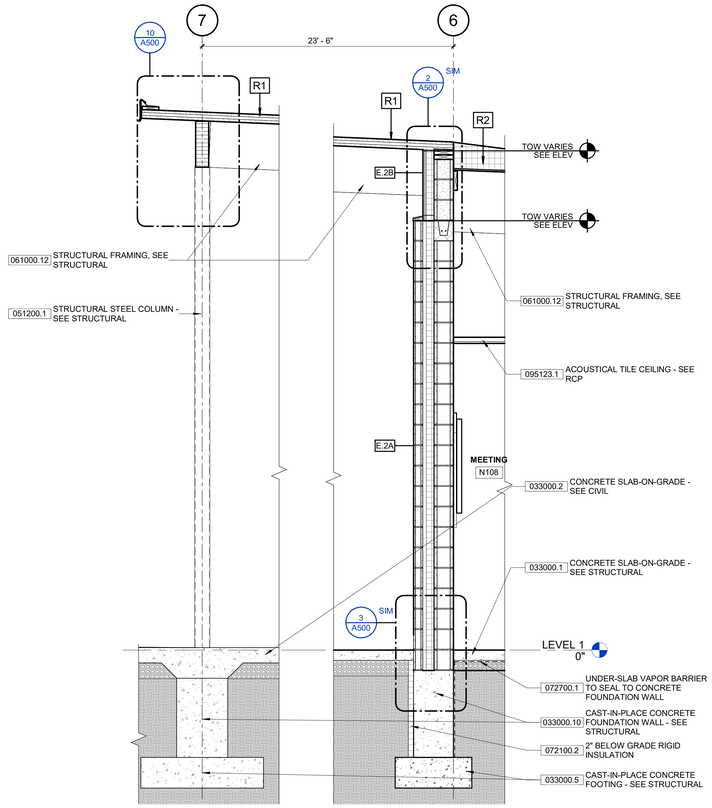

6 CONCESSIONS WALL SECTION
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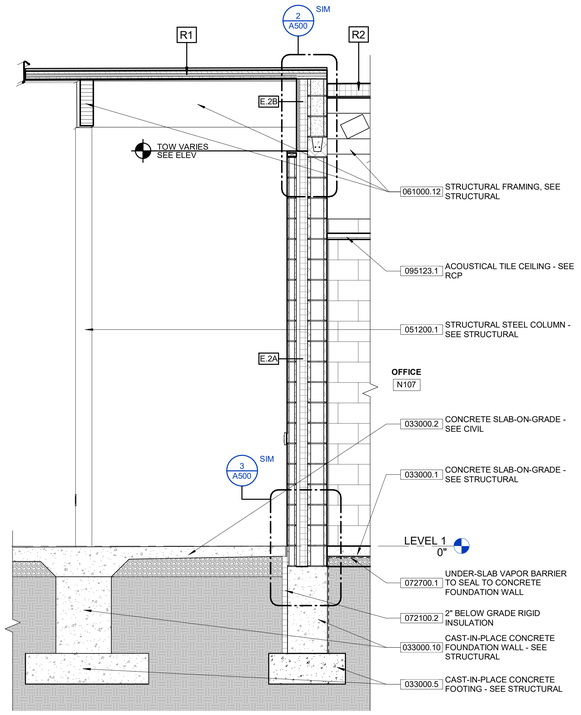

7 CONCESSIONS WALL SECTION
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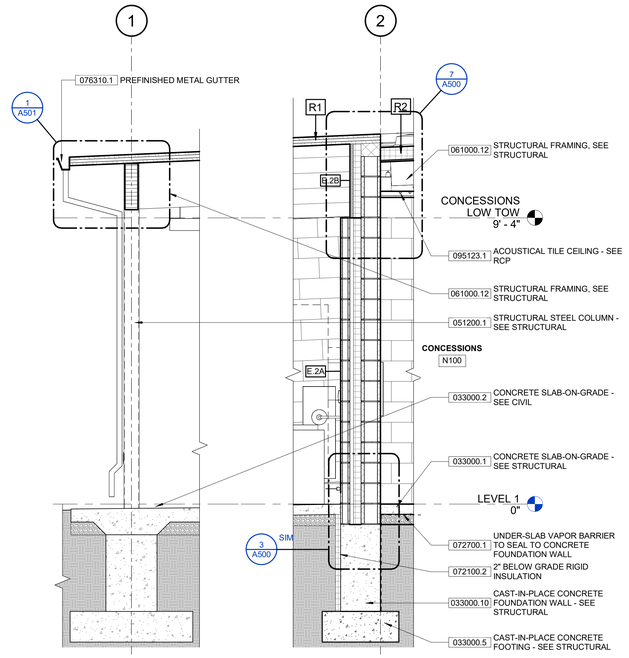

8 CONCESSIONS WALL SECTION
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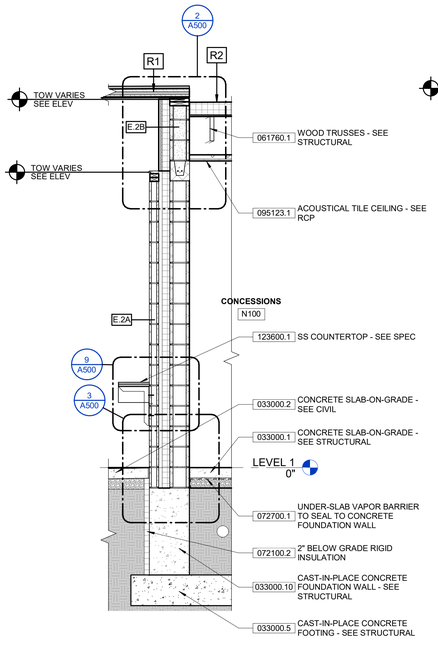
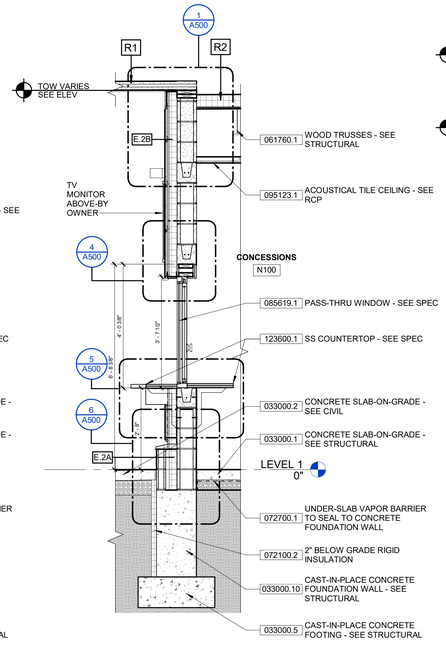
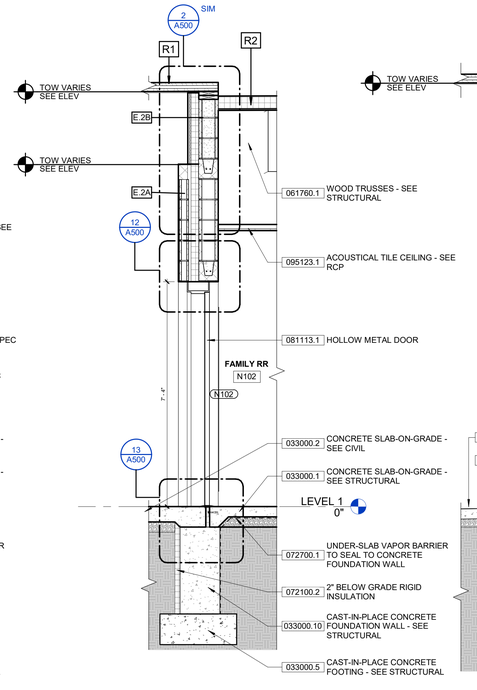


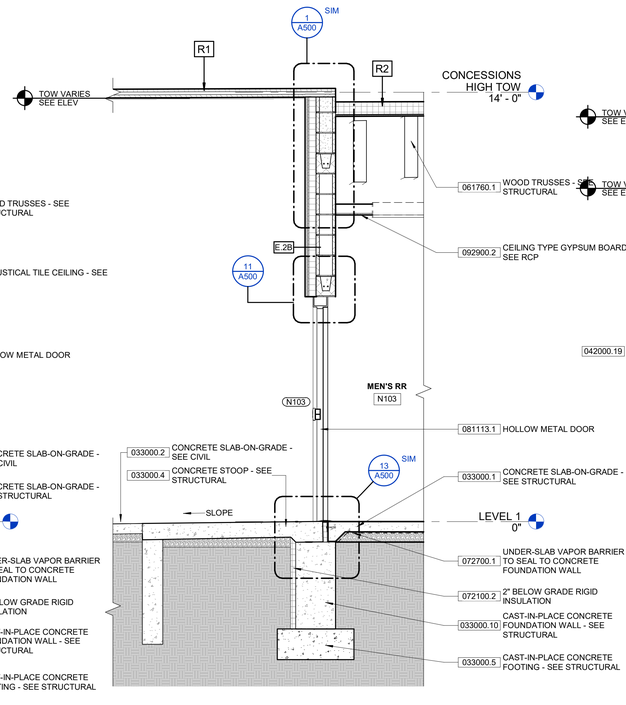
1 CONCESSIONS WALL SECTION
SCALE: 1/2" = 1'-0"



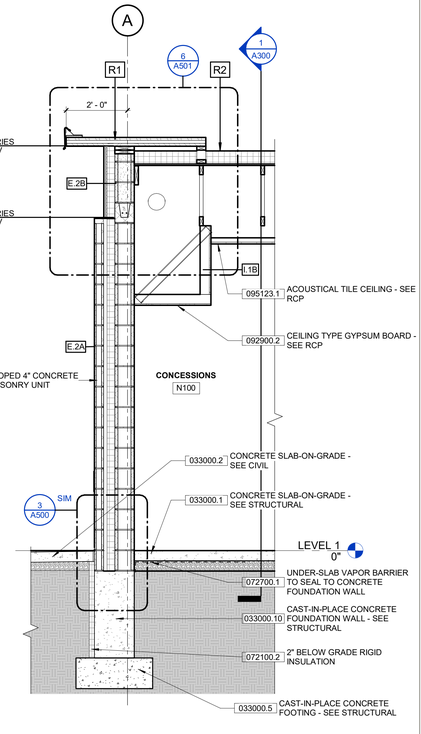
2 CONCESSIONS WALL SECTION
SCALE: 1/2" = 1'-0"



3 CONCESSIONS WALL SECTION
SCALE: 1/2" = 1'-0"



4 CONCESSIONS WALL SECTION
SCALE: 1/2" = 1'-0"



5 CONCESSIONS WALL SECTION
SCALE: 1/2" = 1'-0"

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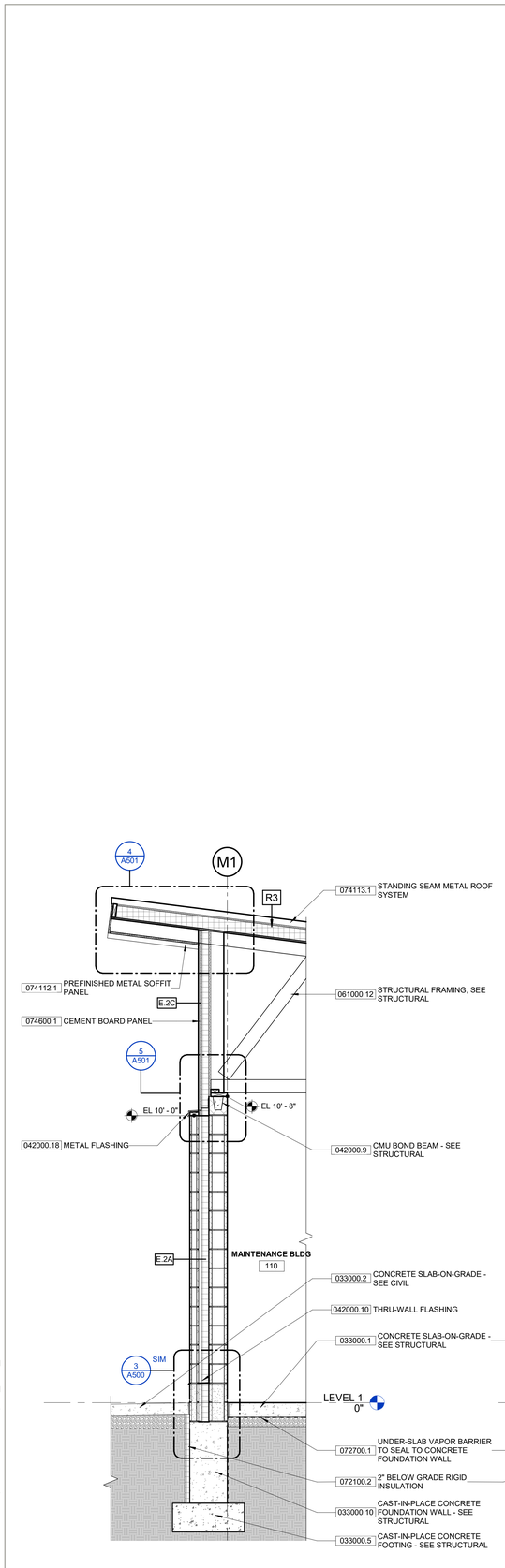
22038

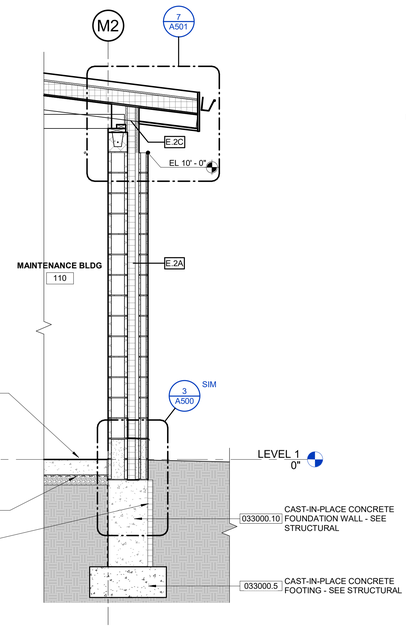
CONCESSION - WALL SECTIONS

A301

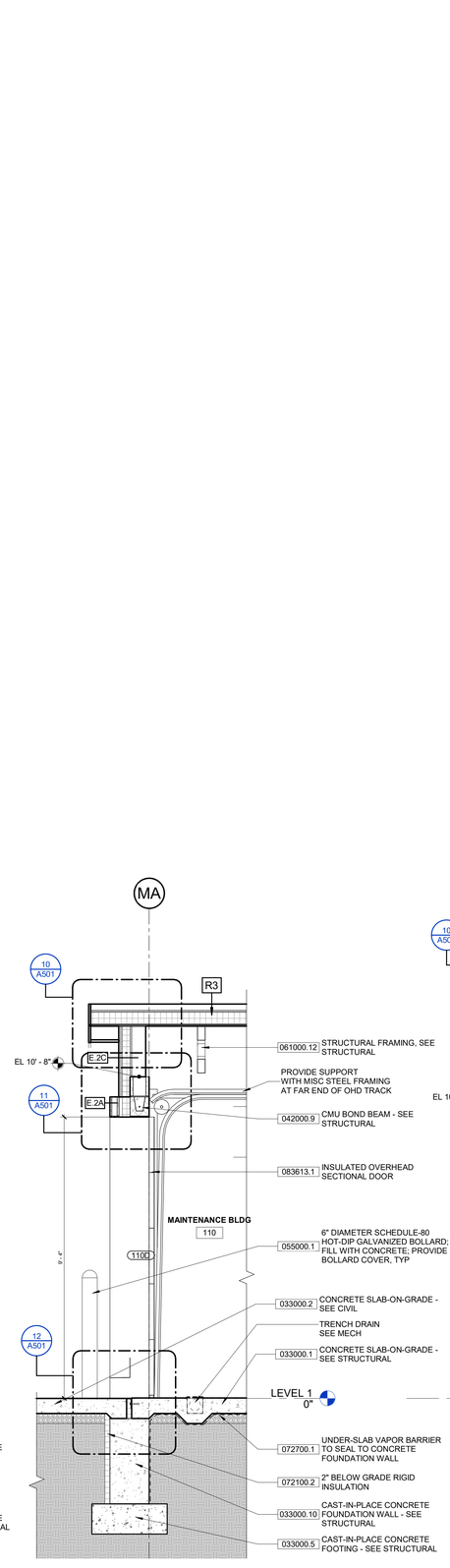
4/26/2023 8:12:48 AM
Autodesk Docs://22038 Grimesplex/22038 Grimesplex_Arch_R22.rvt



1 MAINTENANCE WALL SECTION
SCALE: 1/2" = 1'-0"



2 MAINTENANCE BLDG WALL SECTION
SCALE: 1/2" = 1'-0"



3 MAINTENANCE WALL SECTION
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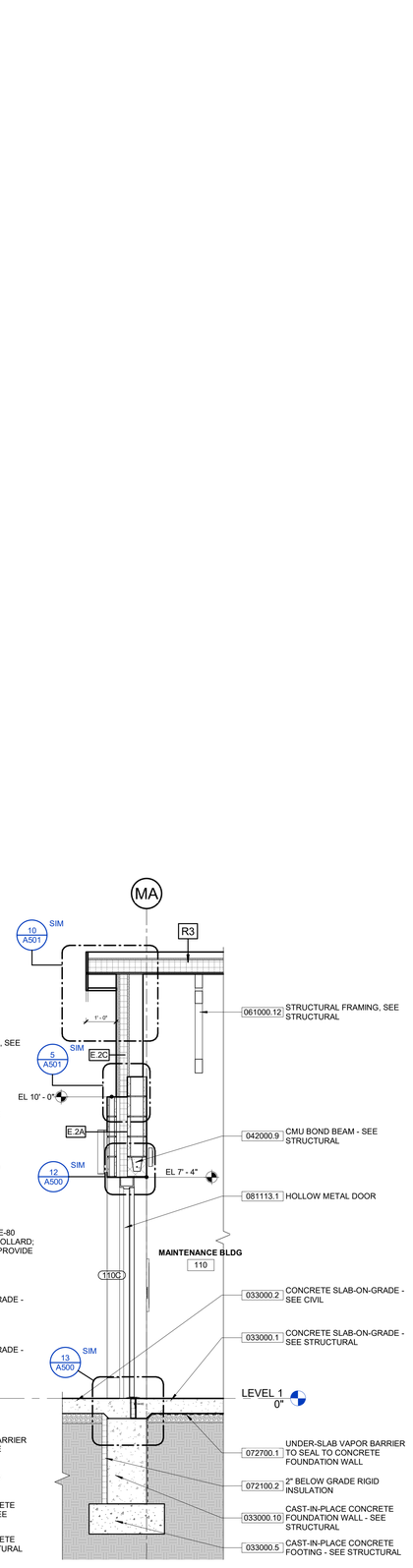

4 MAINTENANCE WALL SECTION
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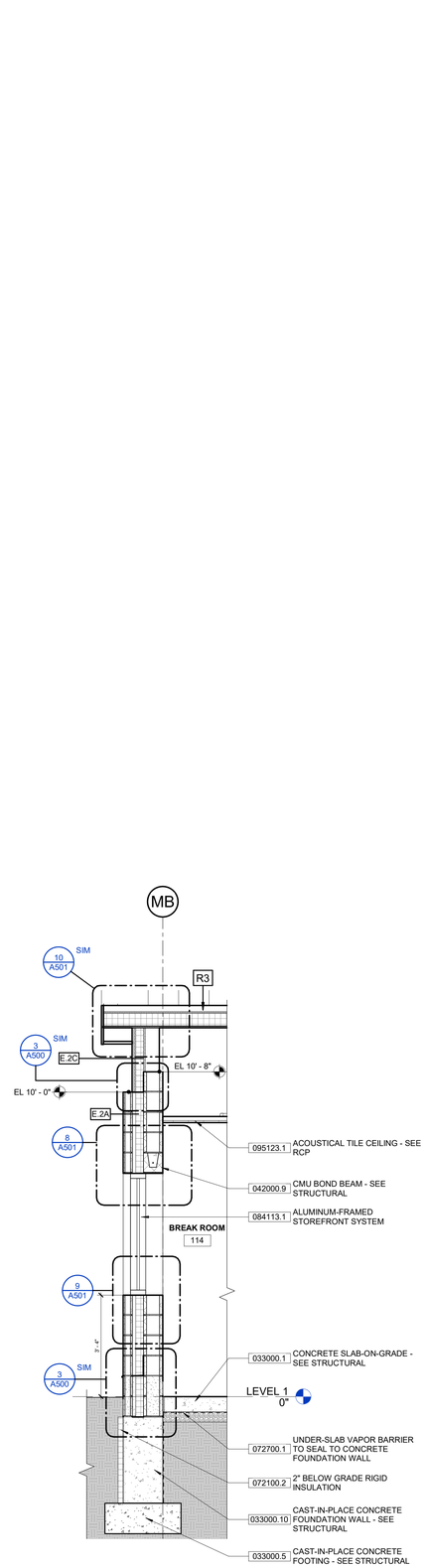

5 MAINTENANCE WALL SECTION
SCALE: 1/2" = 1'-0"

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PROJECT NUMBER
22038

MAINTENANCE - WALL SECTIONS

A302

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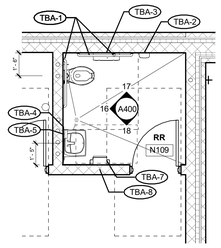

1 RR/CHANGING 109 ENLARGED PLAN
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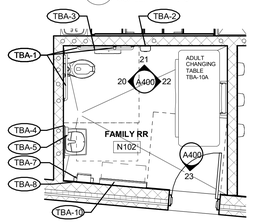

2 FAMILY RR 102 ENLARGED PLAN
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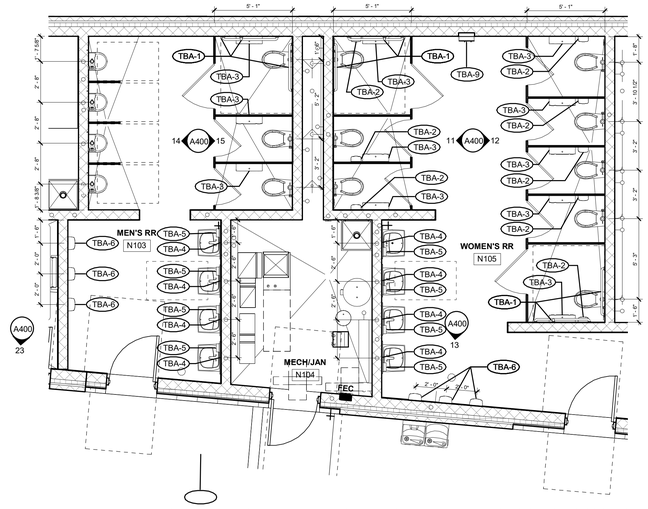
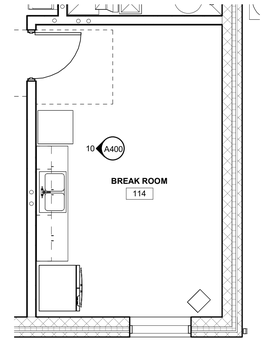


3 ENLARGED MEN'S RR AND WOMEN'S RR PLANS @ CONCESSIONS
SCALE: 1/4" = 1'-0"



5 BREAK ROOM 113 ENLARGED PLAN
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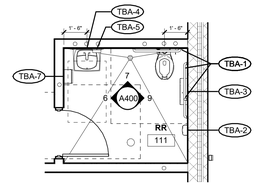

4 RR 111 ENLARGED PLAN
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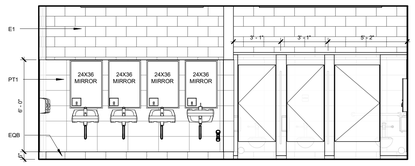

11 WOMEN'S RR-A
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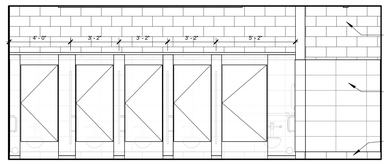

12 WOMEN'S RR-B
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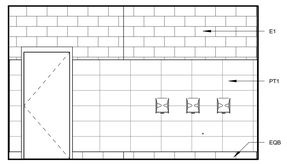

13 WOMEN'S RR-C
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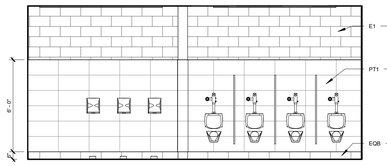

14 MEN'S RR-A
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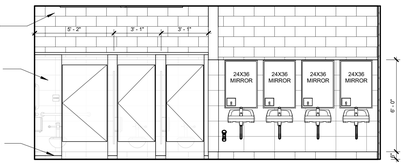
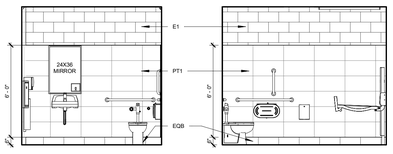
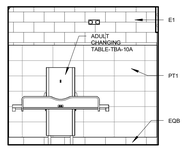


15 MEN'S RR-B
SCALE: 1/4" = 1'-0"



20 RR102-A
SCALE: 1/4" = 1'-0"

21 RR102-B
SCALE: 1/4" = 1'-0"



22 RR102-C
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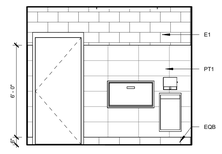

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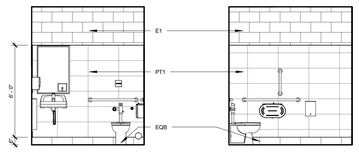
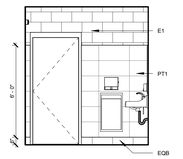
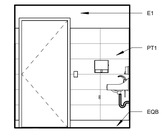


16 RR 109-A
SCALE: 1/4" = 1'-0"

17 RR109-B
SCALE: 1/4" = 1'-0"



18 RR109-D
SCALE: 1/4" = 1'-0"



6 RR 111 - A
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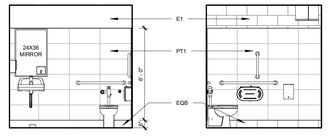
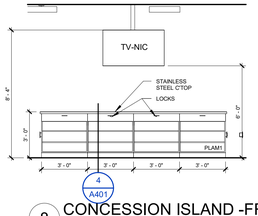
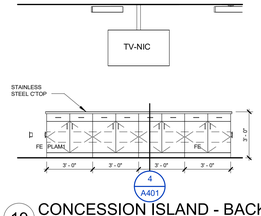


7 RR 111 - B
SCALE: 1/4" = 1'-0"

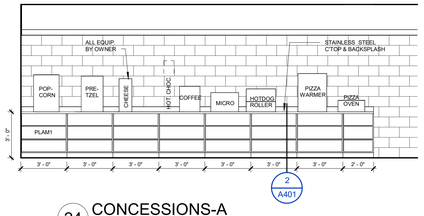
9 RR 111 - C
SCALE: 1/4" = 1'-0"



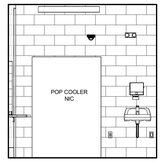
8 CONCESSION ISLAND -FRONT
SCALE: 1/4" = 1'-0"



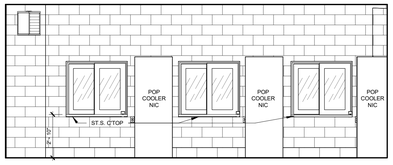
19 CONCESSION ISLAND - BACK
SCALE: 1/4" = 1'-0"



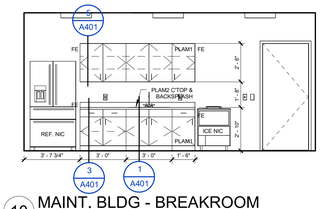
24 CONCESSIONS-A
SCALE: 1/4" = 1'-0"



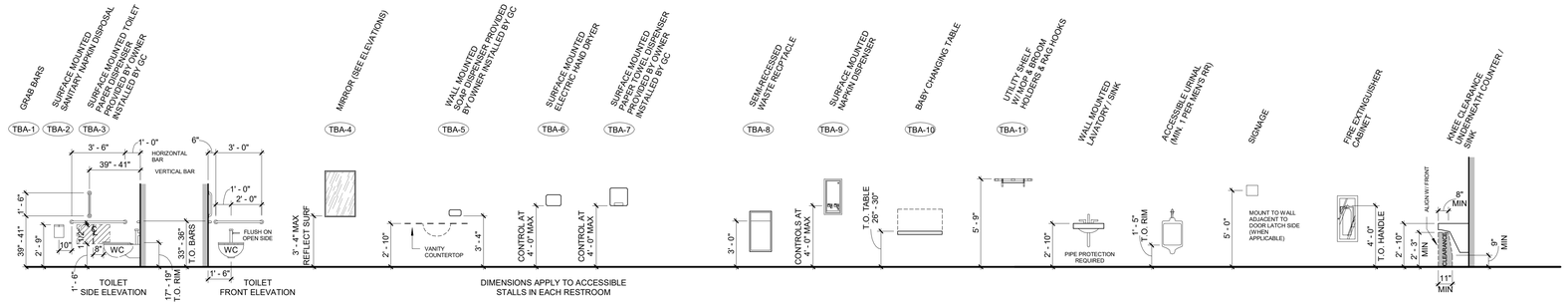
25 CONCESSIONS-B
SCALE: 1/4" = 1'-0"



27 CONCESSIONS-D
SCALE: 1/4" = 1'-0"



10 MAINT. BLDG - BREAKROOM
SCALE: 1/4" = 1'-0"



28 ADA_TYPICAL MOUNTING HEIGHTS
SCALE: 1/4" = 1'-0"

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INTERIOR ELEVATIONS & ENLARGED FLOOR PLANS

A400

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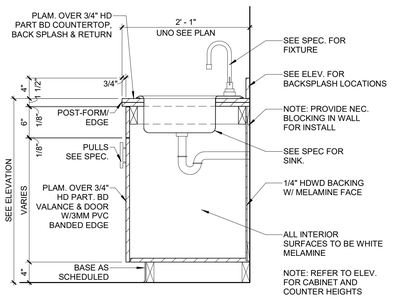
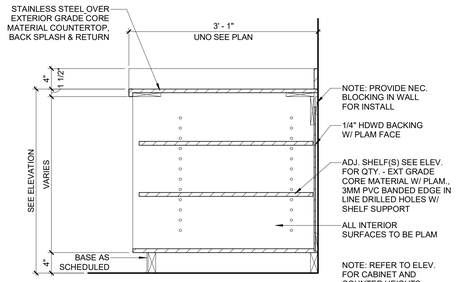
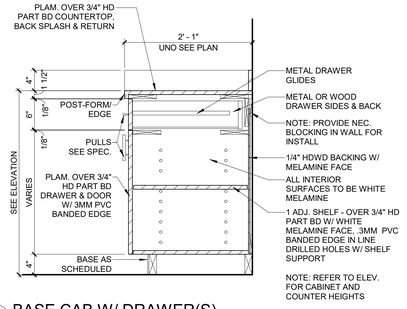


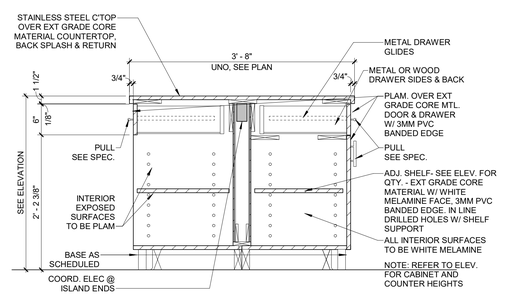
1 BASE CAB W/ SINK
SCALE: 1" = 1'-0"



2 BASE CAB - OPEN SHELVES
SCALE: 1" = 1'-0"



3 BASE CAB W/ DRAWER(S)
SCALE: 1" = 1'-0"



4 BASE CAB ISLAND W/ (2) DRAWER(S)
SCALE: 1" = 1'-0"

5 UPPER W/ DOOR(S)
SCALE: 1" = 1'-0"

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MILLWORK DETAILS

A401

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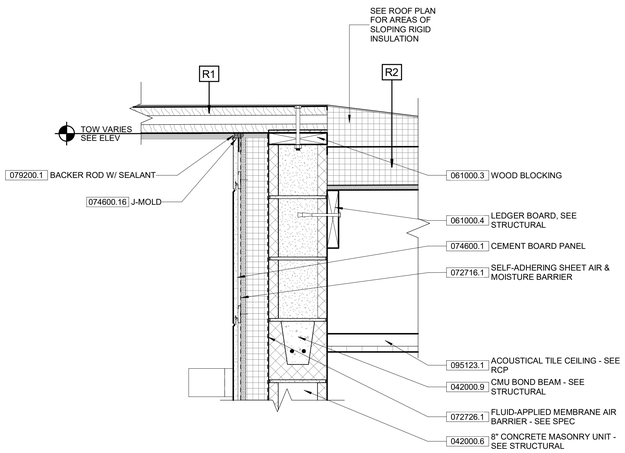
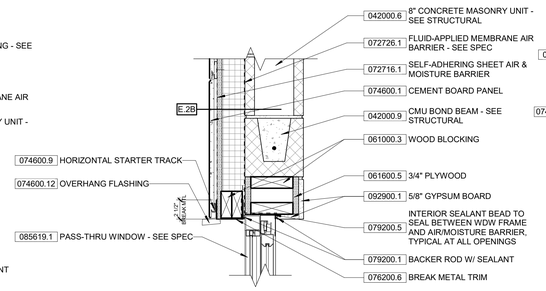


1 TOP OF WALL DETAIL
SCALE: 1 1/2" = 1'-0"



4 TRANSACTION WDW HD DETAIL
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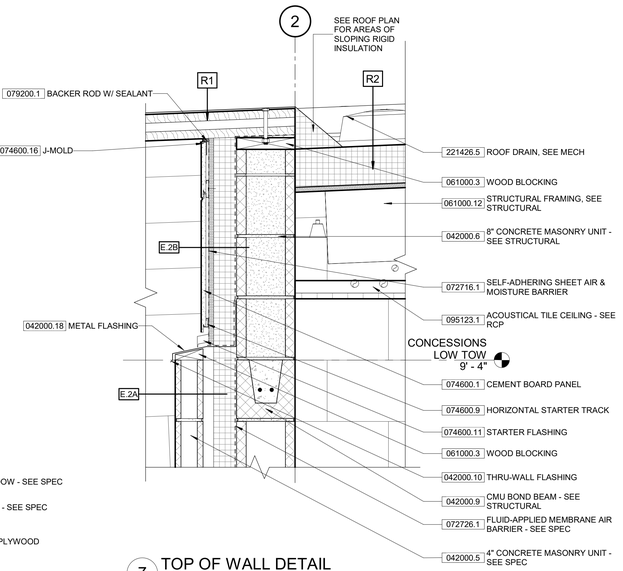
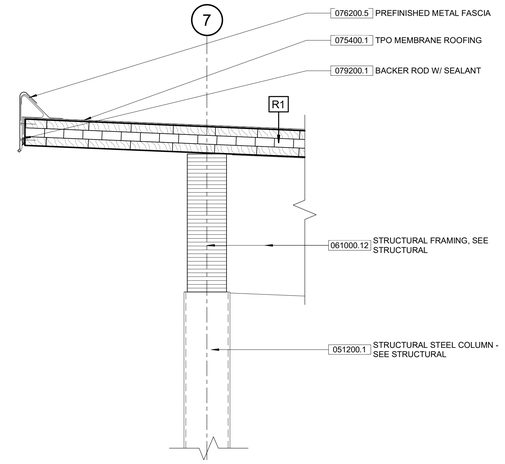


7 TOP OF WALL DETAIL
SCALE: 1 1/2" = 1'-0"



10 EDGE OF CLT ROOF DETAIL
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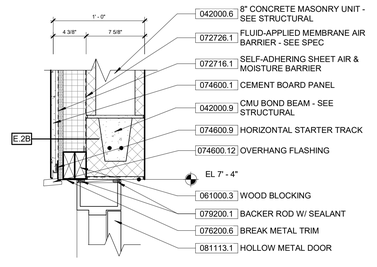
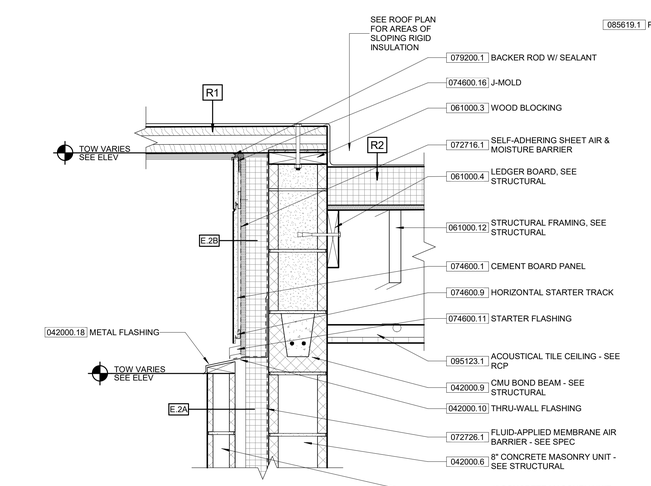
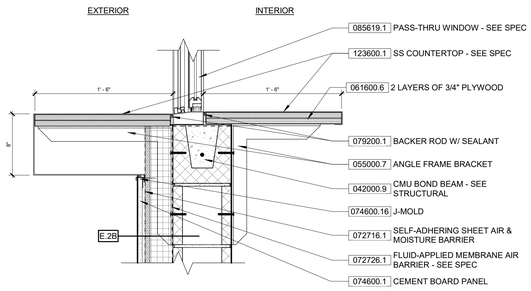


11 DOOR HEAD DETAIL
SCALE: 1 1/2" = 1'-0"



2 TOP OF WALL DETAIL
SCALE: 1 1/2" = 1'-0"



5 TRANSACTION WDW SILL DETAIL
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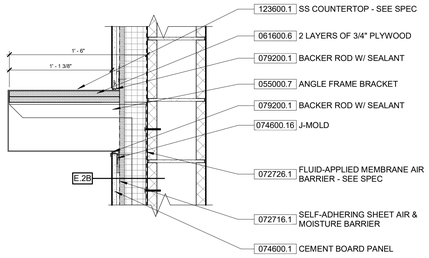

8 CTOP DETAIL
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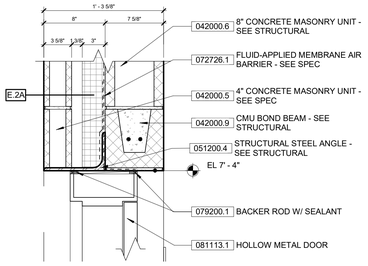
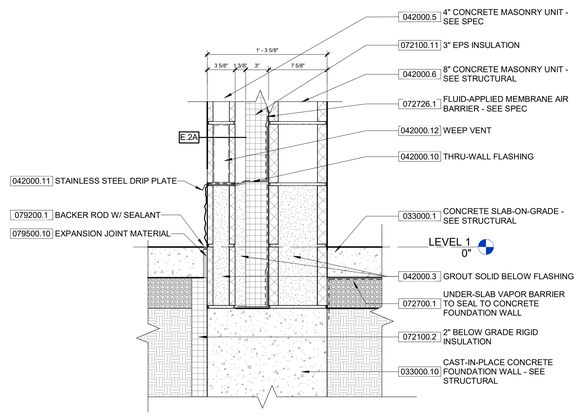
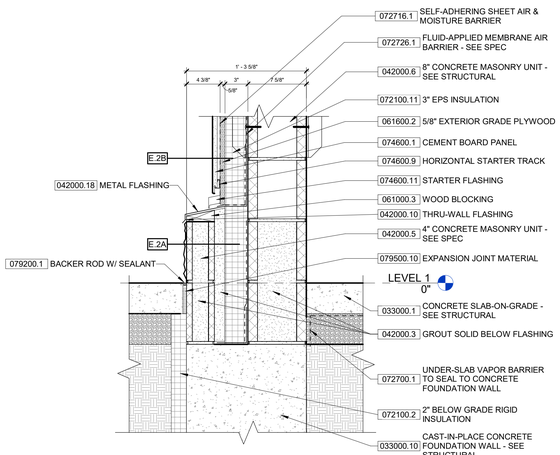


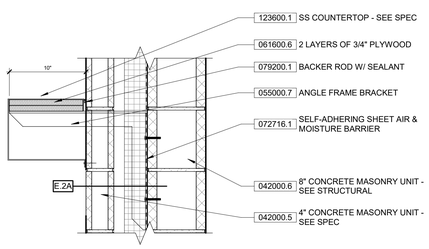
12 DOOR HEAD DETAIL
SCALE: 1 1/2" = 1'-0"



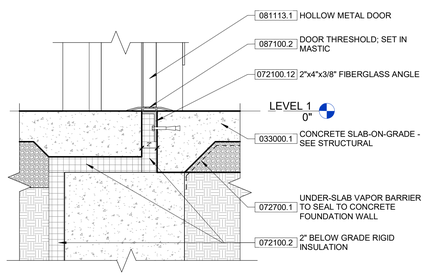
3 BASE OF WALL
SCALE: 1 1/2" = 1'-0"



6 BASE OF WALL
SCALE: 1 1/2" = 1'-0"



9 CTOP DETAIL
SCALE: 1 1/2" = 1'-0"



13 DOOR THRESHOLD DETAIL
SCALE: 1 1/2" = 1'-0"

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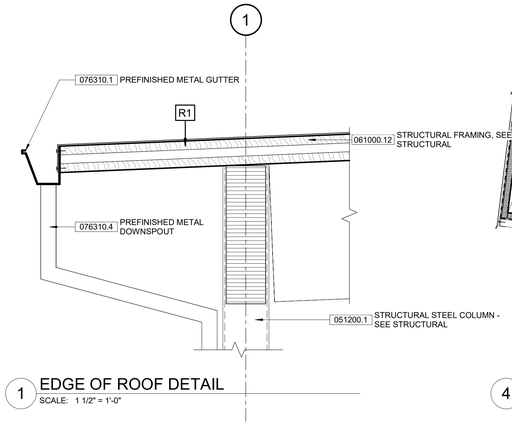
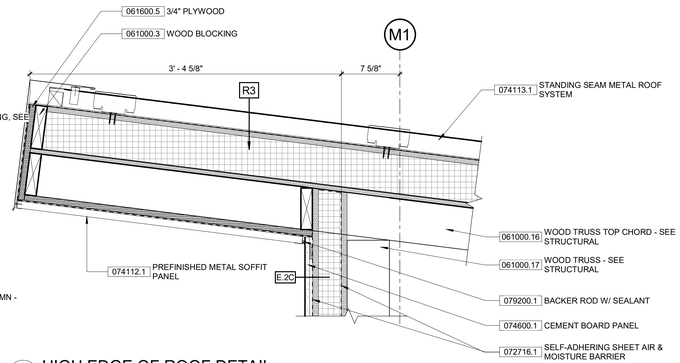
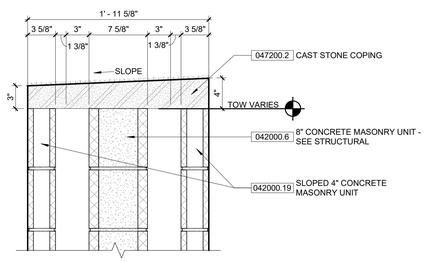


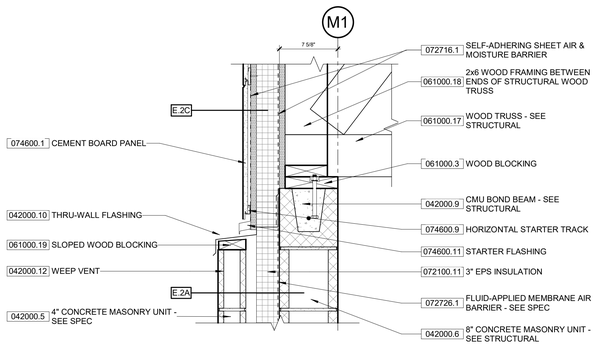
1 EDGE OF ROOF DETAIL
SCALE: 1 1/2" = 1'-0"



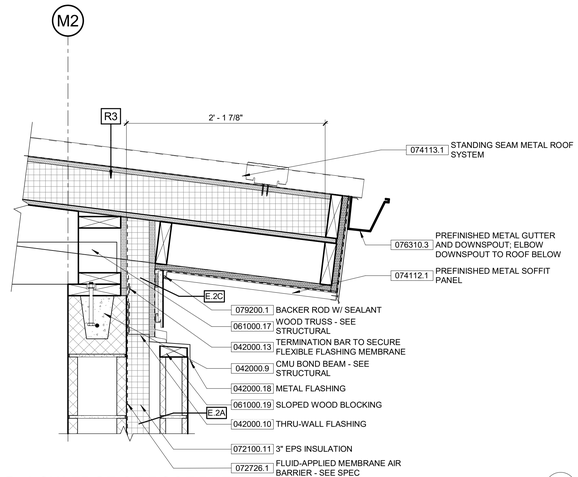
4 HIGH EDGE OF ROOF DETAIL
SCALE: 1 1/2" = 1'-0"



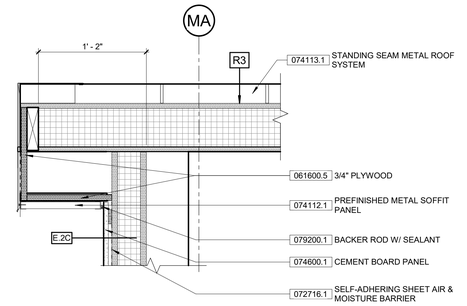
2 TOP OF WALL DETAIL
SCALE: 1 1/2" = 1'-0"



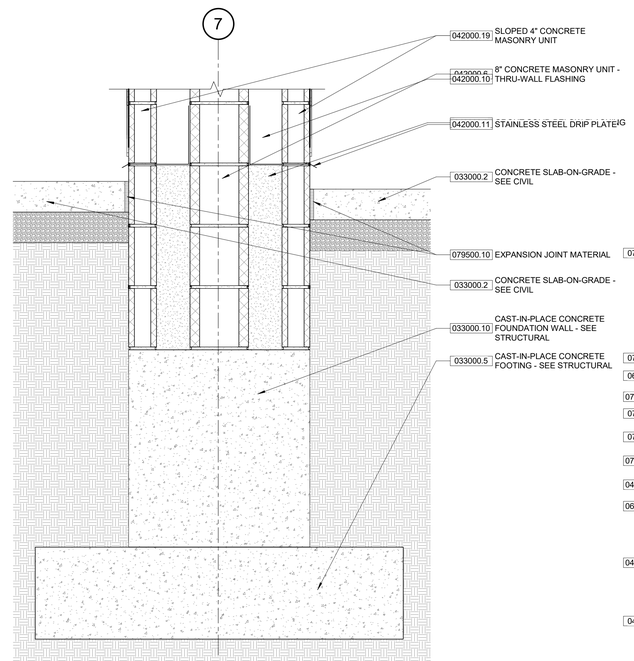
5 TOP OF WALL @ MAINTENANCE BLDG
SCALE: 1 1/2" = 1'-0"



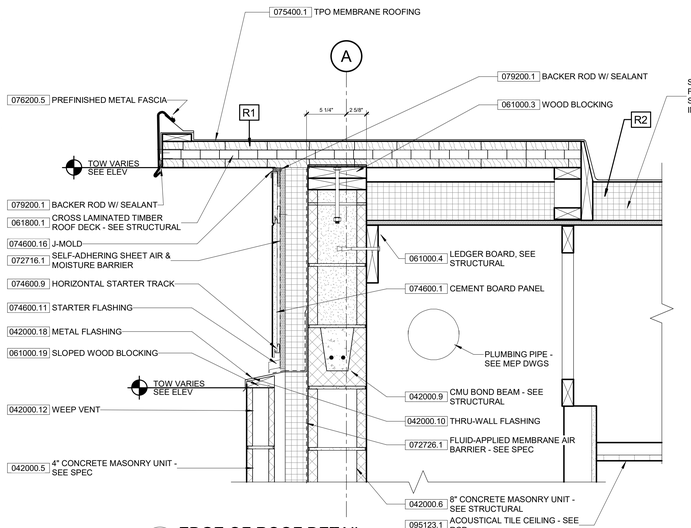
7 LOW EDGE OF ROOF DETAIL
SCALE: 1 1/2" = 1'-0"



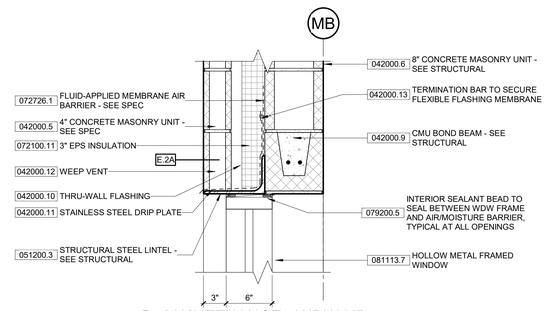
10 ROOF EDGE DETAIL
SCALE: 1 1/2" = 1'-0"



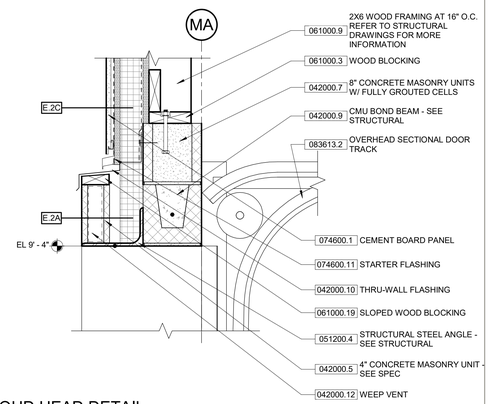
3 BASE OF WALL DETAIL
SCALE: 1 1/2" = 1'-0"



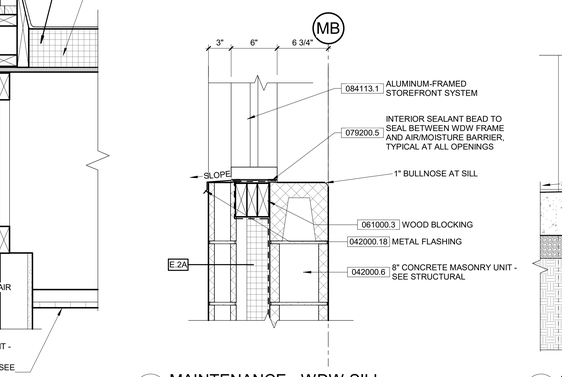
6 EDGE OF ROOF DETAIL
SCALE: 1 1/2" = 1'-0"



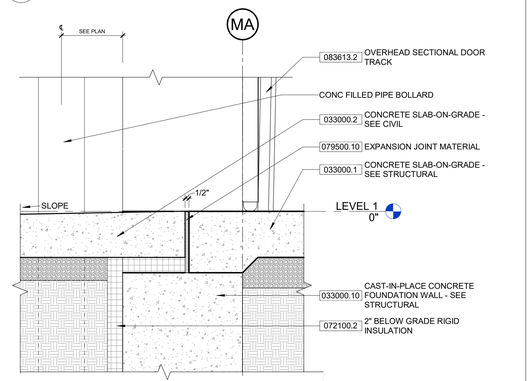
8 MAINTENANCE - WDW HD
SCALE: 1 1/2" = 1'-0"



11 OHD HEAD DETAIL
SCALE: 1 1/2" = 1'-0"



9 MAINTENANCE - WDW SILL
SCALE: 1 1/2" = 1'-0"



12 OHD SILL DETAIL
SCALE: 1 1/2" = 1'-0"

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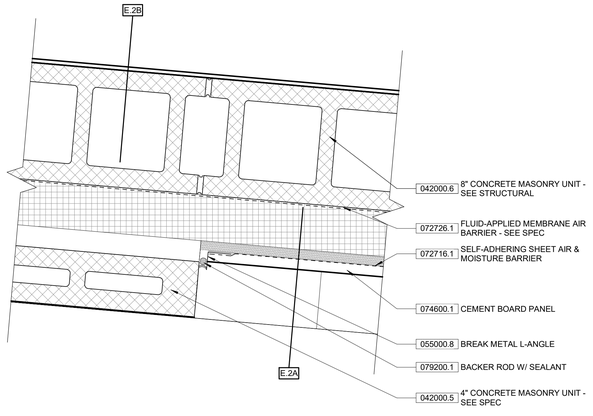
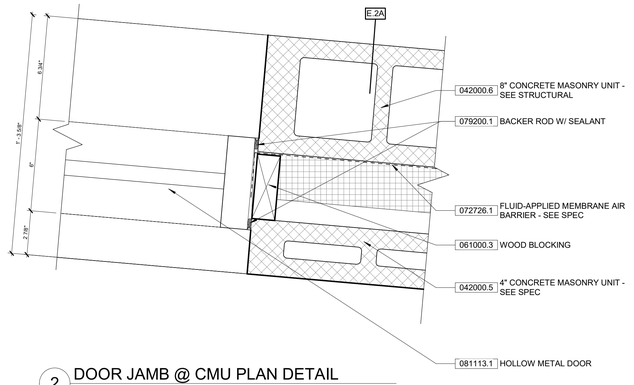
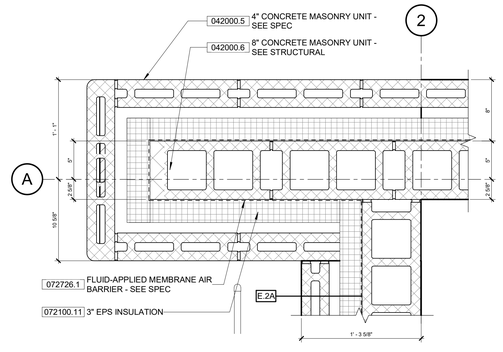


3 CMU TO CEMENT BOARD PANEL PLAN DETAIL
SCALE: 3" = 1'-0"



2 DOOR JAMB @ CMU PLAN DETAIL
SCALE: 3" = 1'-0"



1 WALL END PLAN DETAIL
SCALE: 1 1/2" = 1'-0"

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PLAN DETAILS
A510

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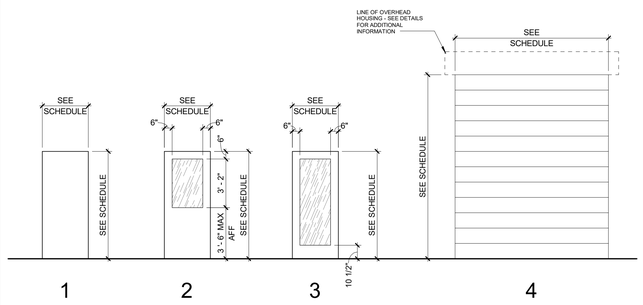
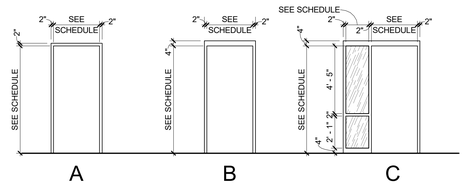
GENERAL NOTES: DOOR AND FRAME NOTES

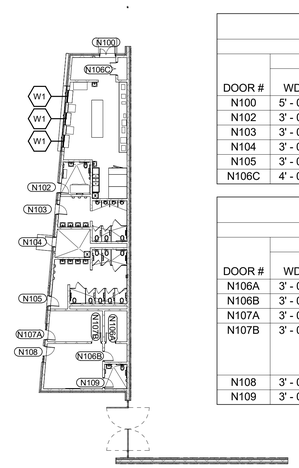
1. ALL DOOR AND FRAME DIMENSIONS TO BE VERIFIED BEFORE FABRICATION
2. ALL POTENTIAL CODE NONCOMPLIANCE ISSUES ARE TO BE IDENTIFIED PRIOR TO BIDDING A PRODUCT. ANY SUB-CONTRACTOR BIDDING A PRODUCT CONDITION KNOWN TO BE NON-COMPLIANT ASSUMES EQUAL LIABILITY.
3. ALL HOLLOW METAL DOORS AND FRAMES ARE TO BE GALVANIZED, PRIMED AND PAINTED. SEE SPEC.
4. GROUT ALL HOLLOW METAL FRAMES SOLID WITH PORTLAND CEMENT BASED MORTAR.
5. ALL FRAMES WIDER THAN 44" TO HAVE HEAD STIFFENERS.
6. BID ALL GLAZING AS DIMENSIONED. IF AREAS EXCEED CODE FOR ALLOWABLE AREAS, ASSUME FIRE GLAZING WILL BE REQUIRED.
7. VERIFY ALL ITEMS ON SCHEDULE WITH FLOOR PLAN. FLOOR PLAN PREVAILS FOR DOOR SWING, FRAME TYPE AND DIMENSIONAL INFORMATION.
8. GENERAL CONTRACTOR TO COORDINATE MEETING BETWEEN ARCHITECT/OWNER AND DOOR VENDOR TO ESTABLISH KEY SCHEDULE INFORMATION.
9. CONTRACTOR TO REVIEW ADA ACTUATOR LOCATIONS WITH OWNER & ARCHITECT BEFORE INSTALLATION.
10. HOLLOW METAL FRAME THROAT DEPTH TO MATCH WALL THICKNESS AT ALL METAL-FRAMED STUD WALLS. REFER TO FLOOR PLAN AND WALL TYPES FOR LOCATIONS, WALL TYPES AND WALL THICKNESSES. CONTRACTOR TO VERIFY FRAME DEPTH AT ALL LOCATIONS.

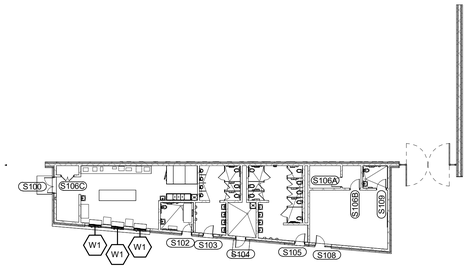


DOOR PANEL TYPES



DOOR FRAME TYPES





MAINTENANCE BUILDING EXTERIOR DOOR SCHEDULE

	DOOR					FRAME					
	SIZE					SIZE					
DOOR #	WD	HT	TH	TYPE	MATL	SIDELIGHT WIDTH	DEPTH	TYPE	MATL	FIRE RATING	NOTES
110A	3' - 0"	7' - 0"	1 3/4"	1	HM		5 3/4"	B	HM		1
110B	10' - 0"	9' - 8"	0"	4							
110C	3' - 0"	7' - 0"	1 3/4"	1	HM		5 3/4"	B	HM		1
110D	10' - 0"	9' - 8"	0"	4							

MAINTENANCE BUILDING INTERIOR DOOR SCHEDULE

	DOOR					FRAME					
	SIZE					SIZE					
DOOR #	WD	HT	TH	TYPE	MATL	SIDELIGHT WIDTH	DEPTH	TYPE	MATL	FIRE RATING	NOTES
111	3' - 0"	7' - 0"	1 3/4"	1	HM		5 3/4"	A	HM		1
112	3' - 0"	7' - 0"	1 3/4"	1	HM		5 3/4"	A	HM		1
113	3' - 0"	7' - 0"	1 3/4"	1	HM		5 3/4"	A	HM		1
114	3' - 0"	7' - 0"	1 3/4"	1	HM		5 3/4"	A	HM		1

NORTH CONCESSION EXTERIOR DOOR SCHEDULE

	DOOR					FRAME					
	SIZE					SIZE					
DOOR #	WD	HT	TH	TYPE	MATL	SIDELIGHT WIDTH	DEPTH	TYPE	MATL	FIRE RATING	NOTES
N100	5' - 0"	7' - 0"	1 3/4"	1	HM		5 3/4"	B	HM		1
N102	3' - 0"	7' - 0"	1 3/4"	1	HM		8 3/4"	B	HM		1
N103	3' - 0"	7' - 0"	1 3/4"	1	HM		5 3/4"	B	HM		1
N104	3' - 0"	7' - 0"	1 3/4"	1	HM		5 3/4"	B	HM		1
N105	3' - 0"	7' - 0"	1 3/4"	1	HM		5 3/4"	B	HM		1
N106C	4' - 0"	7' - 0"	1 3/4"	1	HM		5 3/4"	B	HM		1

NORTH CONCESSION INTERIOR DOOR SCHEDULE

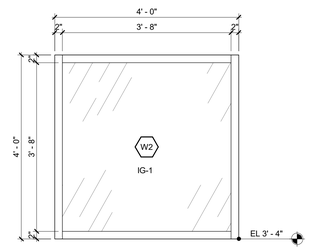
	DOOR					FRAME					
	SIZE					SIZE					
DOOR #	WD	HT	TH	TYPE	MATL	SIDELIGHT WIDTH	DEPTH	TYPE	MATL	FIRE RATING	NOTES
N106A	3' - 0"	7' - 0"	1 3/4"	1	HM		5 3/4"	B	HM		1
N106B	3' - 0"	7' - 0"	1 3/4"	1	HM		5 3/4"	B	HM		1
N107A	3' - 0"	7' - 0"	1 3/4"	3	ALUM			C	ALUM		1
N107B	3' - 0"	7' - 0"	1 3/4"	2	HM		5 3/4"	B	HM		3, 1/2 DOORLIGHT ENCLOSED GLASS BLINDS
N108	3' - 0"	7' - 0"	1 3/4"	3	ALUM			C	ALUM		1
N109	3' - 0"	7' - 0"	1 3/4"	1	HM		5 3/4"	B	HM		1

SOUTH CONCESSION EXTERIOR DOOR SCHEDULE

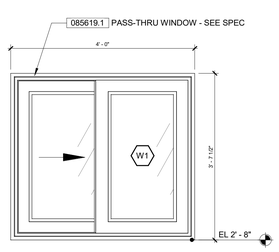
	DOOR					FRAME					
	SIZE					SIZE					
DOOR #	WD	HT	TH	TYPE	MATL	SIDELIGHT WIDTH	DEPTH	TYPE	MATL	FIRE RATING	NOTES
S100	5' - 0"	7' - 0"	1 3/4"	1	HM		5 3/4"	B	HM		1
S102	3' - 0"	7' - 0"	1 3/4"	1	HM		8 3/4"	B	HM		1
S103	3' - 0"	7' - 0"	1 3/4"	1	HM		5 3/4"	B	HM		1
S104	3' - 0"	7' - 0"	1 3/4"	1	HM		5 3/4"	B	HM		1
S105	3' - 0"	7' - 0"	1 3/4"	1	HM		5 3/4"	B	HM		1

SOUTH CONCESSION INTERIOR DOOR SCHEDULE

	DOOR					FRAME					
	SIZE					SIZE					
DOOR #	WD	HT	TH	TYPE	MATL	SIDELIGHT WIDTH	DEPTH	TYPE	MATL	FIRE RATING	NOTES
S106A	3' - 0"	7' - 0"	1 3/4"	1	HM		5 3/4"	B	HM		1
S106B	3' - 0"	7' - 0"	1 3/4"	1	HM		5 3/4"	B	HM		1
S106C	4' - 0"	7' - 0"	1 3/4"	1	HM		5 3/4"	B	HM		1
S108	3' - 0"	7' - 0"	1 3/4"	3	ALUM			C	ALUM		1
S109	3' - 0"	7' - 0"	1 3/4"	1	HM		5 3/4"	B	HM		1



W2 - ALUM STOREFRONT WINDOW
SCALE: 3/4" = 1'-0"



W1 - TRANSACTION WINDOW
SCALE: 3/4" = 1'-0"

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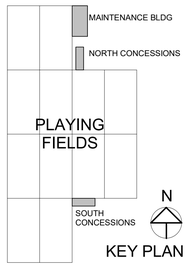

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DOOR & WINDOW SCHEDULE AND TYPES

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FINISH KEY

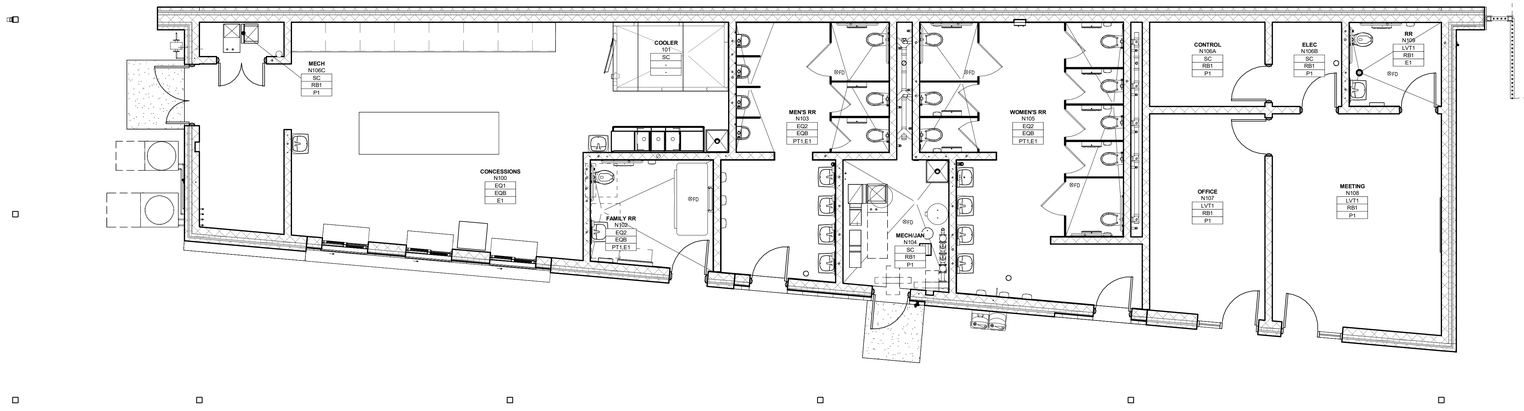
KEY	PRODUCT	MANUFACTURER	PATTERN / COLOR
1 FLOORING			
EQ1	EPOXY QUARTZ	SEE SPEC.	SEE SPEC.
EQ2	EPOXY QUARTZ	SEE SPEC.	SEE SPEC.
EQB1	EPOXY QUARTZ BASE	SEE SPEC.	SEE SPEC.
EQB2	EPOXY QUARTZ BASE	SEE SPEC.	SEE SPEC.
LVT1	LUX. VINYL TILE	SHAW CONTRACT	COVE / CASTER 27518 9"X48"
RB	RESILIENT BASE	TARKETT	40 BLACK
SC	SEALED CONCRETE	SEE SPEC	SEE SPEC.
2 WALL COVERINGS			
E1	PAINT-EPOXY	SHERWIN WILLIAMS	SW7022 ALPACA
P1	PAINT	SHERWIN WILLIAMS	SW7022 ALPACA
P2	PAINT - HM DIEFRAMES	SHERWIN WILLIAMS	SW6258 TRICORN BLACK
PT1	PORCELAIN TILE	DALTILE	VOLUME 1.0 / VAPOR VL63 (12X24")
3 PLASTIC LAMINATES / SOLID SURFACES			
PLAM1	PLASTIC LAMINATE	FORMICA	CARMEL ELM 5795-NG
ST. S	STAINLESS STEEL	SEE SPEC.	SEE SPEC.
4 CEILING FINISHES			
ACT1	ACOUSTICAL CEILING TILE	SEE SPEC.	SEE SPEC.

ROOM FINISH SCHEDULE NOTES

1. REFER TO FLOOR FINISH PLAN FOR FLOOR COVERING LOCATIONS.
2. REFER TO ELEVATIONS FOR TILE LOCATIONS, PATTERNS, AND ACCENT WALL PATTERNS.
3. 4'-0" HIGH FIBERGLASS-REINFORCED PANELS BEHIND MOP SINK AND ALONG ADJACENT WALL(S).

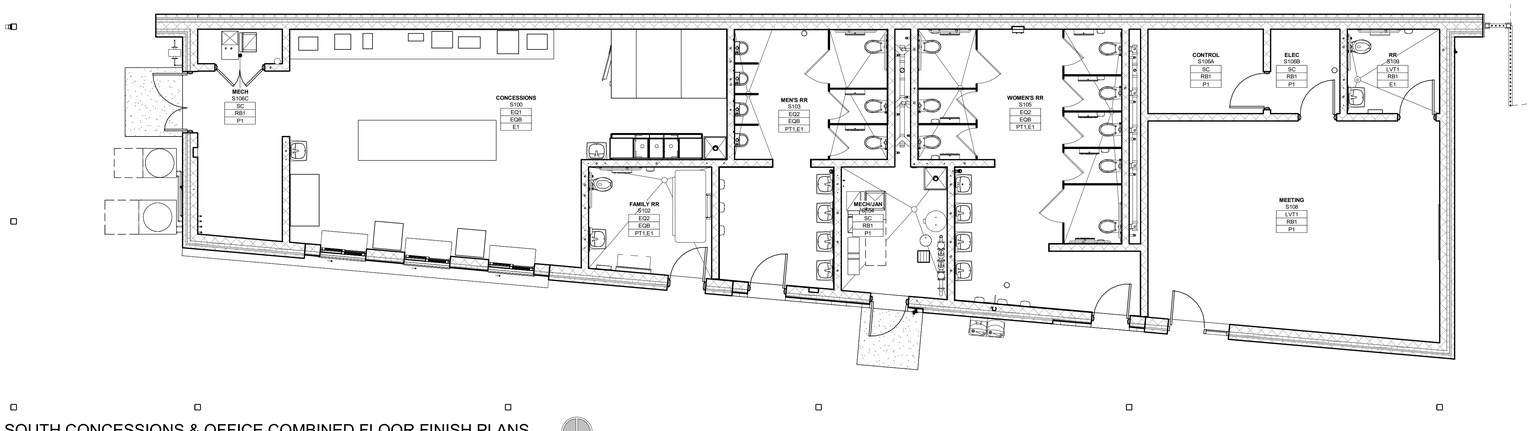
GENERAL FINISH NOTES

1. CONTRACTOR TO VERIFY ALL DIMENSIONS BEFORE CONSTRUCTION AND BEFORE ORDERING MATERIALS. DO NOT SCALE DRAWINGS.
2. EPOXY PAINT TO BE USED IN RESTROOMS.
3. PROVIDE SCHLUTER TRANSITION STRIPS AT ALL TILE TRANSITIONS. VERIFY WITH ARCHITECT.
4. ALL GYPSUM BOARD CEILINGS TO BE PAINTED CEILING WHITE UNLESS NOTED OTHERWISE.
5. ALL OTHER TRANSITION STRIPS TO BE SUBMITTED FOR APPROVAL FROM ARCHITECT.
6. SEE REFLECTED CEILING PLAN FOR ADDITIONAL CEILING HEIGHTS AND MATERIALS.



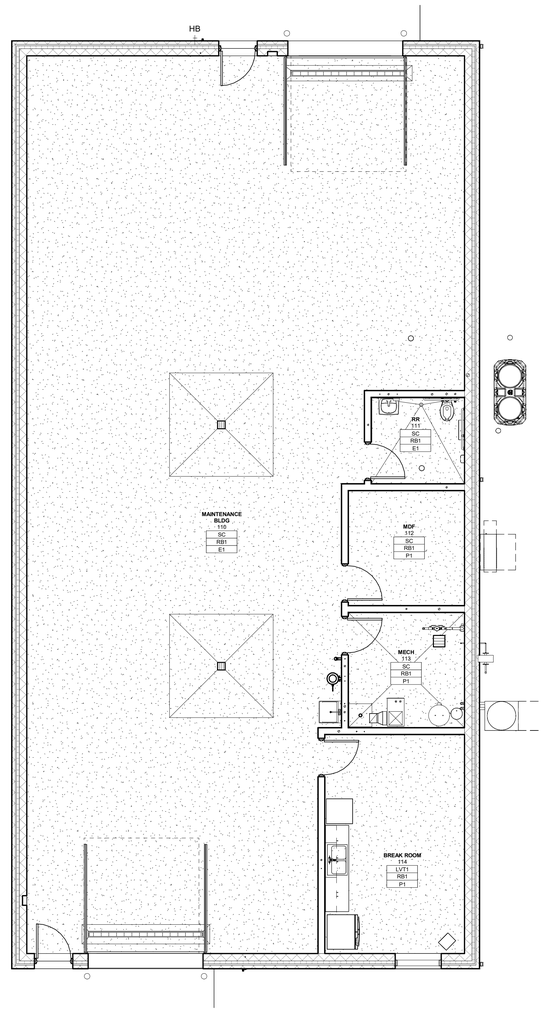
1 NORTH CONCESSIONS & OFFICE COMBINED FLOOR FINISH PLANS
SCALE: 3/16" = 1'-0"

NORTH



3 SOUTH CONCESSIONS & OFFICE COMBINED FLOOR FINISH PLANS
SCALE: 3/16" = 1'-0"

NORTH



2 MAINTENANCE BUILDING PLAN
SCALE: 3/16" = 1'-0"

NORTH

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CONSTRUCTION DOCUMENTS
04/25/2023

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PROJECT NUMBER
22038

FLOOR FINISH PLAN

A800

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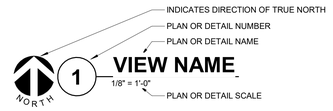
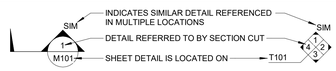
VIEW KEY

NAME — LEVEL NAME
10'-0" — HEIGHT ABOVE PROJECT 0'-0"

1 — INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL





LINE TYPE AND TAG KEY:

NEW WORK BY THIS CONTRACTOR (WIDE LINE)
——— NEW
- - - - - - - - - EXISTING TO BE REMOVED (SHORT DASHED PATTERN)
— — — — NEW UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)

EXISTING TO REMAIN OR WORK BY OTHERS (NARROW LINE)
——— EXISTING
- - - - - - - - - EXISTING TO BE REMOVED BY OTHERS (SHORT DASHED PATTERN)
— — — — EXISTING UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)

HALFTONING DOES NOT MODIFY SCOPE.

'TAG'-E — TAGS WITH DASH 'E' INDICATES THE REFERENCED OBJECT IS EXISTING

TAG — UNDERLINED TAG INDICATES OBJECT IS IN-SCOPE. IF NEW, ADDITIONAL INFORMATION IS AVAILABLE IN A SCHEDULE, MATERIAL LIST, OR SYMBOL LIST

INDICATES AN EXISTING SYSTEM'S POINT OF CONNECTION/REMOVAL

APPLICABLE CODES

CONTRACTOR SHALL COMPLY WITH APPLICABLE CODES AND LOCAL AMENDMENTS.

BUILDING CODE:	IBC 2018 EDITION
FIRE CODE:	IFC 2018 EDITION
PLUMBING CODE:	UPC 2021 EDITION
MECHANICAL CODE:	IMC 2021 EDITION
ELECTRICAL CODE:	NFPA 70 (NEC) 2020 EDITION
ENERGY CONSERVATION CODE:	IECC 2012
HEALTH DEPARTMENT CODE:	CURRENT EDITION
LOCAL BUILDING CODE:	CURRENT EDITION

CONTRACTOR ABBREVIATION KEY

ABBR:	DESCRIPTION:
C.C.	CIVIL CONTRACTOR
E.C.	ELECTRICAL CONTRACTOR
F.S.C.	FOOD SERVICE CONTRACTOR
G.C.	GENERAL CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
P.C.	PLUMBING CONTRACTOR
T.C.	TECHNOLOGY CONTRACTOR
T.C.C.	TEMPERATURE CONTROLS CONTRACTOR

CONTACT PERSONS:

DESCRIPTION:	PERSON:
PROJECT MANAGER	KRISTEN SPINA
MECHANICAL	PARKER POLASCHEK
ELECTRICAL	CHRIS MARTING
TECHNOLOGY	ALFONSO ARAULLO
STRUCTUAL	DANIELLE BARTLETT

PLUMBING SYMBOL LIST

NOT ALL SYMBOLS MAY APPLY.

SYMBOL:	DESCRIPTION:
CW	COLD WATER - POTABLE
D	DRAIN
G	NATURAL GAS
GRV	GAS REGULATOR VENT
GSAN	SANITARY DRAINAGE (GREASE SANITARY DRAINAGE)
GV	GREASE VENT
HW	HOT WATER - POTABLE
HWC	HOT WATER CIRCULATING - POTABLE
ST(1,000)	STORM DRAINAGE (ROOF SQUARE FOOTAGE)
STS	STORM DRAINAGE (SECONDARY)
V	VENT
W	SERVICE WATER - POTABLE
	PIPE CONTINUATION
	PIPE CAP
	PIPE DOWN
	PIPE UP OR UP/DOWN
FD	PIPE SERVING FIXTURE ON FLOOR ABOVE (EXAMPLE: FD = FLOOR DRAIN)
	PITCH PIPE IN DIRECTION
	DIRECTION OF FLOW IN PIPE
	ROUTE TO DRAIN
RD-1 6"(1000)	ROOF DRAIN PROPERTIES SYMBOL SIZE (ROOF SQ. FT.)
	DIELECTRIC CONNECTION
	UNION/FLANGE
	SHUTOFF VALVE NORMALLY OPEN
	SHUTOFF VALVE NORMALLY CLOSED
GPM	BALANCING VALVE (NUMBER INDICATES GPM)
	CHECK VALVE
	BACKFLOW PREVENTER
	SAFETY/RELIEF VALVE
	VACUUM BREAKER
P	PRESSURE GAUGE (FURNISHED WITH BALL VALVE)
	THERMOMETER WITH WELL (FILLED TYPE)
	REDUCER - REFERENCE SPECIFICATION FOR CONCENTRIC/ECCENTRIC AND FOT/FOB
	PRESSURE REDUCING VALVE (LIQUID/GAS)
	PUMP
M	METER

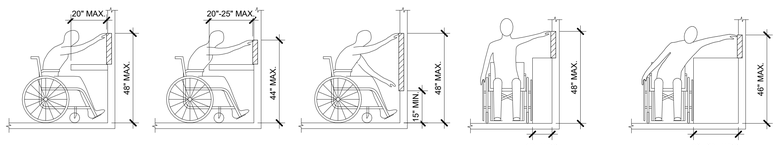
PLUMBING ABBREVIATION KEY

ABBR:	DESCRIPTION:
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
BFP	BACKFLOW PREVENTER
CO	CLEANOUT
EWC	ELECTRIC WATER COOLER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FS	FLOOR SINK
GD	GARBAGE DISPOSER
GI	GREASE INTERCEPTOR
HB	HOSE BIBB
I.E.	INVERT ELEVATION (FOR REFERENCE ONLY)
LAV	LAVATORY
MB	MOP BASIN
MV	MIXING VALVE
NIC	NOT IN CONTRACT
RD	ROOF DRAIN
SCCR	SHORT CIRCUIT CURRENT RATING
SK	SINK
SS	SERVICE SINK
TD	TRENCH DRAIN
TP	TRAP PRIMER
TYP	TYPICAL
UR	URINAL
VTR	VENT THROUGH ROOF
WC	WATER CLOSET
WCO	WALL CLEANOUT
WH	WATER HEATER
WM	WATER METER
UB	UTILITY BOX
UON	UNLESS OTHERWISE NOTED
YCO	YARD CLEANOUT

PLUMBING ROUGH-IN SCHEDULE

NOTES: (APPLIES TO ALL PLUMBING FIXTURES LISTED BELOW)
1) SIZES SHOWN ARE MINIMUMS. LARGER SIZES SHOWN ON THE DRAWING SHALL DICTATE THE ROUGH-IN SIZE. 2) SANITARY RISERS UP IN WALL TO FIXTURES SHALL BE A MINIMUM OF 2". 3) DOMESTIC WATER BRANCH PIPING OUTSIDE OF THE WALL/CHASE SHALL BE A MINIMUM OF 3/4" UNLESS NOTED OTHERWISE. ONLY THE FINAL RISE-DROP SHALL BE SMALLER. 4) FINAL SANITARY SIZE SHALL MATCH P-TRAP SIZE (REFER TO MATERIAL LIST).

TAG NAME	DESCRIPTION	COLD WATER	HOT WATER	SANITARY	VENT
EE-1	EMERGENCY EYE-FACE WASH	3/4"	3/4"	-	-
EWC-1	ELECTRIC WATER COOLER	1/2"	-	2"	1 1/2"
FD-1	FLOOR DRAIN	-	-	3"	1 1/2"
FD-2	FLOOR DRAIN	-	3/4"	3"	1 1/2"
FS-1	FLOOR SINK	-	-	4"	2"
FS-2	FLOOR SINK	-	-	4"	2"
L-1	LAVATORY (ACCESSIBLE)	1/2"	1/2"	1 1/2"	1 1/2"
MB-1	MOP BASIN	3/4"	3/4"	3"	1 1/2"
MB-1	MOP BASIN	3/4"	3/4"	3"	1 1/2"
SK-1	SINK (THREE COMPARTMENT)	3/4"	3/4"	4"	4"
SK-2	SINK (ACCESSIBLE)	1/2"	1/2"	1 1/2"	1 1/2"
SS-1	SERVICE SINK	3/4"	3/4"	3"	1 1/2"
TD-1	TRENCH DRAIN	-	-	4"	2"
UB-1	UTILITY BOX	1/2"	-	-	-
UR-1	URINAL (ACCESSIBLE)	3/4"	-	2"	1 1/2"
UR-2	URINAL (ACCESSIBLE)	3/4"	-	2"	1 1/2"
WC-1	WATER CLOSET (ACCESSIBLE)	1 1/2"	-	4"	2"
WC-2	WATER CLOSET (ACCESSIBLE)	1 1/2"	-	4"	2"



INSTALL ABOVE COUNTER DEVICE AT 44" ABOVE FINISHED FLOOR.

INSTALL ABOVE COUNTER DEVICE AT 40" ABOVE FINISHED FLOOR.

INSTALL DEVICE AT 18" ABOVE FINISHED FLOOR.

ADA GUIDELINES - FRONT ACCESS

INSTALL DEVICE AT 44" ABOVE FINISHED FLOOR.

INSTALL DEVICE AT 42" ABOVE FINISHED FLOOR.

ADA GUIDELINES - SIDE ACCESS

ADA STANDARDS FOR ACCESSIBLE DESIGN

MECHANICAL GENERAL NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO PLUMBING AND MECHANICAL.

1. DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC., AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT.
2. DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.
3. COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS.
4. REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER ACCESS.
5. ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE TO OTHERS.
6. EACH CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ELECTRICAL CHANGES REQUIRED FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF DESIGN.
7. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIO/VISUAL, AND OTHER MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS.
8. EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.
9. IN AREAS WITH DRYWALL CEILINGS COORDINATE LOCATIONS OF ACCESS PANELS WITH THE GC FOR ACCESS TO VALVES, DUCTWORK ACCESSORIES, DAMPERS, ETC. COORDINATE PANEL TYPE AND COLOR WITH ARCHITECT. NOTIFY THE GC OF THE REQUIRED ACCESS PANELS PRIOR TO BIDDING.
10. SEAL ALL FLOOR, WALL, AND ROOF PENETRATIONS AIRTIGHT WHERE CONDUITS, PIPING, AND DUCTS PENETRATE. PENETRATIONS THROUGH EXTERIOR WALLS AND ROOF SHALL BE SEALED AIRTIGHT WITH WATERPROOFING MATERIALS RECOMMENDED BY MANUFACTURER FOR OUTDOOR USE.
11. CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL, PARTITION, FLOOR, AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS.
12. WHERE PIPES AND DUCTS ARE SHOWN TO PENETRATE FLOORS, PROVIDE SLEEVED OPENINGS WITH THE TOP EDGE RAISED ABOVE FLOOR SURFACE IN ACCORDANCE WITH ALL RELEVANT SPEC SECTIONS. SEAL SLEEVE PERIMETER TO BE WATERTIGHT.
13. EQUIPMENT SIZES AND SERVICE CLEARANCE REQUIREMENTS VARY AMONG DIFFERENT MANUFACTURERS. CONSULT APPROVED SHOP DRAWINGS FOR EQUIPMENT SIZES AND REQUIRED SERVICE CLEARANCES. COORDINATE WITH LAYOUT OF EQUIPMENT PADS, PIPING, DUCTWORK, ETC.
14. DO NOT BLOCK EQUIPMENT SERVICE CLEARANCES.
15. MAINTAIN A MINIMUM WORKING CLEARANCE OF 3'-6" IN FRONT OF ALL ELECTRICAL EQUIPMENT REQUIRING MAINTENANCE, INSPECTION, AND TESTING INCLUDING BUT NOT LIMITED TO PANELS, DISTRIBUTION PANELS, SWITCHBOARDS, MOTOR CONTROL CENTERS, TRANSFORMERS, EQUIPMENT DISCONNECTS AND STARTERS.
16. MAINTAIN THE DEDICATED ELECTRICAL EQUIPMENT SPACE DEFINED BY THE WIDTH / DEPTH OF ELECTRICAL EQUIPMENT MEASURED FROM THE FLOOR TO A HEIGHT 6'-0" ABOVE THE EQUIPMENT OR THE STRUCTURAL CEILING, WHICHEVER IS LOWER. SYSTEMS FOREIGN TO THE ELECTRICAL DISTRIBUTION SYSTEM ARE NOT ALLOWED IN THE DEDICATED ELECTRICAL SPACE INCLUDING: DUCTWORK, PIPING, ETC.
17. PROVIDE CONCRETE EQUIPMENT PAD FOR ALL FLOOR MOUNTED EQUIPMENT. PAD SHALL EXTEND MINIMUM 6" BEYOND ALL SIDES OF EQUIPMENT.
18. DO NOT SUPPORT EQUIPMENT, PIPING, OR DUCTWORK FROM METAL DECKING OR OTHER NON-STRUCTURAL BUILDING ELEMENTS. ANCHORS EMBEDDED IN CONCRETE SHALL BE CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.

PLUMBING GENERAL NOTES:

1. THE SYMBOLS AND THE MATERIAL LIST ARE FOR THE CONVENIENCE OF THE CONTRACTOR. CONTRACTOR SHALL VERIFY QUANTITIES AND FURNISH ALL MATERIALS REQUIRED FOR FULLY OPERATIONAL SYSTEMS, WHETHER SPECIFIED OR NOT.
2. CATALOG NUMBERS SHALL NOT BE CONSIDERED COMPLETE, BUT ARE GIVEN AS AN AID TO THE CONTRACTOR AND TO INDICATE THE QUALITY REQUIRED. CONTRACTOR IS RESPONSIBLE FOR A COMPLETE DESCRIPTION OF MATERIAL ON THESE DRAWINGS AND IN THE SPECIFICATIONS BEFORE ORDERING. THE DESCRIPTION OF THE MATERIAL TAKES PRECEDENCE OVER THE CATALOG NUMBER. THE FIRST MANUFACTURER LISTED IS THE BASIS OF DESIGN.
3. CONTRACTOR SHALL VERIFY THAT FIXTURES SUPPLIED ARE APPROVED PER ALL APPLICABLE STATE, LOCAL AND GOVERNING AUTHORITIES.
4. ALL FIXTURES SHALL CONFORM TO FEDERAL ACT S.3874
5. VERIFY UNDERGROUND PIPE SIZES, INVERT ELEVATIONS, AND LOCATIONS PRIOR TO BEGINNING ANY WORK.
6. REFER TO THE PLUMBING ROUGH-IN SCHEDULE FOR THE SIZES OF BRANCH PIPES TO PLUMBING FIXTURES.

PLUMBING SLOPE REQUIREMENTS:

BASED ON PLUMBING CODE: UPC-2021

INTERIOR:	
SANITARY WASTE:	1/4" PER FOOT
GREASE WASTE:	1/4" PER FOOT
STORM (GRAVITY):	1/8" PER FOOT
CONDENSATE AND INDIRECT DRAINAGE:	1/8" PER FOOT
SANITARY AND GREASE VENT:	NO SPECIFIC PITCH, PITCH TO FIXTURES
DOMESTIC WATER:	NO SPECIFIC PITCH, PITCH TO FIXTURES

PLUMBING SHEET INDEX

P000	PLUMBING COVERSHEET
P100N	NORTH CONCESSIONS BUILDING PLANS - PLUMBING
P100S	SOUTH CONCESSIONS BUILDING PLANS - PLUMBING
P101	MAINTENANCE BUILDING PLANS - PLUMBING
P400	PLUMBING DETAILS
P600	PLUMBING SCHEDULES
GRAND TOTAL: 6	

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PLUMBING COVERSHEET

P000

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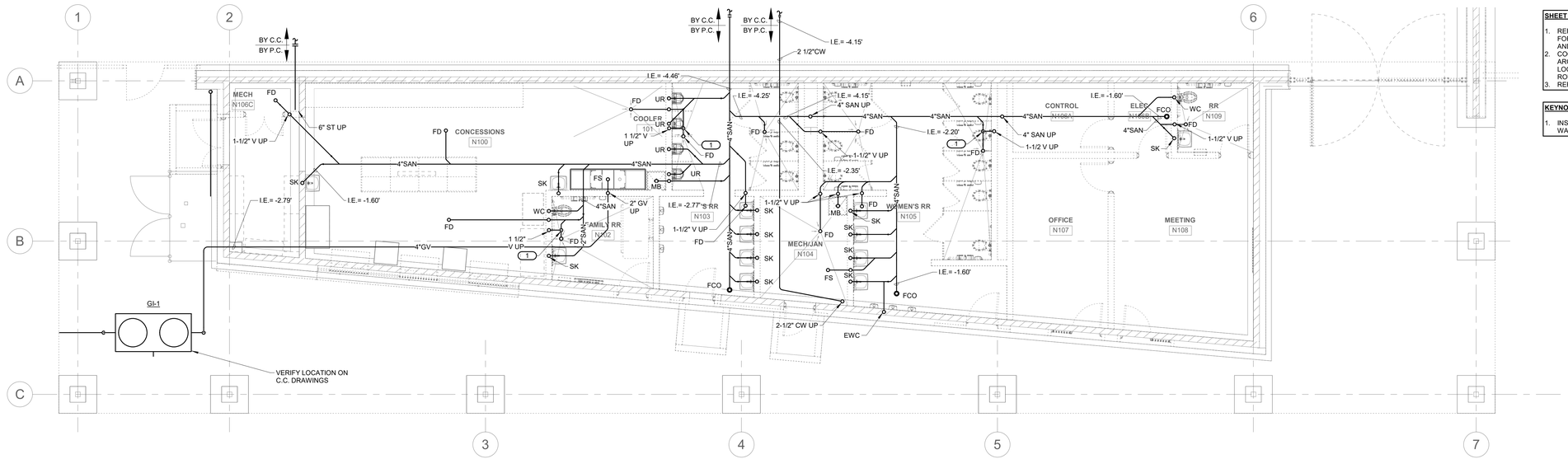
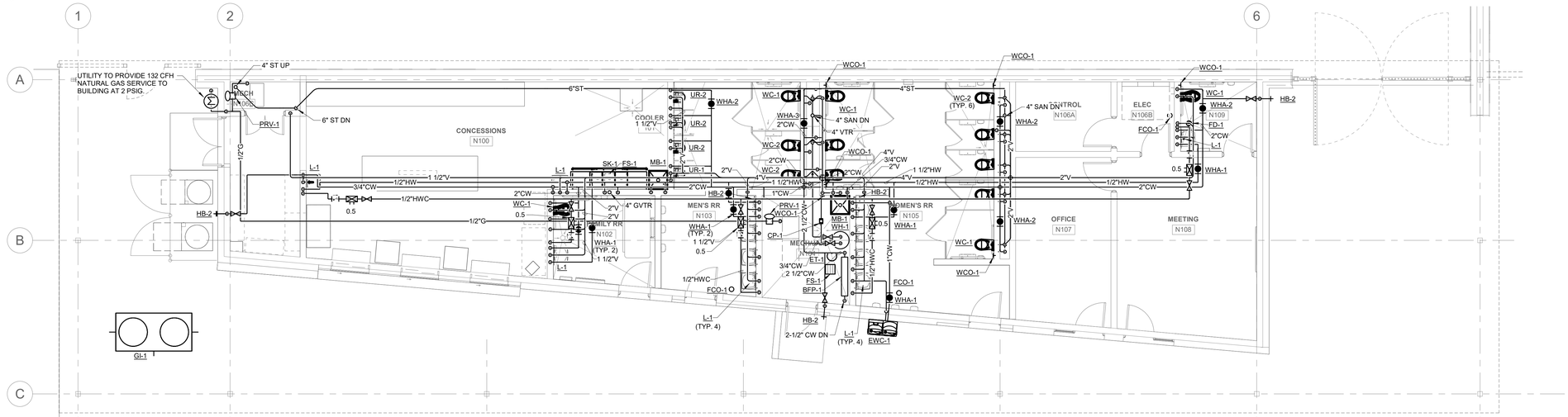


1 NORTH

UNDERFLOOR NORTH CONCESSIONS & OFFICE COMBINED - PLUMBING

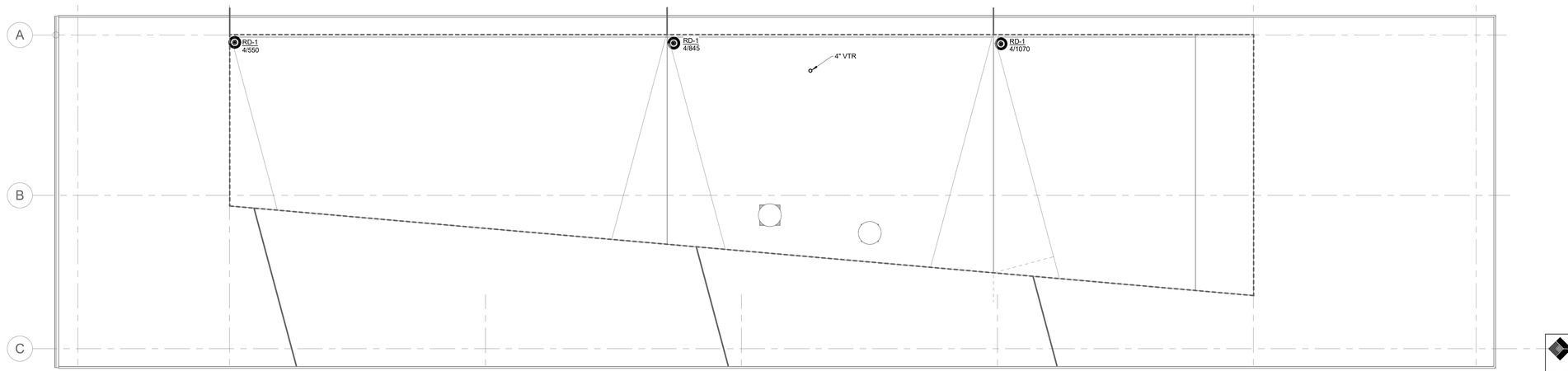
3/16" = 1'-0"



2 NORTH

NORTH CONCESSIONS & OFFICE COMBINED - PLUMBING

3/16" = 1'-0"



3 NORTH

NORTH CONCESSIONS BUILDING ROOF PLAN - PLUMBING

3/16" = 1'-0"

SHEET NOTES:

1. REFERENCE P000 PLUMBING COVERSHEET FOR PLUMBING SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. COORDINATE AND CONFIRM ALL ARCHITECTURALLY EXPOSED DEVICE LOCATIONS WITH ARCHITECT PRIOR TO ROUGH-IN OR INSTALLATION.
3. REFERENCE P600 FOR PLUMBING SCHEDULES.

KEYNOTES: (#)

1. INSTALL VENT PIPING AT 45 DEGREES INTO WALL.

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NORTH CONCESSIONS BUILDING PLANS - PLUMBING

P100N

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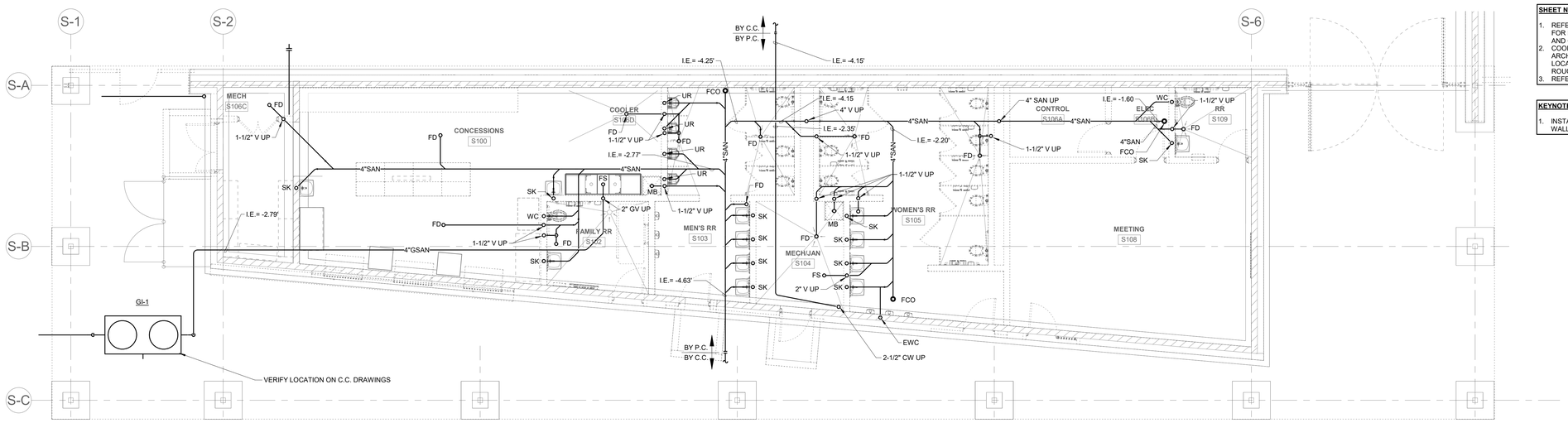
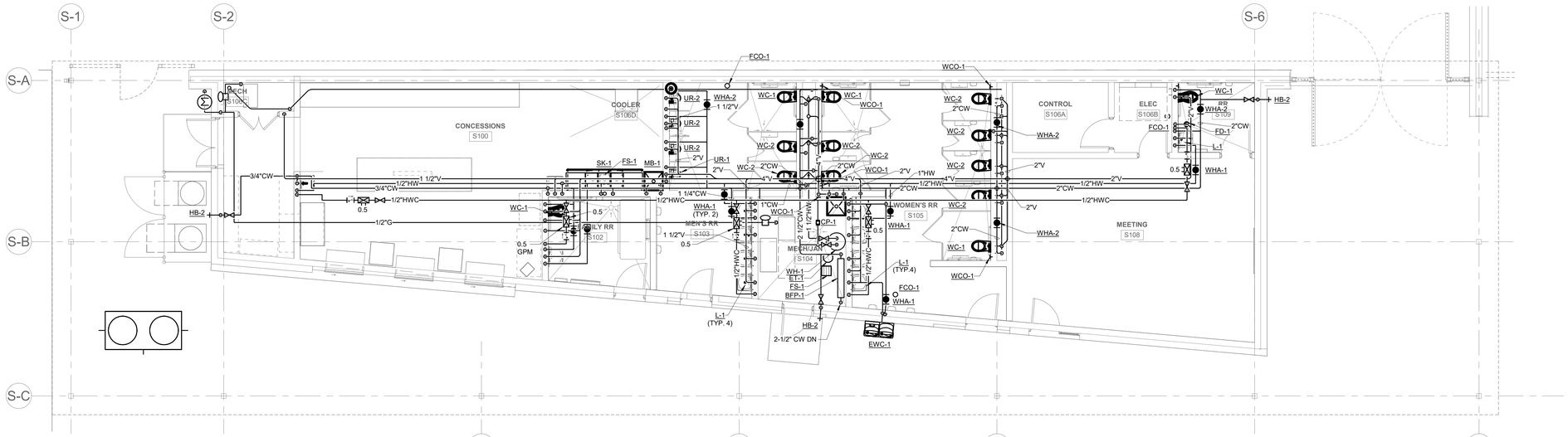


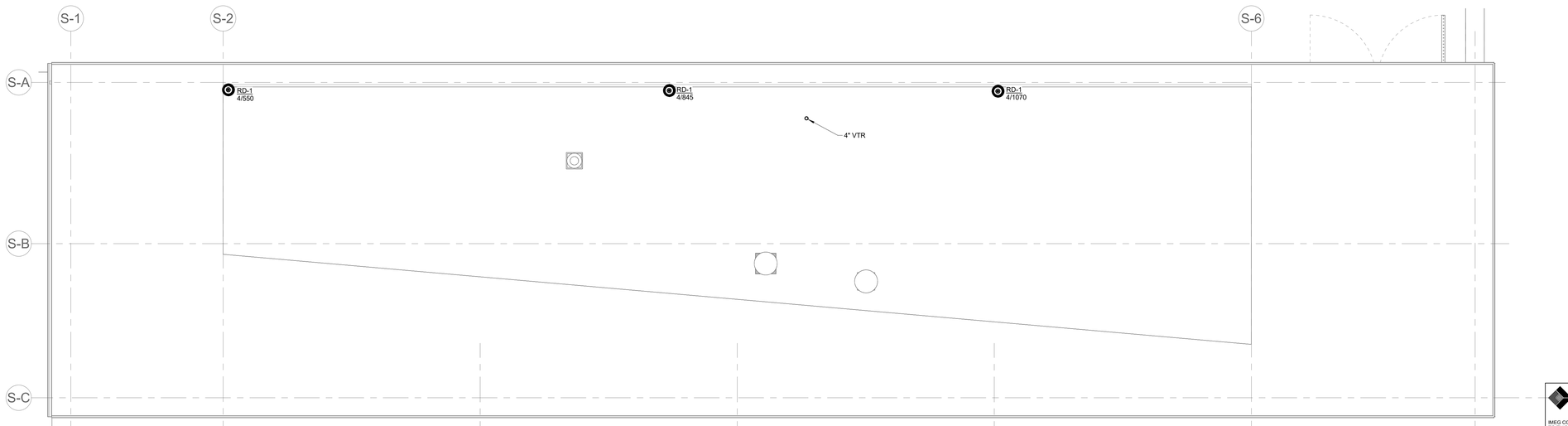
2 SOUTH CONCESSIONS UNDERFLOOR PLAN - PLUMBING

3/16" = 1'-0"



1 SOUTH CONCESSIONS FLOOR PLAN - PLUMBING

3/16" = 1'-0"



3 SOUTH CONCESSIONS BUILDING ROOF PLAN - PLUMBING

3/16" = 1'-0"

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3. REFERENCE P600 FOR PLUMBING SCHEDULES.

KEYNOTES: (#)

1. INSTALL VENT PIPING AT 45 DEGREES INTO WALL.

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SOUTH CONCESSIONS BUILDING PLANS - PLUMBING

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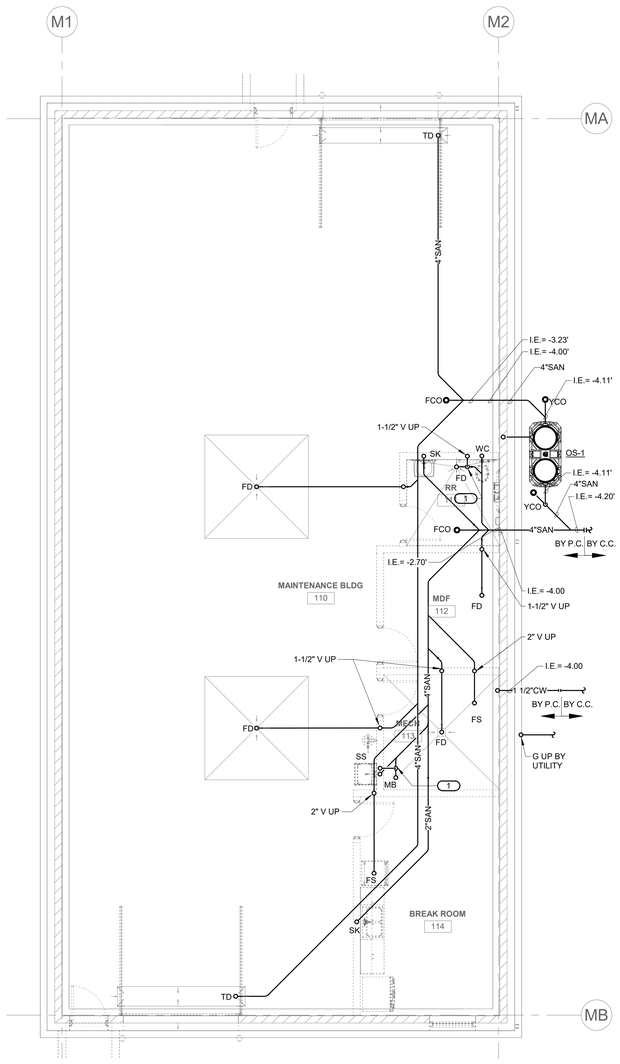
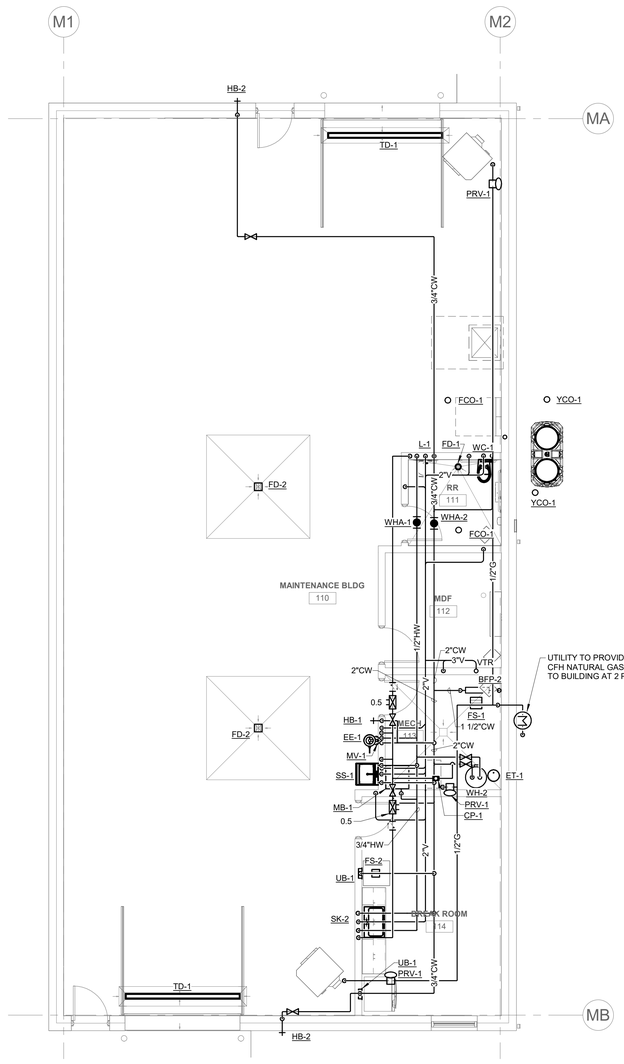


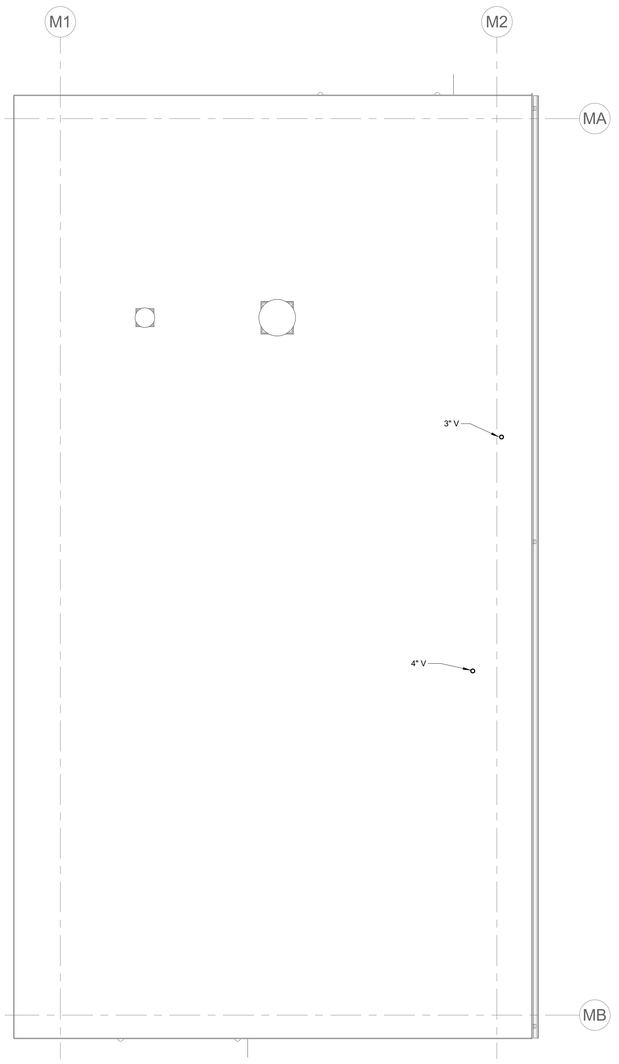
1 UNDERFLOOR MAINTENANCE BUILDING PLAN - PLUMBING

3/16" = 1'-0"



2 MAINTENANCE BUILDING PLAN - PLUMBING

3/16" = 1'-0"



3 MAINTENANCE BUILDING ROOF PLAN - PLUMBING

3/16" = 1'-0"

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MAINTENANCE BUILDING PLANS - PLUMBING

P101

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REF. SCALE IN INCHES

PROJECT #22000288.00

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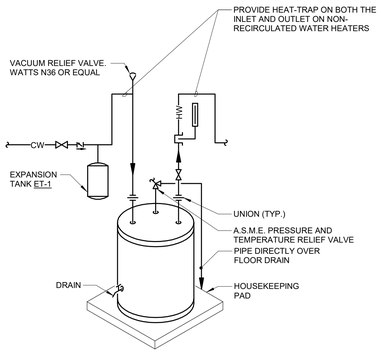
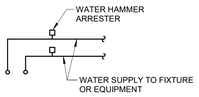


1 WATER HEATER - ELECTRIC TANK
NO SCALE

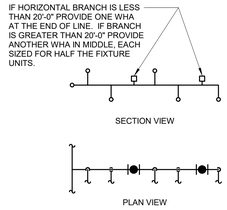
PROVIDE WATER HAMMER ARRESTER (WHA-#) AT PLUMBING FIXTURES AND QUICK CLOSING VALVES AS INDICATED ON DRAWINGS AND AS RECOMMENDED BY STANDARD PDI-WH201. REFER TO PLUMBING MATERIAL LIST FOR WATER HAMMER ARRESTER DESCRIPTION.

SINGLE / DOUBLE FIXTURE



PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD
A	1/2"	1-11
B	3/4"	12-32
C	1"	33-60
D	1-1/4"	61-113
E	1-1/2"	114-154
F	2"	155-330

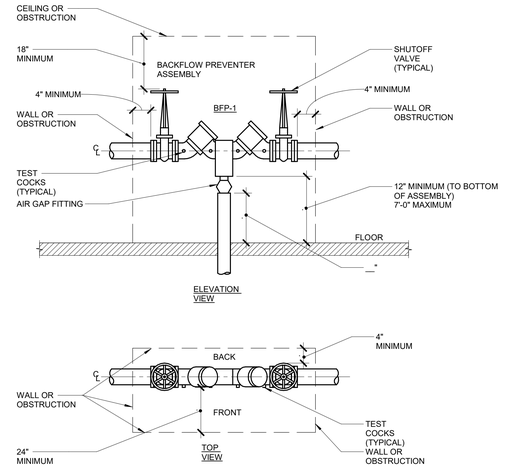
MULTIPLE FIXTURES



FIXTURE UNIT CALCULATION		
FIXTURE	COLD	HOT
WATER CLOSET (F.V.)	10	--
WATER CLOSET (TANK)	5	--
URINAL	5	--
LAVATORY	1.5	1.5
JANITOR'S SINK	3	3
SHOWER/BATHTUB	2	3
DRINKING FOUNTAIN	2	-
KITCHEN SINK	2	2
ICE MAKER / BEVERAGE	1	-

INSTALL WHA'S PER PDI STANDARDS AND MANUFACTURER'S INSTRUCTIONS. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE WHA AS SHOWN PER THE TABLES ABOVE. PROVIDE ACCESSIBILITY TO WHA WITH ACCESS PANEL OR INSTALL ABOVE ACCESSIBLE CEILING.

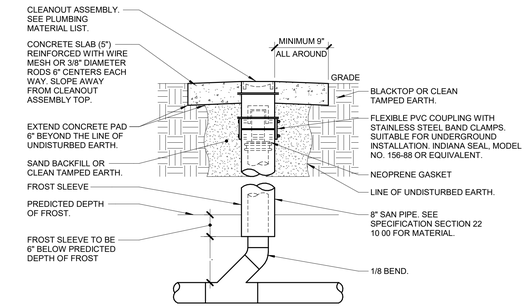
2 WATER HAMMER LOCATION AND SCHEDULE
NO SCALE



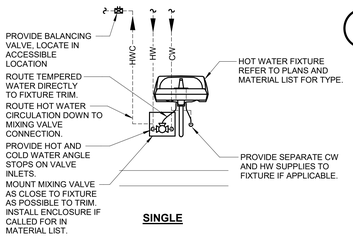
NOTES:

1. REFER TO MATERIAL LIST FOR ASSEMBLY TYPE, SIZE, AND CONFIGURATION.

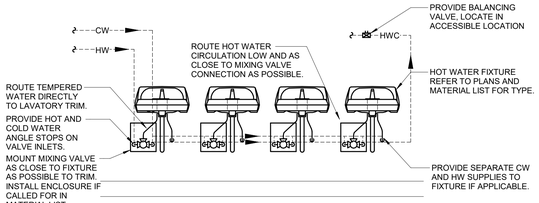
3 BACKFLOW PREVENTER DETAIL
NO SCALE



4 YARD CLEANOUT
NO SCALE



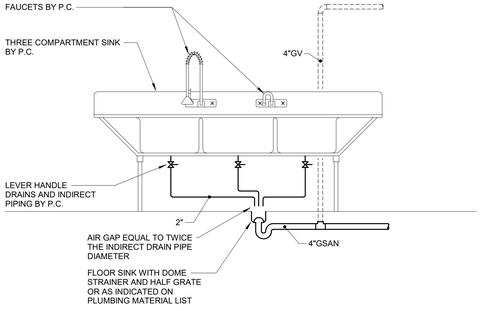
SINGLE



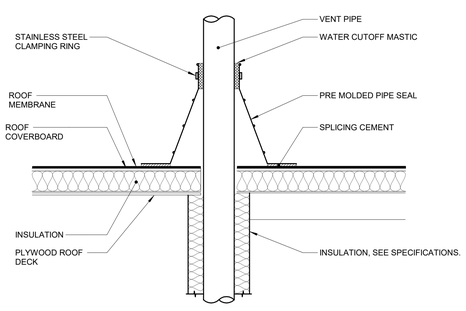
MULTIPLE/BANK

LAVATORY SHOWN; DETAIL IS APPLICABLE TO ALL HW FIXTURES AND DEVICES (E.G. LAVATORIES, SINKS, SHOWERS, TUBS, MOP SINKS, LAUNDRY TUBS, ETC.).

5 LAVATORY MIXING VALVE
NO SCALE



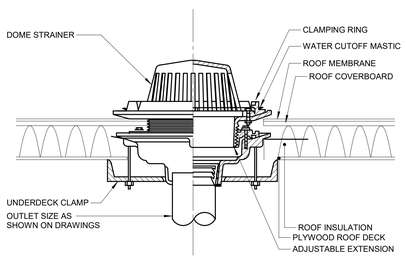
6 KITCHEN SINK - THREE COMPARTMENT
NO SCALE



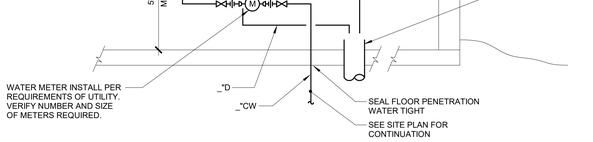
NOTES:

1. VENT PIPE SHALL BE A MINIMUM OF 3" DIAMETER UNLESS NOTED LARGER ON FLOOR PLANS. INCREASERS, IF REQUIRED TO TRANSITION TO THE LARGER VTR SIZE, MUST BE INSTALLED AT LEAST 12 INCHES BELOW THE THERMAL ENVELOPE OF THE BUILDING.
2. EXTEND VENT PIPE AT LEAST 7 FEET ABOVE ROOF LEVEL WHEN ROOF AREA IS INTENDED TO BE USED BY THE GENERAL PUBLIC. THIS INCLUDES PROMENADES, OBSERVATION DECKS, ETC. THIS IS NOT REQUIRED FOR ROOFS THAT ARE ACCESSIBLE BY MAINTENANCE PERSONEL ONLY.

8 VENT PIPE FLASHING
NO SCALE



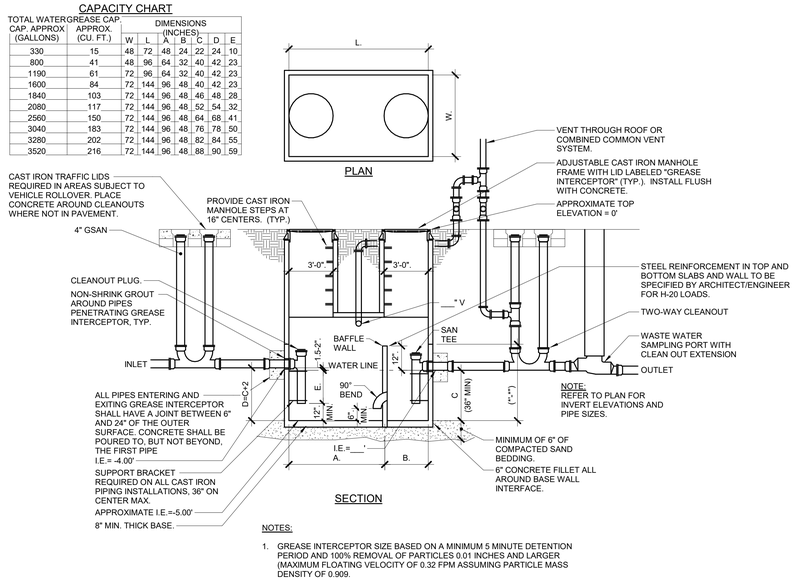
9 ROOF DRAIN
NO SCALE



10 DOMESTIC WATER ENTRANCE SINGLE METER
NO SCALE

CAPACITY CHART

TOTAL WATER CAP. APPROX (GALLONS)	GREASE CAP. APPROX. (CU. FT.)	DIMENSIONS (INCHES) W	L	A	B	C	D	E
330	15	48	72	48	24	22	24	10
800	41	48	96	64	32	40	42	23
1190	61	72	96	64	32	40	42	23
1600	84	72	144	96	48	40	42	23
1840	103	72	144	96	48	46	48	28
2080	117	72	144	96	48	52	54	32
2560	150	72	144	96	48	64	68	41
3040	183	72	144	96	48	76	78	50
3280	202	72	144	96	48	82	84	55
3520	216	72	144	96	48	88	90	59



NOTES:

1. GREASE INTERCEPTOR SIZE BASED ON A MINIMUM 5 MINUTE DETENTION PERIOD AND 100% REMOVAL OF PARTICLES 0.01 INCHES AND LARGER (MAXIMUM FLOATING VELOCITY OF 0.32 FPM ASSUMING PARTICLE MASS DENSITY OF 0.909.

7 GREASE INTERCEPTOR - EXTERIOR CONCRETE
NO SCALE

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PLUMBING MATERIAL LIST

TAG NAME	DESCRIPTION	MANUFACTURER AND MODEL
BFP-1	BACK FLOW PREVENTER - REDUCED PRESSURE ZONE, FDA APPROVED EPOXY COATED CAST IRON OR STAINLESS STEEL, SIZE SAME AS PIPE [2 1/2" - 10"], NON-CORROSIVE INTERNAL PARTS, STAINLESS STEEL SPRINGS, DIFFERENTIAL PRESSURE RELIEF VALVE BETWEEN SPRING-LOADED CHECK VALVES, GATE STYLE SHUT-OFF VALVES ON INLET AND OUTLET OF UNIT, AIR GAP DRAIN FITTING, TEST PORTS WITH SHUT-OFF VALVES, RATED FOR 175 PSI AT 33°F TO 140°F, 15 PSI (MAXIMUM) PRESSURE DROP AT 10 FPS, FACTORY TESTED, ALL PARTS TO BE SERVICEABLE WITHOUT REMOVING UNIT FROM LINE, APPROVED BY USC FCCC & HR, AWWA C511-92, ASSE 1013, IAPMO AND SBCCI LISTED. MOUNT WITHIN 60" OF FINISHED FLOOR. ROUTE DRAIN PIPE FROM AIR GAP FITTING TO FLOOR DRAIN. PROVIDE AND INSTALL BRONZE OR EPOXY COATED STRAINER UPSTREAM OF EACH UNIT AND ADDITIONAL VALVE UPSTREAM OF EACH STRAINER. FLOW PRESSURE DROP CURVES SHALL BE SUBMITTED.	WILKINS (375), APOLLO (RPLF4A), WATTS (957), MIFAB (BEECO BARRACUDA 40 FRP SS)
BFP-2	BACK FLOW PREVENTER - REDUCED PRESSURE ZONE, LEAD FREE BRONZE CONSTRUCTION, SIZE SAME AS PIPE [1/2" to 2"], NON-CORROSIVE INTERNAL PARTS, STAINLESS STEEL SPRINGS, DIFFERENTIAL PRESSURE RELIEF VALVE BETWEEN SPRING-LOADED CHECK VALVES, BALL STYLE SHUT-OFF VALVES ON INLET AND OUTLET OF UNIT, AIR GAP DRAIN FITTING, TEST PORTS WITH SHUT-OFF VALVES, RATED FOR 175 PSI AT 33°F TO 140°F, 15 PSI (MAXIMUM) PRESSURE DROP AT 10 FPS, FACTORY TESTED, ALL PARTS TO BE SERVICEABLE WITHOUT REMOVING UNIT FROM LINE, APPROVED BY USC FCCC & HR, AWWA C511-92, ASSE 1013, IAPMO AND SBCCI LISTED. MOUNT WITHIN 60" OF FINISHED FLOOR. ROUTE DRAIN PIPE FROM AIR GAP FITTING TO FLOOR DRAIN. PROVIDE AND INSTALL BRONZE OR EPOXY COATED STRAINER UPSTREAM OF EACH UNIT AND ADDITIONAL VALVE UPSTREAM OF EACH STRAINER. FLOW PRESSURE DROP CURVES SHALL BE SUBMITTED.	WATTS (LF099), WILKINS (375XL), FEBCO (LF860), APOLLO (RPLF4A)
CP-1	CIRCULATING PUMP - LEAD FREE BRONZE CONSTRUCTION, PERMANENTLY LUBRICATED SEALED BEARINGS, MECHANICAL SEAL, OIL LUBRICATED, OPEN DRIP-PROOF NON OVERLOADING MOTOR WITH THERMAL OVERLOAD PROTECTION, FLANGED CONNECTIONS, RATED FOR 125 PSIG AT 225°F, UL LISTED. 2.5 GPM @ 6.46 FEET OF HEAD. MOTOR SHALL BE 1/6 HP OPERATING AT 3300 RPM. AQUASTAT - LINE VOLTAGE, ADJUSTABLE SETTING OF 90-180°F WITH STRAP-ON REMOTE SENSOR BULB, UL LISTED. PROVIDE WITH TRANSFORMER IF REQUIRED. INSTALL PER MANUFACTURERS INSTRUCTIONS. ELECTRICAL REQUIREMENTS - 120V-1 PHASE (HARD-WIRE)	PUMP - B&G (PL SERIES), TACO (OO SERIES), GRUNDFOS (UP SERIES) AQUASTAT - HONEYWELL, WHITE-RODGERS, JOHNSON CONTROLS, SAME AS PUMP MANUFACTURER
EE-1	EMERGENCY EYE/FACE WASH - ACCESSIBLE, WALL MOUNTED, PLASTIC BOWL WITH HINGED DUST COVER, TWIN SPRAY HEADS WITH CAPS AND RETAINING CHAINS/STRAPS, BRASS SUPPLY ARMS, INTEGRAL FLOW CONTROL FITTING, BRASS PIPING AND FITTINGS WITH BRASS/BRONZE STAY OPEN BALL VALVE, 1-1/4" DRAIN OUTLET WITH CHROME PLATED BRASS TAILPIECE AND TRAP, UNIVERSAL IDENTIFICATION SIGN, ANSI Z358.1-2004 COMPLIANT. MINIMUM FLOW RATE OF 3.0 GPM AT 30 PSI. ACTIVATION TIME SHALL BE 1 SECOND OR LESS. BRASS/BRONZE PIPING, FITTINGS, AND VALVES SHALL BE CHROME-PLATED OR CHEMICAL-RESISTANT POWDER COATED. MOUNT WITH OUTLET HEADS AT 36" ABOVE FINISH FLOOR WITH MINIMUM 27" OF KNEE CLEARANCE BELOW, AND MINIMUM OF 19" OF CLEARANCE FROM CENTER OF BOWL TO WALL OR OBSTRUCTION. IN COMPLIANCE WITH LATEST ADA AND ANSI 117.1 STANDARDS. MIXING VALVE - THERMOSTATIC MIXING VALVE FOR EMERGENCY EYEWASH OR COMBINATION EYE/WASH/SHOWASH FIXTURE, BRONZE BODY CONSTRUCTION, COLD WATER BYPASS, OUTLET THERMOMETER, COMBINATION CHECK STOPS OR SEPARATE SUPPLY CHECK VALVES AND SHUT OFF VALVES, MOUNTING BRACKET. SUPPLY SHUT OFF VALVES SHALL BE LOCKED OPEN OR CONTRACTOR SHALL PROVIDE A LOCKING CABINET TO PREVENT UNAUTHORIZED CLOSURE. CABINET SHALL BE [SURFACE MOUNTED] 18 GAUGE [STAINLESS] STEEL WITH 16 GAUGE LOCKING DOOR TO ENCLOSE VALVE, INLET CHECK STOPS, OUTLET THERMOMETER. THERMOSTATIC MIXING AND PRESSURE REGULATING VALVES TO DELIVER 3 GPM OF TEMPERED WATER (60-100 DEGREE F) WITH 10 PSI PRESSURE DIFFERENTIAL. EYEWASH SHALL COMPLY WITH ANSI Z358.1 AND ASME A112.18.1. MIXING VALVE SHALL BE ASSE 1071 LISTED AND APPROVED.	BRADLEY (S19224 SERIES), ACORN SAFETY (SO420), ENCON (01035501), GUARDIAN (G1750P), SPEAKMAN (SE-495) MIXING VALVE - LEONARD (TA-LF), ACORN CONTROLS (ET71 SERIES), ARMSTRONG (Z358), APOLLO (34ELF), BRADLEY (S19 SERIES), HAWS (TWBS.EWE), LAWLER (911E/F), POWERS (ES), SPEAKMAN (TW), GUARDIAN (G6020)
ET-1	EXPANSION TANK - WELDED STEEL CONSTRUCTION, GUARANTEED AIRTIGHT AND LEAKPROOF, STAINLESS STEEL SYSTEM CONNECTION, HEAVY DUTY BUTYL DIAPHRAGM AND RIGID POLYPROPYLENE LINER MECHANICALLY BONDED TO TANK TO PROVIDE A 100% NON-CORROSIVE WATER RESERVOIR, DIAPHRAGM AND LINER SHALL BE APPROVED FOR USE IN POTABLE WATER SYSTEMS, ALL WETTED COMPONENTS OF FDA APPROVED MATERIALS. PROVIDE STANDARD SCHRADER AIR VALVE FOR FIELD CHARGING. TANK SHALL COMPLY WITH FEDERAL ACT S.3874. MINIMUM TANK VOLUME TO BE [___] GALLONS MINIMUM ACCEPTING VOLUME TO BE [___] GALLONS TANK SHALL HAVE A WORKING TEMPERATURE OF 200°F AND A WORKING PRESSURE OF [125][150] PSIG. FACTORY PRE-CHARGED FOR SHIPPING. FIELD CHARGE TANK TO [55][___] PSIG.	EXPANSION TANK - AMTROL (THERM-X-TROL ST-[___]), B&G (PT), FLEXTRON (FTT), WATTS (PLT), WESSELS (T)
EWC-1	ELECTRIC WATER COOLER - WALL HUNG, ADA COMPLIANT WITH MATCHING STAINLESS STEEL APRON INSTALLED UNDER UPPER UNIT, BI-LEVEL STAINLESS STEEL RECTANGULAR NON-SPLASH BASINS WITH STAINLESS STEEL FINISH, PERFORATED DRAINS, STREAM PROJECTORS WITH PROTECTIVE HOODS, PUSH BUTTON OPERATING CONTROLS ON FRONT, BUILT-IN FLOW REGULATORS, PLASTIC P-TRAP ASSEMBLIES, CONFORM TO LATEST ANSI A117.1 AND ADA STANDARDS. UNIT SHALL COMPLY WITH FEDERAL ACT S.3874. ORIFICE SHALL BE AT 36" (MAXIMUM) ABOVE FINISHED FLOOR ON LOWER UNIT AND 40" ABOVE FINISHED FLOOR ON UPPER UNIT. BOTTOM OF LOWER UNIT SHALL BE AT 27" ABOVE FINISHED FLOOR IN COMPLIANCE WITH LATEST ADA STANDARDS. PROVIDE DRINKING FOUNTAIN WITH FREEZE RESISTANT PACKAGE	ELECTRIC WATER COOLER -ELKAY (EDFP217FPK) OR APPROVED EQUAL FREEZE RESISTANT PACKAGE - ELKAY (LKFRB1) OR APPROVED EQUAL
FCO-1	FLOOR CLEANOUT - ADJUSTABLE, CAST IRON HOUSING, ANCHOR FLANGE, TAPERED THREAD PLUG, SECURED NICKEL BRONZE TOP. TOP STYLE SHALL MATCH FLOOR FINISH AS FOLLOWS: UNFINISHED FLOOR - ROUND SOLID SCORIATED TOP	ZURN (Z1400), JOSAM (55000), MIFAB (C1100), SMITH (4000), WADE (6000), WATTS (CO-200)

PLUMBING MATERIAL LIST

TAG NAME	DESCRIPTION	MANUFACTURER AND MODEL
FD-1	FLOOR DRAIN - CAST IRON BODY, NICKEL BRONZE ADJUSTABLE TOP, 5" ROUND , 3" BOTTOM OUTLET, FLASHING COLLAR, . TRAP SEAL - 3", PLASTIC HOUSING WITH FLEXIBLE DIAPHRAGM, SEALING GASKETS, RECLOSES AND SEALS WHEN DISCHARGE IS COMPLETED, ASSE 1072.	FLOOR DRAIN - ZURN (Z-415), SMITH (2005), WADE (1100), JOSAM (30000), WATTS (FD-100), MIFAB (F1100), SUN (FD1000) TRAP SEAL - SURE SEAL (SS), PROVENT (TRAP GUARD), SMITH (QUAD CLOSE), GREEN DRAIN, MIFAB (MI-GARD)
FD-2	FLOOR DRAIN - CAST IRON BODY, NICKEL BRONZE ADJUSTABLE TOP, 8" SQUARE, 3" BOTTOM OUTLET, FLASHING COLLAR.	FLOOR DRAIN - ZURN (Z-415), SMITH (2005), WADE (1100), JOSAM (30000), WATTS (FD-100), MIFAB (F1100), SUN (FD1000) TRAP SEAL - SURE SEAL (SS), PROVENT (TRAP GUARD), SMITH (QUAD CLOSE), GREEN DRAIN, MIFAB (MI-GARD)
FS-1	FLOOR SINK - CAST IRON BODY, NICKEL BRONZE RIM AND GRATE, 12" SQUARE, 4" BOTTOM OUTLET, 6" DEEP RECEPTOR WITH STAINLESS STEEL MESH SEDIMENT BUCKET, ACID RESISTANT COATED INTERIOR, SEEPAGE FLANGE WITH CLAMP.	ZURN (Z1901), SMITH (3151), WADE (9140), JOSAM (49340A). WATTS (FS-740), SIOUX CHIEF (861-2xXFNWC), SUN (FS2000). MIFAB (FS1730)
FS-2	FLOOR SINK - CAST IRON BODY, NICKEL BRONZE RIM AND GRATE, 8" SQUARE, 2" BOTTOM OUTLET, 6" DEEP RECEPTOR WITH ALUMINUM DOME STRAINER, ACID RESISTANT COATED INTERIOR, SEEPAGE FLANGE WITH CLAMP.	ZURN (Z1910), SMITH (3101), WADE (W-9110), JOSAM (49300), WATTS (FS-710), SIOUX CHIEF (861-2xXFNWC), SUN (FS2300). MIFAB (FS1520)
GI-1	GREASE INTERCEPTOR - EXTERIOR, UNDERGROUND, CONCRETE MANHOLE CONSTRUCTION, INTERNAL AND EXTERNAL ACID RESISTANT COATING, INTEGRAL AIR RELIEF, INTEGRAL CLEANOUT, GASKETED H-20 LOAD RATED STEEL COVER WITH LOCK AND LIFT RING. [___] GPM MAXIMUM FLOW, 1000 GALLONS HOLDING CAPACITY, ESTIMATED [___] MONTH PUMP OUT SCHEDULE.	REFER TO GREASE INTERCEPTOR DETAIL
HB-1	HOSE BIBB - FOR INDOOR USE, BRASS VALVE BODY AND SEAT, STANDARD FINISH, NON-FERROUS METAL STEM, AUTOMATIC DRAINING, VACUUM BREAKER, 3/4" MALE HOSE THREAD, KEY OPERATED, 360 DEGREE SWIVEL INLET, ASSE 1019 OR 1052 LISTED AND APPROVED. VERIFY NUMBER OF KEY OPERATORS TO BE PROVIDED WITH OWNER. MOUNT AT 18" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE ON DRAWINGS.	PRIER (C-633NSV), WOODFORD (79), WATTS (HY-440), MIFAB (MHY-50)
HB-2	HOSE BIBB - FREEZELESS WALL HYDRANT, BRASS VALVE BODY AND SEAT, STANDARD FINISH, NON-FERROUS METAL STEM, AUTOMATIC DRAINING, VACUUM BREAKER, 3/4" MALE HOSE THREAD, WALL CLAMP, CONCEALED IN FLUSH MOUNTED LOCKABLE WALL BOX, KEY OPERATED, ASSE 1019 OR 1052 LISTED AND APPROVED. VERIFY NUMBER OF KEY OPERATORS TO BE PROVIDED WITH OWNER. BOX COVER AND HYDRANT SHALL USE A COMMON KEY. MOUNT AT 18" ABOVE GRADE UNLESS NOTED OTHERWISE ON DRAWINGS.	PRIER (C-634BX), WOODFORD (B67), ZURN (Z1300), WATTS (HY-725), MIFAB (MHY-20), SMITH (5509GT), WADE (8700)
L-1	LAVATORY - ACCESSIBLE, WALL MOUNTED, WHITE VITREOUS CHINA, 20"x18", 4" HIGH CONTOURED BACKSPLASH, SINGLE FAUCET HOLE, DRILLED FOR CONCEALED ARM CARRIER. LAVATORY TRIM - SENSOR ACTIVATED MIXING FAUCET, HARD-WIRED, BRASS CONSTRUCTION, CHROME-PLATED FINISH, CONVENTIONAL SPOUT WITH VANDAL RESISTANT AERATOR, SINGLE HOLE, PERFORATED GRID STRAINER WITH 1-1/4" 17 GAUGE TAILPIECE, SOLID BRASS SOLENOID WITH BUILT-IN FILTER, WATERPROOF CONNECTORS AND CABLE , UL APPROVED TRANSFORMER. ELECTRICAL REQUIREMENTS - 120 VAC INPUT MOUNT CONTROLS IN WATERPROOF VANDAL-RESISTANT ENCLOSURE BELOW LAVATORY. PROVIDE TRANSFORMER WITH CABLE EXTENSIONS (AS REQUIRED) OR PLUG-IN TRANSFORMER. MOUNT TRANSFORMER ABOVE CEILING OR IN ACCESSIBLE PIPE CHASE. COORDINATE LOCATION WITH ELECTRICAL CONTRACTOR. SELECT TRANSFORMER TO SERVE MAXIMUM NUMBER OF ELECTRONIC VALVES TO REDUCE AMOUNT OF TRANSFORMERS. MAXIMUM FLOW TO BE 0.5 GPM IN COMPLIANCE WITH ENERGY POLICY ACT OF 2005 AND ASME/ANSI STANDARD A112.18.1M. FAUCET SHALL COMPLY WITH FEDERAL ACT S.3874. PROVIDE RESTRICTIVE DEVICE AS REQUIRED. MOUNT MIXING VALVE UNDER COUNTER/LAVATORY. MIXING VALVE SHALL NOT BE WYE PATTERN STYLE. MIXING VALVE - POINT-OF-USE ANTI-SCALD THERMOSTATIC MIXING VALVE ARRANGEMENT FOR TEMPERED WATER CONTROL, ALL BRONZE/BRASS CONSTRUCTION, ROUGH FINISH, UNION/THREADED INLETS WITH STRAINERS, COMBINATION CHECK STOPS OR SEPARATE SUPPLY CHECK VALVES AND SHUT OFF VALVES. CABINET - SURFACE MOUNTED 18 GAUGE STAINLESS STEEL CABINET WITH 16 GAUGE LOCKING DOOR TO ENCLOSE VALVE, INLET STOPS, OUTLET THERMOMETER, AND OUTLET VALVES. RATED FOR [___] GPM OUTPUT MAXIMUM AT [___] PSI DIFFERENTIAL AND 0.5 GPM OUTPUT MINIMUM. UNIT TO MIX [120] [140] [___] DEGREE F HOT WATER SUPPLY AND 40 DEGREE F COLD WATER SUPPLY FOR 110 DEGREE F OUTLET. UNIT SHALL BE ASSE 1070 LISTED AND APPROVED. VALVE SHALL COMPLY WITH FEDERAL ACT S.3874. [PROGRAMMING UNIT - HAND HELD, CAPABLE OF CHANGING SETTINGS, RUNNING DIAGNOSTICS, AND SCAN FAUCETS WITH ISSUES. PROVIDE ONE CONTROLLER FOR EVERY [25][50][100]] FAUCETS.] INSULATION KIT - PRE-MANUFACTURED FOR P-TRAP, STOP VALVES AND SUPPLY LINES. ACCESSORIES - QUARTER-TURN 3/8" CHROME PLATED HEAVY BRASS ANGLE SUPPLY STOPS, CHROME PLATED SOFT COPPER SUPPLY LINES, DRAIN AND TAILPIECE, 1-1/4" 17 GAUGE CAST BRASS P-TRAP, SUPPORT CARRIER. MOUNT LAVATORY WITH SUPPORT CARRIER BOLTED SECURELY TO FLOOR. TOP OF RIM SHALL BE AT [31"][34"] ABOVE FLOOR [IN COMPLIANCE WITH LATEST ADA STANDARD]. [PROVIDE 29" MINIMUM CLEARANCE FROM FLOOR TO BOTTOM OF APRON IN COMPLIANCE WITH LATEST ANSI A117.1 AND ADA STANDARDS.] [ARMAFLEX WITH TAPE IS NOT ACCEPTABLE IN LIEU OF INSULATION KIT.]	LAVATORY - AMERICAN STANDARD (0356.421), KOHLER (K-2007), SLOAN (SS-3103), TOTO (LT307), ZURN (Z5361) LAVATORY TRIM - DELTA (590T0), AMERICAN STANDARD (775B.205/PK00.HAC), CHICAGO FAUCET (116.706.AB.1), HYDROTEK (H-2603C-LR), MOEN (8302), SLOAN (ETF-610), SPEAKMAN (S-8800), ZURN (Z6913-XL), AMTC (AEF-301) MIXING VALVE - LEONARD (170-LF/270-LF/370-LF), ACORN CONTROLS (ST7069), APOLLO (34BLF), BRADLEY (S59 SERIES), LAWLER (310/570), POWERS (SERIES LFLM495), SYMMONS (8210CK MAXLINE SERIES), WATTS (LFMMV), WILKINS (ZW1070XL) INSULATION KIT - TRUEBRO (LAV-GUARD), BROCAR PRODUCTS (TRAP WRAP), MCGUIRE (PROWRAP), PLUMBEREX (PRO-EXTREME)
MB-1	MOP BASIN - PRECAST TERRAZZO, 24"x24"x12", STAINLESS STEEL INTEGRAL DRAIN WITH REMOVABLE STRAINER, 3" OUTLET, CONTINUOUS STAINLESS STEEL CAP ON ALL EDGES. TRIM - EXPOSED TWO HANDLE MIXING FAUCET, BRASS CONSTRUCTION, CHROME-PLATED FINISH, SINGLE WING HANDLES, 1/4 TURN CERAMIC DISC CARTRIDGE, 3/4" HOSE THREAD SPOUT WITH INTEGRAL VACUUM BREAKER, WALL BRACE, PAIL HOOK, CHECK STOPS OR INLINE CHECK VALVES TO PREVENT THERMAL CROSSOVER. FAUCET SHALL COMPLY WITH FEDERAL ACT S.3874. ACCESSORIES - MOP HANGER, HOSE AND HOSE BRACKET, TRAP TWO 24" WIDE STAINLESS STEEL WALL GUARD	MOP BASIN - FIAT (TSB), ACORN (TSH), CREATIVE INDUSTRIES (MC), WILLIAMS (SB) TRIM - DELTA (28C2383), AMERICAN STANDARD (8344.012), CHICAGO FAUCETS (897-CP), MOEN (8124), SPEAKMAN (SC-5812), SYMMONS (S-2490), ZURN (Z841M1-XL)
MV-1	MIXING VALVE - THERMOSTATIC MIXING VALVE FOR EMERGENCY SHOWER OR COMBINATION SHOWER/EYEWASH FIXTURE, BRONZE BODY CONSTRUCTION, FAIL TO COLD WATER ONLY, INLET AND OUTLET THERMOMETERS, COMBINATION CHECK STOPS OR SEPARATE SUPPLY CHECK VALVES AND SHUT OFF VALVES, [OUTLET ISOLATION VALVE,] MOUNTING BRACKET. SUPPLY SHUT OFF VALVES SHALL BE LOCKED OPEN [OR CONTRACTOR SHALL PROVIDE A LOCKING CABINET] TO PREVENT UNAUTHORIZED CLOSURE. [CABINET SHALL BE [RECESSED][SURFACE MOUNTED] 18 GAUGE [STAINLESS][PAINTED] STEEL WITH 16 GAUGE LOCKING DOOR TO ENCLOSE VALVE, INLET CHECK STOPS, OUTLET THERMOMETER, [AND OUTLET VALVE].] DUAL THERMOSTATIC MIXING AND PRESSURE REGULATING VALVE TO DELIVER 25 GPM OF TEMPERED WATER (60-100 DEGREE F) WITH 10 PSI PRESSURE DIFFERENTIAL. UNIT SHALL BE ASSE 1071 LISTED AND APPROVED. VALVE SHALL COMPLY WITH FEDERAL ACT S.3874.	LEONARD (TM-LF), ACORN CONTROLS (ET71 SERIES), ARMSTRONG (Z358), BRADLEY (S19), HAWS (9201H), LAWLER (911), POWERS (ETV400), GUARDIAN (G6040)
OS-1	OIL/SAND SEPARATOR - GRAVITY TYPE, POLYETHYLENE CONSTRUCTION, FIELD ADJUSTABLE EXTENSIONS TO GRADE, TWO VENT CONNECTIONS. CAPACITY SHALL BE 100 GPM, 68"x33"x51-1/2" DEEP OVERALL, 4" INLET/OUTLET, AND 3" VENT CONNECTIONS.	STRIEM (OS SERIES) OR APPROVED EQUAL
RD-1	ROOF DRAIN - CAST IRON BODY, SECURED CAST IRON DOME, 15" ROUND, BOTTOM OUTLET, FLASHING CLAMP, GRAVEL STOP, UNDERDECK CLAMP, BEARING PAN, ADJUSTABLE EXTENSION TO MATCH INSULATION THICKNESS, OUTLET SIZE AS LISTED ON DRAWINGS.	ZURN (Z-100), SMITH (1010), WADE (3000), JOSAM (21500), WATTS (RD-300), MIFAB (R1200), SUN (RD4000), FROET (200C)

PLUMBING MATERIAL LIST

TAG NAME	DESCRIPTION	MANUFACTURER AND MODEL
SK-1	SINK - TRIPLE COMPARTMENT, 14 GAUGE STAINLESS STEEL, 96" (SIDE-TO-SIDE) x 27.5" (FRONT-TO-BACK) OVERALL SIZE, EACH COMPARTMENT 24" x 15" x 12" DEEP, 8" BACKSPLASH WITH SLOPING TOP, 24" DRAINBOARDS, 3-1/2" DIAMETER DRAIN OUTLETS, 14 GAUGE STAINLESS STEEL TUBULAR LEGS WITH ADJUSTABLE BULLET SHAPED FEET, NSF COMPLIANT. SINK TRIM - TWO HANDLE MIXING VALVE, BRASS CONSTRUCTION, CHROME-PLATED FINISH, INDEXED LEVER HANDLES, ADJUSTABLE SUPPLY ARMS, WALL/SPLASH GUARD MOUNTED, INTEGRAL STOPS, 18" DOUBLE JOINTED SWINGING SPOUT, AERATOR. ACCESSORIES - REMOVABLE STRAINER PLATES AND NEOPRENE STOPPERS, 1-1/2" 17 GAUGE CHROME-PLATED BRASS TAILPIECES AND P-TRAP, QUARTER-TURN BALL VALVE TYPE 3/8" CHROME PLATED BRASS ANGLE SUPPLIES WITH LOOSE KEY STOPS, CHROME PLATED SOFT COPPER SUPPLY LINES.	SINK - ELKAY (WNSF), JUST (NSFB), FRANKE COMMERCIAL (WTL) SINK TRIM - CHICAGO FAUCET (445-DJ18ABCP), T&S BRASS (B-0265), ZURN (Z-841K1-XL)
SK-2	SINK - SELF-RIMMING DOUBLE COMPARTMENT WITH FAUCET DECK [AND OVERFLOW IN EACH BOWL], 20 GAUGE TYPE 300 SERIES STAINLESS STEEL, COMPLETELY UNDERCOATED, 32" (SIDE-TO-SIDE) x 21" (FRONT-TO-BACK) OVERALL SIZE, EACH COMPARTMENT 32" x 21" x 6" DEEP, 3-1/2" DIAMETER DRAIN OUTLET LOCATION CENTERED IN EACH BOWL, REMOVABLE TYPE 304 STAINLESS STEEL BASKET STRAINER AND NEOPRENE STOPPER. SINK TRIM - SINK TRIM - SINGLE HANDLE MIXING FAUCET, BRASS CONSTRUCTION, CHROME-PLATED FINISH, CONVENTIONAL SWING SPOUT, NOMINAL 8" REACH, AERATOR, SUPPLIES AT 8" CENTERS. MAXIMUM FLOW TO BE [2.2 GPM IN COMPLIANCE WITH ENERGY POLICY ACT OF 2005 AND ASME/ANSI STANDARD A112.18.1M.] FAUCET SHALL COMPLY WITH FEDERAL ACT S.3874. PROVIDE RESTRICTIVE DEVICE AND ESCUTCHEON PLATE AS REQUIRED. ACCESSORIES - 1-1/2" 20 GAUGE CHROME-PLATED BRASS TAILPIECES AND P-TRAP, QUARTER-TURN BALL VALVE TYPE 3/8" CHROME-PLATED BRASS ANGLE SUPPLIES WITH LOOSE KEY STOPS, CHROME-PLATED SOFT COPPER SUPPLY LINES.	SINK - ELKAY (PSRLK99), JUST (DLJB-99), FRANKE (LBD), KINDRED (QDL), MOEN SINK TRIM - DELTA (100LF-HDF), AMERICAN STANDARD (4175.500), CHICAGO FAUCET (431-ABCP), ELKAY (LK1000CR), KOHLER (K-15171), MOEN (67425), SPEAKMAN (S-3762), SYMMONS (S-23)
SS-1	SERVICE SINK - SINGLE TUB, POLYPROPYLENE CONSTRUCTION, 20"x24", 14" DEEP BOWL, BAKED ENAMEL LEGS, FAUCET SHELF. SINK TRIM - TWO HANDLE MIXING FAUCET, BRASS CONSTRUCTION, CHROME-PLATED FINISH, DOMED SINGLE WING HANDLES, 4" CENTERS, 8" SWING SPOUT, AERATOR. FAUCET SHALL COMPLY WITH FEDERAL ACT S.3874. ACCESSORIES - REMOVABLE STRAINER PLATE AND NEOPRENE STOPPER, 1-1/2" 17 GAUGE CHROME PLATED BRASS TAILPIECE, CHROME PLATED CAST BRASS P-TRAP, QUARTER-TURN 3/8" CHROME PLATED BRASS ANGLE SUPPLIES WITH LOOSE KEY STOPS, INLINE CHECK VALVES TO PREVENT THERMAL CROSSOVER, CHROME PLATED SOFT COPPER SUPPLY LINES.	SINK - FIAT (P-1), MUSTEE (14) TRIM - DELTA (27C4), AMERICAN STANDARD (7573.240), CHICAGO FAUCET (1891-XKABCP), MOEN (8273), ZURN (Z812F3-XL)
TD-1	TRENCH DRAIN - PRE-MANUFACTURED POLYSTYRENE TRENCH FORMING SYSTEM, 12" WIDE, 8 FOOT SECTIONS PRE-SLOPED AT 1/8" PER FOOT, ROUNDED BOTTOM, INTEGRAL DEFORMING GROVES, STEEL SUPPORT RAILS AND ANCHORING STUDS, HEAVY DUTY CAST IRON GRATE, H-20 RATED, INTEGRAL CATCH BASIN.	ABT (TF-14)
UB-1	UTILITY BOX - POLYSTYRENE CONSTRUCTION, 6"W BY 6"H BOX DIMENSIONS, MATCHING SNAP ON FACEPLATE, LOW LEAD 1/4 TURN SHUT OFF VALVE WITH INTEGRAL WATER HAMMER ARRESTOR. PROVIDE A 6 FOOT STAINLESS STEEL FLEXIBLE HOSE FOR CONNECTION TO EQUIPMENT.	OATEY (39142), SYMMONS (IM600A), WATER-TITE
UR-1	URINAL - ACCESSIBLE, WALL MOUNTED, WHITE VITREOUS CHINA, FLUSH VALVE TYPE, WASHOUT ACTION, ELONGATED RIM, EXTENDED SIDE SHIELDS, 3/4" TOP SPUD, 2" OUTLET. FLUSH VALVE - EXPOSED, SENSOR OPERATION, HARD WIRED, 0.5 GALLON PER FLUSH, 11-1/2" ROUGH-IN, CHROME-PLATED, 3/4" I.P.S. SCREWDRIVER STOP-CHECK VALVE WITH VANDAL RESISTANT CAP, HIGH BACK PRESSURE VACUUM BREAKER, NON-HOLD-OPEN HANDLE, ADJUSTABLE TAILPIECE, SPUD COUPLING AND FLANGE, WALL FLANGE WITH SET SCREW, MANUAL OVER-RIDE, RANGE ADJUSTMENT SCREW, CHROME-PLATED COVER PLATE WITH TAMPER-PROOF SCREWS, CHLORAMINE RESISTANT MATERIALS, 3-YEAR WARRANTY. ELECTRICAL REQUIREMENTS - 120VAC INPUT CONTRACTOR OPTION: COMBINATION URINAL/FLUSH VALVE PACKAGED SYSTEM BY AMERICAN STANDARD, KOHLER, SLOAN, OR ZURN ACCESSORIES - SUPPORT CARRIER WITH TOP AND BOTTOM BEARING PLATES. MOUNT WITH CARRIER BOLTED SECURELY TO FLOOR. TOP OF BOWL RIM SHALL BE AT 17" (MAXIMUM) ABOVE FLOOR IN COMPLIANCE WITH LATEST ADA STANDARDS. VERIFY EQUIPMENT REQUIREMENTS AND ROUGH-IN LOCATIONS.	URINAL - AMERICAN STANDARD (6590.001), KOHLER (K-4991-ET), SLOAN (SU-1006/SU-1009), GERBER (27-780), TOTO (UT447), ZURN (Z5750) FLUSH VALVE - ZURN (ZEMS6003AV), SLOAN (ROYAL 186 ES-S), AMERICAN STANDARD (6062.051), HYDROTEK (H8-B1-05), MOEN (8315AC05), AMTC (AEF-801-HWCU-05)

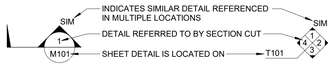
PLUMBING MATERIAL LIST

TAG NAME	DESCRIPTION	MANUFACTURER AND MODEL
UR-2	URINAL - WALL MOUNTED, WHITE VITREOUS CHINA, FLUSH VALVE TYPE, WASHOUT ACTION, ELONGATED RIM, EXTENDED SIDE SHIELDS, 3/4" TOP SPUD, 2" OUTLET. FLUSH VALVE - EXPOSED, SENSOR OPERATION, HARD WIRED, 0.5 GALLON PER FLUSH, 11-1/2" ROUGH-IN, CHROME-PLATED, 3/4" I.P.S. SCREWDRIVER STOP-CHECK VALVE WITH VANDAL RESISTANT CAP, HIGH BACK PRESSURE VACUUM BREAKER, NON-HOLD-OPEN HANDLE, ADJUSTABLE TAILPIECE, SPUD COUPLING AND FLANGE, WALL FLANGE WITH SET SCREW, MANUAL OVER-RIDE, RANGE ADJUSTMENT SCREW, CHROME-PLATED COVER PLATE WITH TAMPER-PROOF SCREWS, CHLORAMINE RESISTANT MATERIALS, 3-YEAR WARRANTY. ELECTRICAL REQUIREMENTS - 120VAC INPUT CONTRACTOR OPTION: COMBINATION URINAL/FLUSH VALVE PACKAGED SYSTEM BY AMERICAN STANDARD, KOHLER, SLOAN, OR ZURN ACCESSORIES - SUPPORT CARRIER WITH TOP AND BOTTOM BEARING PLATES. MOUNT WITH CARRIER BOLTED SECURELY TO FLOOR. TOP OF BOWL RIM SHALL BE AT 16"-17" ABOVE FINISHED FLOOR (VERIFY EXACT MOUNTING HEIGHT WITH MANUFACTURER). VERIFY EQUIPMENT REQUIREMENTS AND ROUGH-IN LOCATIONS.	URINAL - AMERICAN STANDARD (6590.001), KOHLER (K-4991-ET), SLOAN (SU-1006/SU-1009), GERBER (27-780), TOTO (UT447), ZURN (Z5750) FLUSH VALVE - ZURN (ZEMS6003AV), SLOAN (ROYAL 186 ES-S), AMERICAN STANDARD (6062.051), HYDROTEK (H8-B1-05), MOEN (8315AC05), AMTC (AEF-801-HWCU-05)
WC-1	WATER CLOSET - ACCESSIBLE, WALL MOUNTED, FLUSH VALVE TYPE, WHITE VITREOUS CHINA, SIPHON JET, WATER SAVING, ELONGATED BOWL, 1-1/2" TOP SPUD. FLUSH VALVE - EXPOSED, WALL MOUNTED SENSOR OPERATION, HARD WIRED, 1.6 GALLONS PER FLUSH, 11-1/2" ROUGH-IN, CHROME PLATED, 1" I.P.S. SCREWDRIVER STOP-CHECK VALVE WITH VANDAL RESISTANT CAP, HIGH BACK PRESSURE VACUUM BREAKER, ADJUSTABLE TAILPIECE, SPUD COUPLING AND FLANGE, WALL FLANGE WITH SET SCREW, MECHANICAL OVER-RIDE BUTTON, CHLORAMINE RESISTANT MATERIALS, CHROME PLATED COVER PLATE WITH TAMPER-PROOF SCREWS, TRANSFORMER AND LOW VOLTAGE WIRING, ADA COMPLIANT, 3 YEAR WARRANTY. ELECTRICAL REQUIREMENTS - 120VAC INPUT SEAT - WHITE, EXTRA HEAVY, OPEN FRONT, INJECTION MOLDED SOLID PLASTIC, SELF-SUSTAINING HINGE, STAINLESS STEEL OR PLATED STEEL POSTS AND NUTS. CONTRACTOR OPTION: COMBINATION WATER CLOSET/FLUSH VALVE PACKAGED SYSTEM BY AMERICAN STANDARD, KOHLER, SLOAN, OR ZURN ACCESSORIES - WATER CLOSET SUPPORT CARRIER RATED FOR 500 LBS. MOUNT WATER CLOSET WITH CARRI

VIEW KEY

NAME
10'-0"
LEVEL NAME
HEIGHT ABOVE PROJECT 0'-0"

INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL



LINE TYPE AND TAG KEY:

NEW WORK BY THIS CONTRACTOR (WIDE LINE)
——— NEW
- - - - - - - - - EXISTING TO BE REMOVED (SHORT DASHED PATTERN)
— — — NEW UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)

EXISTING TO REMAIN OR WORK BY OTHERS (NARROW LINE)
——— EXISTING
- - - - - - - - - EXISTING TO BE REMOVED BY OTHERS (SHORT DASHED PATTERN)
— — — EXISTING UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)

HALFTONING DOES NOT MODIFY SCOPE.

'TAG'-E	TAGS WITH DASH 'E' INDICATES THE REFERENCED OBJECT IS EXISTING
TAG	UNDERLINED TAG INDICATES OBJECT IS IN-SCOPE. IF NEW, ADDITIONAL INFORMATION IS AVAILABLE IN A SCHEDULE, MATERIAL LIST, OR SYMBOL LIST
	INDICATES AN EXISTING SYSTEM'S POINT OF CONNECTION/REMOVAL

APPLICABLE CODES

CONTRACTOR SHALL COMPLY WITH APPLICABLE CODES AND LOCAL AMENDMENTS.

BUILDING CODE:	IBC 2018 EDITION
FIRE CODE:	IFC 2018 EDITION
PLUMBING CODE:	UPC 2021 EDITION
MECHANICAL CODE:	IMC 2021 EDITION
ELECTRICAL CODE:	NFPA 70 (NEC) 2020 EDITION
ENERGY CONSERVATION CODE:	IECC 2012
HEALTH DEPARTMENT CODE:	CURRENT EDITION
LOCAL BUILDING CODE:	CURRENT EDITION

CONTRACTOR ABBREVIATION KEY

ABBR:	DESCRIPTION:
C.C.	CIVIL CONTRACTOR
E.C.	ELECTRICAL CONTRACTOR
F.S.C.	FOOD SERVICE CONTRACTOR
G.C.	GENERAL CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
P.C.	PLUMBING CONTRACTOR
T.C.	TECHNOLOGY CONTRACTOR
T.C.C.	TEMPERATURE CONTROLS CONTRACTOR

CONTACT PERSONS:

DESCRIPTION:	PERSON:
PROJECT MANAGER	KRISTEN SPINA
MECHANICAL	PARKER POLASCHEK
ELECTRICAL	CHRIS MARTING
TECHNOLOGY	ALFONSO ARAULLO
STRUCTUAL	DANIELLE BARTLETT

VENTILATION SYMBOL LIST

NOT ALL SYMBOLS MAY APPLY.

SYMBOL:	DESCRIPTION:
	FLEXIBLE DUCT
	MANUAL VOLUME DAMPER
	DUCT CAP
	DUCT DOWN
	DUCT UP
	SUPPLY/OUTSIDE AIR DUCT SECTION
	RETURN AIR DUCT SECTION
	EXHAUST/RELIEF AIR DUCT SECTION
SD-1 6/115	AIR TERMINAL PROPERTIES
	OPPOSED BLADE DAMPER (REFER TO SCHEDULE)
	PARALLEL BLADE DAMPER (REFER TO SCHEDULE)
CO	CARBON MONOXIDE SENSOR
O	OCCUPANCY SENSOR
T	THERMOSTAT/SENSOR
T	THERMOSTAT/SENSOR WITH HEAVY DUTY ENCLOSURE

VENTILATION ABBREVIATION KEY

ABBR:	DESCRIPTION:
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
EA	EXHAUST/RELIEF AIR
FD	FIRE DAMPER
N.C.	NORMALLY CLOSED
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR
SCCR	SHORT CIRCUIT CURRENT RATING
TD	TRANSFER DUCT
TYP	TYPICAL

VENTILATION GENERAL NOTES:

1. UNLESS NOTED OTHERWISE, THE SIZE OF EACH BRANCH DUCT TO AN AIR TERMINAL SHALL MATCH THE INLET SIZE.
2. ALIGN TEMPERATURE SENSORS WITH LIGHT SWITCHES AND WHEN IN CLOSE PROXIMITY TO EACH OTHER.
3. PROVIDE ACCESS DOORS AT ALL DUCT MOUNTED EQUIPMENT.

MECHANICAL GENERAL NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO PLUMBING AND MECHANICAL.

1. DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC., AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT.
2. DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.
3. COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS.
4. REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER ACCESS.
5. ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE TO OTHERS.
6. EACH CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ELECTRICAL CHANGES REQUIRED FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF DESIGN.
7. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIO/VISUAL, AND OTHER MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS.
8. EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.
9. IN AREAS WITH DRYWALL CEILINGS COORDINATE LOCATIONS OF ACCESS PANELS WITH THE GC FOR ACCESS TO VALVES, DUCTWORK ACCESSORIES, DAMPERS, ETC. COORDINATE PANEL TYPE AND COLOR WITH ARCHITECT. NOTIFY THE GC OF THE REQUIRED ACCESS PANELS PRIOR TO BIDDING.
10. SEAL ALL FLOOR, WALL, AND ROOF PENETRATIONS AIRTIGHT WHERE CONDUITS, PIPING, AND DUCTS PENETRATE. PENETRATIONS THROUGH EXTERIOR WALLS AND ROOF SHALL BE SEALED AIRTIGHT WITH WATERPROOFING MATERIALS RECOMMENDED BY MANUFACTURER FOR OUTDOOR USE.
11. CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL, PARTITION, FLOOR, AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS.
12. WHERE PIPES AND DUCTS ARE SHOWN TO PENETRATE FLOORS, PROVIDE SLEEVED OPENINGS WITH THE TOP EDGE RAISED ABOVE FLOOR SURFACE IN ACCORDANCE WITH ALL RELEVANT SPEC SECTIONS. SEAL SLEEVE PERIMETER TO BE WATERTIGHT.
13. EQUIPMENT SIZES AND SERVICE CLEARANCE REQUIREMENTS VARY AMONG DIFFERENT MANUFACTURERS. CONSULT APPROVED SHOP DRAWINGS FOR EQUIPMENT SIZES AND REQUIRED SERVICE CLEARANCES. COORDINATE WITH LAYOUT OF EQUIPMENT PADS, PIPING, DUCTWORK, ETC.
14. DO NOT BLOCK EQUIPMENT SERVICE CLEARANCES.
15. MAINTAIN A MINIMUM WORKING CLEARANCE OF 3'-6" IN FRONT OF ALL ELECTRICAL EQUIPMENT REQUIRING MAINTENANCE, INSPECTION, AND TESTING INCLUDING BUT NOT LIMITED TO PANELS, DISTRIBUTION PANELS, SWITCHBOARDS, MOTOR CONTROL CENTERS, TRANSFORMERS, EQUIPMENT DISCONNECTS AND STARTERS.
16. MAINTAIN THE DEDICATED ELECTRICAL EQUIPMENT SPACE DEFINED BY THE WIDTH / DEPTH OF ELECTRICAL EQUIPMENT MEASURED FROM THE FLOOR TO A HEIGHT 6'-0" ABOVE THE EQUIPMENT OR THE STRUCTURAL CEILING, WHICHEVER IS LOWER. SYSTEMS FOREIGN TO THE ELECTRICAL DISTRIBUTION SYSTEM ARE NOT ALLOWED IN THE DEDICATED ELECTRICAL SPACE INCLUDING: DUCTWORK, PIPING, ETC.
17. PROVIDE CONCRETE EQUIPMENT PAD FOR ALL FLOOR MOUNTED EQUIPMENT. PAD SHALL EXTEND MINIMUM 6" BEYOND ALL SIDES OF EQUIPMENT.
18. DO NOT SUPPORT EQUIPMENT, PIPING, OR DUCTWORK FROM METAL DECKING OR OTHER NON-STRUCTURAL BUILDING ELEMENTS. ANCHORS EMBEDDED IN CONCRETE SHALL BE CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.

MECHANICAL DESIGN CONDITIONS:

DESIGN CONDITIONS: **BASED ON WEATHER DATA FOR: GRIMES, IOWA**

SUMMER: 95°F DRY BULB, 78°F WET BULB
WINTER: -15°F DRY BULB

TYPICAL ROOM SETPOINTS:

SUMMER DESIGN: 72°F DRY BULB, NO HUMIDITY REQUIREMENT
WINTER DESIGN: 70°F DRY BULB, NO HUMIDITY REQUIREMENT

REFER TO CONTROL DIAGRAMS FOR ROOM SPECIFICS.

VENTILATION SHEET INDEX

M000	VENTILATION COVERSHEET
M100N	NORTH CONCESSIONS BUILDING PLANS - VENTILATION
M100S	SOUTH CONCESSIONS BUILDING PLANS - VENTILATION
M101	MAINTENANCE BUILDING PLANS - VENTILATION
M400	VENTILATION DETAILS
M600	VENTILATION SCHEDULES
GRAND TOTAL: 6	

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VENTILATION COVERSHEET

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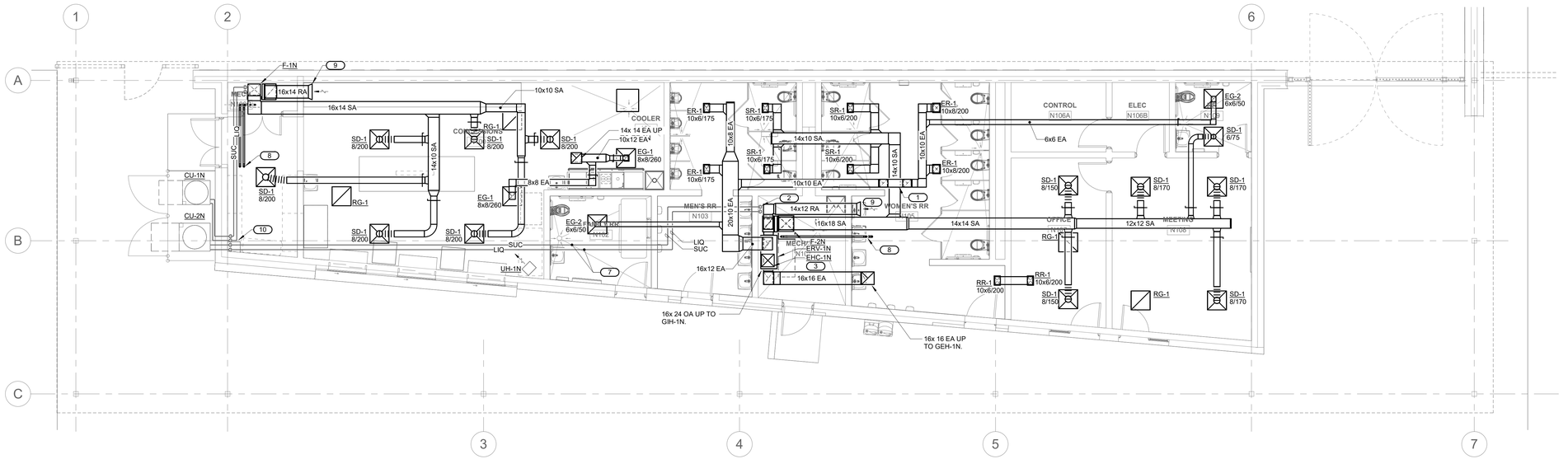
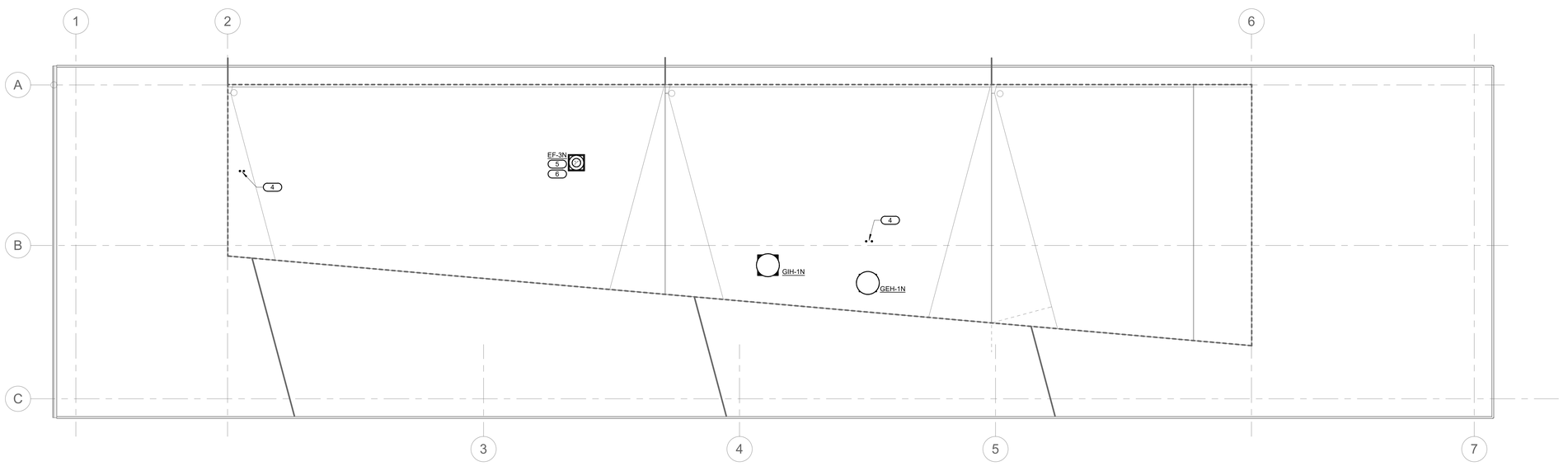


1 NORTH

NORTH CONCESSIONS & OFFICE COMBINED - VENTILATION

3/16" = 1'-0"



2 NORTH

NORTH CONCESSIONS BUILDING ROOF PLAN - VENTILATION

3/16" = 1'-0"

SHEET NOTES:

1. REFERENCE M000 MECHANICAL COVERSHEET FOR MECHANICAL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. COORDINATE AND CONFIRM ALL ARCHITECTURALLY EXPOSED DEVICE LOCATIONS WITH ARCHITECT PRIOR TO ROUGH-IN OR INSTALLATION.
3. REFERENCE M600 FOR MECHANICAL SCHEDULES.
4. THE SIZE OF BRANCH DUCTS TO AIR TERMINALS SHALL MATCH THEIR INLET SIZE UNLESS OTHERWISE NOTED.
5. REFER TO 1/M400 FOR DIFFUSER CONNECTION DETAIL.
6. REFER TO 2/M400 FOR DUCT BRANCH CONNECTIONS DETAIL.
7. REFER TO 3/M400 FOR DUCT ELBOW CONSTRUCTION DETAIL.
8. REFER TO 5/M400 FOR TRANSFER DUCT DETAIL.

KEYNOTES: (#)

1. ROUTE EXHAUST AIR DUCT ABOVE SUPPLY DUCT IN BEAM POCKET.
2. ROUTE SUCTION AND LIQUID LINES TO F-2.
3. ELECTRICAL HEATING COIL SHALL BE INSTALLED ON THE INLET OUTSIDE AIR DUCT UPSTREAM OF THE ERV.
4. 2" COMBUSTION AIR AND EXHAUST AIR PIPES. INSTALL PER MFR RECCOMENDATIONS.
5. EXHAUST FAN CONTROLLED PER WALL SWITCH. REFER TO 9/M400 FOR FAN CONTROL DETAIL AND ELECTRICAL PLANS FOR WALL SWITCH LOCATION.
6. REFER TO 6/M400 FOR ROOF FAN CURB - METAL ROOF DETAIL.
7. SIZE SUCTION AND LIQUID TO MANUFACTURER'S RECCOMENDATIONS.
8. COMBUSTION AND EXHAUST AIR UP. SIZE PER MANUFACTURER'S RECCOMENDATIONS.
9. REFER TO 4/M400 FOR BELLMOUTH IN-WALL DETAIL.
10. RUN REFRIGERANT PIPING DOWN INSIDE WALL. WALL PENETRATION SHALL BE AT SAME LEVEL AS CONNECTION POINT OF CONDENSING UNIT.

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NORTH CONCESSIONS BUILDING PLANS - VENTILATION

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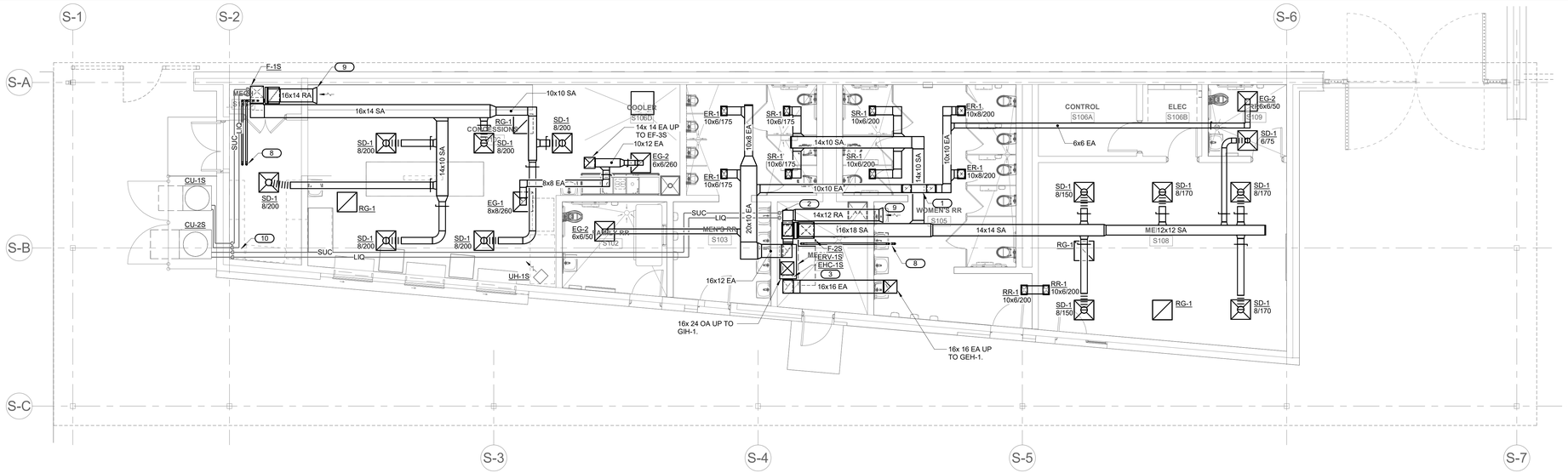


NORTH

2 SOUTH CONCESSIONS FLOOR PLAN - VENTILATION

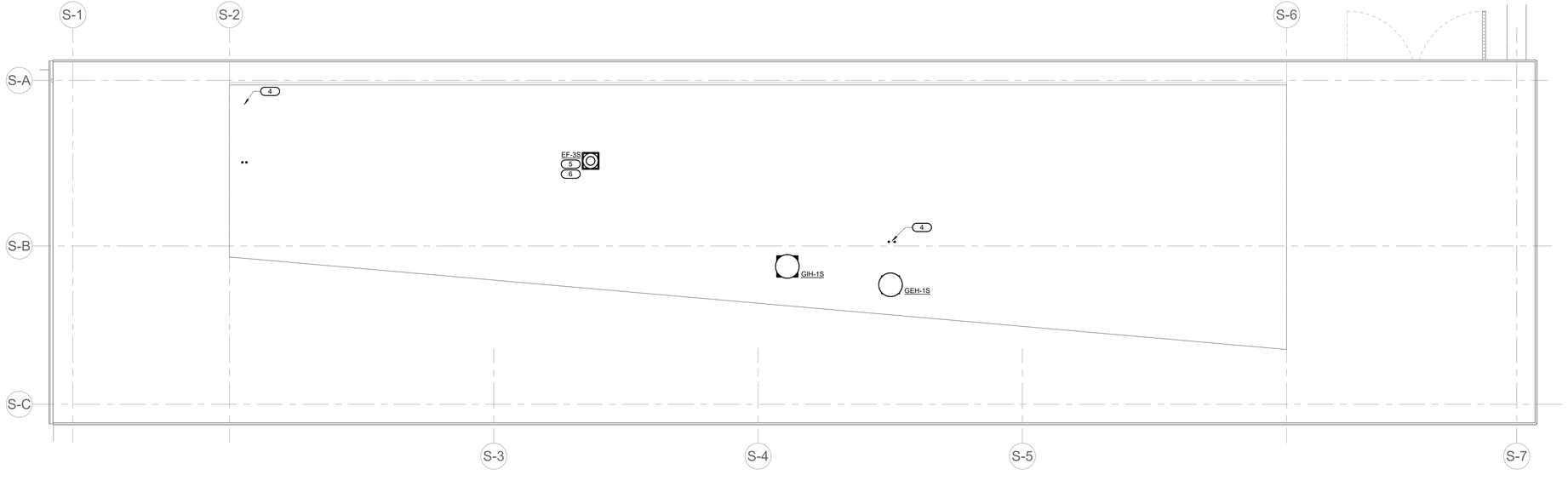
3/16" = 1'-0"

SHEET NOTES:

1. REFERENCE M000 MECHANICAL COVERSHEET FOR MECHANICAL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. COORDINATE AND CONFIRM ALL ARCHITECTURALLY EXPOSED DEVICE LOCATIONS WITH ARCHITECT PRIOR TO ROUGH-IN OR INSTALLATION.
3. REFERENCE M600 FOR MECHANICAL SCHEDULES.
4. THE SIZE OF BRANCH DUCTS TO AIR TERMINALS SHALL MATCH THEIR INLET SIZE UNLESS OTHERWISE NOTED.
5. REFER TO 1/M400 FOR DIFFUSER CONNECTION DETAIL.
6. REFER TO 2/M400 FOR DUCT BRANCH CONNECTIONS DETAIL.
7. REFER TO 3/M400 FOR DUCT ELBOW CONSTRUCTION DETAIL.
8. REFER TO 5/M400 FOR TRANSFER DUCT DETAIL.

KEYNOTES: (#)

1. ROUTE EXHAUST AIR DUCT ABOVE SUPPLY DUCT IN BEAM POCKET.
2. ROUTE SUC AND LIQ TO F-2.
3. ELECTRICAL HEATING COIL SHALL BE INSTALLED ON THE INLET OUTSIDE AIR DUCT UPSTREAM OF THE ERV.
4. 2" COMBUSTION AIR AND EXHAUST AIR PIPES. INSTALL PER MFR RECCOMENDATIONS.
5. EXHAUST FAN CONTROLLED PER WALL SWITCH. REFER TO 9/M400 FOR FAN CONTROL DETAIL AND ELECTRICAL PLANS FOR WALL SWITCH LOCATION.
6. REFER TO 6/M400 FOR ROOF FAN CURB - METAL ROOF DETAIL.
7. REFER TO 4/M400 FOR BELLMOUTH IN-WALL DETAIL.
8. COMBUSTION AND EXHAUST AIR UP. SIZE PER MANUFACTURER'S RECCOMENDATIONS.
9. REFER TO 4/M400 FOR BELLMOUTH IN-WALL DETAIL.
10. RUN REFRIGERANT PIPING DOWN INSIDE WALL. WALL PENETRATION SHALL BE AT SAME LEVEL AS CONNECTION POINT OF CONDENSING UNIT.



NORTH

1 SOUTH CONCESSIONS BUILDING ROOF PLAN - VENTILATION

3/16" = 1'-0"

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SOUTH CONCESSIONS BUILDING PLANS - VENTILATION

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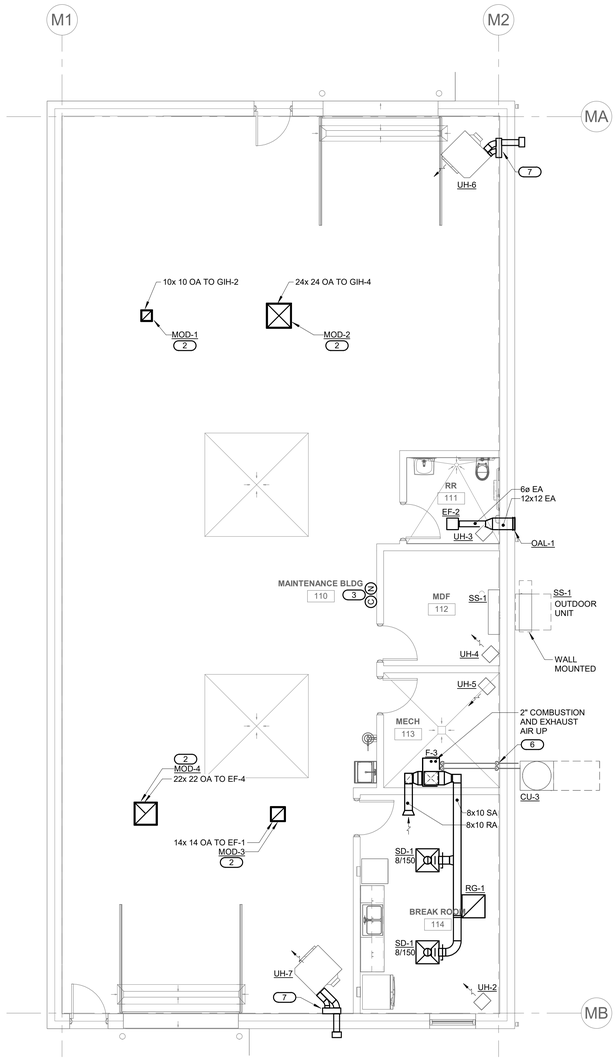
KEYNOTES: (#)

1. 2" COMBUSTION AIR AND EXHAUST AIR PIPES. INSTALL PER MFR RECCOMENDATIONS.
2. MOTOR OPERATED DAMPER INSTALLED INLINE OF DUCTWORK.
3. MOUNT CO SENSOR 5'-0" AFF AND MOUNT NO2 SENSOR 1'-0" BELOW ROOF DECK.
4. EXHAUST FAN CONTROLLED PER GAS DETECTION CONTROL PLAN OR MANUAL WALL SWITCH. SEE 8/M400 FOR VEHICLE FLEET EXHAUST CONTROLS. SEE ELECTRICAL PLANS FOR SWITCH LOCATION.
5. REFER TO 7/M400 FOR ROOF FAN W/ DRIP PAN DETAIL.
6. RUN REFRIGERANT PIPING DOWN INSIDE WALL. WALL PENETRATION SHALL BE AT SAME LEVEL AS CONNECTION POINT OF CONDENSING UNIT.
7. TERMINATE UNIT HEATER INTAKE AND FLUE ACCORDING TO MFR RECCOMENDATIONS.

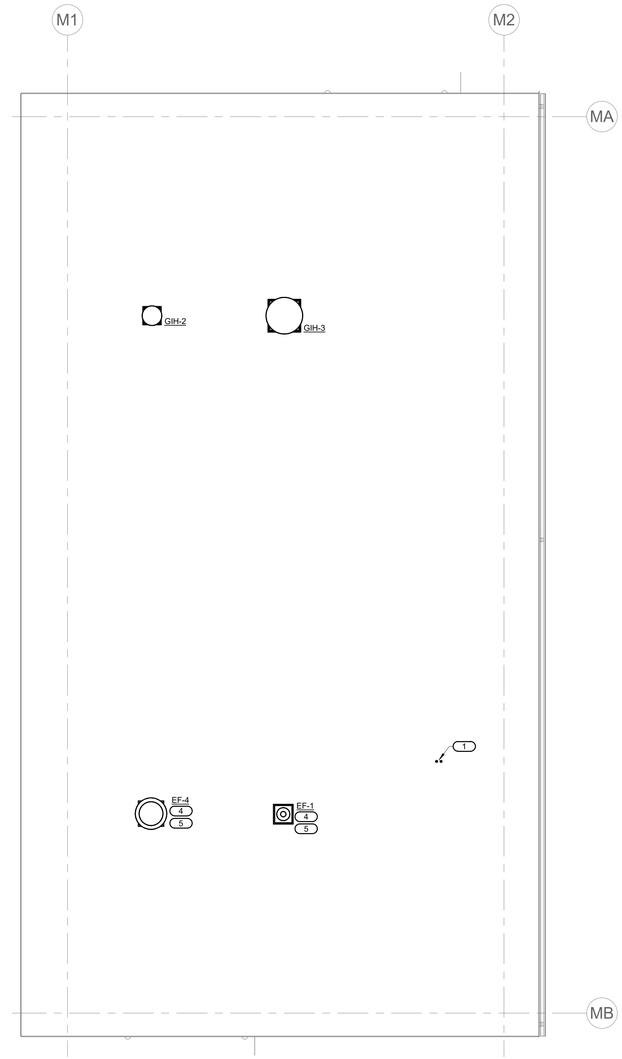
SHEET NOTES:

1. REFERENCE M000 MECHANICAL COVERSHEET FOR MECHANICAL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. COORDINATE AND CONFIRM ALL ARCHITECTURALLY EXPOSED DEVICE LOCATIONS WITH ARCHITECT PRIOR TO ROUGH-IN OR INSTALLATION.
3. REFERENCE M600 FOR MECHANICAL SCHEDULES.
4. THE SIZE OF BRANCH DUCTS TO AIR TERMINALS SHALL MATCH THEIR INLET SIZE UNLESS OTHERWISE NOTED.
5. REFER TO 1/M400 FOR DIFFUSER CONNECTION DETAIL.
6. REFER TO 2/M400 FOR DUCT BRANCH CONNECTIONS DETAIL.
7. REFER TO 3/M400 FOR DUCT ELBOW CONSTRUCTION DETAIL.
8. REFER TO 4/M400 FOR BELLMOUTH IN-WALL DETAIL.
9. REFER TO 5/M400 FOR TRANSFER DUCT DETAIL.



2 MAINTENANCE BUILDING PLAN - VENTILATION

3/16" = 1'-0"



3 MAINTENANCE BUILDING ROOF PLAN - VENTILATION

3/16" = 1'-0"

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MAINTENANCE BUILDING PLANS - VENTILATION

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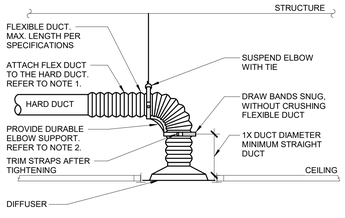
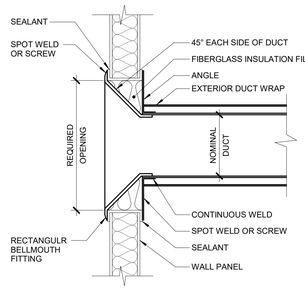
NOTES TO SPECIFIER:
USE THIS DETAIL FOR STANDARD INSTALLATIONS.



NOTES:

1. TO ATTACH FLEX DUCT TO THE HARD DUCT, TAPE THE INNER LINER TO THE HARD DUCT THEN ATTACH WITH TWO NYLON TIE WRAPS; ONE FOR THE INNER LINER AND ONE FOR THE OUTER SHELL. FOLD THE OUTER SHELL INSIDE ITSELF SO IT HAS NEAT EDGES PRIOR TO TIE WRAPPING.
2. DURABLE ELBOW SUPPORT ACCEPTABLE MANUFACTURER AND MODEL: HART AND COOLEY - SMARTFLOW, THERMAFLEX - FLEXFLOW, TITUS - FLEXRIGHT, OR APPROVED EQUAL.

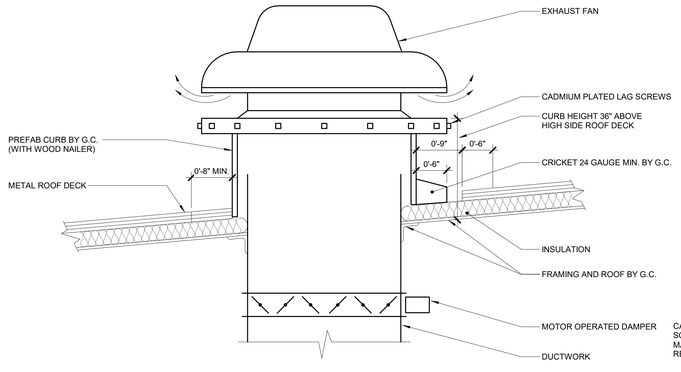
1 DIFFUSER CONNECTION DETAIL (W/ RADIUS FORMING ELBOW)
NO SCALE



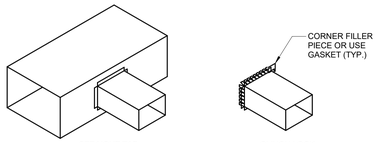
NOTES:

1. COORDINATE WITH HOUSING PANEL MANUFACTURER FOR EXACT BELLMOUTH FITTING INSTALLATION REQUIREMENTS.

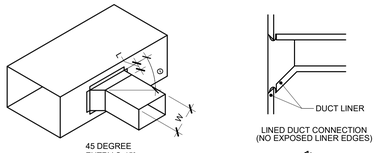
4 BELLMOUTH IN WALL DETAIL - RECTANGULAR
NO SCALE



6 ROOF FAN CURB - METAL ROOF
NO SCALE



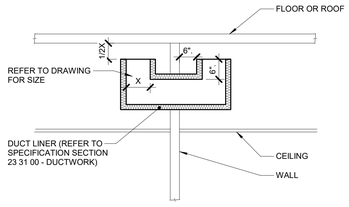
NOTE:STRAIGHT TAP WITH BUTT FLANGE FOR BRANCH AND TEE CONNECTION IN RECTANGULAR DUCTS UNDER 1" PRESSURE CLASS ONLY.



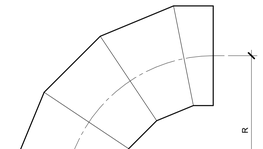
NOTES:

1. DO NOT USE CONNECTIONS WITH SCOOPS.
2. FIT ALL CONNECTIONS TO AVOID VISIBLE OPENINGS AND SECURE THEM SUITABLY FOR THE PRESSURE CLASS.
3. ADDITIONAL MECHANICAL FASTENERS ARE REQUIRED FOR 4"W.G. AND OVER.
4. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

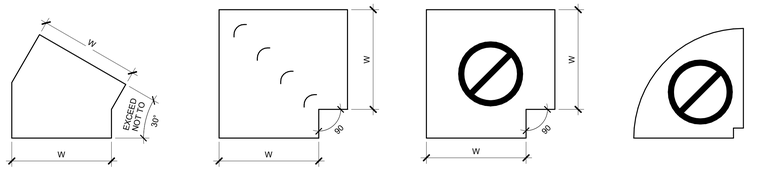
2 DUCT - BRANCH CONNECTIONS
NO SCALE



5 TRANSFER DUCT - ELBOW ENDS
NO SCALE



REFER TO SMACNA HVAC SYSTEMS DUCT DESIGN MANUAL, FOURTH EDITION, SECTION 5.14 "SPLITTER VANES" AND SMACNA HVAC DUCT CONSTRUCTION STANDARDS, THIRD EDITION, FIGURES 4-2 AND 4-9 AND CHARTS 4-1 AND 4-1M. ELBOW SHALL HAVE THREE SPLITTER VANES AND r/W = 0.10 (R/W = 0.60) UNLESS NOTED OTHERWISE.

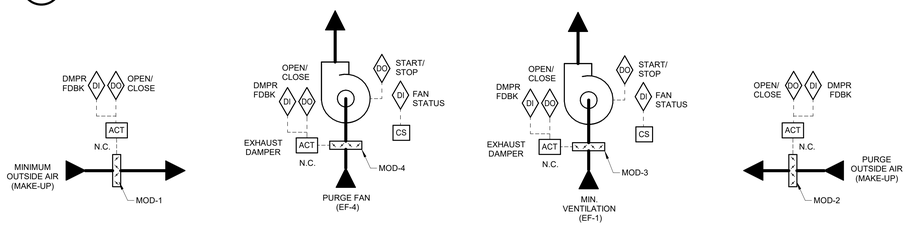


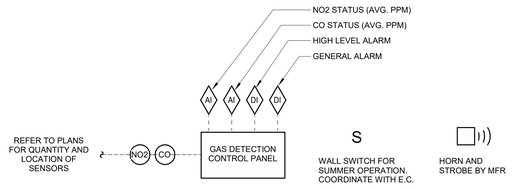
USE ONLY AS PART OF OFFSETS AND TRANSITIONS PER FIGURE 4-7 TYPE 2 OR AS SHOWN ON DRAWINGS. OFFSETS ABOVE 30° SHALL BE TYPE RE1.

NOTES:

1. BEAD, CROSSBREAK, AND REINFORCE FLAT SURFACES AS IN STRAIGHT DUCT.
2. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. DEFAULT ELBOW SHALL BE TYPE "RE1".
4. ELBOW TYPES SHALL BE INSTALLED AS SHOWN AND NOT BE SUBSTITUTED WITHOUT PERMISSION. EXCEPTION: RE1 OR RE3 MAY BE SUBSTITUTED FOR RE2.

3 DUCT - ELBOW CONSTRUCTION
NO SCALE





SEQUENCE OF OPERATION:

DURING OCCUPIED SCHEDULE:

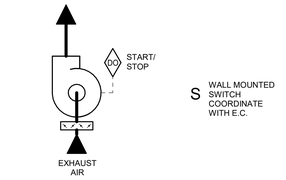
IF CARBON MONOXIDE LEVELS ARE BELOW 20 PPM (ADJ.) AND NITROGEN DIOXIDE LEVELS BELOW 1 PPM (ADJ.) THE FOLLOWING SHALL OCCUR.
- THE MINIMUM OUTSIDE AIR DAMPER (MOD-1) AND MINIMUM EXHAUST FAN DAMPER (MOD-3) SHALL OPEN.
- THE EXHAUST FAN (EF-1) SHALL BE ENABLED AND RUN CONTINUOUSLY.
- THE PURGE FANS SHALL BE DISABLED AND ASSOCIATED DAMPERS SHALL BE CLOSED.

IF CARBON MONOXIDE LEVELS ARE ABOVE 25 PPM (ADJ.) OR NITROGEN DIOXIDE LEVELS ARE ABOVE 3PPM (ADJ.) THE FOLLOWING SHALL OCCUR.
- THE MINIMUM OUTSIDE AIR DAMPER (MOD-1) AND MINIMUM EXHAUST FAN DAMPER (MOD-3) SHALL OPEN.
- THE EXHAUST FAN (EF-1) SHALL BE ENABLED AND RUN CONTINUOUSLY.
- THE PURGE OUTSIDE AIR DAMPER (MOD-2) AND PURGE EXHAUST FAN DAMPER (MOD-4) SHALL OPEN AND THE PURGE EXHAUST FAN (EF-4) SHALL ENABLE UNTIL CARBON MONOXIDE LEVELS ARE BELOW 20 PPM (ADJ.) AND NITROGEN DIOXIDE LEVELS BELOW 1 PPM (ADJ.).

SUMMER FAN OPERATION:
DURING WARMER MONTHS THE PURGE EXHAUST FAN AND ASSOCIATED DAMPERS SHALL BE SETUP TO TURN ON/OFF VIA WALL MOUNTED SWITCH. THE WALL MOUNTED SWITCH SHALL BE WIRED IN SUCH THAT THE GAS DETECTION SYSTEM WILL OVERRIDE SWITCH POSITION TO CONTROL FANS.

ALARMS, INTERLOCKS, AND SAFETIES:
- IF HAZARDOUS GAS LEVELS REACH 200 PPM (ADJ.) CARBON MONOXIDE OR 5 PPM (ADJ) NITROGEN DIOXIDE, THE HIGH ALARM INDICATOR LIGHTS ON THE MAIN PANEL SHALL ACTIVATE.

8 VEHICLE FLEET EXHAUST CONTROLS
NO SCALE



SEQUENCE OF OPERATION:;
FAN SHALL BE CONTROLLED BY MANUAL MOTOR STARTER (WALL SWITCH) PROVIDED BY OTHERS.

2-POSITION DAMPER SHALL FULLY OPEN WHEN FAN IS ENERGIZED. WHEN FAN IS DE-ENERGIZED, 2-POSITION DAMPER SHALL FULLY CLOSE.

9 FAN - WALL SWITCH
NO SCALE

NOTES:

1. ALL ROOF FLASHING SHALL BE PER ROOFING MANUFACTURERS RECOMMENDATIONS.

7 ROOF FAN CURB W/ DRIP PAN
NO SCALE

SVPA ARCHITECTS
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CONSTRUCTION DOCUMENTS
04/25/2023

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PROJECT NUMBER
22038

VENTILATION DETAILS

M400

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FURNACE SCHEDULE

NOTES:
1.

TAG NAME	AREA SERVED	EXT. S.P. IN. W.C.	FAN/BLOWER				ELECTRICAL						HEATING			EVAPORATOR				MAX. DIMENSIONS			WEIGHT	MANUFACTURER	MODEL	EVAPORATOR COIL MODEL	NOTES
			CFM	MAX. COIL A.P.D. IN. W.C.	HP	AIR FLOW TYPE	VOLTAGE	PHASES	DISCONNECT BY (NOTE A)	DISCONNECT TYPE (NOTE B)	CONTROLLER/ STARTER BY (NOTE A)	CONTROLLER/ STARTER SCCR	MINIMUM EFFICIENCY AFUE	INPUT	OUTPUT	MAX. LAT °F	EAT DB °F	EAT WB °F	TOTAL MBH	LENGTH	WIDTH	HEIGHT					
F-1N	NORTH CONCESSIONS	0.5	1,200	0.23	0.5	CV	120 V	1	EC	NF	MFR	5000	96	44	42	53.6	72	60	28.3	29.25	17.5	33	130	LENNOX	EL296	CX35	
F-1S	SOUTH CONCESSIONS	0.5	1,200	0.23	0.5	CV	120 V	1	EC	NF	MFR	5000	96	44	42	53.6	72	60	28.3	29.25	17.5	33	130	LENNOX	EL296	CX35	
F-2N	NORTH OFFICE	0.5	1,635	0.2	0.75	CV	120 V	1	EC	NF	MFR	5000	96	88	85	59	77	65.9	38.6	29.25	21.00	33	163	LENNOX	EL296	CX35	
F-2S	SOUTH OFFICE	0.5	1,635	0.2	0.75	CV	120 V	1	EC	NF	MFR	5000	96	88	85	59	77	65.9	38.6	29.25	21.00	33	163	LENNOX	EL296	CX35	
F-3	MAINTENANCE BREAKROOM	0.5	300	0.21	0.5	CV	120 V	1	EC	NF	MFR	5000	96	44	42	54.7	73.8	61.4	17.3	29.25	17.5	33	130	LENNOX	EL296	CX35	

CONDENSING UNIT SCHEDULE

NOTES:
1.REFER TO SPECIFICATION SECTION 23 62 13 FOR ADDITIONAL REQUIREMENTS.

TAG NAME	SERVICE	NOMINAL DESIGN TONS	REFRIGERANT	AMBIENT TEMP °F	NUMBER OF COMPRESSORS	NUMBER OF STAGES	NUMBER OF FANS	ELECTRICAL								MAX. DIMENSIONS			WEIGHT	MANUFACTURER	NOTES
								NO. OF POWER CONNECTIONS	VOLTAGE	PHASES	MCA	MOCP	DISCONNECT BY (NOTE A)	DISCONNECT TYPE (NOTE B)	CONTROLLER/ STARTER BY (NOTE A)	CONTROLLER/ STARTER SCCR	LENGTH	WIDTH	HEIGHT			
CU-1N	F-1N	2.5	R410A	95.0	1	1	1	1	208	1	18	25	EC	NF	MFR	5000	35	30.5	31	210	LENNOX	
CU-1S	F-1N	2.5	R410A	95.0	1	1	1	1	208	1	18	25	EC	NF	MFR	5000	35	30.5	31	210	LENNOX	
CU-2N	F-2S S	3	R410A	95.0	1	1	1	1	208	1	21	30	EC	NF	MFR	5000	39.38	35.5	39	241	LENNOX	
CU-2S	F-2S S	3	R410A	95.0	1	1	1	1	208	1	21	30	EC	NF	MFR	5000	39.38	35.5	39	241	LENNOX	
CU-3	F-3	1.5	R410A	95.0	1	1	1	1	208	1	12	15	EC	NF	MFR	5000	35	30.5	31	185	LENNOX	

SPLIT SYSTEM UNIT SCHEDULE

NOTES:
1.

TAG NAME	AREA SERVED	INDOOR UNIT							OUTDOOR UNIT						ELECTRICAL							MANUFACTURER	NOTES
		CFM	COOLING MBH	HEATING MBH	MAX. DIMENSIONS			WEIGHT	MODEL	SEER	MAX. DIMENSIONS			WEIGHT	MODEL	VOLTAGE	PHASE	MCA	MOCP AMPS	DISCONNECT BY (NOTE A)	DISCONNECT TYPE (NOTE B)	CONTROLLER/ STARTER BY (NOTE A)	CONTROLLER/ STARTER SCCR		
					LENGTH	WIDTH	HEIGHT				HEIGHT	LENGTH	WIDTH												
SS-1	MAINTENANCE MDF	370	24	26	35 13/64	11 29/64	8 20/64	24.3	BMKH	24.6	17"-3 123/128"	37"-6 123/128"	31"-1 41/128"	153	BMKH	208	1	23.0	30	MFR	NF	MFR	5000	BLUERIDGE	

LOUVER SCHEDULE

NOTES:
1.FINISH TYPES: TYPE 1 - MILL FINISH, TYPE 2 - 204-R1 SATIN ANODIZED, TYPE 3 - BAKED ENAMEL FINISH ON PRETREATED PRIME PAINT, STANDARD COLOR - SELECTION BY ARCHITECT. TYPE 4 - BAKED EPOXY FINISH ON PRIME COATED METAL, STANDARD COLOR - SELECTION BY ARCHITECT. TYPE 5 - DURANODIC BRONZE - LIGHT, MEDIUM, DARK. TYPE 6 - PVDF (KYNAR 500, HYLAR 5000, OR DURANAR), STANDARD COLOR - SELECTION BY ARCHITECT.

TAG NAME	AREA SERVED	SIZE (INCHES)		FREE AREA VELOCITY	S.P. IN. W.C.	FINISH (NOTE 1)	MANUFACTURER	MODEL	NOTES
		CFM	WIDTH	HEIGHT					
OAL-1		0	12	12	0	0.00	RUSKIN	ELF375	

FAN SCHEDULE

NOTES:
1.

TAG NAME	AREA SERVED	CFM	S.P. IN. W.C.	FAN CLASS	FAN RPM (NOTE F)	DRIVE TYPE	ELECTRICAL (NOTE 1)						MANUFACTURER	MODEL	NOTES
							BHP (NOTE E)	VOLTAGE	PHASES	DISCONNECT BY (NOTE A)	DISCONNECT TYPE (NOTE B)	CONTROLLER/ STARTER BY (NOTE A)	CONTROLLER/ STARTER TYPE (NOTE C)	CONTROLLER/ STARTER SCCR			
EF-1	GARAGE (VENTILATION)	150	0.61		1000	DIRECT	0.03	120	1	MFR	NF	MFR	NF	5000	GREENHECK	CSP-A250	
EF-2	MAINTENANCE RESTROOM	75	0.26		900	DIRECT	0.01	120	1	MFR	NF	MFR	NF	5000	GREENHECK	SP-A90	
EF-3N	CONCESSIONS	520	0.69		1035	DIRECT	0.14	120	1	MFR	NF	MFR	NF	5000	GREENHECK	CSP-A700	
EF-3S	CONCESSIONS	520	0.69		1035	DIRECT	0.14	120	1	MFR	NF	MFR	NF	5000	GREENHECK	CSP-A700	
EF-4	GARAGE (PURGE)	2100	0.50		974	DIRECT	0.41	120	1	MFR	NF	MFR	NF	5000	GREENHECK	GB-160	

ENERGY RECOVERY SCHEDULE

NOTES:
1.

AIR HANDLING UNIT TAG NAME	SERVICE	TYPE	MINIMUM EFFICIENCY	OUTSIDE/SUPPLY AIR STREAM									RETURN/EXHAUST AIR STREAM										RECOVERED SUMMER MBH	RECOVERED WINTER MBH	FANS						ELECTRICAL				NOTES
				CFM	SUMMER EAT DB °F	SUMMER EAT WB °F	SUMMER LAT DB °F	SUMMER LAT WB °F	WINTER EAT DB °F	WINTER EAT WB °F	WINTER LAT DB °F	WINTER LAT WB °F	APD	CFM	SUMMER EAT DB °F	SUMMER EAT WB °F	SUMMER LAT DB °F	SUMMER LAT WB °F	WINTER EAT DB °F	WINTER EAT WB °F	WINTER LAT DB °F	WINTER LAT WB °F	APD			SUPPLY MOTOR HP	SUPPLY TYPE	SUPPLY DRIVE	SUPPLY FLA	RETURN MOTOR HP	RETURN TYPE	RETURN DRIVE	RETURN FLA	VOLTAGE	PHASE	DISCONNECT BY (NOTE A)	DISCONNECT TYPE (NOTE B)	CONTROLLER /STARTER BY (NOTE A)	CONTROLLER /STARTER TYPE (NOTE C)	
ERV-1N	F-2N	FLAT PLATE	62	950	95	78	80.4	69.8	-15	-15	51.1	40.7	0.75	950	72	60	86.6	70	72	54	35.9	33.6	0.75	33.24	43.8	0.75	ECM	DIRECT	6.7	0.75	ECM	DIRECT	6.7	208 V	1	MFR	NF	MFR	NF	
ERV-1S	F-2S	FLAT PLATE	62	950	95	78	80.4	69.8	-15	-15	51.1	40.7	0.75	950	72	60	86.6	70	72	54	35.9	33.6	0.75	33.24	43.8	0.75	ECM	DIRECT	6.7	0.75	ECM	DIRECT	6.7	208 V	1	MFR	NF	MFR	NF	

UNIT HEATER SCHEDULE - ELECTRIC

NOTES:
1.

TAG NAME	AREA SERVED	CONFIGURATION	CFM	HEATING ELEMENT			ELECTRICAL				WEIGHT	MANUFACTURER	MODEL	NOTES
				NUMBER OF STAGES	TOTAL KW (QTY * KW) QTY	TOTAL KW (QTY * KW) KW	VOLTAGE	PHASES	DISCONNECT BY (NOTE A)	DISCONNECT TYPE (NOTE B)	CONTROLLER/ STARTER BY (NOTE A)	CONTROLLER/ STARTER SCCR				
UH-1N	CONCESSIONS	HORIZONTAL	650	1	1	7.5	208	1	MFR	NF	MFR	5000	38	MARLEY	MUH078	
UH-1S	CONCESSIONS	HORIZONTAL	650	1	1	7.5	208	1	MFR	NF	MFR	5000	38	MARLEY	MUH078	
UH-2	MAINTENANCE BREAKROOM	HORIZONTAL	350	1	1	3	208	1	MFR.	NF	MFR	5000	38	MARLEY	MUH0381	
UH-3	MAINTENANCE RESTROOM	HORIZONTAL	350	1	1	3	208	1	MFR.	NF	MFR	5000	38	MARLEY	MUH0381	
UH-4	MAINTENANCE MDF	HORIZONTAL	350	1	1	3	208	1	MFR.	NF	MFR	5000	38	MARLEY	MUH0381	
UH-5	MAINTENANCE MECHANICAL	HORIZONTAL	350	1	1	3	208	1	MFR.	NF	MFR	5000	38	MARLEY	MUH0381	

UNIT HEATER SCHEDULE - GAS FIRED

NOTES:
1.

TAG NAME	AREA SERVED	CFM	HEATING (MBH)		ELECTRICAL						GAS PRESSURE (W.C.)	MAX. DIMENSIONS			WEIGHT	MANUFACTURER	MODEL	NOTES
			INPUT	OUTPUT	HP	RPM	VOLTAGE	PHASES	DISCONNECT BY (NOTE A)	DISCONNECT TYPE (NOTE B)	CONTROLLER/ STARTER BY (NOTE A)	CONTROLLER/ STARTER SCCR		LENGTH	WIDTH	HEIGHT				
UH-6	MAINTENANCE GARAGE	1921	150	125	0.25	1050	120	1	MFR	NF	MFR	5000	11	38 3/16	48 7/16	20 1/8	179	REZNOR	UDZ	
UH-7	MAINTENANCE GARAGE	1921	150	125	0.25	1050	120	1	MFR	NF	MFR	5000	11	38 3/16	48 7/16	20 1/8	179	REZNOR	UDZ	

COIL SCHEDULE - ELECTRIC HEATING

NOTES:
1.

TAG NAME	AREA SERVED	CFM	EAT °F	LAT °F	HEATING ELEMENT TOTAL KW (QTY * KW) QTY	HEATING ELEMENT TOTAL KW (QTY * KW) KW	ELECTRICAL VOLTAGE	PHASES	DISCONNECT BY (NOTE A)	DISCONNECT TYPE (NOTE B)	CONTROLLER/STARTER BY (NOTE A)	CONTROLLER/STARTER SCCR	CONTROL TYPE	MAX. DIMENSIONS WIDTH	MAX. DIMENSIONS HEIGHT	MANUFACTURER	MODEL	NOTES
EHC-1N	ERV-1	950	-15	15	1	9	208 V	1	EC	NF	MFR	5000	SCR	12'-0"	16'-0"	INDEECO	QUA	
EHC-1S	ERV-1	950	-15	15	1	9	208 V	1	EC	NF	MFR	5000	SCR	12'-0"	16'-0"	INDEECO	QUA	

SCHEDULE GENERAL NOTES:

A. DISCONNECT AND CONTROLLER STARTER FURNISHED AND INSTALLED BY:
MFR = MANUFACTURER
EC = ELECTRICAL CONTRACTOR
MC = FURNISHED BY MECHANICAL CONTRACTOR, INSTALLED BY ELECTRICAL CONTRACTOR.
MFR/EC = FURNISHED LOOSE BY MANUFACTURER INSTALLED BY ELECTRICAL CONTRACTOR.
ATC = AUTOMATIC TEMPERATURE CONTROL CONTRACTOR

B. DISCONNECT TYPE:
F = FUSED
NF = NON-FUSED

C. CONTROLLER STARTER TYPE:
FV = FULL VOLTAGE
MS = MANUAL STARTER

D. FAN RPM SHALL NOT EXCEED 110% OF SCHEDULED VALUE, WITH THE SCHEDULED WHEEL TYPE. SUBSTITUTION OF BI OR BIA FANS FOR FC IS ACCEPTABLE IF EFFICIENCY IS NOT LOWER.

E. NO EQUIPMENT SHALL BE SELECTED ABOVE 90% OF MOTOR NAME PLATE RATING.

F. MUST BE WITHIN +/- 10% OF SCHEDULED RPM.

G. CURB TYPE:
MFR = STANDARD CURB BY MANUFACTURER
GC = BY GENERAL CONTRACTOR

HOOD SCHEDULE

NOTES:
1.EACH HOOD SHALL HAVE 18" CURB.

TAG NAME	SERVICE	CFM	THROAT SIZE WIDTH	THROAT SIZE LENGTH	THROAT VELOCITY	STATIC PRESSURE DROP	FREE AREA	DAMPER TYPE	CURB TYPE	MAX. DIMENSIONS LENGTH	MAX. DIMENSIONS WIDTH	MAX. DIMENSIONS HEIGHT	MANUFACTURER	MODEL	NOTES
GEH-1N	ERV	950	16	16	848	0.08	1	GRAVITY	CURB CAP	29	29	22	GREENHECK	GRSR-15	1
GEH-1S	ERV	950	16	16	848	0.08	1	GRAVITY	CURB CAP	29	29	22	GREENHECK	GRSR-15	1
GIH-1N	ERV	950	16	16	655	0.07	1	GRAVITY	CURB CAP	29	29	23	GREENHECK	GRSI-16	1
GIH-1S	ERV	950	16	16	655	0.07	1	GRAVITY	CURB CAP	29	29	23	GREENHECK	GRSI-16	1
GIH-2	GARAGE (VENTILATION)	300	10	10	526	0.05	1	GRAVITY	CURB CAP	20.5	20.5	19.75	GREENHECK	GRSI-10	1
GIH-3	GARAGE (PURGE)	2100	24	24	648	0.07	3	GRAVITY	CURB CAP	34	34	23	GREENHECK	GRSI-24	1

AIR TERMINAL SCHEDULE

NOTES:
1.CONTRACTOR SHALL DETERMINE PROPER BORDER TYPE TO MATCH CEILING CONSTRUCTION.
2.REFER TO DRAWINGS FOR NECK SIZE. ALL BRANCH DUCTWORK TO AIR TERMINALS SHALL BE NECK SIZE UNLESS NOTED OTHERWISE.

TAG NAME	FACE SIZE (IN.) (NOTE 2)	TYPE	BORDER (NOTE 1)	MATERIAL	FINISH	VOLUME DAMPER REQUIRED	MANUFACTURER	MODEL	NOTES
EG-1	24x24	PERFORATED FACE	LAY-IN	STEEL	WHITE	NO	TITUS	PAR	
EG-2	24x24	PERFORATED FACE	LAY-IN	ALUMINUM	WHITE	NO	TITUS	PAR	
ER-1	INLET +2	35 DEGREE DEFLECTION	1 1/4"	ALUMINUM	WHITE	YES	TITUS	350R	
RG-1	24x24	PERFORATED FACE	LAY-IN	ALUMINUM	WHITE	NO	TITUS	PXP	FACE ONLY - NON DUCTED
RR-1	INLET +2	35 DEGREE DEFLECTION	1 1/4"	ALUMINUM	WHITE	YES	TITUS	350R	
SD-1	24x24	PLAQUE	LAY-IN	ALUMINUM	WHITE	NO	TITUS	OMNI	ALL NON-FERROUS CONSTRUCTION FOR MRI OR DAMP LOCATION
SR-1	INLET +2	35 DEGREE DEFLECTION	1 1/4"	ALUMINUM	WHITE	YES	TITUS	350R	

MOTOR OPERATED DAMPER SCHEDULE

NOTES:
1.

TAG NAME	AREA SERVED	SIZE WIDTH	SIZE HEIGHT	CFM MAX.	BLADE CONFIGURATION	BLADE ORIENTATION	INSULATED	ACTUATOR TYPE (NOTE 1)	ACTUATOR STYLE	POWER FAILURE POSITION	POSITIVE POSITION FEEDBACK REQUIRED	NOTES
MOD-1		10	10	150	PARALLEL	HORIZONTAL	Yes	ELECTRIC	TWO POSITION	NORMALLY CLOSED (NC)	No	
MOD-2		24	24	2100	PARALLEL	HORIZONTAL	Yes	ELECTRIC	TWO POSITION	NORMALLY CLOSED (NC)	No	
MOD-3		14	14	0	PARALLEL	HORIZONTAL	Yes	ELECTRIC	TWO POSITION	NORMALLY CLOSED (NC)	No	
MOD-4		22	22	0	PARALLEL	HORIZONTAL	Yes	ELECTRIC	TWO POSITION	NORMALLY CLOSED (NC)	No	

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VENTILATION SCHEDULES

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PROJECT #22002288.00

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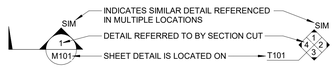
VIEW KEY

NAME → LEVEL NAME
10'-0" → HEIGHT ABOVE PROJECT 0'-0"

1 → INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL



LINE TYPE AND TAG KEY:

NEW WORK BY THIS CONTRACTOR (WIDE LINE)
——— NEW
- - - - - - - - - EXISTING TO BE REMOVED (SHORT DASHED PATTERN)
— — — — EXISTING TO BE REMOVED BY OTHERS (LONG DASHED PATTERN)

EXISTING TO REMAIN OR WORK BY OTHERS (NARROW LINE)
——— EXISTING
- - - - - - - - - EXISTING TO BE REMOVED BY OTHERS (SHORT DASHED PATTERN)
— — — — EXISTING UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)

HALFTONING DOES NOT MODIFY SCOPE.

'TAG'-E — TAGS WITH DASH 'E' INDICATES THE REFERENCED OBJECT IS EXISTING

TAG — UNDERLINED TAG INDICATES OBJECT IS IN-SCOPE. IF NEW, ADDITIONAL INFORMATION IS AVAILABLE IN A SCHEDULE, MATERIAL LIST, OR SYMBOL LIST

INDICATES AN EXISTING SYSTEM'S POINT OF CONNECTION/REMOVAL

APPLICABLE CODES

CONTRACTOR SHALL COMPLY WITH APPLICABLE CODES AND LOCAL AMENDMENTS.

BUILDING CODE:	IBC 2018 EDITION
FIRE CODE:	IFC 2018 EDITION
PLUMBING CODE:	UPC 2021 EDITION
MECHANICAL CODE:	IMC 2021 EDITION
ELECTRICAL CODE:	NFPA 70 (NEC) 2020 EDITION
ENERGY CONSERVATION CODE:	IECC 2012
HEALTH DEPARTMENT CODE:	CURRENT EDITION
LOCAL BUILDING CODE:	CURRENT EDITION

CONTRACTOR ABBREVIATION KEY

ABBR:	DESCRIPTION:
C.C.	CIVIL CONTRACTOR
E.C.	ELECTRICAL CONTRACTOR
F.S.C.	FOOD SERVICE CONTRACTOR
G.C.	GENERAL CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
P.C.	PLUMBING CONTRACTOR
T.C.	TECHNOLOGY CONTRACTOR
T.C.C.	TEMPERATURE CONTROLS CONTRACTOR

CONTACT PERSONS:

DESCRIPTION:	PERSON:
PROJECT MANAGER	KRISTEN SPINA
MECHANICAL	PARKER POLASCHEK
ELECTRICAL	CHRIS MARTING
TECHNOLOGY	ALFONSO ARAULLO
STRUCTUAL	DANIELLE BARTLETT

ELECTRICAL SYMBOL LIST

SYMBOL:	TAG:	SPEC SECTION:	DESCRIPTION:
E / E	ECONN	26 05 33	ELECTRICAL CONNECTION
J / J	JB	26 05 33	JUNCTION BOX
	PANEL '###'	26 24 16	PANELBOARD - SURFACE MOUNT
	MX-#/MS-# /CB-#/CS-#	26 24 19	MANUAL SWITCH / STARTER / COMBINATION STARTER/ CIRCUIT BREAKER. REFER TO DISC/STA SCHEDULE

ELECTRICAL SYMBOL LIST

SYMBOL:	TAG:	SPEC SECTION:	DESCRIPTION:
S	SW-1P	26 09 33	SWITCH - SINGLE POLE
S_3	SW-3W	26 09 33	SWITCH - THREE WAY
D_D	SW-D-LED	26 09 33	DIMMER - LED
PC	SW-LS-PC	26 09 33	PHOTOCELL
OC_D	SW-OC-D	26 09 33	OCCUPANCY SENSOR - DUAL TECHNOLOGY
S_O	SW-OC-P-O	26 09 33	SWITCH - OCCUPANCY SENSOR WALL SWITCH
OC_P	SW-OC-P-P	26 09 33	OCCUPANCY SENSOR - PASSIVE INFRARED 360 DEGREE COVERAGE
OC_U	SW-OC-U	26 09 33	OCCUPANCY SENSOR - ULTRASONIC 360 DEGREE COVERAGE

ELECTRICAL SYMBOL LIST

SYMBOL:	TAG:	SPEC SECTION:	DESCRIPTION:
	REFER TO LUMINAIRE SCHEDULE		LINEAR LUMINAIRES
			TROFFER
			WALL SCONCE LUMINAIRE
			DOWNLIGHT LUMINAIRE
			INDUSTRIAL LUMINAIRE
			SINGLE FACE EXIT SIGN
			DOUBLE FACE EXIT SIGN
			EMERGENCY UNIT

ELECTRICAL SYMBOL LIST

SYMBOL:	TAG:	SPEC SECTION:	DESCRIPTION:
	REC-DUP	26 27 26	DUPLEX RECEPTACLE, 125V
	REC-DUP-GFI	26 27 26	DUPLEX GFI RECEPTACLE, 125V
W	REC-DUP-WP	26 27 26	DUPLEX GFI WEATHERPROOF RECEPTACLE 125V
	REC-TAMP	26 27 26	DUPLEX RECEPTACLE, TAMPER RESISTANT, 125V
	REC-TAMP-GFI	26 27 26	GFI DUPLEX RECEPTACLE, TAMPER RESISTANT, 125V
	REC-TAMP-QUAD	26 27 26	QUAD RECEPTACLE, TAMPER RESISTANT, 125V
	REC-QUAD	26 27 26	QUAD RECEPTACLE, 125V
	REC-QUAD-GFI	26 27 26	QUAD GFI RECEPTACLE, 125V

ELECTRICAL EQUIPMENT TAGS

TAG:	DESCRIPTION:	RELATED SPECIFICATION
LC-#	LIGHTING CONTACTOR	26 28 21
MX-#	MANUAL SWITCH, REFER TO DISCONNECT AND STARTER SCHEDULE	26 24 19
SPD-#	SURGE PROTECTION DEVICE	26 43 00

ELECTRICAL ABBREVIATION KEY

ABBR:	DESCRIPTION:
AFF	ABOVE FINISHED FLOOR
C	CONDUIT
GFI	GROUND FAULT INTERRUPTER
N.C.	NORMALLY CLOSED
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
SV	SOLENOID VALVE
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED

LUMINAIRE SYMBOL KEY

SYMBOL:	DESCRIPTION:
	NORMAL BRANCH LUMINAIRE
	BATTERY BACKED LUMINAIRE

CONDUIT INSTALLATION SCHEDULE

THE FOLLOWING SCHEDULE SHALL BE ADHERED TO UNLESS THEY CONSTITUTE A VIOLATION OF APPLICABLE CODES OR ARE NOTED OTHERWISE ON THE DRAWINGS. THE INSTALLATION OF RMC CONDUIT WILL BE PERMITTED IN PLACE OF ALL CONDUIT SPECIFIED IN THIS SCHEDULE. REFER TO CONDUIT AND BOXES SPECIFICATION 26 05 33 FOR ADDITIONAL INFORMATION.

INSTALLATION TYPE	RMC	IMC	EMT	PVC COATED RMC	PVC
FEEDERS: SWITCHBOARDS, DISTRIBUTION PANELS, PANELBOARDS, MOTOR CONTROL CENTERS, ETC.		X	X		
BRANCH CIRCUITS: LIGHTING, RECEPTACLES, CONTROLS, ETC.		X	X		
MECHANICAL EQUIPMENT FEEDERS: PUMPS, CHILLERS, AIR HANDLING UNITS, ETC.		X	X		
FLOOR MOUNTED EQUIPMENT FEEDERS: PUMPS, ETC. (INCLUDE NO MORE THAN 6 FEET OF LFMC TO PUMP)		X	X		
CONTROLS (LIGHTING, POWER, BUILDING AUTOMATION, ETC.)		X	X		
FINISHED SPACES / CONCEALED			X		
WET AND DAMP LOCATIONS: (CONDUIT, BOXES, FITTINGS, INSTALLED AND EQUIPPED TO PREVENT WATER ENTRY)	X				
ELEVATED CONCRETE SLABS (ABOVE GRADE)	X				X
INTERIOR LOCATIONS: CONCEALED			X		
INTERIOR LOCATIONS: EXPOSED		X	X		
INTERIOR LOCATIONS: EXISTING WALLS AND EXPOSED INSTALLATION (FINISHED SPACES)			X		
UNDERGROUND / SLABS ON GRADE (IN OR UNDER SLABS ON GRADE)					
WITHIN 5' FROM THE PERIMETER OF THE BUILDING	X				X
WITHIN 5' FROM THE PERIMETER OF THE BUILDING WHEN PASSING THROUGH THE PERIMETER OF THE BUILDING FOUNDATION:	X				
UNDERGROUND SITE CONDUITS:					
WITHIN 5' FROM THE PERIMETER OF A BUILDING FOUNDATION	X				
5' OR GREATER FROM THE PERIMETER OF A BUILDING FOUNDATION	X				X
UNDER ROADS, DRIVES, AND VEHICLE TRAVELED WAYS. WHEN HDPE DIRECTIONAL BORING IS ALLOWED: PROVIDE PRESSURIZED GROUT				X	X

ELECTRICAL GENERAL NOTES:

1. REFER TO SHEET **E-600** FOR LUMINAIRE SCHEDULE.
2. (.1##) DENOTES THE LIGHTING SEQUENCE OF OPERATIONS FOR THIS SPACE. REFER TO SHEET **E-600**.
3. VACANCY/OCCUPANCY SENSOR LAYOUT: SENSORS ARE SHOWN ON THE PLANS FOR DESIGN INTENT AND MAY NOT REPRESENT EVERY DEVICE. PROVIDE MANUFACTURER SPECIFIC FLOOR PLAN LAYOUTS SHOWING LOCATION, ORIENTATION, AND COVERAGE AREA OF EACH CONTROL DEVICE, SENSOR, AND CONTROLLER/INTERFACE. AREAS REQUIRING MULTIPLE SENSOR DEVICES FOR APPROPRIATE COVERAGE, SUBMIT SPECIFIC MANUFACTURER-APPROVED SENSOR LAYOUT AS AN OVERLAY DIRECTLY ON THE PROJECT DRAWINGS, EITHER IN PRINT OR APPROVED ELECTRONIC FORM.

LUMINAIRE KEY:

LUMINAIRE — F1 = FIXTURE TAG
1 = CIRCUIT NUMBER
a = SWITCH DESIGNATION
NL = SUBSCRIPT (IF APPLICABLE)
Z = ZONE DESIGNATION

*IF LABEL IS ORIENTED HORIZONTALLY A SLASH WILL SEPARATE THIS INFORMATION. EX: F1 / 1 / a / NL

DEVICE KEY:

DEVICE — A = MOUNTING (IF APPLICABLE)
1 = CIRCUIT NUMBER

*IF LABEL IS ORIENTED HORIZONTALLY A SLASH WILL SEPARATE THIS INFORMATION. EX: A / 1

ELECTRICAL MOUNTING SUBSCRIPT KEY:

A	MOUNT AT +6" TO CENTERLINE ABOVE COUNTER OR BACKSPLASH
C	MOUNT AT CEILING
H	MOUNT ORIENTED HORIZONTALLY
L	MOUNT IN CASEWORK
M	MOUNT IN MODULAR FURNITURE
R	MOUNT IN SURFACE RACEWAY
EWC	ELECTRIC WATER COOLER

ELECTRICAL INSTALLATION NOTES:

1. THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE ADA STANDARDS FOR ACCESSIBLE DESIGN.
2. CIRCUIT NUMBERS ARE SHOWN FOR CIRCUIT IDENTIFICATION. CIRCUITING SHALL AGREE WITH NUMBERING ON THE PANEL PROVIDED. COMMON NEUTRALS MAY NOT BE USED FOR BRANCH CIRCUITS. BALANCE THE LOAD ON PANEL AS EVENLY AS POSSIBLE BETWEEN EACH PHASE.
3. FLUSH MOUNT ALL LIGHTING CONTROL DEVICES AT +42" FROM FLOOR (CENTERLINE DIMENSION), EXCEPT WHERE OTHERWISE NOTED. DEVICES MAY BE SURFACE MOUNTED WHEN CONDUIT IS SPECIFIED EXPOSED.
4. FLUSH MOUNT ALL DUPLEX RECEPTACLES AND TECHNOLOGY OUTLETS AT +18" FROM FLOOR (CENTERLINE DIMENSION), EXCEPT WHERE OTHERWISE NOTED. RECEPTACLES AND OUTLETS MAY BE SURFACE MOUNTED WHEN CONDUIT IS SPECIFIED EXPOSED. MOUNT EXTERIOR LOCATED RECEPTACLES WITH WHILE-IN-USE COVERS AT +20" FROM FINISHED GRADE (CENTER DIMENSIONS) TO MAINTAIN INSTALLATION ADA COMPLIANCE.
5. ALL MATERIALS USED TO SEAL PENETRATIONS OF FIRE RATED WALLS AND FLOORS SHALL BE TESTED AND CERTIFIED AS A SYSTEM PER ASTM E814 STANDARDS FOR FIRE TESTS OF THROUGH-PENETRATION FIRESTOPS.
6. CONNECTION FOR ELECTRIC WATER COOLERS (EWC) SHALL BE A JUNCTION BOX CONCEALED BEHIND WATER COOLER ACCESS PLATE OR BE A GFI RECEPTACLE LOCATED DIRECTLY BELOW AND CENTERED ON EWC. CONTRACTOR SHALL VERIFY TYPE OF EWC TO BE INSTALLED.
7. CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL CEILING MOUNTED DEVICES AND EQUIPMENT WITH LUMINAIRES, SPRINKLER, AND CEILING DIFFUSERS. CENTER ALL DEVICES IN CEILING TILE PATTERN. SMOKE DETECTORS AND OCCUPANCY/VACANCY SENSORS SHALL BE LOCATED NO CLOSER THAN 3 FEET TO AN AIR SUPPLY DIFFUSER OR RETURN GRILLE.
8. ELECTRICAL AND TECHNOLOGY EQUIPMENT SHALL BE MOUNTED TO AVOID IMPEDANCE OF, OPERATION OF, AND/OR ACCESS TO ELECTRICAL AND MECHANICAL EQUIPMENT. ALL MOUNTING OF ELECTRICAL AND TELECOMMUNICATIONS EQUIPMENT, ON EQUIPMENT SUPPLIED BY ANOTHER CONTRACTOR, SHALL BE APPROVED IN ADVANCE BY THE OTHER CONTRACTOR.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OPENINGS REQUIRED IN WALLS. ALL OPENINGS SHALL BE REPAIRED TO MATCH EXISTING BY A QUALIFIED CONTRACTOR AT THE EXPENSE OF THIS CONTRACTOR. ALL CONDUITS THROUGH WALLS SHALL BE GROUTED OR SEALED INTO OPENINGS.
10. ALL WELDING SHALL BE ACCORDING TO AMERICAN WELDING SOCIETY STANDARDS. CONTRACTOR SHALL FURNISH TO THE ARCHITECT/ENGINEER CERTIFICATES QUALIFYING EACH WELDER, PRIOR TO START OF WORK. THE ARCHITECT/ENGINEER RESERVES THE RIGHT TO REQUIRE QUALIFYING DEMONSTRATION, AT THE CONTRACTOR'S EXPENSE, OF ANY WELDERS ASSIGNED TO THE JOB.
11. EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO THE WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.
12. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIO/VISUAL, AND OTHER ELECTRICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS.
13. ELECTRICAL IDENTIFICATION. REFER TO SPECIFICATION SECTION 26 05 53 FOR COLOR/LABEL REQUIREMENTS FOR CONDUIT, BOX, CABLE/WIRE, AND EQUIPMENT.

ELECTRICAL SHEET INDEX

E000	ELECTRICAL COVERSHEET
E001	SITE PLAN - ELECTRICAL
E100N	NORTH CONCESSIONS BUILDING PLANS - ELECTRICAL
E100S	SOUTH CONCESSIONS BUILDING PLANS - ELECTRICAL
E101	MAINTENANCE BUILDING PLANS- ELECTRICAL
E400	ELECTRICAL DETAILS
E500	ELECTRICAL DIAGRAMS
E600	ELECTRICAL SCHEDULES
E601	ELECTRICAL SCHEDULES
E700	ELECTRICAL PANEL SCHEDULES
GRAND TOTAL: 10	

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ELECTRICAL COVERSHEET

E000

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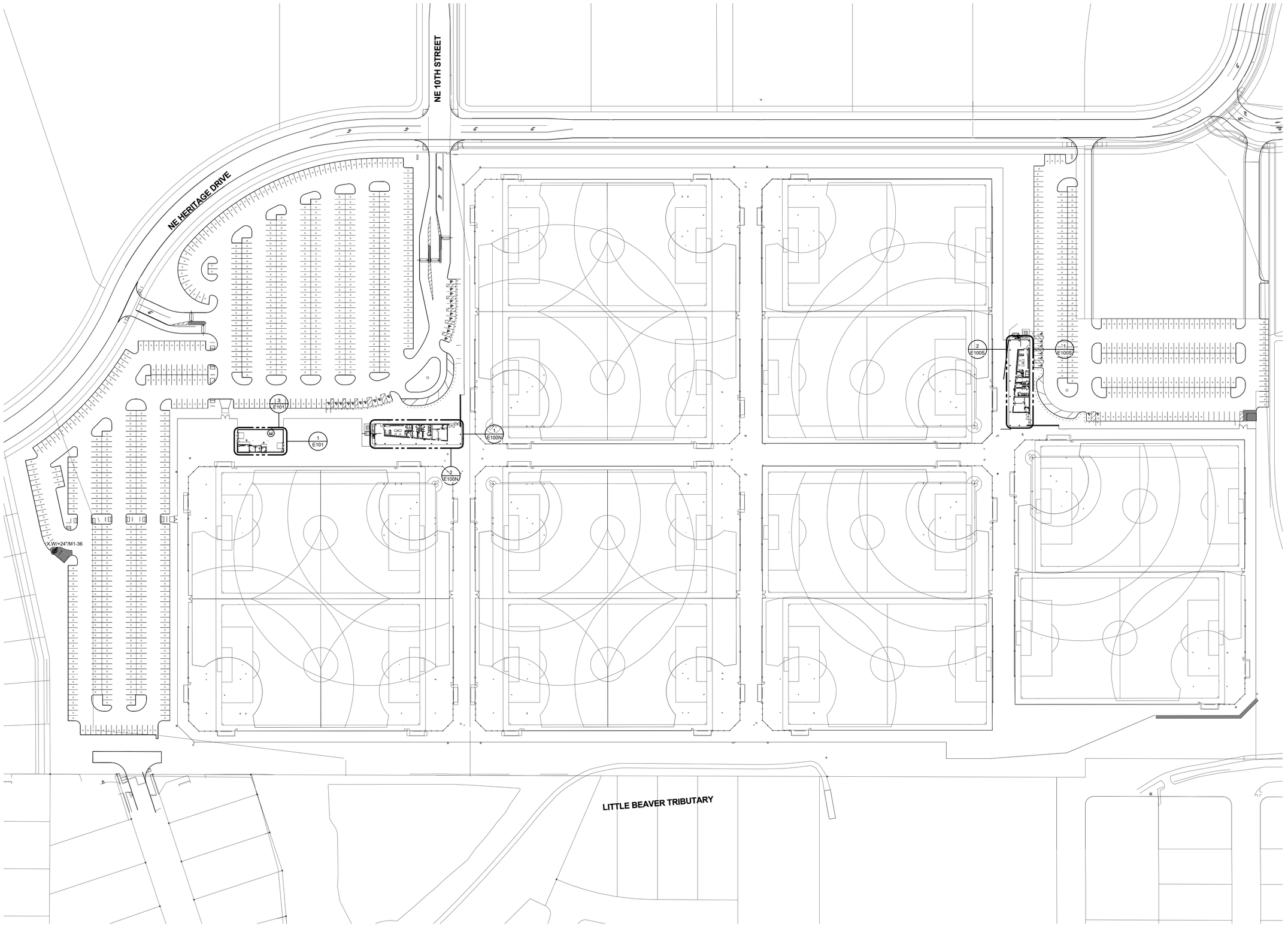

1 SITE PLAN - ELECTRICAL
1/64" = 1'-0"

NORTH

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SITE PLAN - ELECTRICAL

E001

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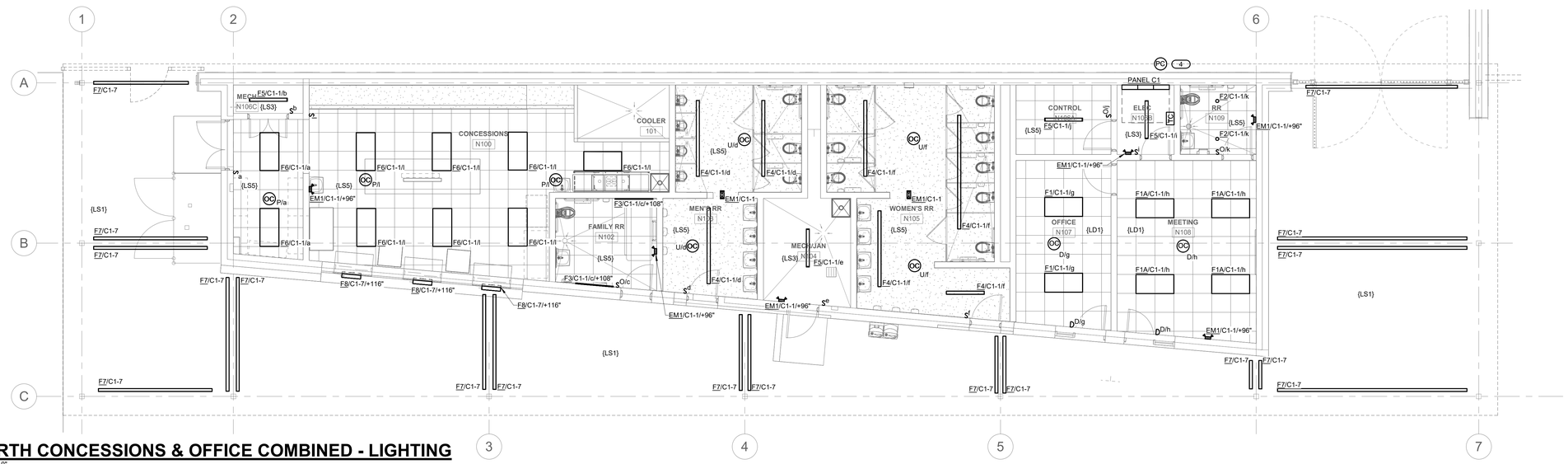
SHEET NOTES:

1. FIXTURE F7 TO BE MOUNTED IN CORRELATION WITH STRUCTUAL BEAM. TYPICAL ALL F7 FIXTURES. REFER TO STRUCTURAL SHEETS FOR COORDINATION.
2. ALL MECHANICAL EQUIPMENT DISCONNECTS/STARTERS PROVIED BY EQUIPMENT MANUFACTURER, WIRED BY EC UNLESS OTHERWISE NOTED.

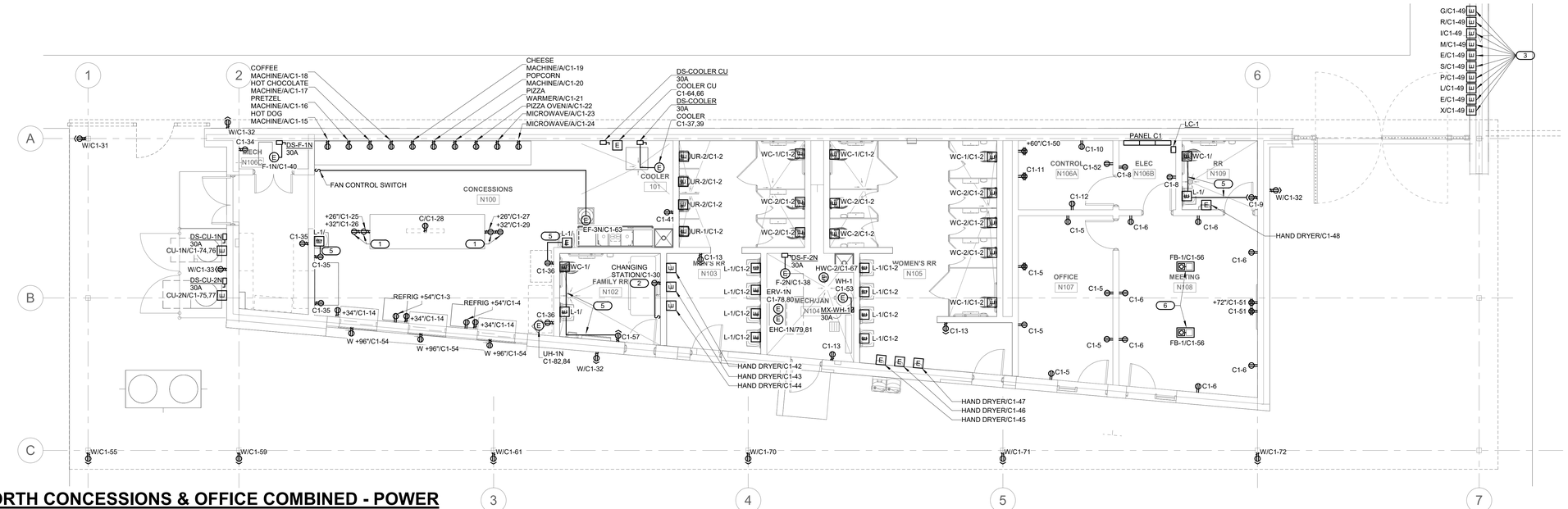
KEYNOTES: (#)

1. DEVICE MOUNTED IN MILLWORK. CORDINATE EXACT ROUTING OF CONDUIT AND DEVICE LOCATION WITH MILLWORK PROVIDER.
2. VERIFY EXACT POWER REQUIREMENTS WITH EQUIPTMENT ACTUALLY PROVIDED.
3. REFER TO 1/E400 FOR EXTERIOR LIGHTING CONTROL DETAIL.
4. PHOTOCELL MOUNTED ON ROOF. REFER TO DETAIL 2/E400.
5. CONNECT TO LINE SIDE OF GFI RECEPTACLE CIRCUIT.
6. CORDINATE WITH ARCHITECTURAL FOR LOCATION OF FLOOR BOX.



1 NORTH CONCESSIONS & OFFICE COMBINED - LIGHTING

3/16" = 1'-0"



2 NORTH CONCESSIONS & OFFICE COMBINED - POWER

3/16" = 1'-0"

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NORTH CONCESSIONS BUILDING PLANS - ELECTRICAL

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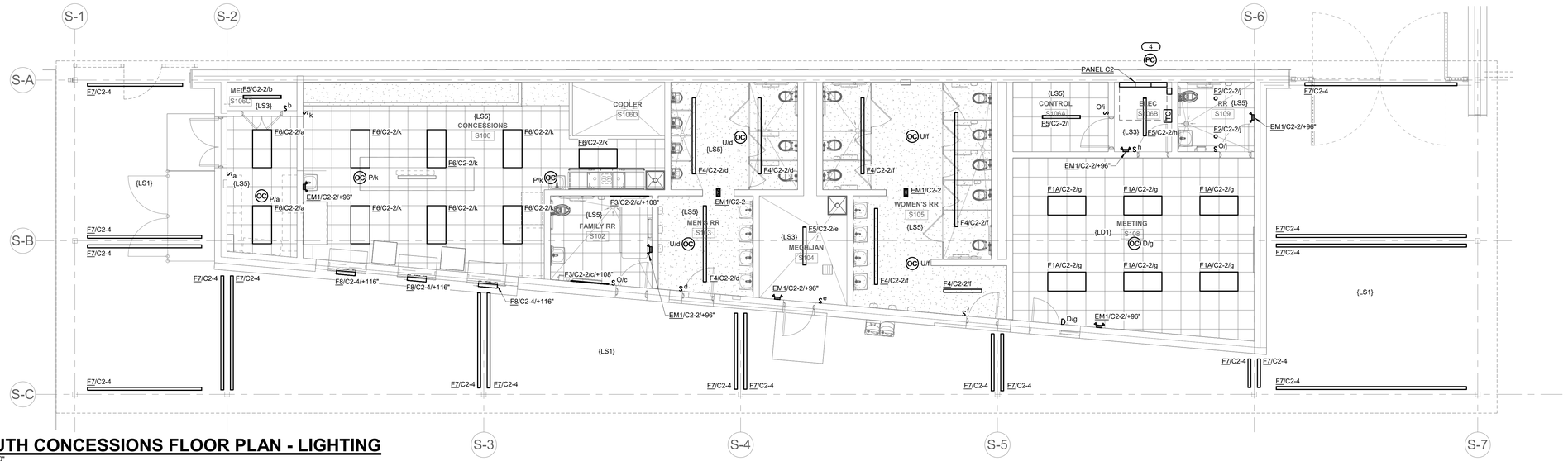
SHEET NOTES:

1. FIXTURE F7 TO BE MOUNTED IN CORRILATION WITH STRUCTUAL BEAM. TYPICAL ALL F7 FIXTURES.
2. ALL MECHANICAL EQUIPTMENT DISCONNECTS/STARTERS PROVIED BY EQUPITMENT MANUFACTURER, WIRED BY EC UNLESS OTHERWISE NOTED.

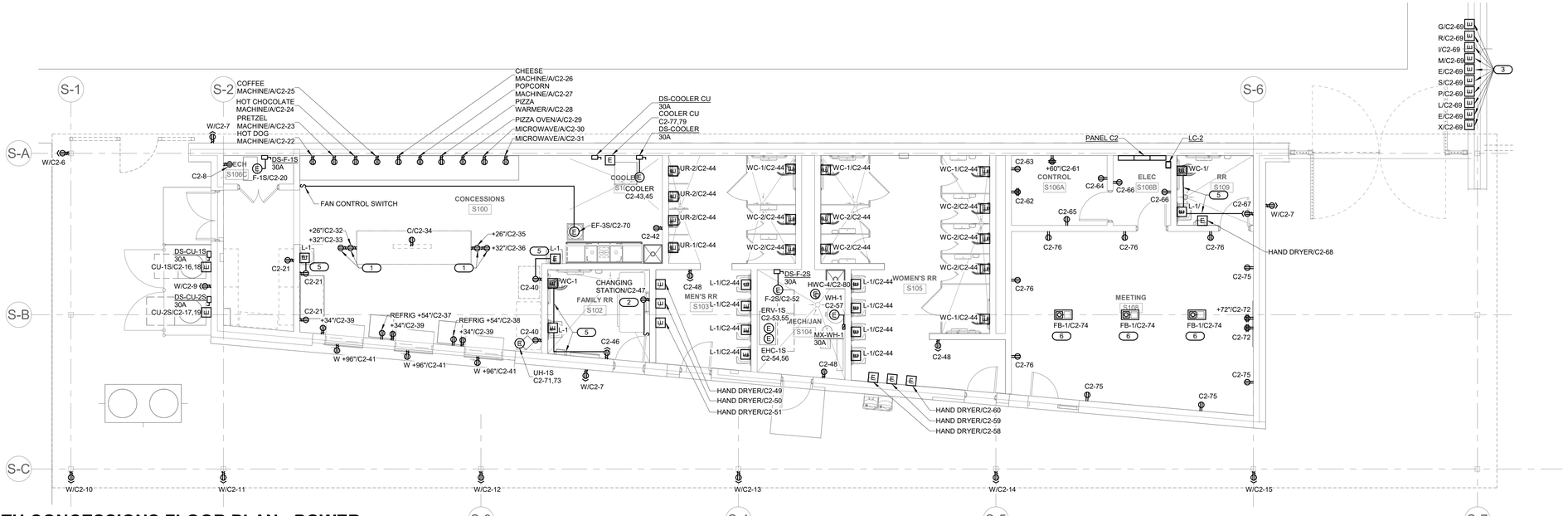
KEYNOTES: (#)

1. DEVICE MOUNTED IN MILLWORK. CORDINATE EXACT ROUTING OF CONDUIT AND DEVICE LOCATION WITH MILLWORK PROVIDER.
2. VERIFY EXACT REQUIREMENTS WITH EQUIPTMENT ACTUALLY PROVIDED.
3. REFER TO 1/E400 FOR EXTERIOR LIGHTING CONTROL DETAIL.
4. PHOTOCELL MOUNTED ON ROOF. REFER TO DETAIL 2/E400.
5. CONNECT TO LINE SIDE OF GFI RECEPTACLE CIRCUIT.
6. CORDINATE WITH ARCHITECTURAL FOR LOCATION OF FLOOR BOX.



1 SOUTH CONCESSIONS FLOOR PLAN - LIGHTING

3/16" = 1'-0"



2 SOUTH CONCESSIONS FLOOR PLAN - POWER

3/16" = 1'-0"

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SOUTH CONCESSIONS BUILDING PLANS - ELECTRICAL

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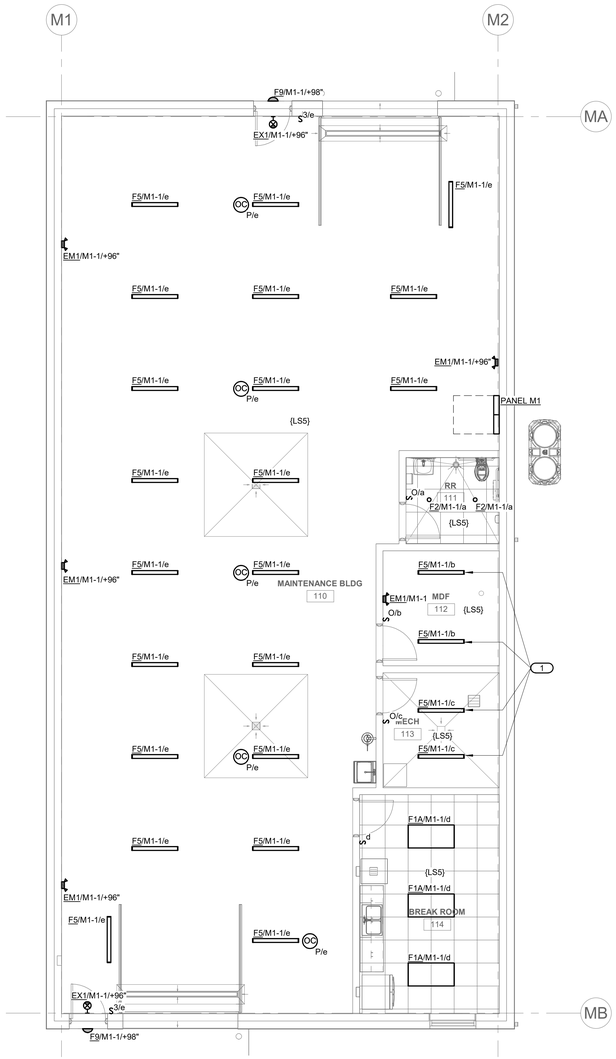
SHEET NOTES:

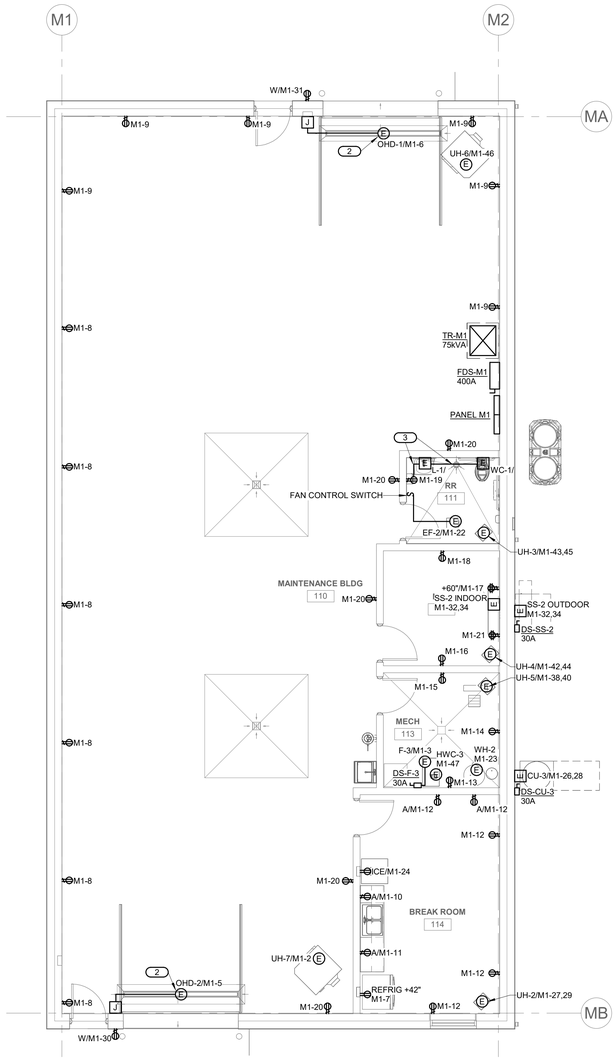
1. FIXTURE F5 TO BE MOUNTED TO BOTTOM OF JOISTS.
2. CEILING OCUPANCY SENSORS TO BE MOUNTED TO BOTTOM OF JOISTS.

KEYNOTES: (#)

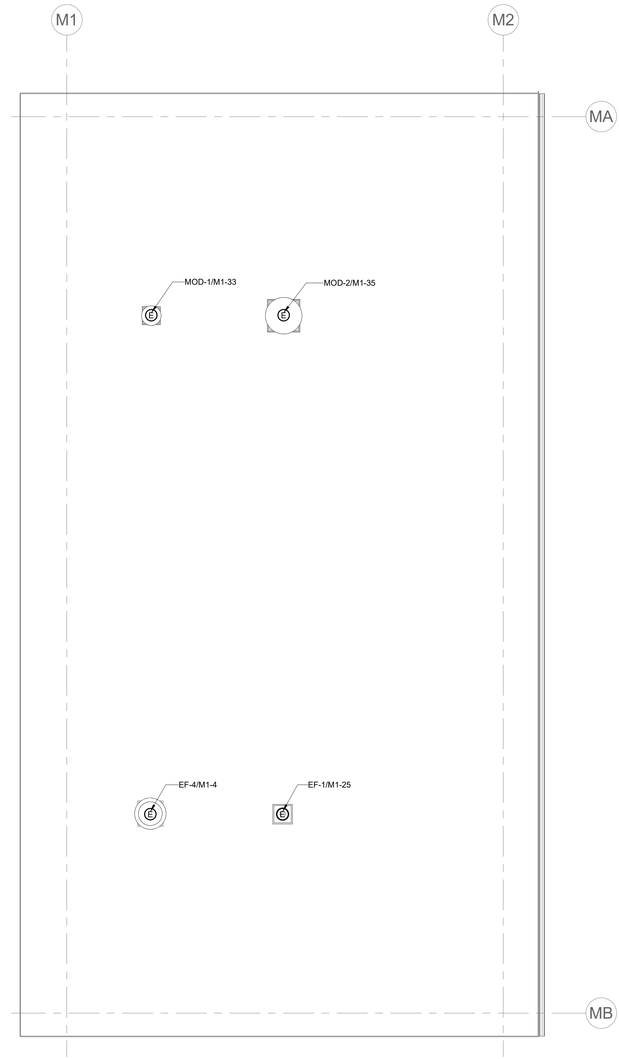
1. PENDANT MOUNT FIXTURE FROM JOISTS. CORDINATE WITH MECHANICAL CONTRACTOR TO AVOID MECHANICAL EQUIPMENT.
2. ELECTRICAL CONTRACTOR TO PROVIDE WIRING AND PATHWAYS FOR GARAGE CONTROLLERS.
3. CONNECT TO LINE SIDE OF GFI RECEPTACLE CIRCUIT.



1 MAINTENANCE BUILDING PLAN - LIGHTING
3/16" = 1'-0"



2 MAINTENANCE BUILDING PLAN - POWER
3/16" = 1'-0"



3 MAINTENANCE BUILDING ROOF PLAN - POWER & SYSTEMS
3/16" = 1'-0"

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MAINTENANCE BUILDING PLANS- ELECTRICAL

E101

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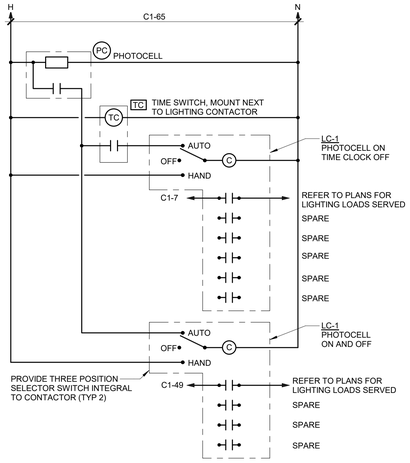
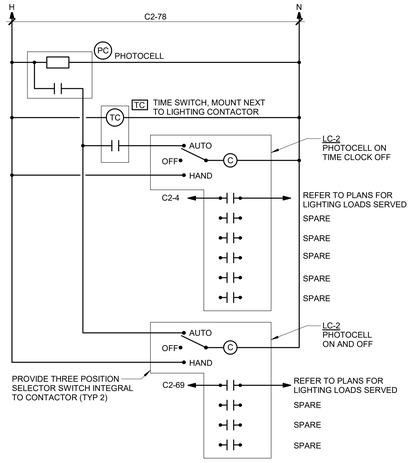


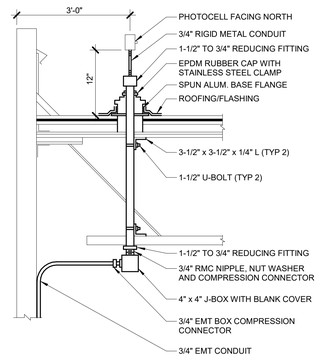
NORTH CONCESSIONS EXTERIOR LIGHTING CONTROL DETAIL

1 — 12" = 1'-0"



SOUTH CONCESSIONS EXTERIOR LIGHTING CONTROL DETAIL

2 — 12" = 1'-0"



NOTES

1. STRUCTURAL DETAIL SHOWN IS TO BE REPRESENTATIVE ONLY. REFER TO ARCHITECTURAL DRAWINGS AND STRUCTURAL DRAWINGS FOR ACTUAL CONDITIONS ON THIS PROJECT.

PHOTOCELL MOUNTING DETAIL

3 — 12" = 1'-0"

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ELECTRICAL DETAILS

E400

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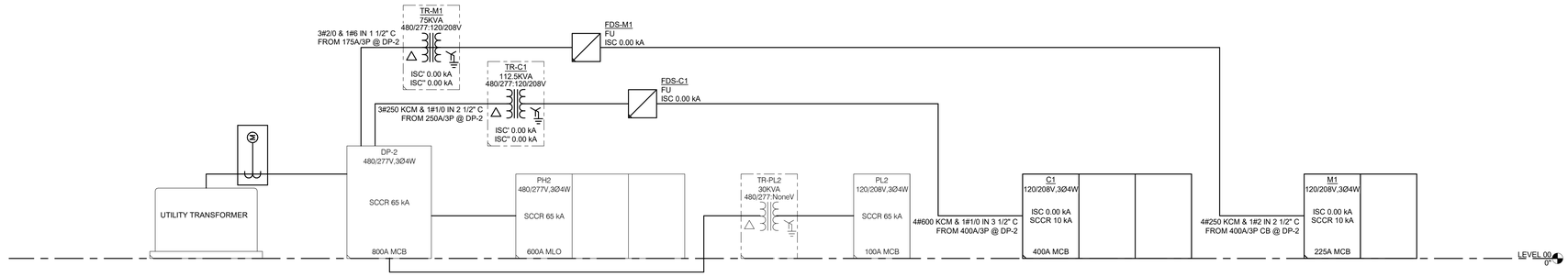
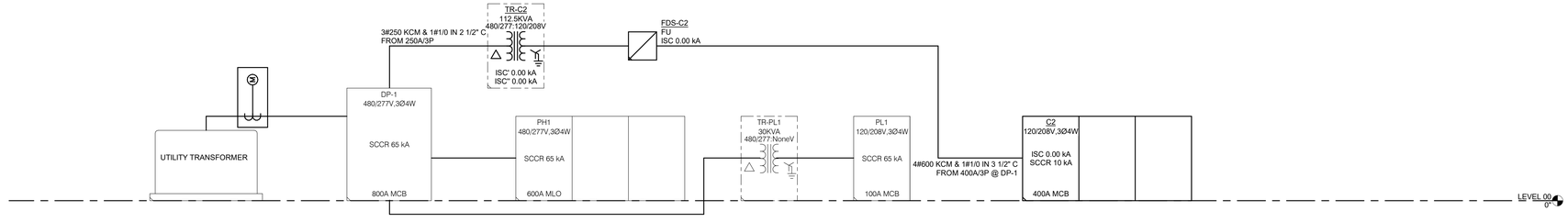


NORTH 1 **NORTH CONCESSIONS BUILDING RISER DIAGRAM**

12" = 1'-0"



NORTH 2 **SOUTH CONCESSIONS BUILDING RISER DIAGRAM**

12" = 1'-0"

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PROJECT NUMBER
22038

ELECTRICAL DIAGRAMS
E500

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REF. SCALE IN INCHES

PROJECT #23000288.00

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PLAN ID	LIGHTING CONTROL SEQUENCE DESCRIPTION:
	NOTES: **1, {L##} DENOTES THE LIGHTING SEQUENCE OF OPERATIONS FOR THIS SPACE.** **2, [#B] PUSH BUTTON REFERS TO SCENE QUANTITY. CONTROL STATION SHALL BE CAPABLE OF [RAISE/LOWER AND] SWITCHING ON/OFF FOR MULTIPLE SCENES AS INDICATED ON SHEETS AND THE LIGHTING SEQUENCE OF...**
{LS1}	Sequence: Switched lights are controlled in this space. ON: The lights turn on via an outdoor photocell when insufficient daylight is available. OFF: The lights will automatically turn off by astronomic time switch.
{LS2}	Sequence: Switched lights are controlled in this space. ON: The lights turn on via an outdoor photocell when insufficient daylight is available. OFF: The lights will automatically turn off when sufficient daylight is available.
{LS3}	Sequence: Switched lights are controlled in this space. ON: The lights turn on using switches. OFF: The lights turn off using switches.
{LS4}	Sequence: Switched lights are controlled in this space. ON: The lights turned on using switches. OFF: After the space has been vacant for 15 minutes, the lights will automatically turn off.
{LS5}	Sequence: Switched lights are controlled in this space. ON: The lights are turn on by occupancy sensor or by switch. OFF: The lights are After the space has been vacant for 15 minutes, the lights will automatically turn off.
{LS6}	Sequence: Switched lights and exhaust fan are controlled in this space. ON: The lights turn on by occupancy sensor. Exhaust fan shared with other toilet is turned on by occupancy sensor. OFF: The lights turn off after the space has been vacant for 15 minutes. Exhaust fan is turned off after both toilets are vacant for 15 minutes. [ADDITIONAL CONTROL: This space will have contact closure outputs available for VAV unoccupied control.]
{LD1}	Sequence: Dimmed lights are controlled in this space. ON: The lights turned on using a wall control or at last switched state upon occupancy. ADJUST: The dimmable lights are raised / lowered using a wall controller. OFF: The lights may be turned off using a wall controller. After the space has been vacant for 15 minutes, the lights will automatically turn off. [ADDITIONAL CONTROL: This space will have contact closure outputs available for VAV unoccupied control.]

LED LUMINAIRE SCHEDULE

(DESC) DOOR:	**DISTRIBUTION:**	**BEAM/WIDTH:**	**(L/L) LENS/LOUVER:**
FA - FLAT ALUMINUM	II - ANSI/IES TYPE 2 DISTRIBUTION	NSP - VERY NARROW SPOT	K19 - KSH19 .156" ACRYLIC
FS - FLAT STEEL	III - ANSI/IES TYPE 3 DISTRIBUTION	SP - SPOT	A - .125"ACRYLIC
RA - REGRESSED ALUMINUM	IV - ANSI/IES TYPE 4 DISTRIBUTION	MD - MEDIUM	B - BAFFLE/LOUVER
RS - REGRESSED STEEL	V - ANSI/IES TYPE 5 DISTRIBUTION	WD - WIDE	C - CLEAR ALZAK
FINISH:		VWD - VERY WIDE	F - FROSTED ACRYLIC
PAF - PAINT AFTER FABRICATION		WW - WALL WASH	G - TEMPERED GLASS
CFSA - COLOR-FINISH SELECTION BY ARCHITECT			K - KSH12 .125" ACRYLIC
(MTG)...	RE - RECESSED		**(WATT) PER: FIX - FIXTURE, FT - FOOT, LAMP**
CL - CEILING SURFACE	SP - SUSPENDED		**(TYPE) LED**
CV - COVE	SU - SURFACE		LED - LIGHT EMITTING DIODE
FR - FLANGED RECESSED	UC - UNDER CABINET		TLED - TUBULAR LED LAMP
P - PERIMETER	WL - WALL		OLED - ORGANIC LED
PL - POLE	O - OTHER (SEE DESCRIPTION)		DLED - DYNAMIC TUNABLE LED
(TYPE) DRIVER:			
0-10V - 0-10V DIMMING	EB - ELECTRONIC	HL - HIGH/LOW (100%/50%) STEP DIM	MV - MULTI-VOLTAGE ELECTRONIC
DALI - DIGITAL ADDRESSABLE	ELV - ELECTRONIC LOW VOLTAGE	LINE - LINE VOLTAGE DIMMING	REM - REMOTE
DMX - DIGITAL MULTIPLEX	EM - EMERGENCY BATTERY	ML - MULTI-LEVEL SWITCHING	O - OTHER (SEE DESCRIPTION)

				DIMENSIONS				WATT		LED			DRIVER		
ITEM	DESCRIPTION	L/L	MTG	L	W	H	DIA	MAX ANSI	PER	TYPE	QTY	DELIVERED LUMENS (MIN)	VOLTS	TYPE	APPROVED MANUFACTURER / SERIES
F1	RECESSED ARCHITECTURAL LED TROFFER WITH ONE-PIECE 24 GAUGE STEEL REFLECTOR AND HOUSING. OPAL ACRYLIC DIFFUSER. WHITE POWER COAST FINISH.	O	RE	48"	24"	4"	NA	51 W	FIX	LED	1	5500	120V	0-10V	FOCAL POINT FEG2-24 SERIES FINELITE HPR SERIES MARK ARCHITECTURAL WHSPR SERIES OR ENGINEER PRE-APPROVED EQUIVALENT.
F1A	SIMILAR TO F1 BUT WITH A LOWER LUMEN PACKAGE.	O	RE	48"	24"	4"	NA	33 W	FIX	LED	1	4000	120V	0-10V	REFER TO F1.
F2	3.5" ROUND DOWNLIGHT. 50 DEGREE BEAM SPREAD. WIDE FLOOD. FINISH SELECTED BY ARCHITECT.	O	RE	NA	NA	2.6"	4"	12 W	FIX	LED	1	2100	120V	0-10V	FOCAL POINT FLC3D SERIES GOTHAM EVO SERIES PORTFOLIO LD4C SERIES OR ENGINEER PRE-APPROVED EQUIVALENT.
F3	LED SURFACE LED MOUNT LUMINAIRE, EXTRUDED MARINE ALUMINIUM HOUSING, LISTED FOR DAMP LOCATION,IP64 RATED	P	CL	48"	5"	4"	NA	49 W	FIX	LED	1	4000	120V	0-10V	KENALL ML4A5 SERIES OR ENGINEER PRE-APPROVED EQUIVALENT.
F4	LINEAR RECESSED LED FIXTURE. 4" APERATURE, ONE PIECE ALUMINUM HOUSING. FINISH SELECTED BY ARCHITECT. REFER TO DRAWINGS FOR EXACT LENGTH.	O	RE	X"	4"	4.88"	NA	13 W	FT	LED	1	375 LUMEN/FT	120V	0-10V	FOCAL POINT FSM4L SERIES AXIS BBLED SERIES FINELITE HP-4R SERIES OR ENGINEER PRE-APPROVED...
F5	SURFACE MOUNT LUMINAIRE, 22 GUAGE STEEL CONSTRUCTION, POLYCARBONATE END CAPS, ACRYLIC LENS, LISTED FOR DAMP LOCATIONS.	F	SP/CL	48"	3"	3.875"	NA	31 W	FIX	LED	1	4000	120V	0-10V	COOPER METALUX SNLED SERIES COLUMBIA LCL SERIES LITHONIA CLX SERIES OR ENGINEER PRE-APPROVED...
F6	LED CEILING MOUNT FOOD PROCESSING LUMINAIRE. DIFFUSED HIGH-EFFICIENCY LENS. RECESSED CEILING MOUNT. ONE PIECE OVERLAPPING DOOR.	F	CL	47.94"	23.94"	4.43"	NA	48 W	FIX	LED	1	4000	120V	0-10V	KENALL CSEDO SERIES OR ENGINEER PRE-APPROVED EQUIVALENT.
F7	3" SUSPENDED BIDIRECTIONAL LINEAR LED LUMENAIRE. APPROVED FOR WET LOCATION. IP65 AND IK10 RATED. SATINE WET LENS AND EXTRUDED ALUMINUM HOUSING. REFER TO DRAWINGS FOR EXACT LENGTH.	O	SP	X"	3.687"	4.687"	NA	4.3 W	FT	LED	1	447 LUMEN/FT	120V	0-10V	PINNACLE EDGE WET 3 OR ENGINEER PRE-APPROVED EQUIVALENT.
F8	3" WALL MOUNTED BIDIRECTIONAL LINEAR LED LUMENAIRE. APPROVED FOR WET LOCATION. IP65 AND IK10 RATED. SATINE WET LENS AND EXTRUDED ALUMINUM HOUSING.	O	WL	24"	3.687"	4.687"	NA	4.3 W	FT	LED	1	447 LUMEN/FT	120V	0-10V	PINNACLE EDGE WET 3 OR ENGINEER PRE-APPROVED EQUIVALENT.
F9	WALL MOUNTED COMMERCIAL OUTDOOR LED. EMERGENCY BATTERY BACKUP.	O	WL	5.5"	9"	8"	NA	4 W	FIX	LED	1	1200	120V	EM	LITHONIA WDGE1 LED OR PRE-OR ENGINEER PRE-APPROVED EQUIVALENT.
EM1	EMERGENCY UNIT, TWO ADJUSTABLE LED HEADS, WHITE THERMOPLASTIC HOUSING. SELF TEST & DIAGNOSTICS OF INVERTER AND LAMPS.	O	WL	11"	3.5"	7.5"	N/A	3 W	FIX	LED	1	3 WATT LED	120V	EM	HUBBELL DUAL-LITE EVHC ACUITY LITHONIA ELM4L EELP EM20-E-LED ISOLITE BUG SERIES OR ENGINEER PRE-APPROVED EQUIVALENT
EX1	SINGLE-FACE EXIT SIGN, WHITE THERMOPLASTIC BODY, GREEN LETTERS, EMERGENCY NI-CAD BATTERY INSIDE OF SIGN, UNIVERSAL ARROWS/MOUNTING. SUITABLE FOR OPERATION IN TEMPERATURES OF 0-40 DEGREES CELSIUS.	O	WL	12"	1.5"	10"	N/A	3 W	FIX	LED	1	3 WATT LED	120V	EM	ACUITY LITHONIA LQMS SIGNIFY CHLORIDE CLX CURRENT HLI DUAL-LITE EVE COOPER SURELITES APX* OR ENGINEER PRE-APPROVED EQUIVALENT

CATALOG NUMBER SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND CATALOG NUMBER ONLY. THE COMPLETE DESCRIPTION AND THE SPECIFICATION SHALL BE COORDINATED WITH THE CATALOG NUMBER TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE FIRST MANUFACTURER LISTED IS THE BASIS OF DESIGN.

VERIFY AND COORDINATE ALL CEILING TYPES WITH LUMINAIRE MOUNTING AND TRIM REQUIREMENTS PRIOR TO THE RELEASE OF THE LUMINAIRE ORDER.
CONFIRM ALL COLORS AND FINISHES OF ALL LUMINAIRE COMPONENTS WITH ARCHITECT AND INTERIOR DESIGNER PRIOR TO THE RELEASE OF THE LUMINAIRE ORDER.
UNLESS INDICATED ON LIGHTING PLANS OR BELOW, REFER TO ARCHITECTURAL AND INTERIOR DESIGN ELEVATIONS, SECTIONS AND DETAILS FOR ALL SUSPENDED AND WALL MOUNTED LUMINAIRE MOUNTING HEIGHTS.

REFER TO SPECIFICATION SECTIONS LIGHTING 26 51 19 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
INTERIOR CORRELATED COLOR TEMPERATURE 4000K, COLOR RENDERING INDEX (CRI) AT OR ABOVE 80, UNLESS NOTED OTHERWISE.
EXTERIOR CORRELATED COLOR TEMPERATURE 4000K, COLOR RENDERING INDEX (CRI) AT OR ABOVE 80, UNLESS NOTED OTHERWISE.

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GRIMESPLEX

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ISSUANCE

CONSTRUCTION DOCUMENTS
04/25/2023

REVISIONS

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PROJECT NUMBER
22038

ELECTRICAL SCHEDULES

E600

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PROJECT #23000288.00

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ELECTRICAL CONNECTION SCHEDULE

	ITEM	LOCATION	VOLTAGE	LOAD CLASS.	MOTOR	MOTORS QTY @ HP	MOTORS QTY @ HP	MOTORS QTY @ HP	ELECTRIC HEATING ELEMENT (KW)	APPARENT LOAD	FLA	MCA	MOCP	OCPD	REQ EMER	CIRCUIT NUMBER	WIRE AND RACEWAY	ISC	SCCR	DISCONNECT BY	DISCONNECT TYPE	CONTROLLER / STARTER BY	CONTROLLER / STARTER TYPE	COMMENTS
	L-1		120 V, 1Ø	Receptacles	No	0 - 0	0 - 0	0 - 0	0	0.00 kVA	0 A	0 A	0 A	20 A	No			0 A	0 A					

PANEL C1

MOUNTING: SURFACE
ENCLOSURE: NEMA PB 1
FED FROM: 400 A/3P @ DP-2
LOCATION: ELEC N106B

SOLID NEUTRAL
GROUND BUS

MAIN: 400 A MCB
VOLTS: 120/208 Wye
PHASE: 3
WIRE: 4
SCCR: 10 kA
ISC UNKNOWN 0.00 kA

NOTES:

KEY	CKT NO.	LOAD DESCRIPTION	OCPD AMPS	P	WIRE SIZE H	WIRE SIZE N	WIRE SIZE G	A	B	C	WIRE SIZE G	WIRE SIZE N	WIRE SIZE H	P	OCPD AMPS	LOAD DESCRIPTION	CKT NO.	KEY
	1	INDOOR LIGHTING	20 A	1	12	12	12	2.75	0.12		12	12	12	1	20 A	WC/LUR CONNECTIONS	2	*G
*G	3	FRIDGE 1	20 A	1	12	12	12			1	12	12	12	1	20 A	FRIDGE 2	4	*G
	5	OFFICE RECEPTACLES	20 A	1	12	12	12			1.08	12	12	12	1	20 A	MEETING RECEPTACLES	6	
	7	OUTDOOR LIGHTING	20 A	1	12	12	12	0.67	0.36		12	12	12	1	20 A	ELEC ROOM RECEPTACLES	8	
	9	RR RECEPTACLE	20 A	1	12	12	12		0.18	0.18	12	12	12	1	20 A	CONTROL RECEPTACLE 1	10	
	11	CONTROL RECEPTACLE 2	20 A	1	12	12	12			0.36	0.18	12	12	1	20 A	CONTROL RECEPTACLE 3	12	
	13	F-RR/M-RR/W-RR/JAN RECEPTACLES	20 A	1	12	12	12	0.54	0.54		12	12	12	1	20 A	PURCHASE WINDOW RECEPTACLES	14	
	15	HOT DOG MACHINE	20 A	1	12	12	12		1	1	12	12	12	1	20 A	PRETZEL MACHINE	16	
	17	HOT CHOCOLATE MACHINE	20 A	1	12	12	12			1	12	12	12	1	20 A	COFFEE MACHINE	18	
	19	CHEESE MACHINE	20 A	1	12	12	12	1	1		12	12	12	1	20 A	POPCORN MACHINE	20	
	21	PIZZA WARMER	20 A	1	12	12	12		1	1	12	12	12	1	20 A	PIZZA OVEN	22	
	23	MICROWAVE	20 A	1	12	12	12			1.5	1.5	12	12	12	1	20 A	MICROWAVE	24	
	25	UNDER COUNTER RECEPTACLE 1	20 A	1	12	12	12	0.18	0.18		12	12	12	1	20 A	UNDER COUNTER RECEPTACLE 2	26	
	27	UNDER COUNTER RECEPTACLE 3	20 A	1	12	12	12		0.18	0.18	12	12	12	1	20 A	HANGING TV RECEPTACLE	28	
	29	UNDER COUNTER RECEPTACLE 4	20 A	1	12	12	12			0.18	1	12	12	1	20 A	CHANGING STATION	30	
	31	BEAM RECEPTACLE 1	20 A	1	12	12	12	0.18	0.54		12	12	12	1	20 A	OUTDOOR RECEPTACLES	32	
	33	DEDICATED OUTDOOR RECEPTACLE	20 A	1	12	12	12		0.18	0.18	12	12	12	1	20 A	MECH ROOM RECEPTACLE	34	
	35	CONCESSIONS WALL RECEPTACLES 1	20 A	1	12	12	12			0.54	0.36	12	12	1	20 A	CONCESSIONS WALL RECEPTACLES 2	36	
*G	37	COOLER	20 A	2	12	12	12	0.57	0.8		12	12	12	1	20 A	F-2N	38	
--	39	--	--	--	--	--	--		0.57	0.6	12	12	12	1	20 A	F-1N	40	
	41	UNDER COUNTER RECEPTACLE 6	20 A	1	12	12	12			0.18	1.12	10	10	1	25 A	HAND DRYER 1	42	*G
*G	43	HAND DRYER 2	25 A	1	10	10	10	1.12	1.12		10	10	10	1	25 A	HAND DRYER 3	44	*G
*G	45	HAND DRYER 4	25 A	1	10	10	10		1.12	1.12	10	10	10	1	25 A	HAND DRYER 5	46	*G
*G	47	HAND DRYER 6	25 A	1	10	10	10			1.12	1.12	10	10	1	25 A	HAND DRYER 7	48	*G
	49	SIGN	20 A	1	12	12	12	1.2	0.18		12	12	12	1	20 A	TECH RACK RECEPTACLE	50	
	51	MEETING ROOM MONITOR RECEPTACLES	20 A	1	12	12	12		0.36	0.18	12	12	12	1	20 A	CONTROL RECEPTACLE 4	52	
	53	WATER HEATER	200 A	1	3/0	3/0	6			17.7	0.54	12	12	1	20 A	OUTDOOR MONITORS	54	*G
	55	BEAM RECEPTACLE 2	20 A	1	12	12	12	0.18	0.36		12	12	12	1	20 A	FLOOR BOX	56	
	57	FAMILY RR RECEPTACLE	20 A	1	12	12	12		0.18	0.5		10	6	6	3	60 A	(FUTURE) DISHWASHER	58	
	59	BEAM RECEPTACLE 3	20 A	1	12	12	12			0.18	0.5	--	--	--	--	--	--	60	--
	61	BEAM RECEPTACLE 4	20 A	1	12	12	12	0.18	0.5		--	--	--	--	--	--	--	62	--
	63	EF-3N	20 A	1	12	12	12		0.15	0.57	12	12	12	2	20 A	COOLER CU	64	
--	65	EXTERIOR LIGHTING CONTROLS	20 A	1	--	--	--			0	0.57	--	--	--	--	--	--	66	--
	67	HWC-2	20 A	1	12	12	12	0.5	0		--	--	--	1	20 A	SPARE	68	--
--	69	SPARE	20 A	1	--	--	--		0	0.18	12	12	12	1	20 A	BEAM RECEPTACLE 5	70	
	71	BEAM RECEPTACLE 6	20 A	1	12	12	12			0.18	0.18	12	12	12	1	20 A	BEAM RECEPTACLE 7	72	
	73	--						1.88				10	10	10	2	25 A	CU-1N	74	
	75	CU-2N	30 A	2	10	10	10		2.2	1.88		--	--	--	--	--	--	76	--
--	77	--	--	--	--	--	--			2.2	0.8	12	12	12	2	20 A	ERV-1N	78	
	79	EHC-1N	60 A	2	6	6	10	5	0.8		--	--	--	--	--	--	--	80	--
--	81	--	--	--	--	--	--		5	4.2	10	6	6	2	60 A	UH-1N	82	
--	83	SPD	30 A	3	--	--	--			0	4.2	--	--	--	--	--	--	84	--
--	85	--	--	--	--	--	--	0	0		--	--	--	1	20 A	SPARE	86	--
--	87	--	--	--	--	--	--		0	0	--	--	--	1	20 A	SPARE	88	--
--	89	SPARE	20 A	1	--	--	--			0	0	--	--	--	1	20 A	SPARE	90	--
--	91	SPARE	20 A	1	--	--	--	0	0		--	--	--	1	20 A	SPARE	92	--
--	93	SPARE	20 A	1	--	--	--		0	0	--	--	--	1	20 A	SPARE	94	--
--	95	SPARE	20 A	1	--	--	--			0	0	--	--	--	1	20 A	SPARE	96	--
--	97	SPARE	20 A	1	--	--	--	0	0		--	--	--	--	1	20 A	SPARE	98	--
--	99	SPARE	20 A	1	--	--	--		0	0	--	--	--	--	1	20 A	SPARE	100	--
--	101	SPACE	--	1	--	--	--				--	--	--	--	1	--	SPACE	102	--
--	103	SPACE	--	1	--	--	--	--	--			--	--	--	1	--	SPACE	104	--
--	105	SPACE	--	1	--	--	--			--	--	--	--	--	1	--	SPACE	106	--
--	107	SPACE	--	1	--	--	--				--	--	--	--	1	--	SPACE	108	--
--	109	SPACE	--	1	--	--	--	--	--			--	--	--	1	--	SPACE	110	--
--	111	SPACE	--	1	--	--	--			--	--	--	--	--	1	--	SPACE	112	--
--	113	SPACE	--	1	--	--	--	--	--			--	--	--	1	--	SPACE	114	--
--	115	SPACE	--	1	--	--	--			--	--	--	--	--	1	--	SPACE	116	--
--	117	SPACE	--	1	--	--	--	--	--			--	--	--	1	--	SPACE	118	--
--	119	SPACE	--	1	--	--	--			--	--	--	--	--	1	--	SPACE	120	--
--	121	SPACE	--	1	--	--	--	--	--			--	--	--	1	--	SPACE	122	--
--	123	SPACE	--	1	--	--	--			--	--	--	--	--	1	--	SPACE	124	--
--	125	SPACE	--	1	--	--	--				--	--	--	--	1	--	SPACE	126	--

Total Load:	22.43 kVA	25.88 kVA	40.55 kVA
Total Amps:	186.90	220.04	342.29

LOAD SUMMARY

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	TOTALS*	
HVAC	19.25 kVA	100.00%	19.25 kVA		
HVAC Cooling Only	9.28 kVA	100.00%	9.28 kVA	**TOTAL CONNECTED LOAD:**	88.85 kVA
HVAC Heating Only	8.4 kVA	100.00%	8.4 kVA	**TOTAL ESTIMATED DEMAND LOAD:**	73.081 kVA
Lighting	3.413 kVA	100.00%	3.413 kVA	**TOTAL CONNECTED AMPS:**	246.62 A
Power	23.77 kVA	100.00%	23.77 kVA	**TOTAL ESTIMATED DEMAND AMPS:**	202.9 A
Receptacles	24.735 kVA	70.21%	17.368 kVA		

*TOTAL DEMAND CALCS SUBTRACT ANY REDUNDANT LOAD AND THE SMALLER OF ANY NONCOINCIDENT HVAC LOADS. THIS CALC IS DONE AT EACH PANEL.

CIRCUIT KEY NOTES: *G = GFCI RATED CIRCUIT BREAKER

PANEL C2

MOUNTING: SURFACE
ENCLOSURE: NEMA PB 1
FED FROM: 400 A/3P @ DP-1
LOCATION: ELEC S106B

SOLID NEUTRAL
GROUND BUS

MAIN: 400 A MCB
VOLTS: 120/208 Wye
PHASE: 3
WIRE: 4
SCCR: 10 kA
ISC UNKNOWN 0.00 kA

NOTES:

KEY	CKT NO.	LOAD DESCRIPTION	OCPD AMPS	P	WIRE SIZE H	WIRE SIZE N	WIRE SIZE G	A	B	C	WIRE SIZE G	WIRE SIZE N	WIRE SIZE H	P	OCPD AMPS	LOAD DESCRIPTION	CKT NO.	KEY
--	1	SPD	30 A	3	--	--	--	0	2.71		12	12	12	1	20 A	INDOOR LIGHTING	2	
--	3	--	--	--	--	--	--			0	0.67	12	12	12	1	20 A	OUTDOOR LIGHTING	4	
--	5	--	--	--	--	--	--				0	0.18	12	12	12	1	20 A	BEAM RECEPTACLE 1	6	
	7	OUTDOOR RECEPTACLES	20 A	1	12	12	12	0.54	0.18				12	12	12	1	20 A	MECH ROOM RECEPTACLE	8	
	9	DEDICATED OUTDOOR RECEPTACLE	20 A	1	12	12	12			0.18	0.18		12	12	12	1	20 A	BEAM RECEPTACLE 2	10	
	11	BEAM RECEPTACLE 3	20 A	1	12	12	12					0.18	0.18	12	12	1	20 A	BEAM RECEPTACLE 4	12	
	13	BEAM RECEPTACLE 5	20 A	1	12	12	12	0.18	0.18				12	12	12	1	20 A	BEAM RECEPTACLE 6	14	
	15	BEAM RECEPTACLE 7	20 A	1	12	12	12			0.18	1.9		10	10	10	2	25 A	CU-1S	16	
	17	CU-2S	30 A	2	10	10	10					2.2	1.9	--	--	--	--	18	--
--	19	--	--	--	--	--	--	2.2	1.13				12	12	12	1	20 A	F-1S	20	
	21	CONCESSIONS WALL RECEPTACLES 1	20 A	1	12	12	12			0.54	1		12	12	12	1	20 A	HOT DOG MACHINE	22	
	23	PRETZEL MACHINE	20 A	1	12	12	12					1	1	12	12	1	20 A	HOT CHOCOLATE MACHINE	24	
	25	COFFEE MACHINE	20 A	1	12	12	12	1	1				12	12	12	1	20 A	CHEESE MACHINE	26	
	27	POPCORN MACHINE	20 A	1	12	12	12			1	1		12	12	12	1	20 A	PIZZA WARMER	28	
	29	PIZZA OVEN	20 A	1	12	12	12					1	1	12	12	1	20 A	MICROWAVE	30	
	31	MICROWAVE	20 A	1	12	12	12	1	0.18				12	12	12	1	20 A	UNDER COUNTER RECEPTACLE 1	32	
	33	UNDER COUNTER RECEPTACLE 2	20 A	1	12	12	12			0.18	0.18		12	12	12	1	20 A	HANGING TV RECEPTACLE	34	
	35	UNDER COUNTER RECEPTACLE 3	20 A	1	12	12	12					0.18	0.18	12	12	1	20 A	UNDER COUNTER RECEPTACLE 4	36	
*G	37	FRIDGE 1	20 A	1	12	12	12	1	1				12	12	12	1	20 A	FRIDGE 2	38	*G
	39	PURCHASE WINDOW RECEPTACLES	20 A	1	12	12	12			0.54	0.36		12	12	12	1	20 A	CONCESSIONS WALL RECEPTACLES 2	40	
*G	41	OUTDOOR MONITORS	20 A	1	12	12	12					0.54	0.18	12	12	1	20 A	UNDER COUNTER RECEPTACLE 6	42	
*G	43	COOLER	20 A	2	12	12	12	0.57	0.12				12	12	12	1	20 A	WC/LUR CONNECTIONS	44	*G
--	45	--	--	--	--	--	--		0.57	0.18			12	12	12	1	20 A	FAMILY RR RECEPTACLE	46	
	47	CHANGING STATION	20 A	1	12	12	12				1	0.54	12	12	12	1	20 A	F-RR/M-RR/W-RR/JAN RECEPTACLES	48	
*G	49	HAND DRYER 1	25 A	1	10	10	10	1.12	1.12				10	10	10	1	25 A	HAND DRYER 2	50	*G
*G	51	HAND DRYER 3	25 A	1	10	10	10			1.12	0.8		12	12	12	1	20 A	F-2S	52	
	53	ERV-1S	20 A	2	12	12	12					0.8	5	10	6	6	2	60 A	EHC-1S	54	
--	55	--	--	--	--	--	--	0.8	5				--	--	--	--	--	--	56	--
	57	WATER HEATER	200 A	1	3/0	3/0	6			17.7	1.12		10	10	10	1	25 A	HAND DRYER 4	58	*G
*G	59	HAND DRYER 5	25 A	1	10	10	10					1.12	1.12	10	10	1	25 A	HAND DRYER 6	60	*G
	61	TECH RACK RECEPTACLE	20 A	1	12	12	12	0.18	0.36				12	12	12	1	20 A	CONTROL RECEPTACLE 2	62	
	63	CONTROL RECEPTACLE 1	20 A	1	12	12	12			0.18	0.18		12	12	12	1	20 A	CONTROL RECEPTACLE 4	64	
	65	CONTROL RECEPTACLE 3	20 A	1	12	12	12					0.18	0.36	12	12	1	20 A	CONTROL RECEPTACLE 3	66	
	67	RR RECEPTACLE	20 A	1	12	12	12	0.18	1.12				10	10	10	1	25 A	HAND DRYER 7	68	*G
	69	SIGN	20 A	1	12	12	12			1.2	0.15		12	12	12	1	20 A	EF-3S	70	
	71	UH-1S	60 A	2	6	6	10					4.2	0.36	12	12	12	1	20 A	MEETING ROOM MONITOR RECEPTACLES	72	
	73	--	--	--	--	--	--	4.2	0.54				12	12	12	1	20 A	FLOOR BOX	74	
	75	MEETING RECEPTACLES	20 A	1	12	12	12			0.72	0.9		12	12	12	1	20 A	MEETING RECEPTACLES	76	
	77	COOLER CU	20 A	2								0.57	0	--	--	--	1	20 A	EXTERIOR LIGHTING CONTROLS	78	--
--	79	--	--	--	--	--	--	0.57	0.5				12	12	12	1	20 A	HWC-4	80	
--	81	SPARE	20 A	1	--	--	--			0	0		--	--	--	1	20 A	SPARE	82	--
--	83	SPARE	20 A	1	--	--	--					0	0	--	--	1	20 A	SPARE	84	--
--	85	SPARE	20 A	1	--	--	--	0	0				--	--	--	1	20 A	SPARE	86	--
--	87	SPARE	20 A	1	--	--	--			0	0		--	--	--	1	20 A	SPARE	88	--
--	89	SPARE	20 A	1	--	--	--					0	0	--	--	1	20 A	SPARE	90	--
--	91	SPARE	20 A	1	--	--	--	0	0				--	--	--	1	20 A	SPARE	92	--
--	93	SPARE	20 A	1	--	--	--			0	0		--	--	--	1	20 A	SPARE	94	--
--	95	SPARE	20 A	1	--	--	--					0	0	--	--	1	20 A	SPARE	96	--
--	97	SPARE	20 A	1	--	--	--	0	0				--	--	--	1	20 A	SPARE	98	--
--	99	SPARE	20 A	1	--	--	--			0	0		--	--	--	1	20 A	SPARE	100	--
--	101	SPARE	20 A	1	--	--	--					0	0	--	--	1	20 A	SPARE	102	--
--	103	SPACE	--	1	--	--	--	--	--				--	--	--	1	--	SPACE	104	--
--	105	SPACE	--	1	--	--	--			--	--		--	--	--	1	--	SPACE	106	--
--	107	SPACE	--	1	--	--	--					--	--	--	--	1	--	SPACE	108	--
--	109	SPACE	--	1	--	--	--	--	--				--	--	--	1	--	SPACE	110	--
--	111	SPACE	--	1	--	--	--			--	--		--	--	--	1	--	SPACE	112	--
--	113	SPACE	--	1	--	--	--					--	--	--	--	1	--	SPACE	114	--
--	115	SPACE	--	1	--	--	--	--	--				--	--	--	1	--	SPACE	116	--
--	117	SPACE	--	1	--	--	--			--	--		--	--	--	1	--	SPACE	118	--
--	119	SPACE	--	1	--	--	--					--	--	--	--	1	--	SPACE	120	--
--	121	SPACE	--	1	--	--	--	--	--				--	--	--	1	--	SPACE	122	--
--	123	SPACE	--	1	--	--	--			--	--		--	--	--	1	--	SPACE	124	--
--	125	SPACE	--	1	--	--	--					--	--	--	--	1	--	SPACE	126	--

Total Load:	28.66 kVA	32.72 kVA	24.97 kVA
Total Amps:	243.59	277.42	208.04

LOAD SUMMARY

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	TOTALS*	
HVAC	19.78 kVA	100.00%	19.78 kVA		
HVAC Cooling Only	9.33 kVA	100.00%	9.33 kVA	**TOTAL CONNECTED LOAD:**	86.35 kVA
HVAC Heating Only	8.4 kVA	100.00%	8.4 kVA	**TOTAL ESTIMATED DEMAND LOAD:**	71.351 kVA
Lighting	3.373 kVA	100.00%	3.373 kVA	**TOTAL CONNECTED AMPS:**	239.68 A
Power	22.27 kVA	100.00%	22.27 kVA	**TOTAL ESTIMATED DEMAND AMPS:**	198.1 A
Receptacles	23.195 kVA	71.56%	16.598 kVA		

*TOTAL DEMAND CALCS SUBTRACT ANY REDUNDANT LOAD AND THE SMALLER OF ANY NONCOINCIDENT HVAC LOADS. THIS CALC IS DONE AT EACH PANEL.

CIRCUIT KEY NOTES: *G = GFCI RATED CIRCUIT BREAKER

PANEL M1

MOUNTING: SURFACE
ENCLOSURE: NEMA PB 1
FED FROM: 400 A/3P CB @ DP-2
LOCATION: MAINTENANCE BLDG 110

SOLID NEUTRAL
GROUND BUS

MAIN: 225 A MCB
VOLTS: 120/208 Wye
PHASE: 3
WIRE: 4
SCCR: 10 kA
ISC UNKNOWN 0.00 kA

NOTES:

KEY	CKT NO.	LOAD DESCRIPTION	OCPD AMPS	P	WIRE SIZE H	WIRE SIZE N	WIRE SIZE G	A	B	C	WIRE SIZE G	WIRE SIZE N	WIRE SIZE H	P	OCPD AMPS	LOAD DESCRIPTION	CKT NO.	KEY
	1	LIGHTING	20 A	1	12	12	12	1.01	0.5		12	12	12	1	20 A	UH-7	2	
	3	F-3	20 A	1	12	12	12		0.6	0.45	12	12	12	1	20 A	EF-4	4	
	5	OVHED DOOR 1	20 A	1	12	12	12			1.13	1.13	12	12	12	1	20 A	OVHED DOOR 2	6	
*G	7	FRIDGE	20 A	1	12	12	12	1	1.08			12	12	12	1	20 A	MAINTENANCE RECEPTACLES 1	8	
	9	MAINTENANCE RECEPTACLES 2	20 A	1	12	12	12			1.08	1	12	12	12	1	20 A	COUNTER RECEPTACLE 1	10	
	11	COUNTER RECPTACLE 2	20 A	1	12	12	12				1	5	12	12	1	20 A	BREAK ROOM RECEPTACLES	12	
	13	MECH RECEPTACLE 1	20 A	1	12	12	12	0.18	0.18			12	12	12	1	20 A	MECH RECEPTACLE 2	14	
	15	MECH RECEPTACLE 3	20 A	1	12	12	12		0.18	0.18		12	12	12	1	20 A	TECH RECEPTACLE 1	16	
	17	TECH RACK RECEPTACLE	20 A	1	12	12	12				0.18	0.18	12	12	1	20 A	TECH RECEPTACLE 3	18	
	19	RR RECEPTACLE	20 A	1	12	12	12	0.18	0.9				12	12	12	1	20 A	MAINTENANCE RECEPTACLES 3	20	
	21	TECH RECEPTACLE 3	20 A	1	12	12	12		0.18	0.02			12	12	12	1	20 A	EF-2	22	
	23	WATER HEATER	60 A	1	4	4	10				5.3	1	12	12	12	1	20 A	ICE MACHINE	24	*G
	25	EF-1	20 A	1	12	12	12	0.04	1.25				12	12	12	2	20 A	CU-3	26	
	27	UH-2	20 A	2	12	12	12			1.7	1.25		--	--	--	--	--	--	28	--
--	29	--	--	--	--	--	--				1.7	0.18	12	12	12	1	20 A	OUTDOOR RECEPTACLE 1	30	
	31	OUTDOOR RECEPTACLE 2	20 A	1	12	12	12	0.18	2.39				10	10	10	2	30 A	SS-2	32	
	33	MOD-1	0 A	1						0	2.39		--	--	--	--	--	--	34	--
	35	MOD-2	0 A	1								0	1.13	8	6	6	1	20 A	FUEL TANK RECEPTACLE	36	*G
--	37	SPD	30 A	3	--	--	--	0	1.7				12	12	12	2	20 A	UH-5	38	
--	39	--	--	--	--	--	--			0	1.7		--	--	--	--	--	--	40	--
--	41	--	--	--	--	--	--					0	1.7	12	12	2	20 A	UH-4	42	
	43	UH-5	20 A	2	12	12	12	1.7	1.7				--	--	--	--	--	--	44	--
--	45	--	--	--	--	--	--			1.7	0.06		12	12	12	1	20 A	UH-6	46	
	47	HWC-3	20 A	1	12	12	12					0.5	0	--	--	--	1	20 A	SPARE	48	--
--	49	SPARE	20 A	1	--	--	--	0	0				--	--	--	1	20 A	SPARE	50	--
--	51	SPARE	20 A	1	--	--	--			0	0		--	--	--	1	20 A	SPARE	52	--
--	53	SPARE	20 A	1	--	--	--					0	0	--	--	1	20 A	SPARE	54	--
--	55	SPARE	20 A	1	--	--	--	0	0				--	--	--	1	20 A	SPARE	56	--
--	57	SPARE	20 A	1	--	--	--			0	0		--	--	--	1	20 A	SPARE	58	--
--	59	SPARE	20 A	1	--	--	--					0	0	--	--	1	20 A	SPARE	60	--

Total Load:	13.99 kVA	12.49 kVA	20.13 kVA
Total Amps:	118.49	104.10	169.67

LOAD SUMMARY

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	TOTALS*	
HVAC	5.92 kVA	100.00%	5.92 kVA		
HVAC Cooling Only	7.284 kVA	100.00%	7.284 kVA	**TOTAL CONNECTED LOAD:**	46.61 kVA
HVAC Heating Only	14.16 kVA	100.00%	14.16 kVA	**TOTAL ESTIMATED DEMAND LOAD:**	35.702 kVA
Lighting	1.007 kVA	100.00%	1.007 kVA	**TOTAL CONNECTED AMPS:**	129.38 A
Power	0.99 kVA	100.00%	0.99 kVA	**TOTAL ESTIMATED DEMAND AMPS:**	99.1 A
Receptacles	17.25 kVA	78.99%	13.625 kVA		

*TOTAL DEMAND CALCS SUBTRACT ANY REDUNDANT LOAD AND THE SMALLER OF ANY NONCOINCIDENT HVAC LOADS. THIS CALC IS DONE AT EACH PANEL.

CIRCUIT KEY NOTES: *G = GFCI RATED CIRCUIT BREAKER

SVPA ARCHITECTS
1466 28th Street, Suite 200 | West Des Moines, Iowa 50266 | 515.327.5990
IMEG The HIVE® Built Smarter www.imegcorp.com

GRIMESPLEX

7054 NW 114th St
GRIMES, IOWA 50111

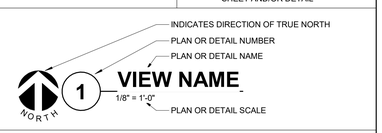
ISSUANCE

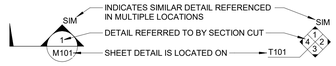
CONSTRUCTION DOCUMENTS
04/25

VIEW KEY

NAME — LEVEL NAME
10'-0" — HEIGHT ABOVE PROJECT 0'-0"

1 — INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL





LINE TYPE AND TAG KEY:

NEW WORK BY THIS CONTRACTOR (WIDE LINE)
NEW
EXISTING TO BE REMOVED (SHORT DASHED PATTERN)
NEW UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)

EXISTING TO REMAIN OR WORK BY OTHERS (NARROW LINE)
EXISTING
EXISTING TO BE REMOVED BY OTHERS (SHORT DASHED PATTERN)
EXISTING UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)

HALFTONING DOES NOT MODIFY SCOPE.

'TAG'-E — TAGS WITH DASH 'E' INDICATES THE REFERENCED OBJECT IS EXISTING

TAG — UNDERLINED TAG INDICATES OBJECT IS IN-SCOPE. IF NEW, ADDITIONAL INFORMATION IS AVAILABLE IN A SCHEDULE, MATERIAL LIST, OR SYMBOL LIST

INDICATES AN EXISTING SYSTEM'S POINT OF CONNECTION/REMOVAL

APPLICABLE CODES

CONTRACTOR SHALL COMPLY WITH APPLICABLE CODES AND LOCAL AMENDMENTS.

BUILDING CODE:	IBC 2018 EDITION
FIRE CODE:	IFC 2018 EDITION
PLUMBING CODE:	UPC 2021 EDITION
MECHANICAL CODE:	IMC 2021 EDITION
ELECTRICAL CODE:	NFPA 70 (NEC) 2020 EDITION
ENERGY CONSERVATION CODE:	IECC 2012
HEALTH DEPARTMENT CODE:	CURRENT EDITION
LOCAL BUILDING CODE:	CURRENT EDITION

CONTRACTOR ABBREVIATION KEY

ABBR:	DESCRIPTION:
C.C.	CIVIL CONTRACTOR
E.C.	ELECTRICAL CONTRACTOR
F.S.C.	FOOD SERVICE CONTRACTOR
G.C.	GENERAL CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
P.C.	PLUMBING CONTRACTOR
T.C.	TECHNOLOGY CONTRACTOR
T.C.C.	TEMPERATURE CONTROLS CONTRACTOR

TECHNOLOGY SYMBOL LIST

SYMBOL:	EQUIPMENT LIST ABBREV.:	DESCRIPTION:	NOTE:
DC	AC-DC	DOOR CONTACT	2.
EDH	AC-EDH	ELECTRIFIED DOOR HARDWARE	2.
RTE	AC-RTE	REQUEST TO EXIT	2.
CSS	N/A	CONTROLLED SECURITY SCHEME SCHEDULE IDENTIFIER	2.
R#	AC-R#-W	SECURITY CREDENTIAL READER (WALL)	2.
C#	SC-IO-W	INFORMATION OUTLET (WALL)	1.
RI	SC-RI-W	INFORMATION OUTLET ROUGH-IN (WALL)	.
W	SC-WP-W	INFORMATION OUTLET WALL PHONE (WALL)	1.
C#	SC-IO-C	INFORMATION OUTLET (CEILING)	1.
CM-#	VS-CM-#	VIDEO SURVEILLANCE CAMERA 270° FIELD OF VIEW	3.
CM-#	VS-CM-#	VIDEO SURVEILLANCE CAMERA 360° FIELD OF VIEW	3.
CM-#	VS-CM-#	VIDEO SURVEILLANCE CAMERA SINGLE LENS FIELD OF VIEW	3.
WIDTH X HEIGHT		CABLE TRAY, CHANNEL TRAY, BASKET TRAY	
WIDTH X HEIGHT		LADDER RACK	
DIAMETERø C		CONDUIT	
		CONDUIT DOWN	
		CONDUIT UP OR UP/DOWN	
		CONDUIT SLEEVE	
		CONTINUATION	

GENERAL NOTES:

1. ALL SYMBOLS AND ABBREVIATIONS LISTED MAY NOT BE APPLICABLE TO THIS PROJECT. REFER TO THE TECHNOLOGY EQUIPMENT SCHEDULE FOR MORE COMPLETE DESCRIPTION AND ITEMS.
2. ALL SYMBOLS AND ABBREVIATIONS REFER TO TECHNOLOGY SHEETS ONLY AS DEFINED ON THE SHEET INDEX. REFER TO THE GENERAL TECHNOLOGY NOTES FOR ADDITIONAL INFORMATION.
3. ALL SYMBOLS LISTED ABOVE ARE FOR REFERENCE ONLY. REFER TO PLANS AND LINE TYPE KEY FOR NEW, EXISTING TO REMAIN AND TO BE REMOVED ITEMS FOR ADDITIONAL INFORMATION.
4. REFER TO RISERS ON SHEET(S): T200,T201.

TECHNOLOGY SYMBOL NOTES:

1. "C#" INDICATES INFORMATION OUTLET FACEPLATE CONFIGURATION. REFER TO INFORMATION OUTLET SCHEDULE ON T300 FOR ADDITIONAL INFORMATION.
2. REFER TO CONTROLLED SECURITY SCHEME (CSS) TYPE SCHEDULE ON T201 FOR ADDITIONAL INFORMATION.
3. "CM-#" ON FLOOR PLANS INDICATES CAMERA TYPE AND IS ASSOCIATED WITH THE CORRESPONDING "VS-CM-#" EQUIPMENT SCHEDULE ABBREVIATION. "##-##" SUBSCRIPT INDICATES FLOOR NUMBER-CAMERA NUMBER. REFER TO INDIVIDUAL CAMERA REQUIREMENT SCHEDULE ON T201 FOR ADDITIONAL INFORMATION.

TECHNOLOGY ABBREVIATION KEY

ABBR:	DESCRIPTION:
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
BFC	BELOW FINISHED CEILING
C	CONDUIT
DE	DELAYED EGRESS
DPDT	DOUBLE POLE DOUBLE THROW
FOV	FIELD OF VIEW
J-BOX	JUNCTION BOX
POE	POWER OVER ETHERNET
PTZ	PAN TILT ZOOM
SIM	SIMILAR
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
+#	MOUNTING HEIGHT ABOVE FINISHED FLOOR
MDF	MAIN DISTRIBUTION FRAME

SUGGESTED MATRIX OF RESPONSIBILITY

ITEM:	SHOWN ON:	FURNISHED BY:	INSTALLED BY:	NOTES:
TECHNOLOGY ROUGH-IN, REFER TO TECHNOLOGY EQUIPMENT SCHEDULE AND SPECIFICATIONS FOR DEFINITION	T-SERIES	E.C.	E.C.	3. 4.
INFORMATION OUTLET FACEPLATES, JACKS, AND TERMINATIONS	T-SERIES	T.C.	T.C.	
CONDUIT SLEEVES (WHEN SHOWN ON DRAWINGS)	T-SERIES	E.C.	E.C.	
CONDUIT SLEEVES (NOT SHOWN BUT REQUIRED FOR PROPER INSTALLATION OF SYSTEM)	N/A	T.C.	T.C.	2. 4.
TELECOMMUNICATION SYSTEMS ROUGH-IN	T-SERIES	E.C.	E.C.	1.
TELECOMMUNICATION EQUIPMENT, CABLING, AND TERMINATIONS	T-SERIES	T.C.	T.C.	
CABLE TRAY (INCLUDING WIRE BASKET TRAY) REFER TO SPECIFICATION SECTION 27 05 28 FOR DEFINITION	T-SERIES	E.C.	E.C.	
LADDER RACK	T-SERIES	T.C.	T.C.	5.
GROUNDING LUGS ON TECHNOLOGY EQUIPMENT	T-SERIES	T.C.	E.C.	6.
BONDING SYSTEM FOR TECHNOLOGY SYSTEM, REFER TO SPECIFICATION SECTION 27 05 26 FOR DEFINITION	T-SERIES	E.C.	E.C.	7. 8.
CONNECTION OF TECHNOLOGY BONDING SYSTEM TO THE ELECTRICAL GROUND SYSTEM	T-SERIES	E.C.	E.C.	
LINE VOLTAGE POWER (+120V OR GREATER)	E-SERIES	E.C.	E.C.	
LINE VOLTAGE POWER (NOT SHOWN BUT REQUIRED FOR PROPER INSTALLATION OF SYSTEM)	N/A	T.C.	E.C.	2. 4.
LINE VOLTAGE POWER FOR DOOR HARDWARE POWER SUPPLIES	ARCH SPEC	E.C.	E.C.	
LOW VOLTAGE CABLING FOR TECHNOLOGY SYSTEMS	T-SERIES	T.C.	T.C.	
CABLE HANGERS AND SUPPORTS OR OTHER CABLE ROUTING METHODS (OTHER THAN CONDUIT AND CABLE TRAY)	T-SERIES	T.C.	T.C.	5.
TECHNOLOGY SERVICE ENTRANCE CONDUITS, HANDHOLES, AND MANHOLES	[E]T-SERIES	E.C.	E.C.	
FLOOR BOX (ROUGH-IN)	T & E SERIES	E.C.	E.C.	

SUGGESTED MATRIX OF RESPONSIBILITY NOTES

1. LOCATIONS OF TELECOMMUNICATIONS ROUGH-INS SHALL BE INDICATED BY THE INFORMATION OUTLET SYMBOLS ON THE DRAWINGS. REFER TO THE TECHNOLOGY SYMBOL LIST FOR ADDITIONAL INFORMATION.
2. BASED ON THE INHERENT DIFFERENCES IN PRODUCTS FROM VARIOUS MANUFACTURERS, ALL REQUIRED EQUIPMENT MAY NOT BE SHOWN ON THE DRAWINGS FOR ALL ACCEPTABLE MANUFACTURERS.
3. INCLUDES BACKBOXES AND CONDUIT REQUIRED FOR THE TECHNOLOGY SYSTEMS INSTALLATION. THE E.C. SHALL BASE THE BID ON THE BASIS OF DESIGN SHOWN ON THE CONTRACT DOCUMENTS.
4. ALL CHANGES TO THE SLEEVES, BACKBOXES, CONDUITS, AND POWER REQUIRED BECAUSE OF THE T.C.'S SELECTION OF AN ALTERNATE ACCEPTABLE MANUFACTURER OR FROM SYSTEM CONFIGURATIONS THAT ARE LEFT TO THE CHOICE OF THE CONTRACTOR SHALL BE INCLUDED IN THE T.C.'S BID. THIS BID SHALL INCLUDE INSTALLATION BY A LICENSED ELECTRICIAN.
5. UNLESS TRADE RULES DICTATE OTHERWISE.
6. FURNISHED AS PART OF THE EQUIPMENT WHEN POSSIBLE, OR FURNISHED TO THE E.C. FOR INSTALLATION IN THE FIELD.
7. INCLUDES ALL CONDUCTORS, GROUND BARS, AND TERMINATIONS FOR THE COMPLETE BONDING SYSTEM REQUIRED BY THE SPECIFICATIONS.
8. REFER TO ELECTRICAL DRAWINGS FOR LOCATIONS OF PANELS AND SWITCHBOARDS SHOWN IN THE TECHNOLOGY BONDING RISER DIAGRAM AND TYPICAL TELECOM ROOM BONDING FLOW DIAGRAM.

TELECOM ROOM REFERENCES

TELECOM ROOM	DETAIL / SHEET REFERENCE	FLOOR PLAN REFERENCE	ARCH ROOM NUMBER
MDF	N/A	T110	112

TECHNOLOGY SHEET INDEX

T000	TECHNOLOGY COVERSHEET
T100N	NORTH CONCESSIONS BUILDING PLANS - TECHNOLOGY
T100S	SOUTH CONCESSIONS BUILDING PLANS - TECHNOLOGY
T101	MAINTENANCE BUILDING PLANS - TECHNOLOGY
T200	TECHNOLOGY DETAILS
T201	TECHNOLOGY DETAILS
T202	TECHNOLOGY DETAILS
T300	TECHNOLOGY SCHEDULES

GRAND TOTAL: 8

TECHNOLOGY GENERAL NOTES:

1. ##-###-# INDICATES TECHNOLOGY EQUIPMENT SCHEDULE ITEM LABELED AS "EQUIPMENT LIST ABBREVIATION"
2. REFER TO TECHNOLOGY EQUIPMENT SCHEDULE AND SPECIFICATIONS FOR FULL DESCRIPTIONS AND MANUFACTURERS OF ALL DEVICES.

TECHNOLOGY MOUNTING SUBSCRIPT KEY:
A MOUNT AT +6" TO CENTERLINE ABOVE COUNTER OR BACKSPLASH
H MOUNT ORIENTED HORIZONTALLY
L MOUNT IN CASEWORK
M MOUNT IN MODULAR FURNITURE
S MOUNT IN SURFACE RACEWAY

A SLASH IS USED BETWEEN TWO SUBSCRIPTS, E.G., A/H.

TECHNOLOGY INSTALLATION NOTES:

1. THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE ADA STANDARDS FOR ACCESSIBLE DESIGN. REFER TO THE ADA GUIDELINES FOR ALL CONFIGURATION DETAILS ON THIS PAGE FOR ADDITIONAL INFORMATION.
2. CONCEAL ALL CONDUIT IN WALLS, PARTITIONS, ABOVE CEILING, IN FLOOR SLAB, ETC. UNLESS OTHERWISE INDICATED ON THE PLANS OR IN THE SPECIFICATIONS. CONDUIT IN MECHANICAL ROOMS AND STORAGE ROOMS WITHOUT CEILINGS MAY BE EXPOSED ON BUILDING STRUCTURE.
3. BOXES LOCATED ON OPPOSITE SIDES OF NON-RATED WALLS SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY. BOXES ON OPPOSITE SIDES OF FIRE RATED WALLS SHALL BE OFFSET A MINIMUM OF 24" HORIZONTALLY. "THRU-THE-WALL" BOXES SHALL NOT BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
4. VERIFY ALL FURNITURE, MODULAR FURNITURE, AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS, AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL TELECOMMUNICATIONS INSTALLATION, ADJUST OUTLETS OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
5. TELECOMMUNICATIONS EQUIPMENT SHALL BE MOUNTED TO ALLOW ACCESS TO ELECTRICAL AND MECHANICAL EQUIPMENT. ALL MOUNTING OF TELECOMMUNICATION DEVICES ON EQUIPMENT SUPPLIED BY ANOTHER CONTRACTOR SHALL BE APPROVED IN ADVANCE BY THE OTHER CONTRACTOR.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OPENINGS REQUIRED IN WALLS. ALL OPENINGS SHALL BE REPAIRED TO MATCH EXISTING BY A QUALIFIED CONTRACTOR AT THE EXPENSE OF THIS CONTRACTOR. ALL CONDUITS THROUGH WALLS SHALL BE GROUTED OR SEALED INTO OPENINGS.
7. ALL MATERIALS USED TO SEAL PENETRATIONS OF FIRE RATED WALLS AND FLOORS SHALL BE TESTED AND CERTIFIED AS A SYSTEM PER ASTM E814 STANDARDS FOR FIRE TESTS OF THROUGH-PENETRATION FIRESTOPS. REFER TO 27 05 03 AND 28 05 03 DIVISION 7 26 05 03 FOR ADDITIONAL INFORMATION AND REQUIREMENTS SPECIFIC TO FIRESTOPPING.
8. THE TECHNOLOGY CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF THE CEILINGS, CEILING TILES, AND CEILING GRID ASSOCIATED WITH THE AREAS OF WORK BY ALL CONTRACTORS. NOTIFY THE GENERAL CONTRACTOR OF AFFECTED AREAS PRIOR TO BIDDING.
9. ALL LADDER RACK AND CABLE TRAY SIZES ARE AS DEFINED ON THE DRAWINGS. REFER TO SPECIFICATION SECTION[S] 27 05 28 AND 27 11 00 FOR APPROVED MANUFACTURERS AND INSTALLATION REQUIREMENTS.
10. EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO THE WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH. NTD: EDIT TO MATCH SCOPE
11. FLUSH MOUNT ALL TELECOMMUNICATION OUTLETS AT +18" FROM FLOOR (CENTERLINE DIMENSION), EXCEPT WHERE OTHERWISE NOTED. OUTLETS MAY BE SURFACE MOUNTED WHEN CONDUIT IS SPECIFIED EXPOSED.
12. MOUNT BACKBOXES FLUSH WITH WALL. ALL BACKBOX HEIGHTS ARE TO CENTERLINE DIMENSION, UNLESS OTHERWISE NOTED.
13. PROVIDE RACEWAY AND BOXES LISTED FOR THE INSTALLED ENVIRONMENT. SEAL RACEWAY AND BOX FROM WATER AND MOISTURE AT TRANSITION BETWEEN DIFFERENT ENVIRONMENTAL CONDITIONS SUCH AS INTERIOR/EXTERIOR, TEMPERATURE CHANGES, ETC.

TECHNOLOGY DEMOLITION NOTES

1. THE DRAWINGS INDICATE EXISTING ITEMS TO BE REMOVED. THE DRAWINGS ARE INTENDED TO INDICATE THE SCOPE OF WORK REQUIRED AND DO NOT INDICATE EVERY BOX, CONDUIT, OR WIRE THAT MUST BE REMOVED. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING A BID AND VERIFY EXISTING CONDITIONS.
2. ITEMS (i.e. SPEAKERS, SWITCHES, ETC.) REMOVED AND NOT RELOCATED REMAIN THE PROPERTY OF THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF MATERIAL THE OWNER DOES NOT WANT TO REUSE OR RETAIN. (i.e., FOR MAINTENANCE PURPOSES).
3. EXISTING TO REMAIN DEVICES WITHIN OR ADJACENT TO THE PATH OF CONSTRUCTION SHALL BE PROTECTED IN PLACE. DEVICES THAT MUST BE REMOVED SHALL BE TESTED PRIOR TO REMOVAL, PROTECTED FROM DAMAGE, AND RE-INSTALLED IN ITS ORIGINAL LOCATION DURING THE NEW CONSTRUCTION PHASE OF THE PROJECT.
4. OBTAIN APPROVAL FROM THE OWNER BEFORE TURNING OFF THE POWER TO EQUIPMENT, SYSTEMS, PANELS, ETC. COORDINATE ALL OUTAGES WITH OWNER. CONDUIT CONCEALED IN WALL CONSTRUCTION MAY BE ABANDONED IN PLACE IF NOT AFFECTED BY OTHER CONSTRUCTION.
5. ALL CONDUIT SHALL BE REMOVED WHERE WALLS ARE BEING REMOVED. WHERE CONDUIT IS IN THE CONCRETE SLAB, CUT OFF FLUSH, PULL OUT WIRE, AND PLUG. WHERE CONDUIT IS RUN EXPOSED, ALL ASSOCIATED CLAMPS, SUPPORTS, HANGERS, ETC., SHALL ALSO BE REMOVED.
6. COORDINATE ALL WORK WITH OTHER CONTRACTORS AT THE JOB SITE BEFORE REMOVING EXISTING EQUIPMENT AND INSTALLING NEW ITEMS.
7. EXISTING CONDUIT IN GOOD CONDITION, MAY BE REUSED IN PLACE. RELOCATING EXISTING CONDUIT SHALL NOT BE ALLOWED. BONDING CONDUCTORS SHALL BE INSTALLED IN ALL REUSED CONDUIT TO ASSURE PROPER GROUND PATH.
8. EQUIPMENT REMOVAL IN CERTAIN LOCATIONS MAY REQUIRE THE INSTALLATION OF A JUNCTION BOX TO RECONNECT CIRCUITS THAT REMAIN IN OPERATION. EXTEND CONDUIT AND WIRING AS REQUIRED TO MAINTAIN POWER TO REMAINING EQUIPMENT.
9. DEVICES TO BE REMOVED SHALL HAVE ALL CONNECTED WIRING REMOVED TO THE SOURCE.
10. DEVICES NOT TO BE REMOVED SHALL BE PROTECTED FROM THE ENVIRONMENT, AND ALL ASSOCIATED CABLE/RACEWAYS ARE TO REMAIN AND BE PROTECTED. T.C. SHALL BE RESPONSIBLE FOR REPAIR OF ANY INTERRUPTIONS TO PROTECTED DEVICES.
11. REFER TO SPECIFICATIONS SECTION 27 05 00 FOR ADDITIONAL INFORMATION.

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TECHNOLOGY COVERSHEET

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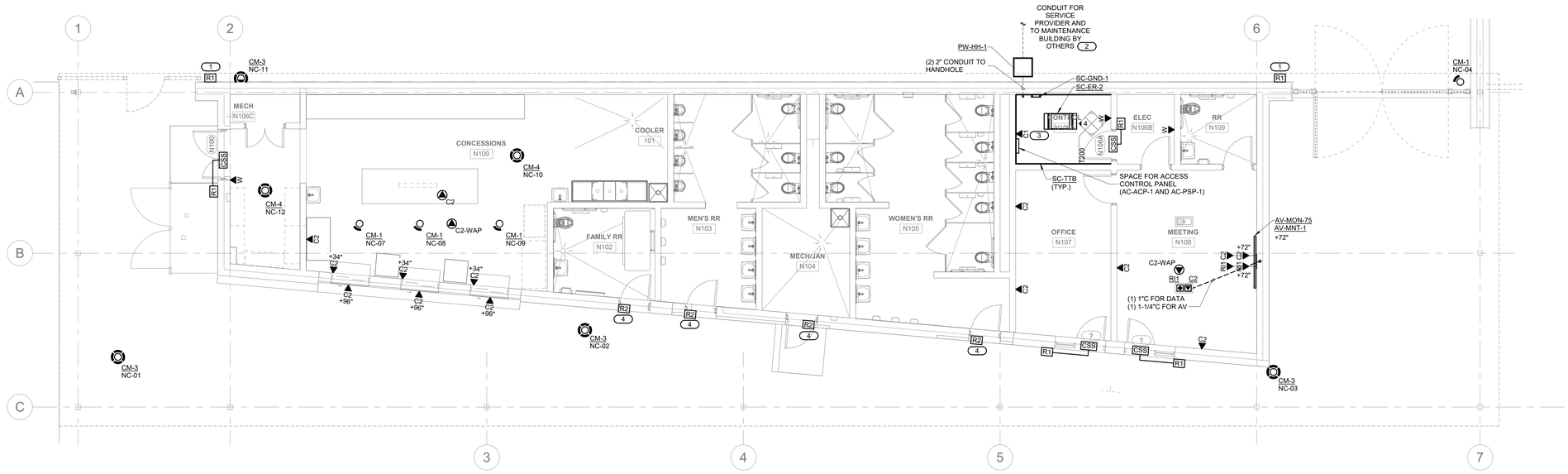

NORTH CONCESSIONS & OFFICE COMBINED PLAN - TECHNOLOGY

1 3/16" = 1'-0"

SHEET NOTES:

1. ALL LOW VOLTAGE DEVICES SHALL BE SERVED FROM THE SC-ER-1 RACK LOCATION SHOWN WITHIN EACH STRUCTURE.
2. REFER TO T000 FOR TECHNOLOGY SYMBOL LIST AND GENERAL TECHNOLOGY INSTALLATION NOTES.
3. REFER TO T300 FOR TECHNOLOGY EQUIPMENT SCHEDULE.

KEYNOTE: (#)

1. ROUGH-IN FOR FUTURE READER LOCATION. PROVIDE A 4"BACKBOX WITH 1-GANG OPENING AND A 1"CONDUIT FROM THE BACKBOX TO THE ACCESS CONTROL PANEL LOCATION SERVING THE SPACE. INSTALL AN ADDITIONAL 4"SQUARE BOX IN THE SECURED SIDE OF THE WALL TO PROVDE THE ABILITY TO TIE ADDITIONAL CONDUIT FOR A POWER SUPPLY AND ELECTRICIFED LOCKSET AT A LATER DATE. COORDINATE FINAL MOUNTING LOCATION WITH THE A/E PRIOR TO ROUGH-IN.
2. THE E.C. SHALL INCLUDE DIGGING AND EXTENDING THE (2) EXISTING 2"CONDUIT TO THE HANDHOLE INSTALLED AS PART OF THE SITE PROJECT. ASSUME A DISTANCE OF 20' FROM WHERE THE CONDUITS ARE CAPPED.
3. DATA PROVIDED FOR ACCESS CONTROL PANEL.
4. COORDINATE NOUNTING REQUIREMENTS WITH DOOR VENDOR.

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NORTH CONCESSIONS BUILDING PLANS - TECHNOLOGY

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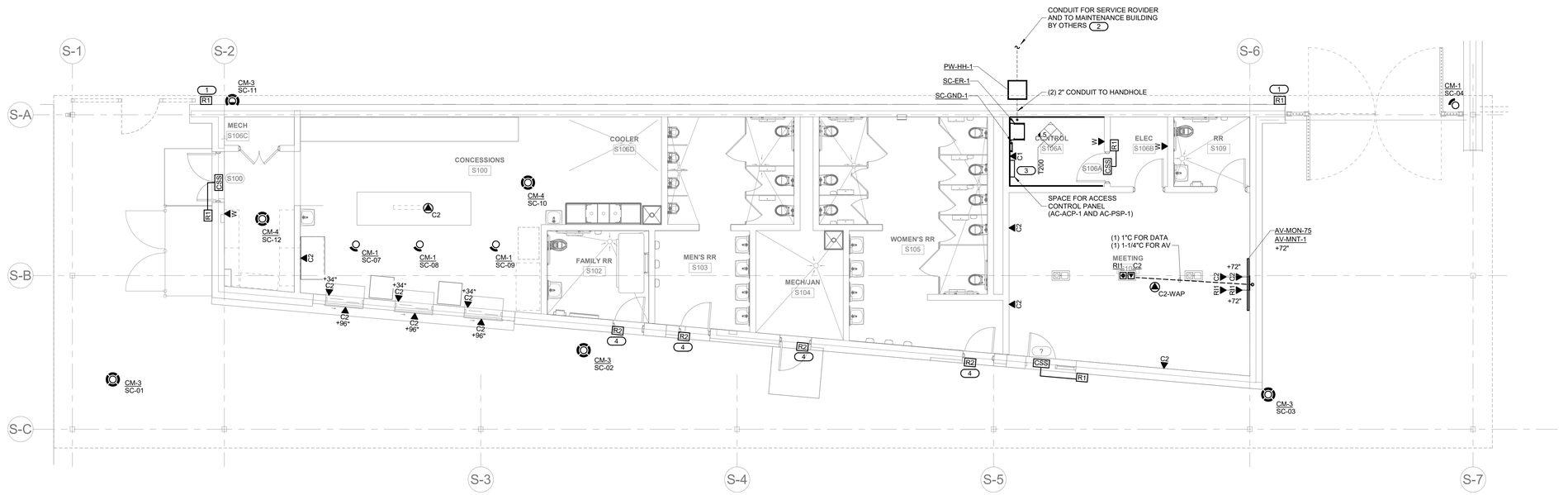

1 SOUTH CONCESSIONS BUILDING PLAN - TECHNOLOGY

3/16" = 1'-0"

NORTH

SHEET NOTES:

1. ALL LOW VOLTAGE DEVICES SHALL BE SERVED FROM THE SC-ER-1 RACK LOCATION SHOWN WITHIN EACH STRUCTURE.
2. REFER TO T000 FOR TECHNOLOGY SYMBOL LIST AND GENERAL TECHNOLOGY INSTALLATION NOTES.
3. REFER TO T300 FOR TECHNOLOGY EQUIPMENT SCHEDULE.

KEYNOTE: (#)

1. ROUGH-IN FOR FUTURE READER LOCATION. PROVIDE A 4"BACKBOX WITH 1-GANG OPENING AND A 1"CONDUIT FROM THE BACKBOX TO THE ACCESS CONTROL PANEL LOCATION SERVING THE SPACE. INSTALL AN ADDITIONAL 4"SQUARE BOX IN THE SECURED SIDE OF THE WALL TO PROVDE THE ABILITY TO TIE ADDITIONAL CONDUIT FOR A POWER SUPPLY AND ELECTRICIFED LOCKSET AT A LATER DATE. COORDINATE FINAL MOUNTING LOCATION WITH THE A/E PRIOR TO ROUGH-IN.
2. THE E.C. SHALL INCLUDE DIGGING AND EXTENDING THE (2) EXISTING 2"CONDUIT TO THE HANDHOLE INSTALLED AS PART OF THE SITE PROJECT. ASSUME A DISTANCE OF 20' FROM WHERE THE CONDUITS ARE CAPPED.
3. DATA PROVIDED FOR ACCESS CONTROL PANEL.
4. COORDINATE MOUNTING REQUIREMENTS WITH DOOR VENDOR.

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SOUTH CONCESSIONS BUILDING PLANS - TECHNOLOGY

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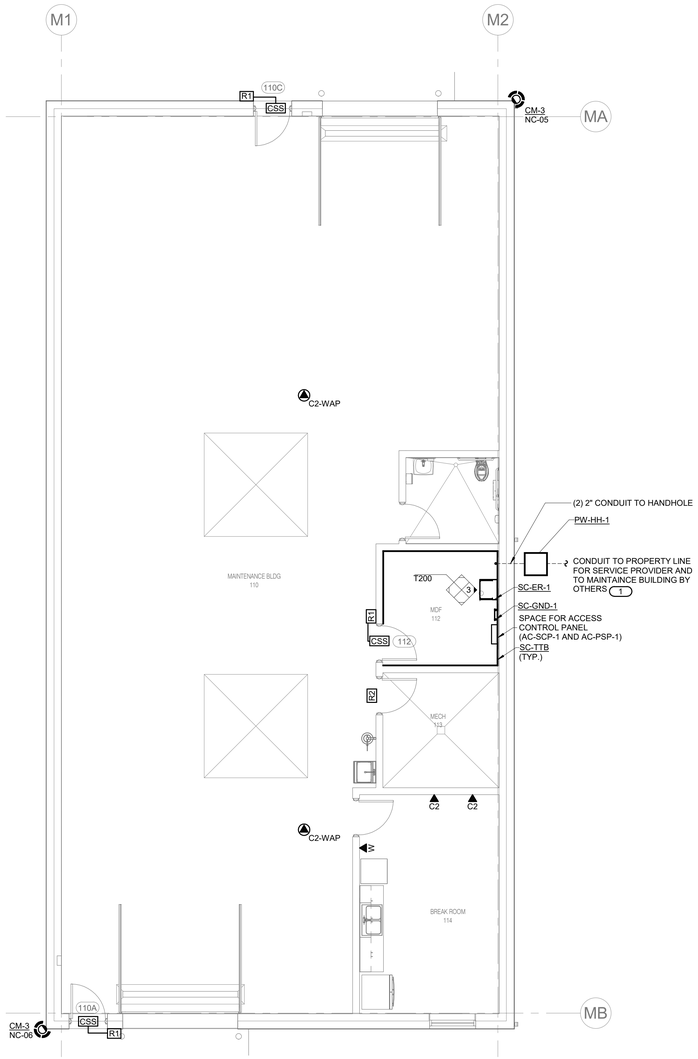

1 MAINTENANCE BUILDING PLAN - TECHNOLOGY

3/16" = 1'-0"

SHEET NOTES:

1. ALL LOW VOLTAGE DEVICES SHALL BE SERVED FROM THE SC-ER-1 RACK LOCATION SHOWN WITHIN EACH STRUCTURE.
2. REFER TO T000 FOR TECHNOLOGY SYMBOL LIST AND GENERAL TECHNOLOGY INSTALLATION NOTES.
3. REFER TO T300 FOR TECHNOLOGY EQUIPMENT SCHEDULE.
4. PROVIDE SIX (6) ELECTRONIC PADLOCK (SALTO NEOXX -G4) AS PART OF THE ACCESS CONTROL SYSTEM. COORDINATE WITH THE CITY OF GRIMES IS FOR PROGRAMMING REQUIRED.

KEYNOTE: (#)

1. THE E.C. SHALL INCLUDE DIGGING AND EXTENDING THE (2) EXISTING 2"CONDUIT TO THE HANDHOLE INSTALLED AS PART OF THE SITE PROJECT. ASSUME A DISTANCE OF 20' FROM WHERE THE CONDUITS ARE CAPPED.

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MAINTENANCE BUILDING PLANS - TECHNOLOGY

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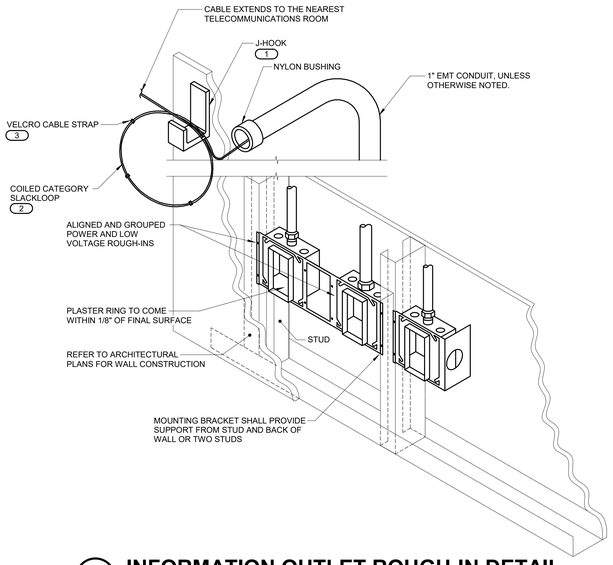


1 INFORMATION OUTLET ROUGH-IN DETAIL

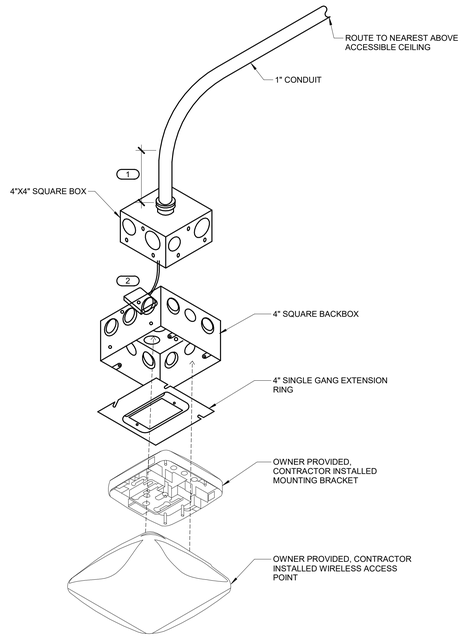
NO SCALE

NOTES:

1. THE INTENT OF THE DETAIL IS TO ALIGN AND GROUP DEVICE ROUGH-INS FOR POWER AND LOW VOLTAGE TECHNOLOGY SYSTEMS. SOLIDLY MOUNTED AND THE SURFACE OF THE TRIM IS EITHER FLUSH WITH THE WALL SURFACE OR WITHIN 1/8" OF THE WALL SURFACE. JUNCTION BOXES LARGER THAN 4" SQUARE SHALL BE MOUNTED IN A MANNER THAT IS SIMILAR TO THE SYSTEM NOTED ABOVE OR ACHIEVES THE SAME RESULTS.
2. PLASTER RINGS DEPTH SHALL BE 1/8" DEEPER THAN THE GYP BOARD APPLIED TO THE WALL. PLASTER RING SHALL BE 3/4" FOR USE WITH 5/8" GYP BOARD.
3. METAL STUD-TO-STUD MOUNTING BRACKETS FOR MULTIPLE BOXES BETWEEN STUD. ERICO CADDY RBS## SERIES, EATON B-LINE BB SERIES, OR EQUAL.
4. MOUNTING SUPPORT BRACKETS SIZES FOR SINGLE BOXES IN A STUD CAVITY SHALL MATCH THE STUD DEPTH. ERICO CADDY H## SERIES, EATON B-LINE BB## SERIES, OR EQUAL.
5. WHERE RECEPTACLE AND TECHNOLOGY DEVICES ARE SHOWN SERVING A COMMON COMPUTER OR EQUIPMENT, OR SHOWN IN SIMILAR LOCATIONS ON THE DRAWINGS THE DEVICES SHALL BE INSTALLED IN THE SAME STUD CAVITY WITH MOUNTING BRACKETS OR ALIGNED ON OPPOSITE SIDES OF A COMMON STUD WITH SEPARATE SUPPORT.
6. TERMINATE CONDUIT STUB ORIENTED HORIZONTALLY AT THE HEIGHT OF THE ASSOCIATED CABLE TRAY OR J-HOOK ROUTE. CONDUIT RUN SHALL NOT CONTAIN MORE THAN 180 DEGREES OF BEND BETWEEN ACCESSIBLE JUNCTION BOXES OR BETWEEN JUNCTION BOX AND END OF CONDUIT.
7. WHERE CONDUIT STUB IS LOCATED IN A ROOM WITH AN ACCESSIBLE CEILING AND IS NOT REQUIRED TO RUN TO CABLE ROUTE LOCATED OUTSIDE THE ROOM, STUB MUST TERMINATE ABOVE THE ACCESSIBLE CEILING WITH A 90-DEGREE BEND AT THE TOP ORIENTED IN TO THE ROOM AT THE HEIGHT OF THE ASSOCIATED CABLE TRAY OR J-HOOK ROUTE IN THE ROOM.
8. ALL STUBS MUST BE FITTED WITH A NYLON BUSHING ON EACH END OF THE CONDUIT.
9. INSTALLING CONTRACTOR SHALL FURNISH AND INSTALL FIRESTOP MATERIALS FOR TECHNOLOGY ROUGH-INS PER PROJECT REQUIREMENTS. REFER TO SPECIFICATIONS FOR FIRESTOP REQUIREMENTS.

KEYNOTES: (#)

1. MOUNT A DEDICATED J-HOOK TO THE NEAREST CEILING SUBSTRUCTURE, COLUMN, JOIST, OR WALL ABOVE THE CEILING AS SHOWN ON THE DRAWINGS. PROVIDE THE PROPER SUPPORT WHEN HANGING FROM THE CEILING SUBSTRUCTURE OR COLUMN WALL OR JOIST. REFER TO SPECIFICATION SECTION 27 05 28 FOR ADDITIONAL REQUIREMENTS.
2. REFER TO SECTION 27 15 00 FOR SLACKLOOP LENGTH. MAINTAIN THE MANUFACTURERS BEND RADIUS FOR SLACKLOOP SIZE.
3. PROVIDE AND INSTALL A VELCRO CABLE STRAP ON THE SLACKLOOP APPROXIMATELY EVERY 6" ALONG THE SLACKLOOP. FOR SLACKLOOPS GREATER THAN 3' A MINIMUM OF (4) STRAPS WILL BE INSTALLED.



2 WIRELESS ACCESS POINT ROUGH-IN/MOUNTING DETAIL

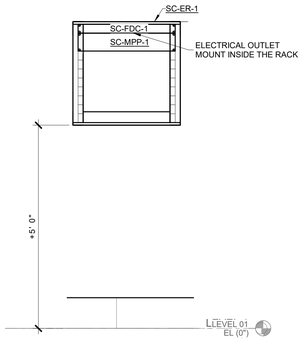
NO SCALE

NOTES:

1. INDEPENDENTLY SUPPORT ROUGH-IN FROM STRUCTURE.

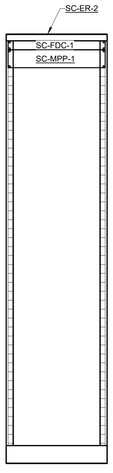
KEYNOTES: (#)

1. STUB VERTICAL CONDUIT 10" MINIMUM FROM HORIZONTAL CONDUIT. COORDINATE STUB LENGTH WITH OWNER PRIOR TO ROUGH-IN. STUB VERTICAL CONDUIT TO A HEIGHT IN WHICH WIRELESS ACCESS POINT IS MOUNTED JUST BELOW STRUCTURE/FINISHED HANGING CEILING.
2. 1-PORT SURFACE MOUNTED BOX. SUPPORT FROM J-HOOK. REFER TO THE INFORMATION OUTLET SCHEDULE AND TECHNOLOGY EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.



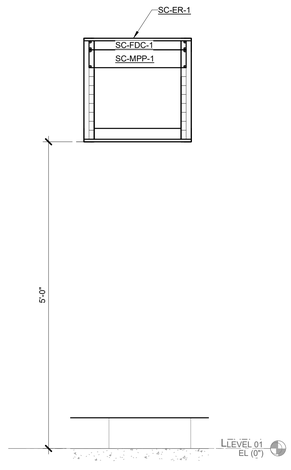
3 EQUIPMENT RACK ELEVATION

1" = 1'-0"



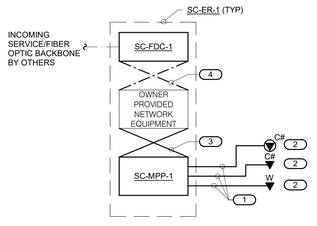
4 EQUIPMENT RACK ELEVATION - NORTH CONCESSION

1" = 1'-0"



5 EQUIPMENT RACK ELEVATION - SOUTH CONCESSION

1" = 1'-0"



6 CONNECTIVITY RISER DIAGRAM

NO SCALE

NOTES:

1. THIS RISER IS DIAGRAMMATIC AND MAY NOT SHOW ACTUAL ROUTING OR QUANTITIES OF MATERIALS SHOWN. THIS RISER IS SHOWN FOR CLARIFICATION OF CONNECTION LOCATIONS AND CABLE TYPE. ALL INFORMATION OUTLETS ARE TYPICAL OF THE OUTLETS IN THE AREA SHOWN. REFER TO FLOOR PLANS FOR MORE SPECIFIC ROUTING AND QUANTITY INFORMATION. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. REFER TO T300 FOR TECHNOLOGY EQUIPMENT SCHEDULE.

KEYNOTES: (#)

1. 23 GAUGE, 4-PAIR, CATEGORY 6, UNSHIELDED TWISTED PAIR CABLE, SEE SPECIFICATIONS.
2. REFER TO INFORMATION OUTLET SCHEDULE ON T300 AND THE FLOOR PLANS FOR QUANTITY OF CABLES AND JACKS TO BE INSTALLED AT EACH INFORMATION OUTLET.
3. RJ-45 TO RJ-45 CATEGORY CAT 6 UTP PATCH CORD. SEE SPECIFICATIONS.
4. FIBER PATCH CORD. SEE SPECIFICATIONS.

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PROJECT NUMBER
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TECHNOLOGY DETAILS

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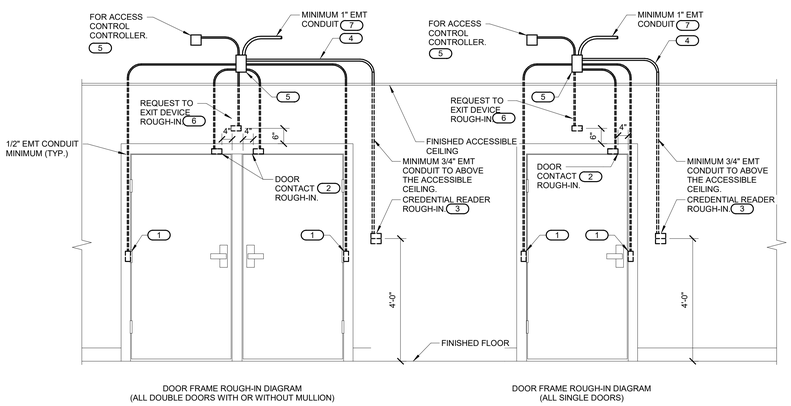


DOOR FRAME ROUGH-IN DIAGRAM
(ALL DOUBLE DOORS WITH OR WITHOUT MULLION)

DOOR FRAME ROUGH-IN DIAGRAM
(ALL SINGLE DOORS)

1 CONTROLLED SECURITY SCHEME DOOR ROUGH-IN DETAIL

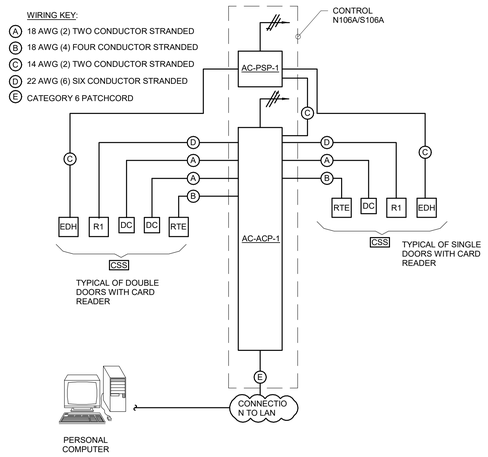
NO SCALE

NOTES:

1. CONFIGURATIONS SHOWN IN THE DETAIL ABOVE ARE DIAGRAMMATIC, INTENDED TO DESCRIBE THE CONTROLLED SECURITY SCHEME ROUGH-IN REQUIREMENTS OF THE DOORS. DETAILS ABOVE MAY NOT ACCURATELY REPRESENT DOOR SIZE, DOOR SWING, DOOR HARDWARE, OR DOOR FUNCTIONALITY. REFER TO ARCHITECTURAL DOOR HARDWARE SCHEDULE, DOOR HARDWARE GROUPS AND DOOR HARDWARE SPECIFICATIONS FOR COMPLETE INFORMATION. MIRROR THE DETAIL AS REQUIRED.
2. ROUGH IN SHOWN IN THE DETAIL ABOVE REPRESENTS THE MINIMUM REQUIREMENTS FOR ALL CONTROLLED SECURITY SYSTEM DEVICES AND CABLING UNLESS OTHERWISE NOTED. COORDINATE EXACT REQUIREMENTS WITH SELECTED DOOR MATERIALS, DOOR HARDWARE, AND CONTROLLED SECURITY DEVICES AND CABLING PRIOR TO INSTALLATION.
3. ALL CABLING IN WALLS AND WHERE EXPOSED ON VERTICAL SURFACES SHALL BE INSTALLED IN EMT CONDUIT OR SURFACE MOUNT RACEWAY. CABLING ROUTED HORIZONTALLY ABOVE THE ACCESSIBLE CEILING MAY BE INSTALLED FREE-AIR CABLING PROPERLY RATED FOR THE CEILING ENVIRONMENT.
4. THE ELECTRICAL OR SECURITY CONTRACTOR SHALL NOT MODIFY ANY FIRE RATED DOOR AND/OR DOOR FRAME. REFER TO THE ARCHITECTURAL DOOR SCHEDULE, DOOR HARDWARE SCHEDULE, AND DOOR HARDWARE SPECIFICATION FOR ADDITIONAL INFORMATION. MODIFICATION TO ANY FIRE RATED DOOR AND/OR FRAME WILL REQUIRE A RE-CERTIFICATION OF THE DOOR AND FRAME WITH THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ).
5. INSTALLING CONTRACTOR SHALL FURNISH AND INSTALL FIRESTOP MATERIALS FOR ALL CONTROLLED SECURITY SCHEME ROUGH-INS PER PROJECT REQUIREMENTS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
6. REFER TO THE CONTROLLED SECURITY SCHEME WIRING DIAGRAM ON 2/T201 FOR CABLING REQUIREMENTS AND THE CONTROLLED SECURITY SCHEME SCHEDULE ON T201 FOR ADDITIONAL INFORMATION.
7. INSTALLATION SHALL INCLUDE ALL POWER REQUIRED FOR SYSTEM OPERATION INCLUDING +120VAC. REFER TO THE SUGGESTED MATRIX OF SCOPE RESPONSIBILITY FOR ADDITIONAL INFORMATION.

KEYNOTES: (#)

1. PROVIDE JUNCTION BOXES IN THE DOOR FRAME WHERE SHOWN ON THIS DETAIL. ROUGH-IN SHALL BE PROVIDED WHETHER THE CURRENT SECURITY SCHEME UTILIZES THEM OR NOT. ALL CONDUITS SHALL BE EMT CONDUIT UNLESS OTHERWISE NOTED. FLEXIBLE CONDUIT OF ANY TYPE WILL NOT BE ACCEPTED. COORDINATE INSTALLATION WITH ON-SITE DOOR FRAME INSTALLATION CONTRACTOR.
2. ALL DOOR POSITION SWITCHES ARE REQUIRED TO BE RECESSED UNLESS OTHERWISE NOTED. ELECTRIC HINGE MONITORS ARE NOT AN ACCEPTABLE REPLACEMENT FOR THE RECESSED DOOR POSITION SWITCH.
3. DOUBLE GANG BACKBOX WITH SINGLE GANG PLASTER RING. REFER TO FLOOR PLAN(S) FOR ACTUAL CREDENTIAL READER TYPE AND ROUGH-IN LOCATIONS.
4. CONDUIT SHALL ROUTE FROM THE CREDENTIAL READER TO THE SECURE SIDE OF THE DOOR. CONDUIT SHALL ROUTE TO THE NEAREST ACCESSIBLE CEILING. PROVIDE A NYLON BUSHING ON CONDUIT END.
5. MOUNT A MINIMUM 4" SQUARE 2-1/8" DEEP JUNCTION BOX WITH BLANK COVER PLATE ON THE SECURE SIDE OF THE DOOR ABOVE ACCESSIBLE CEILING. INSTALLING CONTRACTOR SHALL SIZE THE JUNCTION BOXES PER SYSTEM INSTALLATION REQUIREMENTS AND APPLICABLE CODES. MAINTAIN ACCESS TO THE JUNCTION BOX.
6. PROVIDE A HORIZONTALLY MOUNTED SINGLE GANG BACKBOX FOR THE REQUEST TO EXIT SENSOR. REFER TO THE CONTROLLED SECURITY SCHEME SCHEDULE ON T201 FOR DOORS THAT REQUIRE THIS ROUGH-IN.
7. CONDUIT SHALL ROUTE TO THE NEAREST ACCESSIBLE CEILING. PROVIDE A NYLON BUSHING ON CONDUIT END.



2 CONTROLLED SECURITY SCHEME WIRING DIAGRAM

NO SCALE

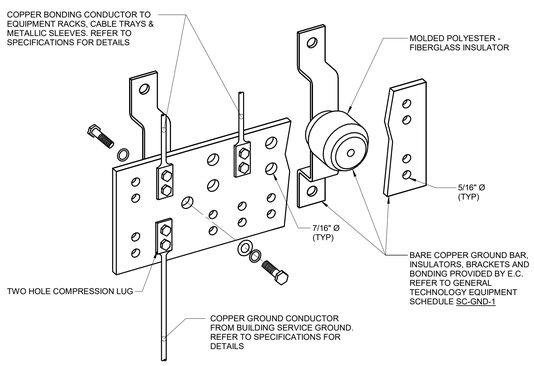
NOTES:

1. THIS RISER IS DIAGRAMMATIC AND NOT INTENDED TO SHOW ACTUAL ROUTING OR QUANTITIES OF MATERIALS SHOWN. THIS RISER IS SHOWN FOR CLARIFICATION OF CONNECTION LOCATIONS AND CABLE TYPE.
2. ALL CABLING SHALL BE PLENUM RATED.
3. REFER TO 1/T201 FOR CONTROLLED SECURITY SCHEME DOOR ROUGH-IN DETAIL.
4. REFER TO T300 FOR TECHNOLOGY EQUIPMENT SCHEDULE.

CONTROLLED SECURITY SCHEME (CSS) TYPE SCHEDULE

1. ELECTRONIC DOOR HARDWARE SUCH AS ELECTRIC STRIKES, ELECTRIC LATCH RETRACTION, ETC. SHALL BE PROVIDED AND INSTALLED BY OTHERS.
2. REFER TO THE TECHNOLOGY EQUIPMENT SCHEDULE FOR CREDENTIAL READER TYPE INFORMATION.

	CREDENTIAL READER			INTEGRATION										REQUEST TO EXIT	DOOR HARDWARE / MONITORING								OTHER (REFER TO NOTES)			
DOOR #	ROUGH-IN ONLY	CREDENTIAL READER TYPE	MULTIPLE CREDENTIAL READERS OPERATES SINGLE DOOR	OPERATES MULTIPLE DOORS	AUTOMATIC DOOR OPERATOR	ELEVATOR	LOCKED BY EMERGENCY DURESS SEQUENCE	INFANT PROTECTION	REMOTE UNLOCK VIA INTERCOM MASTER	REMOTE UNLOCK VIA PUSHBUTTON	INTRUSION DETECTION	REMOTE UNLOCK VIA FIRE COMMAND CENTER	VIDEO SURVEILLANCE	WANDER PREVENTION SYSTEM	MOTION DETECTOR	LOCAL PUSHBUTTON DOOR HARDWARE OVERRIDE	INTERNAL ELECTRIFIED HARDWARE CONNECTION (BY OTHERS)	ELECTRONIC LOCKING HARDWARE (BY OTHERS)	MAG LOCK	LATCH STATUS DETECTION (BY OTHERS)	LOCAL ALARM HORN	MONITOR LATCH BOLT (BY OTHERS)	MONITOR DOOR POSITION SWITCH SPDT	MONITOR DOOR POSITION SWITCH DPDT	MONITOR DOOR POSITION SWITCH - OVERHEAD DOOR	MONITOR DOOR POSITION SWITCH - ROOF HATCH	DELAYED EGRESS (BY OTHERS)	LOCAL 120VAC POWER SUPPLY	SCHEDULE BASED LOCKING	VISUAL STROBE/AUDIBLE ALARM	NOTES
110A		R1															•	•					•							
110C		R1															•	•					•							
112		R1															•	•					•							
N100		R1															•	•					•							
N106A		R1															•	•					•							
N107A		R1															•	•					•							
N108		R1															•	•					•							
S100		R1															•	•					•							
S106A		R1															•	•					•							
S108		R1															•	•					•							

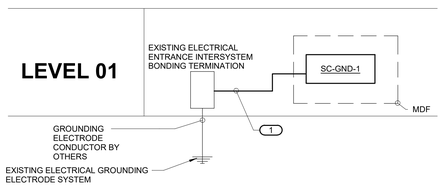


3 BONDING BUS BAR DETAIL

NO SCALE

NOTES:

1. REFER TO TECHNOLOGY EQUIPMENT SCHEDULE SC-GND-1 FOR WIDTH REQUIREMENTS.
2. REFER TO 5/T201 FOR TYPICAL TELECOM ROOM BONDING FLOW DIAGRAM.



4 TECHNOLOGY BONDING RISER DIAGRAM

NO SCALE

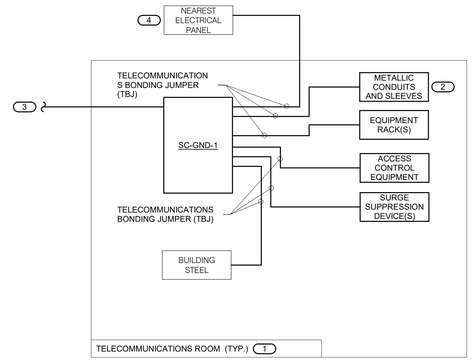
NOTES:

1. THIS RISER IS DIAGRAMMATIC AND MAY NOT SHOW ACTUAL ROUTING OR QUANTITIES OF MATERIALS. THIS RISER IS SHOWN FOR CLARIFICATION OF CONNECTION LOCATIONS AND CONDUCTOR TYPE. ALL CONNECTIONS AND SYSTEM DEVICES SHOWN ARE TYPICAL AND NOT REPRESENTATIVE OF ACTUAL PROJECT QUANTITIES. REFER TO FLOOR PLANS AND ENLARGED FLOOR PLANS FOR ACTUAL QUANTITIES AND LOCATIONS OF DEVICES AND MORE SPECIFIC ROUTING INFORMATION. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. ALL CONDUCTORS IN THE TECHNOLOGY BONDING SYSTEM SHALL BE MINIMUM SIZE OF 3/0 AWG [] PLENUM RATED COPPER (GREEN OR MARKED WITH A DISTINCTIVE GREEN COLOR) UNLESS CONDUCTOR LENGTH IS LESS THAN 66 FEET. REFER TO BONDING CONDUCTOR SIZING SCHEDULE FOR SIZING CRITERIA FOR CONDUCTORS LESS THAN 66 FEET IN LENGTH. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
3. ALL BONDING CONDUCTORS AND BONDING JUMPERS SHALL BE CONNECTED BY COMPRESSION LUGS, EXOTHERMIC WELDING, OR IRREVERSIBLE COMPRESSION CONNECTORS. SOLDER IS NOT AN ACCEPTABLE MEANS OF CONNECTION. SHEET METAL SCREWS SHALL NOT BE USED TO CONNECT COMMUNICATIONS BONDING CONDUCTORS TO EQUIPMENT. WHERE NECESSARY, REMOVE PAINT AND/OR USE PAINT-PIERCING WASHERS TO PROVIDE PROPER ELECTRICAL BOND AT ALL CONNECTIONS.
4. REFER TO 5/T201 FOR TYPICAL TELECOM ROOM BONDING FLOW DIAGRAM.
5. REFER TO TELECOM ROOM REFERENCES SCHEDULE ON DRAWING T000 FOR TELECOMMUNICATIONS ROOM NUMBER AND LOCATION INFORMATION.

KEYNOTES: (#)

1. BONDING CONDUCTOR FOR TELECOMMUNICATIONS (BCT). BCT SHALL BE THE SAME SIZE AS THE TBB OR LARGER. REFER TO BONDING CONDUCTOR SIZING SCHEDULE FOR SIZING REQUIREMENTS.

BONDING CONDUCTOR SIZING SCHEDULE	
CONDUCTOR LENGTH IN FEET	MINIMUM ACCEPTABLE SIZE - AWG
LESS THAN 13'	6
14' - 20'	4
21' - 26'	3
27' - 33'	2
34' - 41'	1
42' - 52'	1/0
53' - 66'	2/0
GREATER THAN 66'	3/0



5 TYPICAL TELECOM ROOM BONDING FLOW DIAGRAM

NO SCALE

NOTES:

1. THIS FLOW DIAGRAM IS DIAGRAMMATIC AND MAY NOT SHOW ACTUAL ROUTING OR QUANTITIES OF MATERIALS. THIS FLOW DIAGRAM IS SHOWN FOR CLARIFICATION OF CONNECTION LOCATIONS AND CONDUCTOR TYPE. ALL CONNECTIONS AND SYSTEM DEVICES SHOWN ARE TYPICAL AND NOT REPRESENTATIVE OF ACTUAL PROJECT QUANTITIES. REFER TO FLOOR PLANS AND ENLARGED FLOOR PLANS FOR ACTUAL QUANTITIES AND LOCATIONS OF DEVICES AND MORE SPECIFIC ROUTING INFORMATION. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. ALL CONDUCTORS IN THE TECHNOLOGY BONDING SYSTEM SHALL BE MINIMUM SIZE OF 3/0 AWG [PLENUM RATED] COPPER (GREEN OR MARKED WITH A DISTINCTIVE GREEN COLOR) UNLESS CONDUCTOR LENGTH IS LESS THAN 66 FEET. REFER TO BONDING CONDUCTOR SIZING SCHEDULE FOR SIZING CRITERIA FOR CONDUCTORS LESS THAN 66 FEET IN LENGTH. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
3. ALL BONDING CONDUCTORS AND BONDING JUMPERS SHALL BE CONNECTED BY COMPRESSION LUGS, EXOTHERMIC WELDING, OR IRREVERSIBLE COMPRESSION CONNECTORS. SOLDER IS NOT AN ACCEPTABLE MEANS OF CONNECTION. SHEET METAL SCREWS SHALL NOT BE USED TO CONNECT COMMUNICATIONS BONDING CONDUCTORS TO EQUIPMENT. WHERE NECESSARY, REMOVE PAINT AND/OR USE PAINT-PIERCING WASHERS TO PROVIDE PROPER ELECTRICAL BOND AT ALL CONNECTIONS.
4. REFER TO 1/T201 FOR BONDING BUS BAR DETAIL AND ADDITIONAL INFORMATION AND REQUIREMENTS FOR SC-GND-1.

KEYNOTES: (#)

1. REFER TO TELECOM ROOM REFERENCES SCHEDULE ON DRAWING T000 FOR TELECOMMUNICATIONS ROOM NUMBER AND LOCATION INFORMATION.
2. INCLUDES HORIZONTAL AND VERTICAL CONDUIT SLEEVES FOR TECHNOLOGY CABLING.
3. BONDING CONDUCTOR FOR TELECOMMUNICATIONS (BCT), TO EXISTING ELECTRICAL ENTRANCE INTERSYSTEM BONDING TERMINATION. REFER TO 4/T201 FOR TELECOMMUNICATIONS BONDING RISER DIAGRAM FOR CONTINUATION AND ADDITIONAL INFORMATION AND REQUIREMENTS.
4. REFER TO THE ELECTRICAL DRAWINGS FOR LOCATION.

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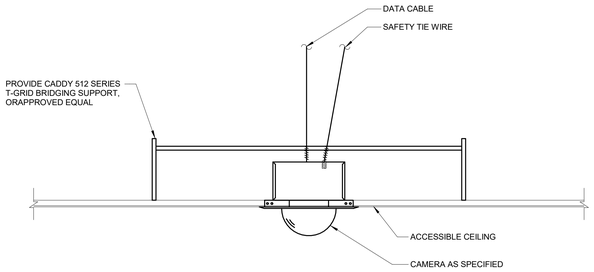
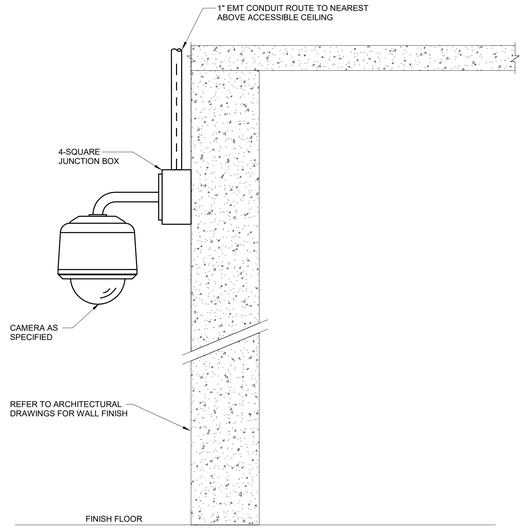


1 ACCESSIBLE CEILING CAMERA MOUNT AND ROUGH-IN DETAIL

NO SCALE

NOTES:

1. COORDINATE EXACT LOCATION ON SITE WITH WORK BY OTHER TRADES TO ENSURE DESIRED VIEWING AREA AND SERVICE ACCESS AFTER COMPLETION OF PROJECT AND TO MINIMIZE ANY POSSIBLE DAMAGE TO INSTALLED CAMERA OR ASSOCIATED CABLING.
2. PROVIDE CAMERA MOUNTING ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION FROM THE SAME MANUFACTURER OF THE CAMERA AND APPROVED BY THE MANUFACTURER FOR USE WITH THE SPECIFIC MODEL NUMBER OF CAMERA INSTALLED.

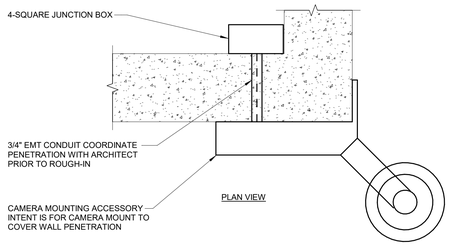


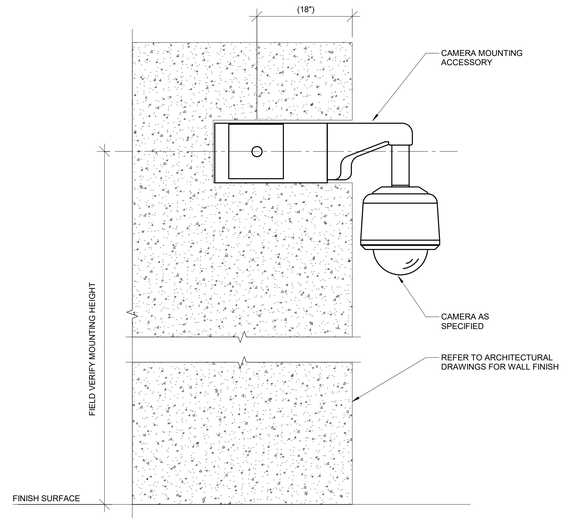
2 WALL SURFACE PENDANT CAMERA MOUNT AND ROUGH-IN DETAIL

NO SCALE

NOTES:

1. COORDINATE EXACT LOCATION ON SITE WITH WORK BY OTHER TRADES TO ENSURE DESIRED VIEWING AREA AND SERVICE ACCESS AFTER COMPLETION OF PROJECT AND TO MINIMIZE ANY POSSIBLE DAMAGE TO INSTALLED CAMERA OR ASSOCIATED CABLING.
2. INSTALLING CONTRACTOR SHALL FURNISH AND INSTALL FIRESTOP MATERIALS FOR CAMERA ROUGH-INS PER PROJECT REQUIREMENTS. REFER TO SPECIFICATIONS FOR FIRESTOP REQUIREMENTS.
3. PROVIDE CAMERA MOUNTING ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION FROM THE SAME MANUFACTURER OF THE CAMERA AND APPROVED BY THE MANUFACTURER FOR USE WITH THE SPECIFIC MODEL NUMBER OF CAMERA INSTALLED.
4. SEAL WALL MOUNT BASE PLATE TO JUNCTION BOX TO PREVENT WATER INFILTRATION.





3 CORNER CAMERA MOUNT AND ROUGH-IN DETAIL

NO SCALE

NOTES:

1. COORDINATE EXACT LOCATION ON SITE WITH WORK BY OTHER TRADES TO ENSURE DESIRED VIEWING AREA AND SERVICE ACCESS AFTER COMPLETION OF PROJECT AND TO MINIMIZE ANY POSSIBLE DAMAGE TO INSTALLED CAMERA OR ASSOCIATED CABLING.
2. INSTALLING CONTRACTOR SHALL FURNISH AND INSTALL FIRESTOP MATERIALS FOR CAMERA ROUGH-INS PER PROJECT REQUIREMENTS. REFER TO SPECIFICATIONS FOR FIRESTOP REQUIREMENTS.
3. PROVIDE CAMERA MOUNTING ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION FROM THE SAME MANUFACTURER OF THE CAMERA AND APPROVED BY THE MANUFACTURER FOR USE WITH THE SPECIFIC MODEL NUMBER OF CAMERA INSTALLED.
4. SEAL WALL MOUNT BASE PLATE TO FACADE TO PREVENT WATER INFILTRATION.

INDIVIDUAL CAMERA REQUIREMENTS SCHEDULE

CAMERA #	CAMERA TYPE	CAMERA ENVIRONMENT	TELECOM ROOM #	LOCATION	FIELD OF VIEW DESCRIPTION	MOUNTING TYPE	DETAIL REFERENCE	FRAME RATE	PERCENT MOTION	ADDITIONAL INFORMATION	NOTES
NC-01	CM-3	EXTERIOR	CONTROL 106A	EXTERIOR	EXTERIOR VIEW	ACCESSIBLE CEILING	1/T202	12	80		
NC-02	CM-3	EXTERIOR	CONTROL 106A	EXTERIOR	EXTERIOR VIEW	ACCESSIBLE CEILING	1/T202	12	80		
NC-03	CM-3	EXTERIOR	CONTROL 106A	EXTERIOR	EXTERIOR VIEW	ACCESSIBLE CEILING	1/T202	12	80		
NC-04	CM-1	EXTERIOR	CONTROL 106A	EXTERIOR	GENERAL VIEW OF ENTRANCE	ACCESSIBLE CEILING	1/T202	12	80		
NC-05	CM-3	EXTERIOR	MDF	EXTERIOR	EXTERIOR VIEW	CORNER	3/T202	12	80		
NC-06	CM-3	EXTERIOR	MDF	EXTERIOR	EXTERIOR VIEW	CORNER	3/T202	12	80		
NC-07	CM-1	INTERIOR	CONTROL 106A	INTERIOR	CONCESSIONS	ACCESSIBLE CEILING	1/T202	12	80		
NC-08	CM-1	INTERIOR	CONTROL 106A	INTERIOR	CONCESSIONS	ACCESSIBLE CEILING	1/T202	12	80		
NC-09	CM-1	INTERIOR	CONTROL 106A	INTERIOR	CONCESSIONS	ACCESSIBLE CEILING	1/T202	12	80		
NC-10	CM-4	INTERIOR	CONTROL 106A	INTERIOR	CONCESSIONS	ACCESSIBLE CEILING	1/T202	12	80		
NC-11	CM-3	EXTERIOR	CONTROL 106A	EXTERIOR	EXTERIOR VIEW	WALL	2/T202	12	80		
NC-12	CM-4	INTERIOR	CONTROL 106A	INTERIOR	ENTRANCE	ACCESSIBLE CEILING	1/T202	12	80		
SC-01	CM-3	EXTERIOR	CONTROL 106A	EXTERIOR	EXTERIOR VIEW	ACCESSIBLE CEILING	1/T202	12	80		
SC-02	CM-3	EXTERIOR	CONTROL 106A	EXTERIOR	EXTERIOR VIEW	ACCESSIBLE CEILING	1/T202	12	80		
SC-03	CM-3	EXTERIOR	CONTROL 106A	EXTERIOR	EXTERIOR VIEW	ACCESSIBLE CEILING	1/T202	12	80		
SC-04	CM-1	EXTERIOR	CONTROL 106A	EXTERIOR	GENERAL VIEW OF ENTRANCE	ACCESSIBLE CEILING	1/T202	12	80		
SC-07	CM-1	INTERIOR	CONTROL 106A	INTERIOR	CONCESSIONS	ACCESSIBLE CEILING	1/T202	12	80		
SC-08	CM-1	INTERIOR	CONTROL 106A	INTERIOR	CONCESSIONS	ACCESSIBLE CEILING	1/T202	12	80		
SC-09	CM-1	INTERIOR	CONTROL 106A	INTERIOR	CONCESSIONS	ACCESSIBLE CEILING	1/T202	12	80		
SC-10	CM-4	INTERIOR	CONTROL 106A	INTERIOR	CONCESSIONS	ACCESSIBLE CEILING	1/T202	12	80		
SC-11	CM-3	EXTERIOR	CONTROL 106A	EXTERIOR	EXTERIOR VIEW	WALL	2/T202	12	80		
SC-12	CM-4	INTERIOR	CONTROL 106A	INTERIOR	ENTRANCE	ACCESSIBLE CEILING	1/T202	12	80		

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TECHNOLOGY EQUIPMENT SCHEDULE

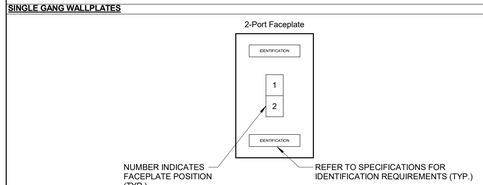
THE EQUIPMENT LIST ABBREVIATIONS AND THE GENERAL TECHNOLOGY EQUIPMENT SCHEDULE ARE FOR THE CONVENIENCE OF THE CONTRACTOR. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF QUANTITIES AND SHALL FURNISH ALL MATERIAL REQUIRED, WHETHER SPECIFIED OR NOT, TO PRODUCE A SATISFACTORY WORKING SYSTEM.

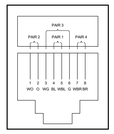
CATALOG NUMBERS ARE NOT TO BE CONSIDERED COMPLETE BUT ARE GIVEN ONLY TO AID THE CONTRACTOR IN THE SEARCH FOR MATERIAL. NO MATERIAL SHALL BE ORDERED BY MANUFACTURER AND CATALOG NUMBER ONLY. EACH CONTRACTOR SHALL FIRST READ THE COMPLETE DESCRIPTION OF THE MATERIAL ON THESE DRAWINGS AND SPECIFICATIONS. THE FIRST MANUFACTURER LISTED IS THE BASIS OF DESIGN. "STANDARD COLOR" INDICATES FACTORY FINISH AVAILABLE AT NO ADDITIONAL CHARGE.

EQUIPMENT LIST ABBREVIATION	EQUIPMENT LIST DESCRIPTION	MANUFACTURER AND MODEL
AC-ACP-1	ACCESS CONTROL INTELLIGENT CONTROL PANEL AND INPUT MODULE.	SALTO CU4000 NO SUBSTITUTIONS
AC-DC	DOOR CONTACT SWITCH. INTEGRAL PART OF ACCESS CONTROL SYSTEM, 1" DIAMETER, MAGNETIC, STANDARD GAP, RECESSED IN DOOR FRAME. COORDINATE INSTALLATION WITH GENERAL CONTRACTOR AND DOOR SUPPLIER. REFER TO SPECIFICATION SECTION 17830.	GE SECURITY 1076W OR PRE-APPROVED EQUAL
AC-EDH	ELECTRIC LOCKING HARDWARE, FURNISHED AND INSTALLED BY DOOR HARDWARE PROVIDER, CONTROLLED BY THE SECURITY SYSTEM. REFER TO ARCHITECTURAL DOOR SCHEDULE FOR ADDITIONAL INFORMATION. REFER TO 3/T201 FOR CONTROLLED SECURITY SCHEME DOOR ROUGH-IN DETAIL FOR ADDITIONAL INFORMATION.	*
AC-PSP-1	ACCESS CONTROL LOW VOLTAGE DOOR POWER SUPPLY, 8 PTC PROTECTED OUTPUTS, 24 VDC @ 8 AMP TOTAL OUTPUT. BUILT-IN CHARGER FOR LEAD ACID OR GEL TYPE BATTERIES. PROVIDE WITH (2) 12AH BATTERIES. AC FAIL SUPERVISION AND LOW BATTERY SUPERVISION FORM C CONTACT CLOSURES. UL 294 AND 1481 LISTED FOR ACCESS CONTROL AND FIRE SIGNALING.	ALTRONIX AL1024ULXPD8 OR PRE-APPROVED EQUAL
AC-R1-W	CREDENTIAL READER, PROVIDED AS INTEGRAL PART OF SECURITY MANAGEMENT SYSTEM, REFER TO ACCESS CONTROL SYSTEM DOOR SCHEDULE FOR COMPLETE INFORMATION, CARD READERS SHOWN ON PLANS TO IDENTIFY INTENDED MOUNTING LOCATION, REFER TO SPECIFICATION SECTION 28 13 00 FOR COMPLETE INFORMATION. REFER TO 3/T201 FOR CONTROLLED SECURITY SCHEME DOOR ROUGH-IN DETAIL FOR ADDITIONAL INFORMATION.	SALTO DESIGN XS NO SUBSTITUTIONS
AC-R2-W	WIRELESS READER AND LOCKSET, PROVIDED AS INTEGRAL PART OF SECURITY MANAGEMENT SYSTEM.	SALTO XS4 MINI NO SUBSTITUTIONS
AC-RTE	PIR REQUEST TO EXIT MOTION DETECTOR, DOOR MONITOR WITH SOUNDER ALERT, ADJUSTABLE LATCH TIME, SELECTABLE FAIL SAFE/SECURE, ACTIVATION LED, 12 VDC OPERATION, SEQUENTIAL LOGIC INPUT, TWO FORM C CONTACTS. PROVIDE WITH TRIM PLATE (TP 160) CEILING MOUNTED OR WALL MOUNTED AT 84" AFF. REFER TO 3/T201 FOR CONTROLLED SECURITY SCHEME DOOR ROUGH-IN DETAIL FOR ADDITIONAL INFORMATION.	BOSCH DS 160 NO SUBSTITUTION
AV-MNT-1	WALL MOUNT FOR 32-80" DISPLAYS, BUILT IN PIVOT UP TO 90° (45° IN EACH DIRECTION) ALLOWS FOR ADJUSTABLE VIEWING ANGLES	PEERLESS SP850-UNLP-GB OR PRE-APPROVED EQUAL
AV-MON-75	75" LED MONITOR. PROVIDE WITH ALL REQUIRED ACCESSORIES.	SAMSUNG BE75TH OR PRE-APPROVED EQUAL
AV-RI-F	TECHNOLOGY ROUGH-IN, FLOOR. ROUGH-IN IN E.C. PROVIDED FLOOR BOX. COORDINATE ADDITIONAL MOUNTING REQUIREMENTS WITH E.C. PROVIDE (1) 1-1/4" EMT CONDUIT TO THE NEAREST ACCESSIBLE CEILING UNLESS NOTED OTHERWISE	*
PW-HH-1	HANDHOLE COMPOSITE POLYMER CONCRETE BODY AND COVER. STAINLESS STEEL HARDWARE BOLTED NON-SKID COVER RATED FOR 15,000LB. DESIGN LOAD OCCASIONAL NON-DELIBERATE VEHICULAR TRAFFIC. STACK UNITS TO ACIEVE DEPTH SHOWN ON PLANS. UNITS IN LANDSCAPED AREAS SHALL BE GREEN IN COLOR. "COMMUNICATIONS" LOGO ON HANHOLE COVER. CONTRACTOR SHALL FIELD VERIFY QUANTITY AND LOCATIONS. PW-HH-1 = 24"WX24"L.	HUBBELL/QUAZITE PG2424BB24 PG2424HA00 CARSON INDUSTRIES ARMORCAST HIGHLINE PRODUCTS SYNERTECH
SC-ER-1	WALL MOUNTED SWING GATE RACK. 30" H X 19.78" W X 18" D. 12-24 THREADED RAILS, EXTRA LARGE CABLE OPENINGS AT TOP AND BOTTOM. BLACK TEXTURED POWDER COAT FINISH. (12) RU MOUNTING SPACE AVAILABLE.	PANDUIT CMR19X84 NO SUBSTITUTION
SC-ER-2	4 POST EQUIPMENT RACK, 84"H x 20.3"W, x 23"D, STANDARD 19" MOUNTING SPACE, DURABLE BLACK POWDER COAT FINISH, MEETS EIA-310-E REQUIREMENTS. 2000 lbs STATIC LOAD RATING.	PANDUIT ER4P23 NO SUBSTITUTIONS
SC-FDC-1	OPTICAL FIBER DISTRIBUTION CABINET. 12 FIBER MINIMUM CAPACITY, FRONT LOCKING DOOR, SLIDE OUT RAILS TO FACILITATE FRONT ACCESS, JUMPER TROUGHS IN CONNECTOR PANELS TO REDUCE MOUNTING SPACE. REQUIRES (3) 1.75" RACK MOUNTING SPACES. PROVIDE WITH CLAMP AND GROUNDING KIT, COUPLING PANEL(S), LC CONNECTOR COUPLINGS, JUMPERS, AND REAR MOUNTED CLOSET HOUSING PANEL(S). REFER TO SPECIFICATIONS SECTION 27 13 00 FOR ADDITIONAL INFORMATION.	PANDUIT FRME2 NO SUBSTITUTIONS
SC-GND-1	WALL MOUNT GROUND BAR. 4"H X 12"L X 1/4" D COPPER, ELECTRICALLY ISOLATED BY INSULATORS INTEGRAL TO MOUNTING BRACKERS. PROVIDE UNIT CONFIGURATED WITH SIXTEEN (16) SETS OF 5/16" HOLES SPACED 5/8" ON CENTER TO ACCOMMODATE "A" SPACED TWO-HOLE COMPRESSION LUGS AND THREE (3) SETS OF 7/16" HOLES SPACED 1" ON CENTER TO ACCOMMODATE "C" SPACED TWO-HOLE COMPRESSION LUGS. ANSI/EIA/TIA-607 AND BICSI COMPLIANT. UL LISTED	CHATSWORTH PRODUCTS 40153-012 OR PRE-APPROVED EQUAL
SC-IO-C	INFORMATION OUTLET , CEILING MOUNT, 1 PORT SURFACE BOX AS INDICATED ON DRAWINGS. REFER TO INFORMATION OUTLET SCHEDULE FOR PIN CONFIGURATION. INSTALL INFORMATION OUTLET IN A 4" SQUARE BACKBOX WITH A SINGLE GANG PLASTER RING. INSTALL A 1" EMT CONDUIT TO THE NEAREST ACCESSIBLE CEILING.	SURFACE MOUNT BOX: PANDUIT CBX1 SERIES COVERPLATE: PANDUIT NK2FIWY JACK: CAT6 CJ688TGXX NO SUBSTITUTIONS
SC-IO-F	INFORMATION OUTLET, FLOOR MOUNT, 2-PORT COVERPLATE AS INDICATED ON DRAWINGS, " # " INDICATES INFORMATION OUTLET FACEPLATE CONFIGURATION AS INDICATED ON THE PLANS. REFER TO INFORMATION OUTLET SCHEDULE FOR PIN CONFIGURATION. INSTALL INFORMATION OUTLET IN E.C. PROVIDED FLOOR BOX. COORDINATE ADDITIONAL MOUNTING REQUIREMENTS WITH E.C. PROVIDE (1) 1" EMT CONDUIT TO THE NEAREST ACCESSIBLE CEILING. PROVIDE REMOVABLE BLANK INSERTS FOR UNUSED PORTS.	PANDUIT COVERPLATE: CFPL4EIY JACK: CAT6 CJ6X88TGXX NO SUBSTITUTION
SC-IO-W	INFORMATION OUTLET, WALL MOUNT, 2 PORT COVERPLATE AS INDICATED ON DRAWINGS. "#" INDICATES INFORMATION OUTLET FACEPLATE CONFIGURATION AS INDICATED ON THE PLANS. REFER TO INFORMATION OUTLET SCHEDULE FOR PIN CONFIGURATION. INSTALL INFORMATION OUTLET IN A 4" SQUARE BACKBOX WITH A SINGLE GANG PLASTER RING. INSTALL A 1" EMT CONDUIT TO NEAREST ACCESSIBLE CEILING. PROVIDE REMOVABLE BLANK INSERTS FOR UNUSED PORTS (HUBBELL SFB10A OR APPROVED EQUAL).	FACEPLATE: PANDUIT NK2FIWY NK4FIWY JACK: PANDUIT CAT 6 NK688MBL NO SUBSTITUTIONS
SC-MPP-1	48 PORT PATCH PANEL, RACK MOUNT, RJ-45 TERMINATIONS, MOUNTS DIRECTLY TO EIA/TIA STANDARD 19" RELAY RACK, PORT IDENTIFICATION NUMBERS, COLOR CODING AND LABEL HOLDER KITS, U.L. LISTED. REQUIRES (2) 1.75" MOUNTING SPACES.	PANDUIT CPP48FMWBLY NO SUBSTITUTIONS
SC-RI-W	INFORMATION OUTLET ROUGH-IN, WALL MOUNT. INSTALL INFORMATION OUTLET IN A 4" SQUARE BACKBOX WITH A SINGLE GANG PLASTER RING. INSTALL A 1-1/4" EMT CONDUIT TO A NEAREST ACCESSIBLE CEILING.	*
SC-TTB	TELECOMMUNICATIONS TERMINAL BOARD, 4' X 8' X 3/4" A-C GRADE FIRE-RATED PLYWOOD. EXPOSED SIDE SHALL BE SMOOTH. MOUNT VERTICALLY WITH TOP OF PLYWOOD AT 8'6" A.F.F.	*
SC-WP-W	INFORMATION OUTLET, WALL PHONE. PROVIDE (1) RJ-45 JACK FOR VOICE AT +48" AFF FOR WALL HUNG PHONE. PROVIDE WITH STAINLESS STEEL FACEPLATE, MATING LUGS. INSTALL INFORMATION OUTLET IN A 4" SQUARE BACKBOX WITH A SINGLE GANG PLASTER RING. INSTALL A 1" EMT CONDUIT TO NEAREST CORRIDOR CEILING.	COVERPLATE: PANDUIT KWPY JACK: CAT 6 CJ688TGXX SERIES NO SUBSTITUTIONS
VS-CM-1	2MP DOME CAMERA. REFER TO SPECIFICATION 28 23 00 FOR ADDITIONAL INFORMATION. INFORMATION OUTLET FOR CAMERA SHALL BE FURNISHED AND INSTALLED BY DIV 27. CABLING SHALL BE TERMINATED IN AN. RJ-45 JACK AND INSTALLED IN A 1-PORT SURFACE MOUNT BOX.	CAMERA: AVIGILON 3.0C-H4A-D1-IR(-B) SURFACE MOUNT BOX: PANDUIT CBX1 SERIES JACK: CAT6 CJ688TGXX NO SUBSTITUTIONS
VS-CM-3	15 MP MULTIDIRECTIONAL CAMERA WITH IR FOR 360° COVERAGE. REFER TO SPECIFICATION 28 23 00 FOR ADDITIONAL INFORMATION. INFORMATION OUTLET FOR CAMERA SHALL BE FURNISHED AND INSTALLED BY DIV 27. CABLING SHALL BE TERMINATED IN AN RJ-45 JACK AND INSTALLED IN A 1-PORT SURFACE MOUNT BOX.	CAMERA: AVIGILON 15C-H4A-3MH-360 SURFACE MOUNT BOX: PANDUIT CBX1 SERIES JACK: CAT6 CJ688TGXX NO SUBSTITUTIONS
VS-CM-4	15 MP MULTIDIRECTIONAL CAMERA WITH IR FOR 360° COVERAGE. REFER TO SPECIFICATION 28 23 00 FOR ADDITIONAL INFORMATION. INFORMATION OUTLET FOR CAMERA SHALL BE FURNISHED AND INSTALLED BY DIV 27. CABLING SHALL BE TERMINATED IN AN RJ-45 JACK AND INSTALLED IN A 1-PORT SURFACE MOUNT BOX.	CAMERA: AVIGILON 12.0-H4F-DO1-IR SURFACE MOUNT BOX: PANDUIT CBX1 SERIES JACK: CAT6 CJ688TGXX NO SUBSTITUTIONS

INFORMATION OUTLET SCHEDULE

SINGLE GANG WALLPLATES





ANSI/TIA/EIA T568B
PIN/PAIR ASSIGNMENT

NOTES:
1. PROVIDE REMOVABLE BLANK INSERT(S) FOR ALL UNUSED PORTS.
2. REFER TO SPECIFICATIONS SECTION 27 05 53 FOR ADDITIONAL INFORMATION ON LABELING REQUIREMENTS.

SCHEDULE NOTES:
1. LOCATION OF FUTURE OR OWNER PROVIDED WIRELESS ACCESS POINT. PROVIDE A 20' SLACK COIL AT THE NEAREST CABLE SUPPORT FOR POSSIBLE RELOCATION AFTER WIRELESS SURVEY.

LEGEND

DATA	CAT 6 RJ-45
BLANK	BLANK FILLER MODULE

CONFIGURATION	FACEPLATE PORTS	FACEPLATE PORT IDENTIFICATION: POSITION 1 JACK TYPE	POSITION 2 JACK TYPE	POSITION 3 JACK TYPE	POSITION 4 JACK TYPE	POSITION 5 JACK TYPE	POSITION 6 JACK TYPE	NOTES
C1	1	DATA						
C2	2	DATA	DATA					
C2-WAP	2	DATA	DATA					1.
W	1	VOICE						

SVPA ARCHITECTS
1466 28th Street, Suite 200 | West Des Moines, Iowa 50266 | 515.327.5990

IMEG
The FUTURE Built Smarter
www.imegcorp.com

GRIMESPLEX

7054 NW 114th St
GRIMES, IOWA 50111

ISSUANCE

CONSTRUCTION DOCUMENTS
04/25/2023

REVISIONS

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PROJECT NUMBER
22038

TECHNOLOGY SCHEDULES

T300

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PROJECT #23000288.00

4/25/2023 11:17:55 AM
Autodesk Docs://22038 Grimesplex/IMEP22_23000288.00_22038 Grimesplex_C.rvt

EDGE COMMERCIAL

Submittal

Job: S-14117-22
GRIMESPLEX
1000 NE Heritage Dr.
Grimes, IA 50111

Spec Section No: 265000
Submittal No: 01
Revision No: 0
Sent Date: 11/14/2022

Spec Section Title:

Submittal Title: 265000-01 Athletic Lighting Shop Drawings & Product Data

Contractor:
Edge Commercial, LLC
Project Manager:
Branson Ropp

Contractor's Stamp

Reviewed by Edge Commercial
Branson Ropp
11-14-22

Architect:
Phone:
Fax:

Architect's Stamp

Engineer:
Phone:
Fax:

Engineer's Stamp

Van Maanen Electric Inc

500 Iowa Speedway Drive
Newton, IA 50208
Phone: 641-791-9473
Fax: 641-791-9484

LETTER OF TRANSMITTAL

TO: Edge Construction **Date:** 11/11/22

Re: Grimes Plax

WE ARE SENDING YOU:

- ☒ Attached
- ☐ Shop Drawings
- ☐ Copy of Letter
- ☐ Prints
- ☐ Change Order
- ☐ Plans
- ☐ Specifications
- ☐ Samples
- ☐ Other

Document Type	Copy	Description
Submittal	1	Lighting

THESE ARE TRANSMITTED as checked below:

- ☒ For approval
- ☒ For your use
- ☒ As requested
- ☐ For review and comment
- ☐ FOR BIDS DUE
- ☐ Approved as submitted
- ☐ Approved as noted
- ☐ Returned for corrections
- ☐ Other
- ☐ PRINTS RETURNED
- ☐ Resubmit 3 copies for approval
- ☐ Submit ___ copies for distribution
- ☐ Return ___ corrected prints

Remarks:
Please let me know if you have any questions or need anything further at this time.

Thank you,
Becca Decker
bdecker@vanmaanenelectric.com
641-791-9473

Project Submittal: **Approval Letter**

November 11, 2022

Josh Hetzler
Van Maanen Electric Inc
500 Iowa Speedwday Drive
Newton, IA 50208

RE: Grimes Sportsplex
Project #209347

Dear Josh Hetzler

This serves as approval for submittals provided by Musco Sports Lighting, LLC. Please review the enclosed documents and note changes where appropriate. Upon your approval, we can begin fabrication of the materials for your project. Any changes may result in delay of production, delivery, and additional costs.

We shall deliver equipment to the job site 10 - 12 weeks, after submittal approval or release of order.

Please indicate your approval of these submittals in their entirety by signing below.

Authorized Signature	Date
Printed Name	Company Name

Please return one copy of this form to:
Musco Sports Lighting, LLC
2107 Stewart Road
Muscatine, Iowa 52761

Toll Free: 800-756-1205
Fax: 800-374-6402
Email: crissy.shoemaker@musco.com

MUSCO LIGHTING SUBMITTAL FOR PRODUCTION

PREPARED FOR:

Grimes Sportsplex

Lighting Project
Grimes, IA
November 11, 2022

Project #209347

Submitted by:
Musco Sports Lighting, LLC

Attn: Crissy Shoemaker
2107 Stewart Road
Muscatine, Iowa 52761

Toll Free: 800-756-1205
Fax: 800-374-6402

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A. BILL OF MATERIALS

Project Submittal: Bill of Materials

Equipment Description	
28	Light-Structure System™ Total Light Control™ TLC-LED-900 luminaires
99	Light-Structure System™ Total Light Control™ TLC-LED-1200 luminaires
245	Light-Structure System™ Total Light Control™ TLC-LED-1500 luminaires
114	Light-Structure System™ Total Light Control™ TLC-BT-575 luminaires
25	70 ft galvanized steel poles
8	80 ft galvanized steel poles
13	90 ft galvanized steel poles
46	Pre-cast concrete foundations (9,500 PSI) with integrated grounding
✓	Factory wired and assembled pole top luminaire assemblies
✓	Factory wired electrical component enclosures
✓	Factory built wire harnesses with plug-in connections
Controls	
10	8 24’”x72” & 2 24”x48” Control and monitoring cabinet
✓	High/medium/low dimming
54	30-amp contactors
6	60-amp contactors
61	On-Off-Auto (OOA) switches
Warranty	
✓	Musco’s Constant 25™ product assurance and warranty program that eliminates 100% maintenance costs for 25 years, including labor, materials, monitoring and guaranteed light levels.

B. LIGHTING DESIGN

Grimes Sportsplex

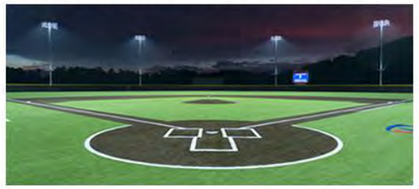
Grimes,IA

Lighting System

Pole / Fixture Summary

Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
A1	70'	70'	2	TLC-LED-1200	2.34 kW	J
		70'	1	TLC-LED-900	0.89 kW	J
		16'	1	TLC-BT-575	0.58 kW	J
A2	70'	70'	2	TLC-LED-1200	2.34 kW	L
		70'	1	TLC-LED-900	0.89 kW	L
		16'	1	TLC-BT-575	0.58 kW	L
A3	70'	70'	1	TLC-LED-1200	1.17 kW	A
		70'	2	TLC-LED-900	1.78 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
A4	70'	70'	2	TLC-LED-1200	2.34 kW	C
		70'	1	TLC-LED-900	0.89 kW	C
		16'	1	TLC-BT-575	0.58 kW	C
A5	70'	70'	2	TLC-LED-1200	2.34 kW	D
		70'	1	TLC-LED-900	0.89 kW	D
		16'	1	TLC-BT-575	0.58 kW	D
A6	70'	70'	3	TLC-LED-1200	3.51 kW	F
		70'	1	TLC-LED-1500	1.43 kW	F
		16'	1	TLC-BT-575	0.58 kW	F
A7	70'	70'	2	TLC-LED-1200	2.34 kW	AA
		70'	1	TLC-LED-900	0.89 kW	AA
		16'	1	TLC-BT-575	0.58 kW	AA
A8	70'	70'	3	TLC-LED-1200	3.51 kW	Y
		70'	1	TLC-LED-1500	1.43 kW	Y
		16'	1	TLC-BT-575	0.58 kW	Y
A9	70'	70'	3	TLC-LED-1200	3.51 kW	P
		70'	3	TLC-LED-1200	3.51 kW	AJ
		70'	1	TLC-LED-1500	1.43 kW	P
		70'	1	TLC-LED-1500	1.43 kW	AJ
		16'	1	TLC-BT-575	0.58 kW	P
		70'	1	TLC-LED-1500	1.43 kW	AJ
		16'	1	TLC-BT-575	0.58 kW	P
		16'	1	TLC-BT-575	0.58 kW	AJ
A10	70'	70'	3	TLC-LED-1200	3.51 kW	G
		70'	3	TLC-LED-1200	3.51 kW	O
		70'	1	TLC-LED-1500	1.43 kW	G
		70'	1	TLC-LED-1500	1.43 kW	O
		16'	1	TLC-BT-575	0.58 kW	G
		16'	1	TLC-BT-575	0.58 kW	O
A11	70'	70'	2	TLC-LED-1200	2.34 kW	I
		70'	2	TLC-LED-1200	2.34 kW	M
		70'	1	TLC-LED-900	0.89 kW	I
		70'	1	TLC-LED-900	0.89 kW	M
		16'	1	TLC-BT-575	0.58 kW	I
		16'	1	TLC-BT-575	0.58 kW	M
A12	70'	70'	2	TLC-LED-1200	2.34 kW	X
		70'	1	TLC-LED-900	0.89 kW	X
		16'	1	TLC-BT-575	0.58 kW	X
A13	70'	70'	2	TLC-LED-1200	2.34 kW	V
		70'	1	TLC-LED-900	0.89 kW	V
		16'	1	TLC-BT-575	0.58 kW	V
A14	70'	70'	2	TLC-LED-1200	2.34 kW	U
		70'	2	TLC-LED-1200	2.34 kW	AK
		70'	1	TLC-LED-900	0.89 kW	U
		70'	1	TLC-LED-900	0.89 kW	AK
		16'	1	TLC-BT-575	0.58 kW	U
		16'	1	TLC-BT-575	0.58 kW	AK
A15	70'	70'	2	TLC-LED-1200	2.34 kW	S

From Hometown to Professional



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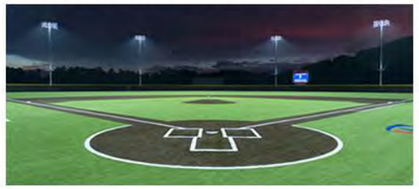
Grimes Sportsplex

Grimes,IA

Pole / Fixture Summary

Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
		70'	1	TLC-LED-900	0.89 kW	S
		16'	1	TLC-BT-575	0.58 kW	S
A16	70'	70'	2	TLC-LED-1200	2.34 kW	R
		70'	2	TLC-LED-1200	2.34 kW	AH
		70'	1	TLC-LED-900	0.89 kW	R
		70'	1	TLC-LED-900	0.89 kW	AH
		16'	1	TLC-BT-575	0.58 kW	R
		16'	1	TLC-BT-575	0.58 kW	AH
A17	70'	70'	2	TLC-LED-1200	2.34 kW	AG
		70'	1	TLC-LED-900	0.89 kW	AG
		16'	1	TLC-BT-575	0.58 kW	AG
A18	70'	70'	2	TLC-LED-1200	2.34 kW	AE
		70'	2	TLC-LED-1200	2.34 kW	AT
		70'	1	TLC-LED-900	0.89 kW	AE
		70'	1	TLC-LED-900	0.89 kW	AT
		16'	1	TLC-BT-575	0.58 kW	AE
		16'	1	TLC-BT-575	0.58 kW	AT
A19	70'	70'	2	TLC-LED-1200	2.34 kW	AD
		70'	1	TLC-LED-900	0.89 kW	AD
		16'	1	TLC-BT-575	0.58 kW	AD
A20	70'	70'	2	TLC-LED-1200	2.34 kW	AB
		70'	1	TLC-LED-900	0.89 kW	AB
		16'	1	TLC-BT-575	0.58 kW	AB
A21	80'	80'	5	TLC-LED-1500	7.15 kW	AQ
		16'	3	TLC-BT-575	1.73 kW	AQ
A22	80'	80'	2	TLC-LED-1200	2.34 kW	AR
		80'	4	TLC-LED-1500	5.72 kW	AR
		16'	1	TLC-BT-575	0.58 kW	AR
A23	80'	80'	5	TLC-LED-1500	7.15 kW	AM
		80'	5	TLC-LED-1500	7.15 kW	AZ
		16'	3	TLC-BT-575	1.73 kW	AM
		16'	3	TLC-BT-575	1.73 kW	AZ
A24	70'	70'	6	TLC-LED-1200	7.02 kW	AU
		16'	1	TLC-BT-575	0.58 kW	AU
A25	70'	70'	4	TLC-LED-1200	4.68 kW	AO
		70'	3	TLC-LED-1200	3.51 kW	BB
		70'	1	TLC-LED-1500	1.43 kW	BB
		16'	1	TLC-BT-575	0.58 kW	AO
		16'	2	TLC-BT-575	1.15 kW	BB
A26	80'	80'	2	TLC-LED-1200	2.34 kW	AN
		80'	2	TLC-LED-1200	2.34 kW	AY
		80'	4	TLC-LED-1500	5.72 kW	AN
		80'	4	TLC-LED-1500	5.72 kW	AY
		16'	1	TLC-BT-575	0.58 kW	AN
		16'	1	TLC-BT-575	0.58 kW	AY
A27	70'	70'	2	TLC-LED-1200	2.34 kW	AX
		70'	2	TLC-LED-1500	2.86 kW	AX
		16'	1	TLC-BT-575	0.58 kW	AX
A28	70'	70'	5	TLC-LED-1500	7.15 kW	AV
		16'	3	TLC-BT-575	1.73 kW	AV
A29	80'	80'	1	TLC-LED-1200	1.17 kW	BH
		80'	8	TLC-LED-1500	11.44 kW	BH
		16'	3	TLC-BT-575	1.73 kW	BH
A30	80'	80'	2	TLC-LED-1200	2.34 kW	BC
		80'	7	TLC-LED-1500	10.01 kW	BC
		16'	3	TLC-BT-575	1.73 kW	BC

From Hometown to Professional



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Grimes Sportsplex

Grimes,IA

Pole / Fixture Summary

Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
A31	80'	80'	9	TLC-LED-1500	12.87 kW	BD
		16'	3	TLC-BT-575	1.73 kW	BD
A32	70'	70'	3	TLC-LED-900	2.67 kW	BF
		16'	2	TLC-BT-575	1.15 kW	BF
A33	80'	80'	9	TLC-LED-1500	12.87 kW	BG
		16'	3	TLC-BT-575	1.73 kW	BG
B1	90'	90'	1	TLC-LED-1200	1.17 kW	K
		90'	7	TLC-LED-1500	10.01 kW	K
		90'	2	TLC-LED-900	1.78 kW	K
		16'	3	TLC-BT-575	1.73 kW	K
B2	90'	90'	1	TLC-LED-1200	1.17 kW	B
		90'	9	TLC-LED-1500	12.87 kW	B
		16'	3	TLC-BT-575	1.73 kW	B
B3	90'	90'	1	TLC-LED-1200	1.17 kW	E
		90'	9	TLC-LED-1500	12.87 kW	E
		16'	3	TLC-BT-575	1.73 kW	E
B4	90'	90'	1	TLC-LED-1200	1.17 kW	Z
		90'	9	TLC-LED-1500	12.87 kW	Z
		16'	3	TLC-BT-575	1.73 kW	Z
B5	90'	90'	1	TLC-LED-1200	1.17 kW	Q
		90'	1	TLC-LED-1200	1.17 kW	AI
		90'	9	TLC-LED-1500	12.87 kW	Q
		90'	9	TLC-LED-1500	12.87 kW	AI
		16'	3	TLC-BT-575	1.73 kW	Q
		16'	3	TLC-BT-575	1.73 kW	AI
B6	90'	90'	1	TLC-LED-1200	1.17 kW	H
		90'	1	TLC-LED-1200	1.17 kW	N
		90'	9	TLC-LED-1500	12.87 kW	H
		90'	9	TLC-LED-1500	12.87 kW	N
		16'	3	TLC-BT-575	1.73 kW	H
		16'	3	TLC-BT-575	1.73 kW	N
B7	90'	90'	1	TLC-LED-1200	1.17 kW	W
		90'	7	TLC-LED-1500	10.01 kW	W
		90'	2	TLC-LED-900	1.78 kW	W
		16'	3	TLC-BT-575	1.73 kW	W
B8	90'	90'	1	TLC-LED-1200	1.17 kW	T
		90'	1	TLC-LED-1200	1.17 kW	AL
		90'	10	TLC-LED-1500	14.30 kW	AL
		90'	9	TLC-LED-1500	12.87 kW	T
		16'	3	TLC-BT-575	1.73 kW	T
		16'	3	TLC-BT-575	1.73 kW	AL
B9	90'	90'	1	TLC-LED-1200	1.17 kW	AF
		90'	1	TLC-LED-1200	1.17 kW	AS
		90'	10	TLC-LED-1500	14.30 kW	AS
		90'	9	TLC-LED-1500	12.87 kW	AF
		16'	3	TLC-BT-575	1.73 kW	AF
		16'	3	TLC-BT-575	1.73 kW	AS
B10	90'	90'	1	TLC-LED-1200	1.17 kW	AC
		90'	9	TLC-LED-1500	12.87 kW	AC
		16'	3	TLC-BT-575	1.73 kW	AC
B11	90'	90'	1	TLC-LED-1200	1.17 kW	AP
		90'	1	TLC-LED-1200	1.17 kW	BA
		90'	13	TLC-LED-1500	18.59 kW	BA
		90'	10	TLC-LED-1500	14.30 kW	AP
		16'	3	TLC-BT-575	1.73 kW	AP
		16'	3	TLC-BT-575	1.73 kW	BA

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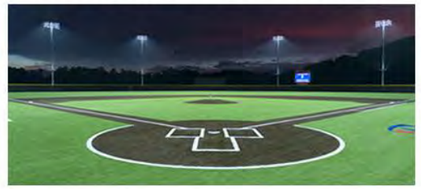

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Grimes Sportsplex

Grimes,IA

Pole / Fixture Summary						
Pole ID	**Pole Height**	**Mtg Height**	**Fixture Qty**	**Luminaire Type**	**Load**	**Circuit**
B12	90'	90'	1	TLC-LED-1200	1.17 kW	AW
		90'	10	TLC-LED-1500	14.30 kW	AW
		16'	3	TLC-BT-575	1.73 kW	AW
B13	90'	90'	1	TLC-LED-1200	1.17 kW	BE
		90'	14	TLC-LED-1500	20.02 kW	BE
		16'	3	TLC-BT-575	1.73 kW	BE
46			***486***		***556.65 kW***	

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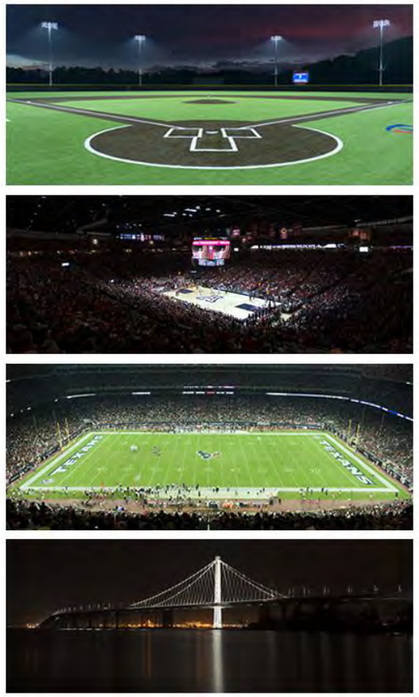

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Grimes Sportsplex

Grimes,IA

Circuit Summary			
Circuit	Description	Load	Fixture Qty
A	A	3.53 kW	4
B	B	15.77 kW	13
C	C	3.81 kW	4
D	D	3.81 kW	4
E	E	15.77 kW	13
F	F	5.52 kW	5
G	G	5.52 kW	5
H	H	15.77 kW	13
I	I	3.81 kW	4
J	J	3.81 kW	4
K	K	14.69 kW	13
L	L	3.81 kW	4
M	M	3.81 kW	4
N	N	15.77 kW	13
O	O	5.52 kW	5
P	P	5.52 kW	5
Q	Q	15.77 kW	13
R	R	3.81 kW	4
S	S	3.81 kW	4
T	T	15.77 kW	13
U	U	3.81 kW	4
V	V	3.81 kW	4
W	W	14.69 kW	13
X	X	3.81 kW	4
Y	Y	5.52 kW	5
Z	Z	15.77 kW	13
AA	AA	3.81 kW	4
AB	AB	3.81 kW	4
AC	AC	15.77 kW	13
AD	AD	3.81 kW	4
AE	AE	3.81 kW	4
AF	AF	15.77 kW	13
AG	AG	3.81 kW	4
AH	AH	3.81 kW	4
AI	AI	15.77 kW	13
AJ	AJ	5.52 kW	5
AK	AK	3.81 kW	4
AL	AL	17.2 kW	14
AM	AM	8.88 kW	8
AN	AN	8.64 kW	7
AO	AO	5.26 kW	5
AP	AP	17.2 kW	14
AQ	AQ	8.88 kW	8
AR	AR	8.64 kW	7
AS	AS	17.2 kW	14
AT	AT	3.81 kW	4
AU	AU	7.6 kW	7
AV	AV	8.88 kW	8
AW	AW	17.2 kW	14
AX	AX	5.78 kW	5
AY	AY	8.64 kW	7
AZ	AZ	8.88 kW	8
BA	BA	21.49 kW	17
BB	BB	6.09 kW	6
BC	BC	14.08 kW	12
BD	BD	14.6 kW	12
BE	BE	22.92 kW	18
BF	BF	3.82 kW	5
BG	BG	14.6 kW	12
BH	BH	14.34 kW	12

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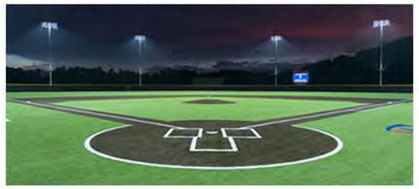

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PROJECT SUMMARY

Grimes Sportsplex

Grimes,IA

Fixture Type Summary

Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-1500	LED 5700K - 75 CRI	1430W	160,000	>120,000	>120,000	>120,000	245
TLC-LED-1200	LED 5700K - 75 CRI	1170W	136,000	>120,000	>120,000	>120,000	99
TLC-BT-575	LED 5700K - 75 CRI	575W	52,000	>120,000	>120,000	>120,000	114
TLC-LED-900	LED 5700K - 75 CRI	890W	89,600	>120,000	>120,000	>120,000	28

Light Level Summary

Calculation Grid Summary

Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Baseball 1 (Infield)	Horizontal Illuminance	50.2	35	62	1.76	1.43	B,C,D,E,F,G,H,I,J,K	78
Baseball 1 (Outfield)	Horizontal Illuminance	32.5	25	47	1.86	1.30	B,C,D,E,F,G,H,I,J,K	78
Baseball 2 (Infield)	Horizontal Illuminance	51.3	34	60	1.75	1.51	M,N,O,P,Q,R,S,T,W,X	78
Baseball 2 (Outfield)	Horizontal Illuminance	32.3	25	49	1.98	1.29	M,N,O,P,Q,R,S,T,W,X	78
Baseball 3 (Infield)	Horizontal Illuminance	50.3	38	62	1.63	1.32	AA,AB,AC,AF,AG,AH,AI,AJ,Y,Z	78
Baseball 3 (Outfield)	Horizontal Illuminance	32.4	26	49	1.92	1.25	AA,AB,AC,AF,AG,AH,AI,AJ,Y,Z	78
Baseball 4 (Infield)	Horizontal Illuminance	50.8	37	63	1.69	1.37	AL,AM,AN,AO,AP,AQ	56
Baseball 4 (Outfield)	Horizontal Illuminance	31.3	20	43	2.10	1.57	AL,AM,AN,AO,AP,AQ	56
Baseball 5 (Infield)	Horizontal Illuminance	51.1	38	66	1.76	1.34	AS,AV,AW,AX,AY,AZ	56
Baseball 5 (Outfield)	Horizontal Illuminance	30.7	21	42	2.01	1.46	AS,AV,AW,AX,AY,AZ	56
Baseball 6 (Infield)	Horizontal Illuminance	65.3	48	83	1.74	1.36	BA,BB,BC,BD,BE,BH	77
Baseball 6 (Outfield)	Horizontal Illuminance	48.4	30	62	2.08	1.61	BA,BB,BC,BD,BE,BH	77
Field 10 (Infield)	Horizontal Illuminance	52.6	37	63	1.71	1.42	AF,AG,AH,A I	34
Field 10 (Outfield)	Horizontal Illuminance	30.7	24	43	1.78	1.28	AF,AG,AH,A I	34
Field 11 (Infield)	Horizontal Illuminance	51.4	38	58	1.53	1.35	AA,AB,AC,Z	34
Field 11 (Outfield)	Horizontal Illuminance	32.2	24	43	1.81	1.34	AA,AB,AC,Z	34
Field 12 (Infield)	Horizontal Illuminance	51.6	36	60	1.65	1.43	AC,AD,AE,A F	34
Field 12 (Outfield)	Horizontal Illuminance	32.1	22	42	1.89	1.46	AC,AD,AE,A F	34
Field 13 (Infield)	Horizontal Illuminance	51	34	67	1.97	1.50	AK,AL,AQ,A R	33
Field 13 (Outfield)	Horizontal Illuminance	30.1	19	46	2.38	1.58	AK,AL,AQ,A R	33
Field 14 (Infield)	Horizontal Illuminance	56.3	48	65	1.35	1.17	AM,AN,AO,A P	34
Field 14 (Outfield)	Horizontal Illuminance	36.7	23	56	2.46	1.60	AM,AN,AO,A P	34
Field 15 (Infield)	Horizontal Illuminance	57.7	50	67	1.34	1.15	AW,AX,AY,A Z	34
Field 15 (Outfield)	Horizontal Illuminance	37.2	23	56	2.46	1.62	AW,AX,AY,A Z	34
Field 16 (Infield)	Horizontal Illuminance	51.1	41	65	1.61	1.25	AS,AT,AU,A V	33
Field 16 (Outfield)	Horizontal Illuminance	30.4	18	39	2.12	1.69	AS,AT,AU,A V	33
Field 17 (Infield)	Horizontal Illuminance	59.7	39	70	1.82	1.53	BE,BF,BG,B H	47
Field 17 (Outfield)	Horizontal Illuminance	45.4	26	57	2.17	1.75	BE,BF,BG,B H	47
Field 18 (Infield)	Horizontal Illuminance	71.5	58	84	1.46	1.23	BA,BB,BC,B D	47
Field 18 (Outfield)	Horizontal Illuminance	50.4	31	74	2.42	1.63	BA,BB,BC,B D	47
Field 1 (Infield)	Horizontal Illuminance	50.6	41	60	1.45	1.23	A,B,K,L	34
Field 1 (Outfield)	Horizontal Illuminance	32.2	23	45	1.96	1.40	A,B,K,L	34
Field 2 (Infield)	Horizontal Illuminance	50.3	39	60	1.53	1.29	H,I,J,K	34
Field 2 (Outfield)	Horizontal Illuminance	31.9	22	46	2.06	1.45	H,I,J,K	34
Field 3 (Infield)	Horizontal Illuminance	51.9	40	63	1.60	1.30	B,C,D,E	34
Field 3 (Outfield)	Horizontal Illuminance	32.6	25	41	1.65	1.30	B,C,D,E	34

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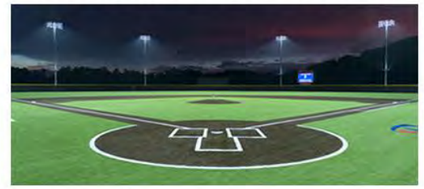

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Grimes Sportsplex

Grimes,IA

Calculation Grid Summary

Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Field 4 (Infield)	Horizontal Illuminance	56.4	47	63	1.34	1.20	E,F,G,H	36
Field 4 (Outfield)	Horizontal Illuminance	37.8	25	52	2.06	1.51	E,F,G,H	36
Field 5 (Infield)	Horizontal Illuminance	50.5	38	61	1.61	1.33	M,N,W,X	34
Field 5 (Outfield)	Horizontal Illuminance	30.3	21	40	1.88	1.44	M,N,W,X	34
Field 6 (Infield)	Horizontal Illuminance	52.6	41	63	1.56	1.28	T,U,V,W	34
Field 6 (Outfield)	Horizontal Illuminance	30.9	23	44	1.93	1.34	T,U,V,W	34
Field 7 (Infield)	Horizontal Illuminance	54.6	49	61	1.24	1.11	N,O,P,Q	36
Field 7 (Outfield)	Horizontal Illuminance	39.2	25	58	2.37	1.57	N,O,P,Q	36
Field 8 (Infield)	Horizontal Illuminance	50.3	39	58	1.49	1.29	Q,R,S,T	34
Field 8 (Outfield)	Horizontal Illuminance	32.4	23	44	1.87	1.41	Q,R,S,T	34
Field 9 (Infield)	Horizontal Illuminance	55.8	44	62	1.42	1.27	AI,AJ,Y,Z	36
Field 9 (Outfield)	Horizontal Illuminance	38.5	23	53	2.26	1.67	AI,AJ,Y,Z	36
NW Property Line	Horizontal	0.30	0	0.55	0.00		A,AA,AB,AC,AD,AE,AF,AG,AH,AI,AJ,AK,AL,AM,AN,AO,AP,AQ,AR,AS,AT,AU,AV,AW,AX,AY,AZ,B,BA,BB,BC,BD,BE,BF,BG,BH,C,D,E,F,G,H,I,J,K,L,M,N,O,P,Q,R,S,T,U,V,W,X, Y,Z	486
NW Property Line	Max Candela (by Fixture)	4837	59.5	8765	147.45	81.36	A,AA,AB,AC,AD,AE,AF,AG,AH,AI,AJ,AK,AL,AM,AN,AO,AP,AQ,AR,AS,AT,AU,AV,AW,AX,AY,AZ,B,BA,BB,BC,BD,BE,BF,BG,BH,C,D,E,F,G,H,I,J,K,L,M,N,O,P,Q,R,S,T,U,V,W,X, Y,Z	486

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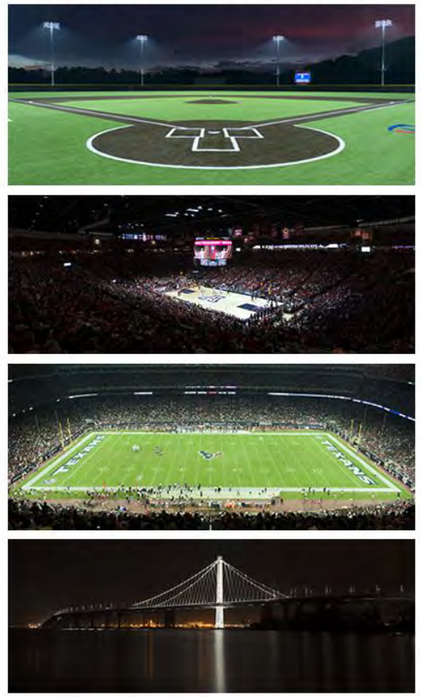

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Grimes Sportsplex

Grimes,IA

Calculation Grid Summary

Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
NW Property Line	Max Vertical Illuminance Metric	0.46	0	0.84	1451.63		A,AA,AB,AC,AD,AE,AF,AG,AH,AI,AJ,AK,AL,AM,AN,AO,AP,AQ,AR,AS,AT,AU,AV,AW,AX,AY,AZ,B,BA,BB,BC,BD,BE,BF,BG,BH,C,D,E,F,G,H,I,J,K,L,M,N,O,P,Q,R,S,T,U,V,W,X, Y,Z	486
North Spill	Horizontal	0	0	0	0.00		BG,BH,A,AA,AB,AC,AD,AE,AF,AG,AH,AI,AJ,AK,AL,AM,AN,AO,AP,AQ,AR,AS,AT,AU,AV,AW,AX,AY,AZ,B,BA,BB,BC,BD,BE,BF,C,D,E,F,G,H,I,J,K,L,M,N,O,P,Q,R,S,T,U,V,W,X, Y,Z	486
North Spill	Max Candela (by Fixture)	551	119	929	7.80	4.63	BG,BH,A,AA,AB,AC,AD,AE,AF,AG,AH,AI,AJ,AK,AL,AM,AN,AO,AP,AQ,AR,AS,AT,AU,AV,AW,AX,AY,AZ,B,BA,BB,BC,BD,BE,BF,C,D,E,F,G,H,I,J,K,L,M,N,O,P,Q,R,S,T,U,V,W,X, Y,Z	486

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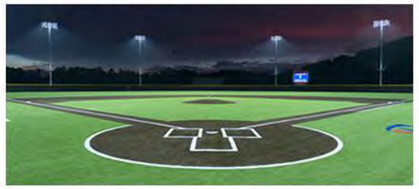

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Grimes Sportsplex

Grimes,IA

Calculation Grid Summary

Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
North Spill	Max Vertical Illuminance Metric	0	0	0.01	16.25		BG,BH,A,AA ,AB,AC,AD, AE,AF,AG,A H,AI,AJ,AK ,AL,AM,AN, AO,AP,AQ,A R,AS,AT,AU ,AV,AW,AX, AY,AZ,B,BA ,BB,BC,BD, BE,BF,C,D, E,F,G,H,I, J,K,L,M,N, O,P,Q,R,S, T,U,V,W,X, Y,Z	486
Road Spill	Horizontal	0.32	0	1.44	0.00		BG,BH,A,AA ,AB,AC,AD, AE,AF,AG,A H,AI,AJ,AK ,AL,AM,AN, AO,AP,AQ,A R,AS,AT,AU ,AV,AW,AX, AY,AZ,B,BA ,BB,BC,BD, BE,BF,C,D, E,F,G,H,I, J,K,L,M,N, O,P,Q,R,S, T,U,V,W,X, Y,Z	486
Road Spill	Max Candela (by Fixture)	22114	69.5	148049	2129.63	318.10	BG,BH,A,AA ,AB,AC,AD, AE,AF,AG,A H,AI,AJ,AK ,AL,AM,AN, AO,AP,AQ,A R,AS,AT,AU ,AV,AW,AX, AY,AZ,B,BA ,BB,BC,BD, BE,BF,C,D, E,F,G,H,I, J,K,L,M,N, O,P,Q,R,S, T,U,V,W,X, Y,Z	486

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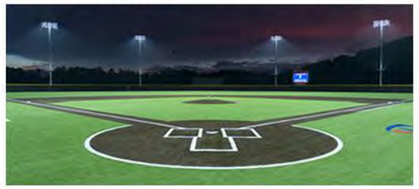

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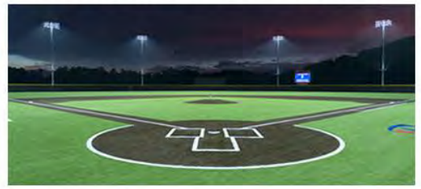
Grimes Sportsplex

Grimes,IA

Calculation Grid Summary

Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Road Spill	Max Vertical Illuminance Metric	0.57	0	3.04	11409.97		BG,BH,A,AA ,AB,AC,AD, AE,AF,AG,A H,AI,AJ,AK ,AL,AM,AN, AO,AP,AQ,A R,AS,AT,AU ,AV,AW,AX, AY,AZ,B,BA ,BB,BC,BD, BE,BF,C,D, E,F,G,H,I, J,K,L,M,N, O,P,Q,R,S, T,U,V,W,X, Y,Z	486
Soccer 10	Horizontal Illuminance	30.4	23	44	1.92	1.32	AS,AU,AV,A W	43
Soccer 11	Horizontal Illuminance	50.2	40	62	1.57	1.26	BA,BE,BG,B H	59
Soccer 12	Horizontal Illuminance	50.7	39	66	1.68	1.30	BA,BC,BD,B E	59
Soccer 1	Horizontal Illuminance	32.3	26	50	1.95	1.24	B,E,H,J,K, L	60
Soccer 2	Horizontal Illuminance	33.7	27	47	1.73	1.25	B,D,E,F,H, K	61
Soccer 3	Horizontal Illuminance	31	25	41	1.67	1.24	N,Q,T,V,W, X	60
Soccer 4	Horizontal Illuminance	34.6	27	53	1.96	1.28	N,P,Q,R,T, W	61
Soccer 5	Horizontal Illuminance	33.4	27	48	1.78	1.24	AC,AF,AH,A I,AJ,Z	61
Soccer 6	Horizontal Illuminance	33	26	47	1.81	1.27	AB,AC,AD,A F,AI,Z	60
Soccer 7	Horizontal Illuminance	30.1	23	38	1.65	1.31	AL,AP,AQ,A R	43
Soccer 8	Horizontal Illuminance	33.6	26	43	1.66	1.29	AL,AM,AN,A P	43
Soccer 9	Horizontal Illuminance	33	26	42	1.63	1.27	AS,AW,AY,A Z	43
Softball 1 (Infield)	Horizontal Illuminance	50.6	42	60	1.43	1.20	A,B,K,L,E, H	60
Softball 1 (Outfield)	Horizontal Illuminance	32.2	23	46	1.97	1.40	A,B,K,L,E, H	60
Softball 2 (Infield)	Horizontal Illuminance	56.3	46	62	1.34	1.22	B,E,F,G,H, K	62
Softball 2 (Outfield)	Horizontal Illuminance	35.5	26	52	1.99	1.37	B,E,F,G,H, K	62
Softball 3 (Infield)	Horizontal Illuminance	52.6	41	63	1.56	1.28	N,Q,T,V,W, U	60
Softball 3 (Outfield)	Horizontal Illuminance	30.6	24	44	1.82	1.28	N,Q,T,V,W, U	60
Softball 4 (Infield)	Horizontal Illuminance	54.7	49	61	1.24	1.12	N,O,P,Q,T, W	62
Softball 4 (Outfield)	Horizontal Illuminance	36.7	25	58	2.32	1.47	N,O,P,Q,T, W	62
Softball 5 (Infield)	Horizontal Illuminance	55.8	44	62	1.42	1.27	AC,AF,AI,A J,Y,Z	62
Softball 5 (Outfield)	Horizontal Illuminance	36.1	27	53	1.99	1.34	AC,AF,AI,A J,Y,Z	62
Softball 6 (Infield)	Horizontal Illuminance	51.6	36	60	1.64	1.43	AC,AD,AE,A F,AI,Z	60
Softball 6 (Outfield)	Horizontal Illuminance	32.3	22	42	1.93	1.47	AC,AD,AE,A F,AI,Z	60
Softball 7 (Infield)	Horizontal Illuminance	56.5	48	65	1.35	1.18	AL,AM,AN,A O,AP,AQ	56
Softball 7 (Outfield)	Horizontal Illuminance	35.5	23	56	2.44	1.54	AL,AM,AN,A O,AP,AQ	56
Softball 8 (Infield)	Horizontal Illuminance	57.7	50	67	1.34	1.15	AS,AV,AW,A X,AY,AZ	56
Softball 8 (Outfield)	Horizontal Illuminance	35.3	23	56	2.39	1.53	AS,AV,AW,A X,AY,AZ	56
Softball 9 (Infield)	Horizontal Illuminance	71.5	57	84	1.47	1.25	BA,BB,BC,B D,BE,BH	77

From Hometown to Professional



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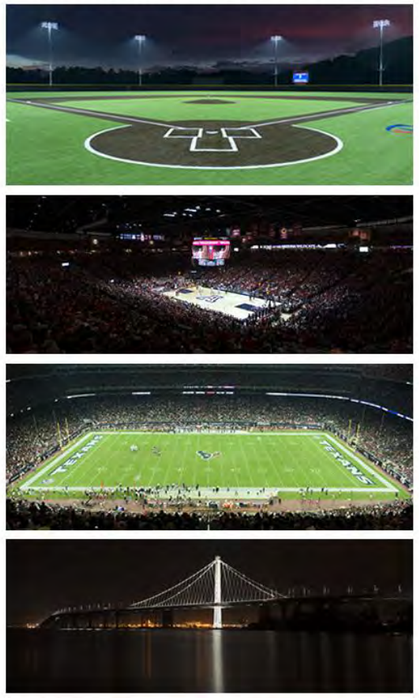
Grimes Sportsplex

Grimes,IA

Calculation Grid Summary

Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Softball 9 (Outfield)	Horizontal Illuminance	51.9	38	74	1.98	1.37	BA,BB,BC,BD,BE,BH	77
West Blanket Grid	Horizontal Illuminance	9.30	0	69	0.00		A,AA,AB,AC,AD,AE,AF,AG,AH,AI,AJ,AK,AL,AM,AN,AO,AP,AQ,AR,AS,AT,AU,AV,AW,AX,AY,AZ,B,BA,BB,BC,BD,BE,BF,BG,BH,C,D,E,F,G,H,I,J,K,L,M,N,O,P,Q,R,S,T,U,V,W,X, Y,Z	486

From Hometown to Professional



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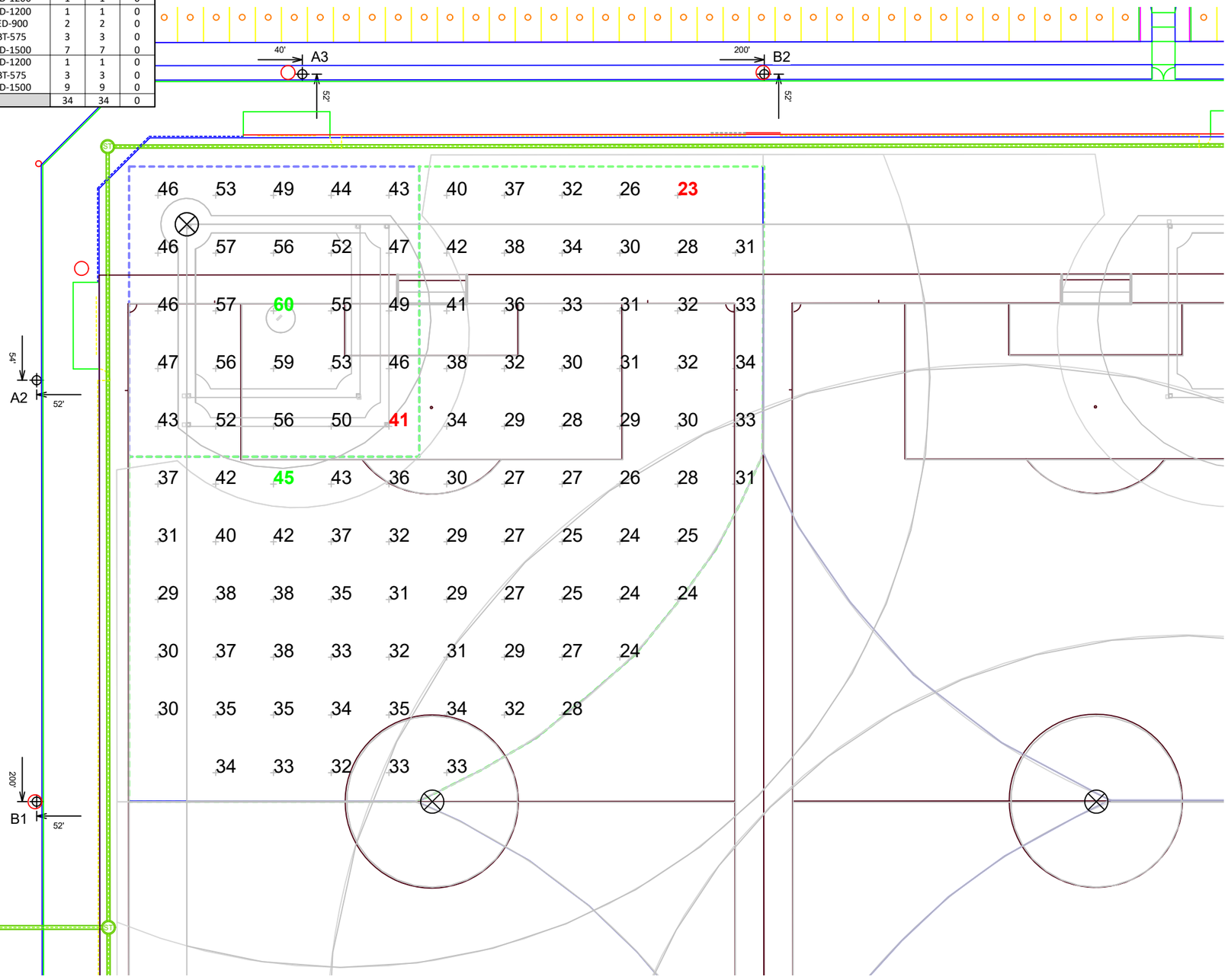
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A2	70'	-.16'	69.84'	TLC-LED-900	1	1	0
				15.34'	TLC-BT-575	1	1	0
				69.84'	TLC-LED-1200	2	2	0
1	A3	70'	-.16'	69.84'	TLC-LED-900	2	2	0
				15.34'	TLC-BT-575	1	1	0
				69.84'	TLC-LED-1200	1	1	0
1	B1	90'	-.16'	89.84'	TLC-LED-1200	1	1	0
				89.84'	TLC-LED-900	2	2	0
				15.34'	TLC-BT-575	3	3	0
				89.84'	TLC-LED-1500	7	7	0
1	B2	90'	-.16'	89.84'	TLC-LED-1200	1	1	0
				15.34'	TLC-BT-575	3	3	0
				89.84'	TLC-LED-1500	9	9	0
4	TOTALS					34	34	0



Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Field 1**
Size:	Irregular 200' / 215' / 200'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	50.6	32.2
Maximum:	60	45
Minimum:	41	23
Avg / Min:	1.22	1.39
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.45	1.96
UG (adjacent pts):	1.24	1.30
CU:	0.39	
No. of Points:	25	82

LUMINAIRE INFORMATION

Applied Circuits:	A, B, K, L
No. of Luminaires:	**34**
Total Load:	37.78 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 40

0' 40' 80'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

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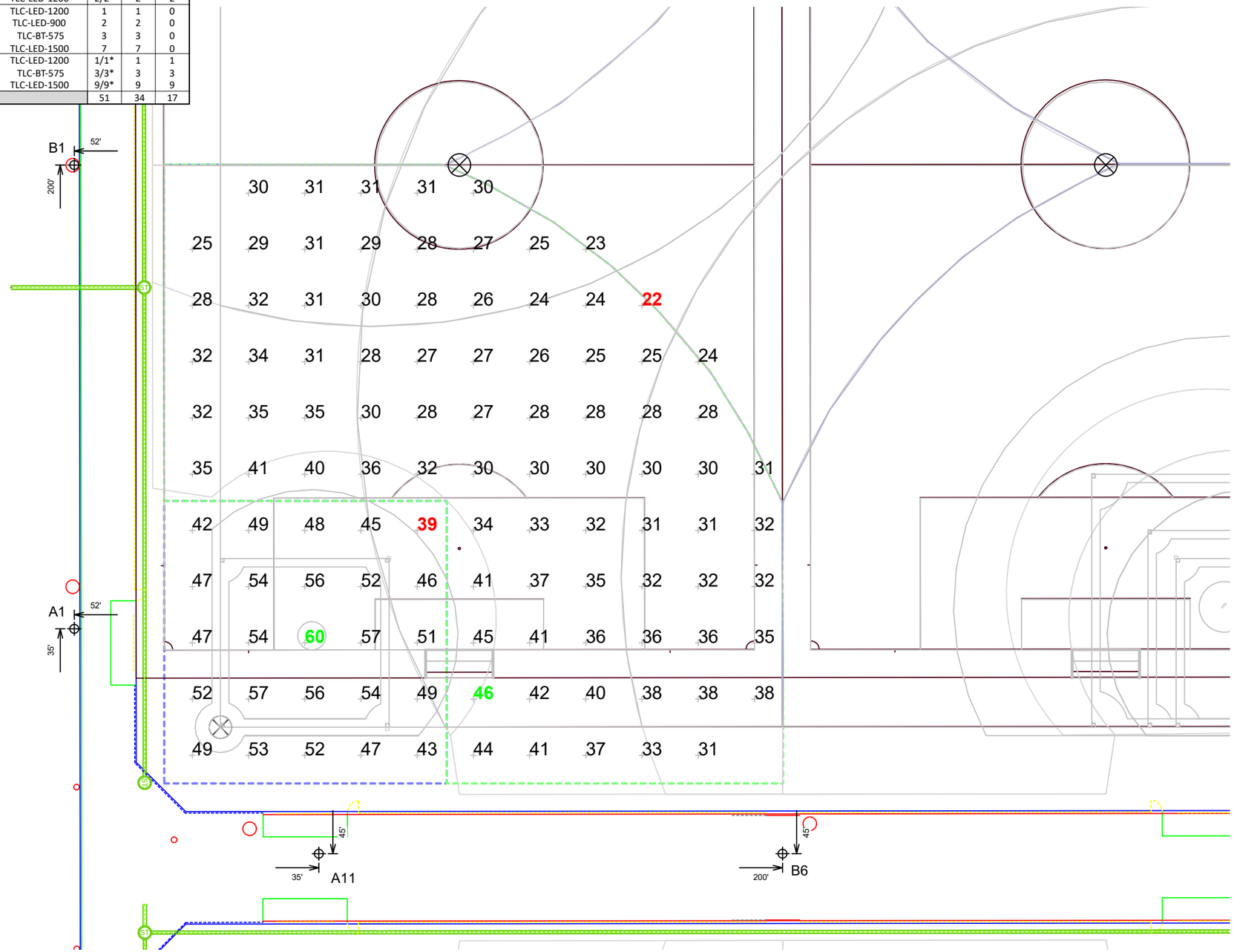
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A1	70'	0'	70'	TLC-LED-900	1	1	0
				15.46'	TLC-BT-575	1	1	0
				70'	TLC-LED-1200	2	2	0
1	A11	70'	0'	70'	TLC-LED-900	1/1*	1	1
				15.46'	TLC-BT-575	1/1*	1	1
				70'	TLC-LED-1200	2/2*	2	2
1	B1	90'	0'	90'	TLC-LED-1200	1	1	0
				90'	TLC-LED-900	2	2	0
				15.46'	TLC-BT-575	3	3	0
				90'	TLC-LED-1500	7	7	0
1	B6	90'	0'	90'	TLC-LED-1200	1/1*	1	1
				15.46'	TLC-BT-575	3/3*	3	3
				90'	TLC-LED-1500	9/9*	9	9
4	TOTALS					51	34	17

* This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 40

0' 40' 80'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Field 2**
Size:	Irregular 200' / 215' / 200'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	50.3	31.9
Maximum:	60	46
Minimum:	39	22
Avg / Min:	1.29	1.43
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.53	2.06
UG (adjacent pts):	1.19	1.24
CU:	0.38	
No. of Points:	25	82

LUMINAIRE INFORMATION

Applied Circuits:	H, I, J, K
No. of Luminaires:	**34**
Total Load:	38.06 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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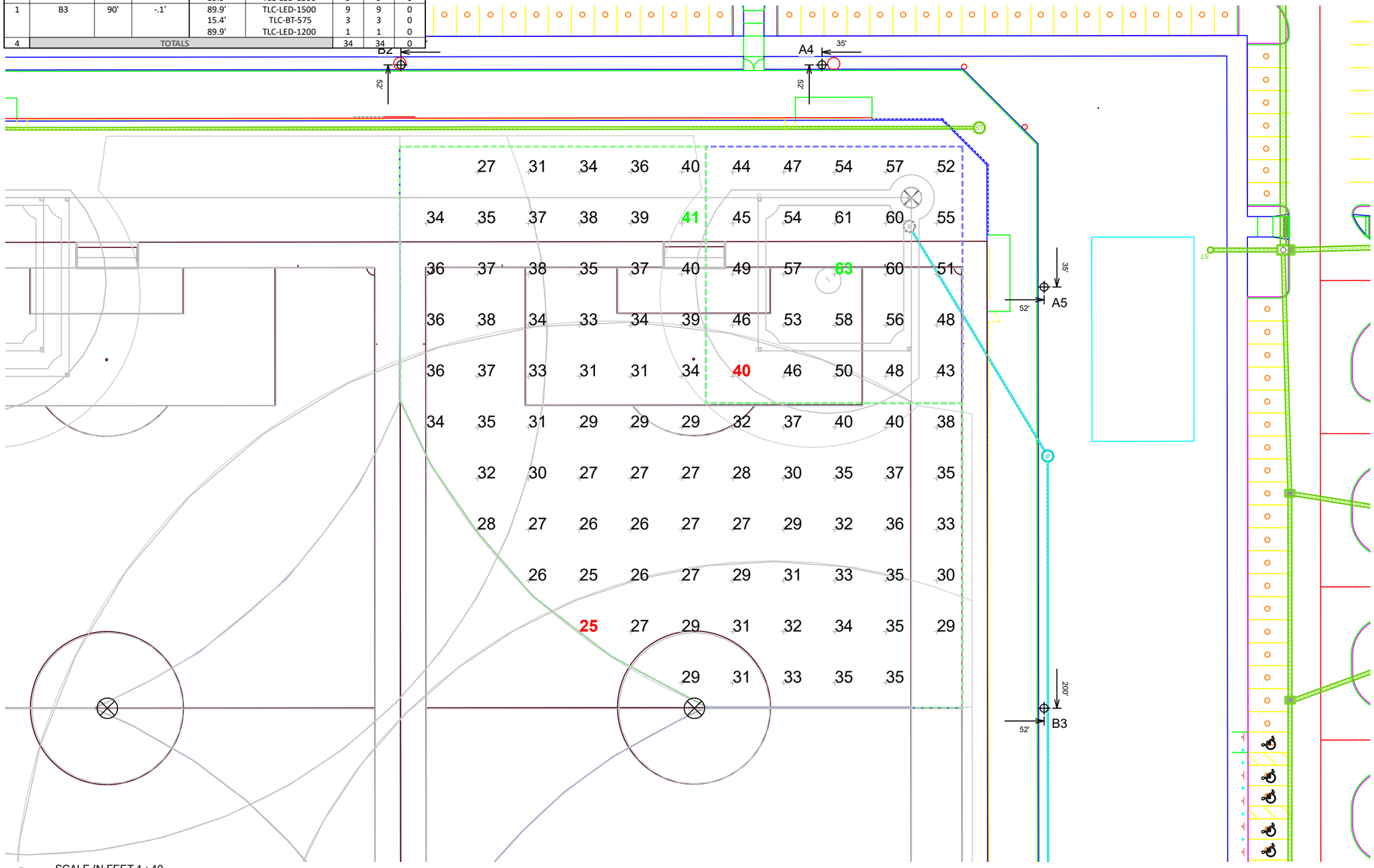
Grimes Sportsplex

Grimes,IA

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A4-A5	70'	-.1'	69.9'	TLC-LED-900	1	1	0
				15.4'	TLC-BT-575	1	1	0
				69.9'	TLC-LED-1200	2	2	0
1	B2	90'	-.1'	89.9'	TLC-LED-1200	1	1	0
				15.4'	TLC-BT-575	3	3	0
				89.9'	TLC-LED-1500	9	9	0
1	B3	90'	-.1'	89.9'	TLC-LED-1500	9	9	0
				15.4'	TLC-BT-575	3	3	0
				89.9'	TLC-LED-1200	1	1	0
4	TOTALS					34	34	0



GRID SUMMARY

Name:	**Field 3**
Size:	Irregular 200' / 215' / 200'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	51.9	32.6
Maximum:	63	41
Minimum:	40	25
Avg / Min:	1.31	1.32
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.60	1.65
UG (adjacent pts):	1.19	1.31
CU:	0.38	
No. of Points:	25	82

LUMINAIRE INFORMATION

Applied Circuits:	B, C, D, E
No. of Luminaires:	**34**
Total Load:	39.14 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

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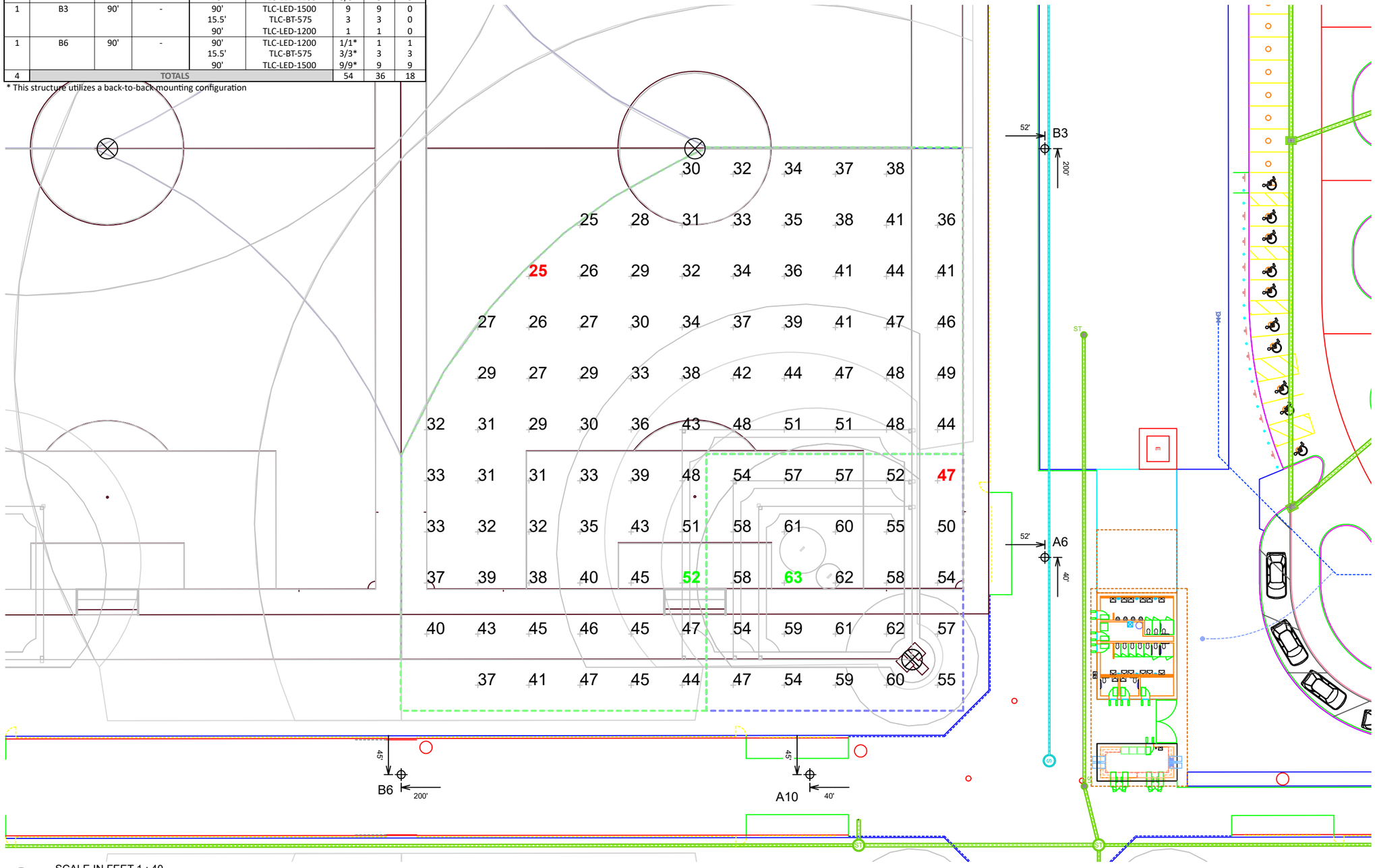
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A6	70'	-	70'	TLC-LED-1500	1	1	0
				15.5'	TLC-BT-575	1	1	0
				70'	TLC-LED-1200	3	3	0
1	A10	70'	-	70'	TLC-LED-1500	1/1*	1	1
				15.5'	TLC-BT-575	1/1*	1	1
				70'	TLC-LED-1200	3/3*	3	3
1	B3	90'	-	90'	TLC-LED-1500	9	9	0
				15.5'	TLC-BT-575	3	3	0
				90'	TLC-LED-1200	1	1	0
1	B6	90'	-	90'	TLC-LED-1200	1/1*	1	1
				15.5'	TLC-BT-575	3/3*	3	3
				90'	TLC-LED-1500	9/9*	9	9
4	TOTALS					54	36	18

* This structure utilizes a back-to-back mounting configuration



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

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Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Field 4**
Size:	Irregular 200' / 215' / 201'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	56.4	37.8
Maximum:	63	52
Minimum:	47	25
Avg / Min:	1.21	1.51
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.34	2.06
UG (adjacent pts):	1.15	1.24
CU:	0.39	
No. of Points:	25	82

LUMINAIRE INFORMATION

Applied Circuits:	E, F, G, H
No. of Luminaires:	**36**
Total Load:	42.56 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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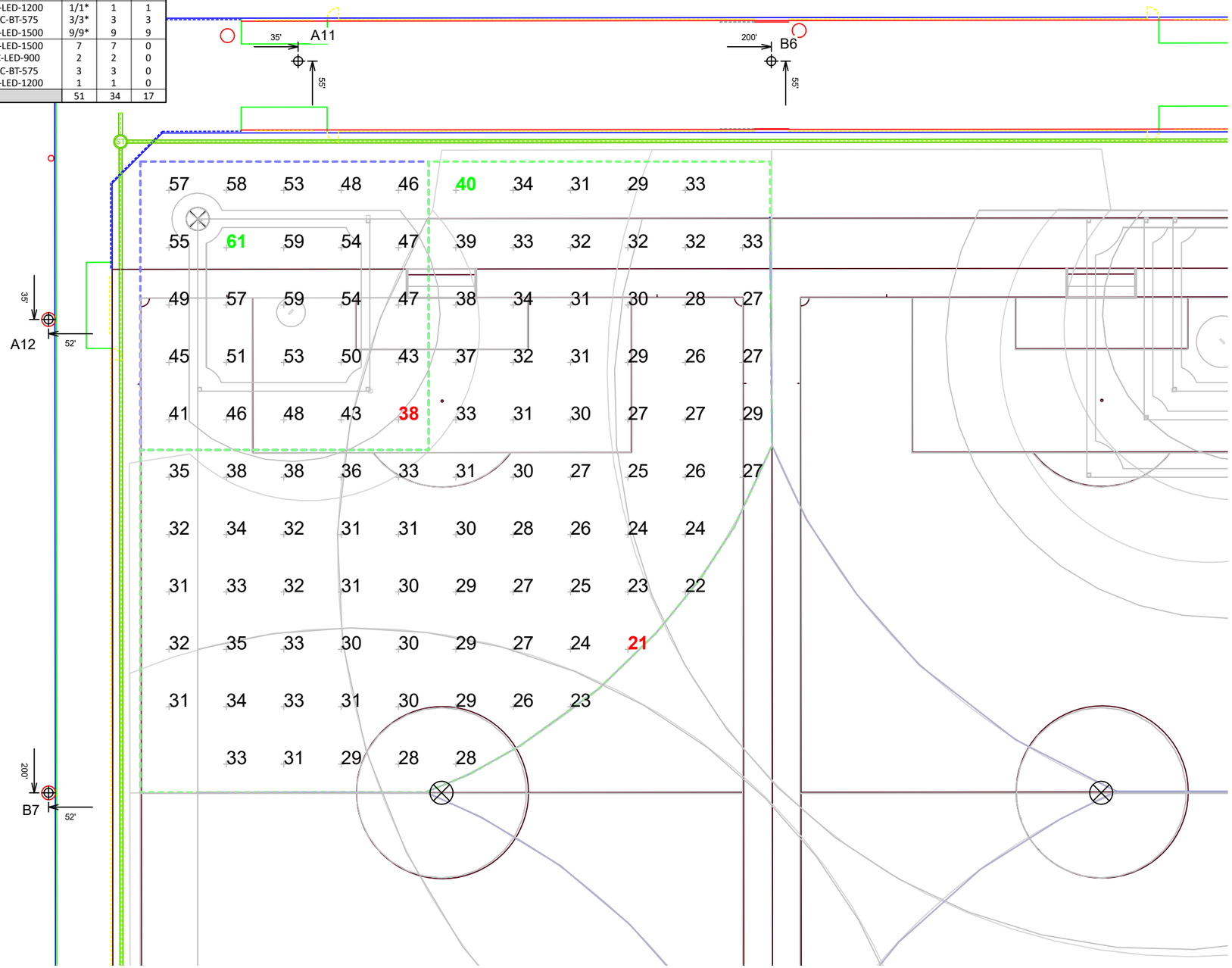
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A11	70'	-.12'	69.88'	TLC-LED-900	1/1*	1	1
				15.38'	TLC-BT-575	1/1*	1	1
				69.88'	TLC-LED-1200	2/2*	2	2
1	A12	70'	0'	70'	TLC-LED-900	1	1	0
				15.46'	TLC-BT-575	1	1	0
				70'	TLC-LED-1200	2	2	0
1	B6	90'	-.12'	89.88'	TLC-LED-1200	1/1*	1	1
				15.38'	TLC-BT-575	3/3*	3	3
				89.88'	TLC-LED-1500	9/9*	9	9
1	B7	90'	0'	90'	TLC-LED-1500	7	7	0
				90'	TLC-LED-900	2	2	0
				15.46'	TLC-BT-575	3	3	0
				90'	TLC-LED-1200	1	1	0
4	TOTALS					51	34	17

* This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 40

0' 40' 80'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Field 5**
Size:	Irregular 200' / 215' / 200'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	50.5	30.3
Maximum:	61	40
Minimum:	38	21
Avg / Min:	1.33	1.42
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.61	1.88
UG (adjacent pts):	1.16	1.20
CU:	0.37	
No. of Points:	25	82

LUMINAIRE INFORMATION

Applied Circuits:	M, N, W, X
No. of Luminaires:	**34**
Total Load:	38.06 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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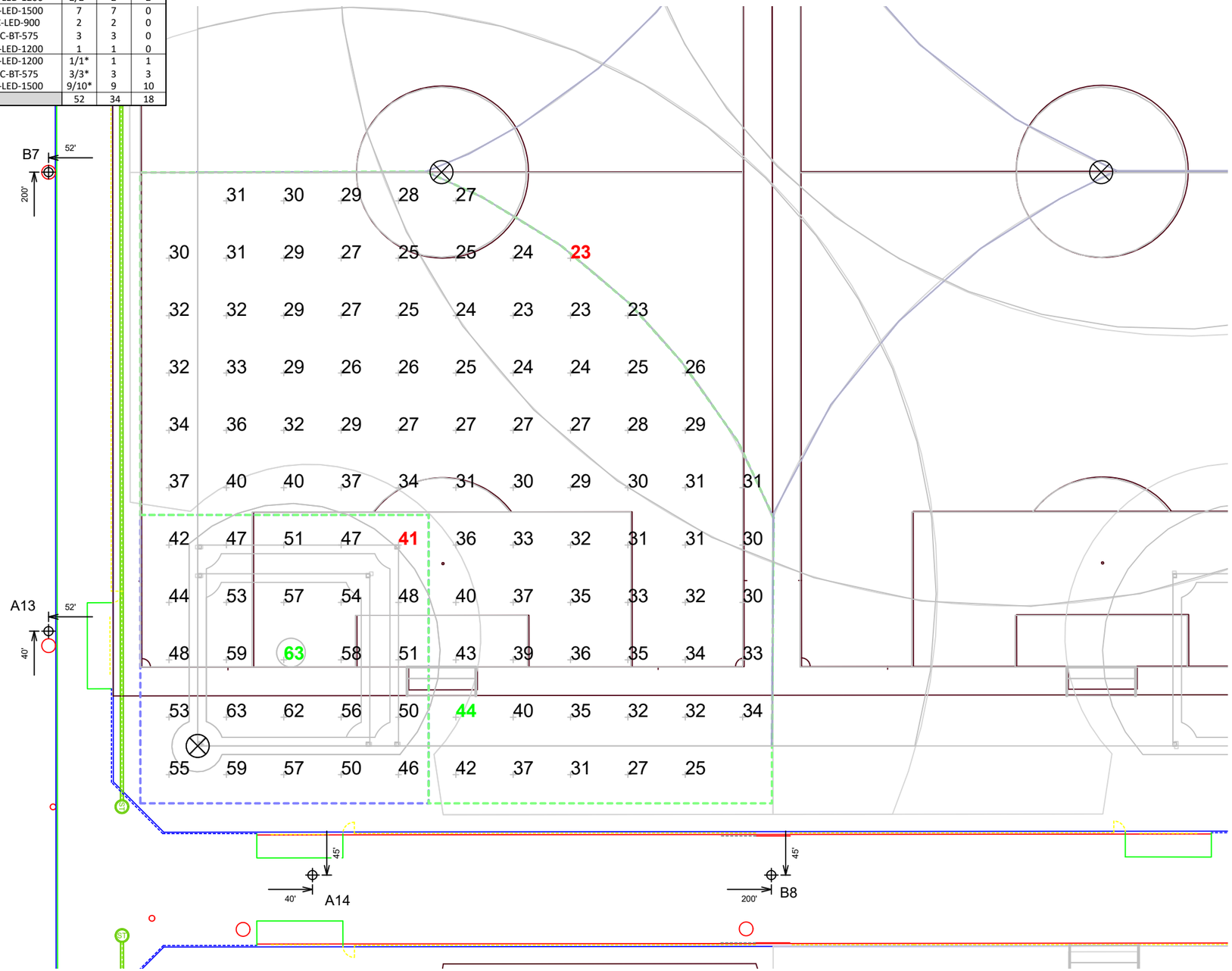
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A13	70'	.1'	70.1'	TLC-LED-900	1	1	0
				15.6'	TLC-BT-575	1	1	0
				70.1'	TLC-LED-1200	2	2	0
1	A14	70'	.1'	70.1'	TLC-LED-900	1/1*	1	1
				15.6'	TLC-BT-575	1/1*	1	1
				70.1'	TLC-LED-1200	2/2*	2	2
1	B7	90'	.1'	90.1'	TLC-LED-1500	7	7	0
				90.1'	TLC-LED-900	2	2	0
				15.6'	TLC-BT-575	3	3	0
				90.1'	TLC-LED-1200	1	1	0
1	B8	90'	.1'	90.1'	TLC-LED-1200	1/1*	1	1
				15.6'	TLC-BT-575	3/3*	3	3
				90.1'	TLC-LED-1500	9/10*	9	10
4	TOTALS					52	34	18

* This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 40

0' 40' 80'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Field 6**
Size:	Irregular 200' / 215' / 200'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	52.6	30.9
Maximum:	63	44
Minimum:	41	23
Avg / Min:	1.29	1.35
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.56	1.93
UG (adjacent pts):	1.21	1.28
CU:	0.38	
No. of Points:	25	82

LUMINAIRE INFORMATION

Applied Circuits:	T, U, V, W
No. of Luminaires:	**34**
Total Load:	38.06 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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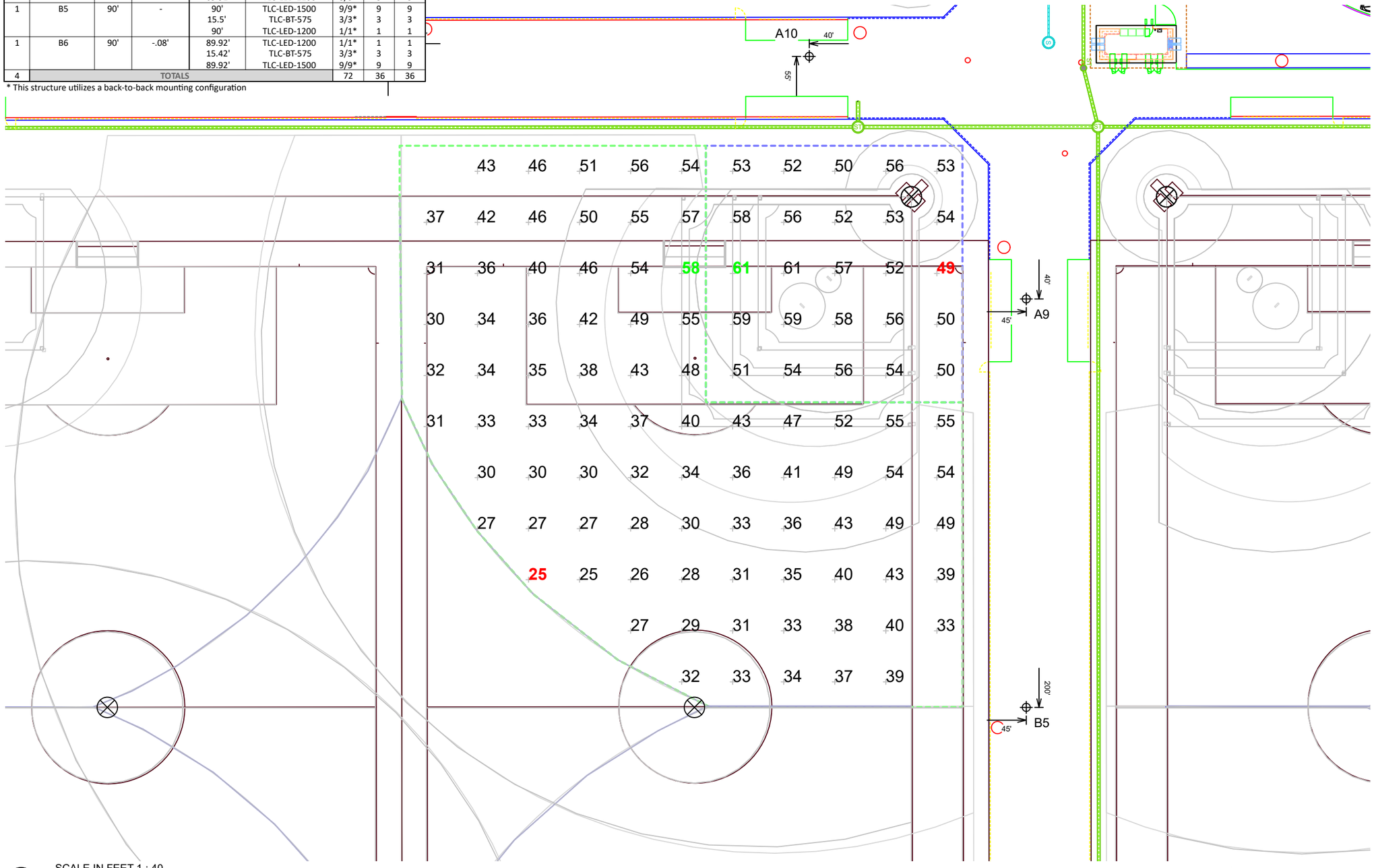
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A9	70'	-	70'	TLC-LED-1200	3/3*	3	3
				15.5'	TLC-BT-575	1/1*	1	1
				70'	TLC-LED-1500	1/1*	1	1
1	A10	70'	-.08'	69.92'	TLC-LED-1500	1/1*	1	1
				15.42'	TLC-BT-575	1/1*	1	1
				69.92'	TLC-LED-1200	3/3*	3	3
1	B5	90'	-	90'	TLC-LED-1500	9/9*	9	9
				15.5'	TLC-BT-575	3/3*	3	3
				90'	TLC-LED-1200	1/1*	1	1
1	B6	90'	-.08'	89.92'	TLC-LED-1200	1/1*	1	1
				15.42'	TLC-BT-575	3/3*	3	3
				89.92'	TLC-LED-1500	9/9*	9	9
4	TOTALS					72	36	36

* This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 40

0' 40' 80'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Field 7**
Size:	Irregular 200' / 215' / 201'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	54.6	39.2
Maximum:	61	58
Minimum:	49	25
Avg / Min:	1.11	1.60
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.24	2.37
UG (adjacent pts):	1.15	1.25
CU:	0.39	
No. of Points:	25	81

LUMINAIRE INFORMATION

Applied Circuits:	N, O, P, Q
No. of Luminaires:	**36**
Total Load:	42.56 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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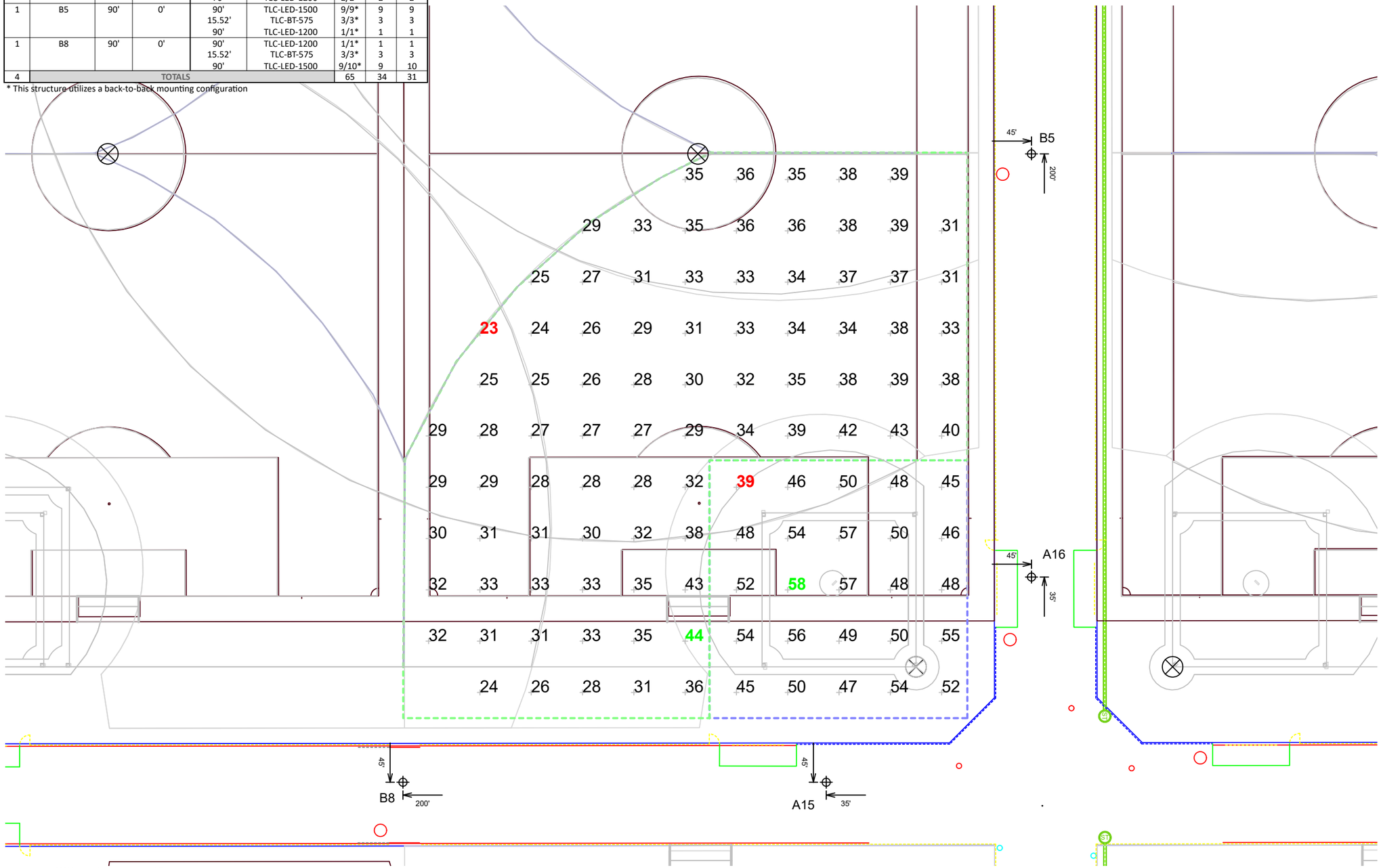
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A15	70'	0'	70'	TLC-LED-900	1	1	0
				15.52'	TLC-BT-575	1	1	0
				70'	TLC-LED-1200	2	2	0
1	A16	70'	0'	70'	TLC-LED-900	1/1*	1	1
				15.52'	TLC-BT-575	1/1*	1	1
				70'	TLC-LED-1200	2/2*	2	2
1	B5	90'	0'	90'	TLC-LED-1500	9/9*	9	9
				15.52'	TLC-BT-575	3/3*	3	3
				90'	TLC-LED-1200	1/1*	1	1
1	B8	90'	0'	90'	TLC-LED-1200	1/1*	1	1
				15.52'	TLC-BT-575	3/3*	3	3
				90'	TLC-LED-1500	9/10*	9	10
4	TOTALS					65	34	31

* This structure utilizes a back-to-back mounting configuration



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Field 8**
Size:	Irregular 200' / 214' / 201'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	50.3	32.4
Maximum:	58	44
Minimum:	39	23
Avg / Min:	1.28	1.39
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.49	1.87
UG (adjacent pts):	1.22	1.29
CU:	0.37	
No. of Points:	25	82

LUMINAIRE INFORMATION

Applied Circuits:	Q, R, S, T
No. of Luminaires:	**34**
Total Load:	39.14 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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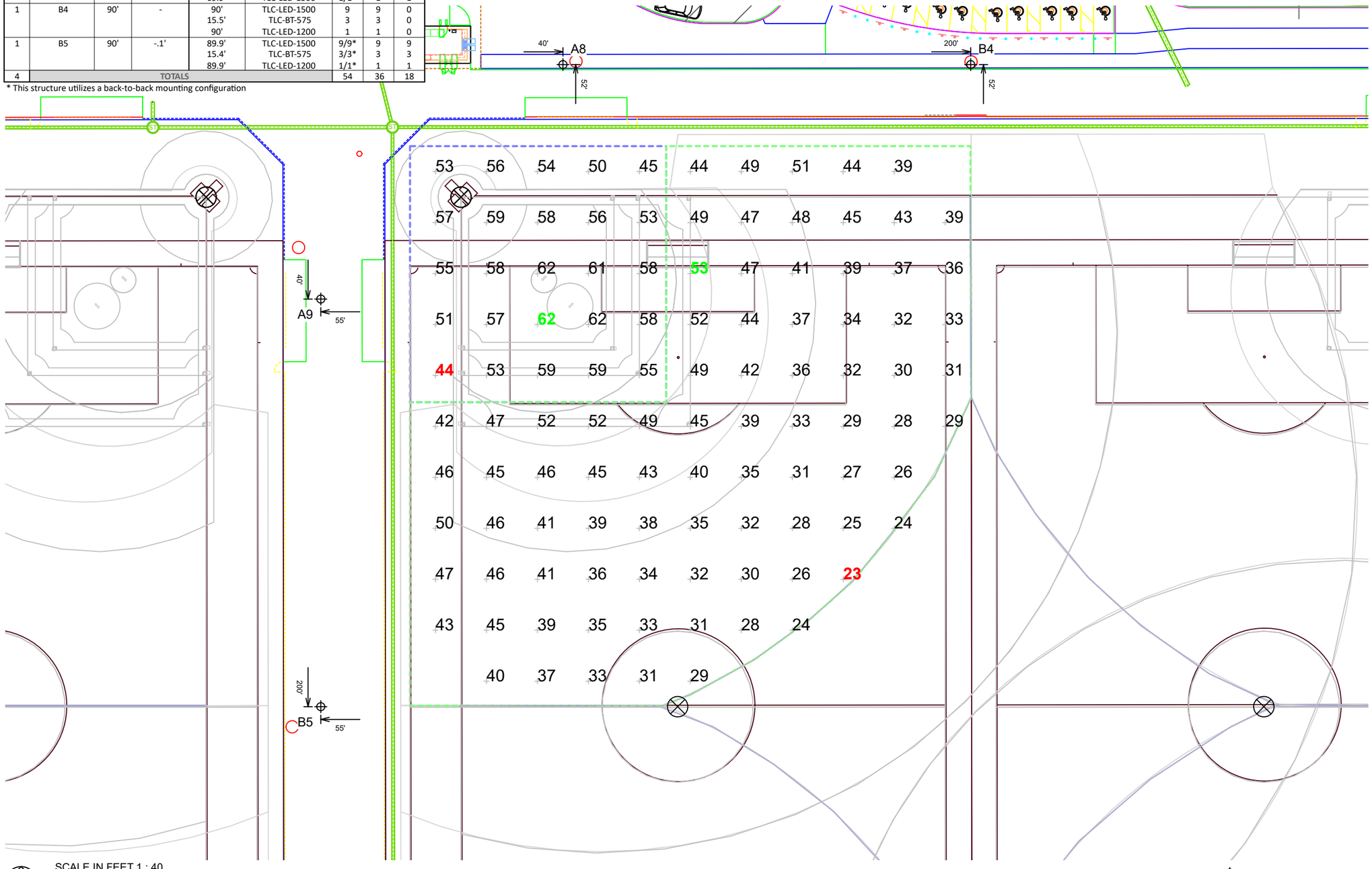
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A8	70'	-	70'	TLC-LED-1500	1	1	0
				15.5'	TLC-BT-575	1	1	0
				70'	TLC-LED-1200	3	3	0
1	A9	70'	-.1'	69.9'	TLC-LED-1200	3/3*	3	3
				15.4'	TLC-BT-575	1/1*	1	1
				69.9'	TLC-LED-1500	1/1*	1	1
1	B4	90'	-	90'	TLC-LED-1500	9	9	0
				15.5'	TLC-BT-575	3	3	0
				90'	TLC-LED-1200	1	1	0
1	B5	90'	-.1'	89.9'	TLC-LED-1500	9/9*	9	9
				15.4'	TLC-BT-575	3/3*	3	3
				89.9'	TLC-LED-1200	1/1*	1	1
4	TOTALS					54	36	18

* This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 40

0' 40' 80'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Field 9**
Size:	Irregular 200' / 215' / 200'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	55.8	38.5
Maximum:	62	53
Minimum:	44	23
Avg / Min:	1.27	1.65
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.42	2.26
UG (adjacent pts):	1.20	1.20
CU:	0.39	
No. of Points:	25	82

LUMINAIRE INFORMATION

Applied Circuits:	AI, AJ, Y, Z
No. of Luminaires:	**36**
Total Load:	42.56 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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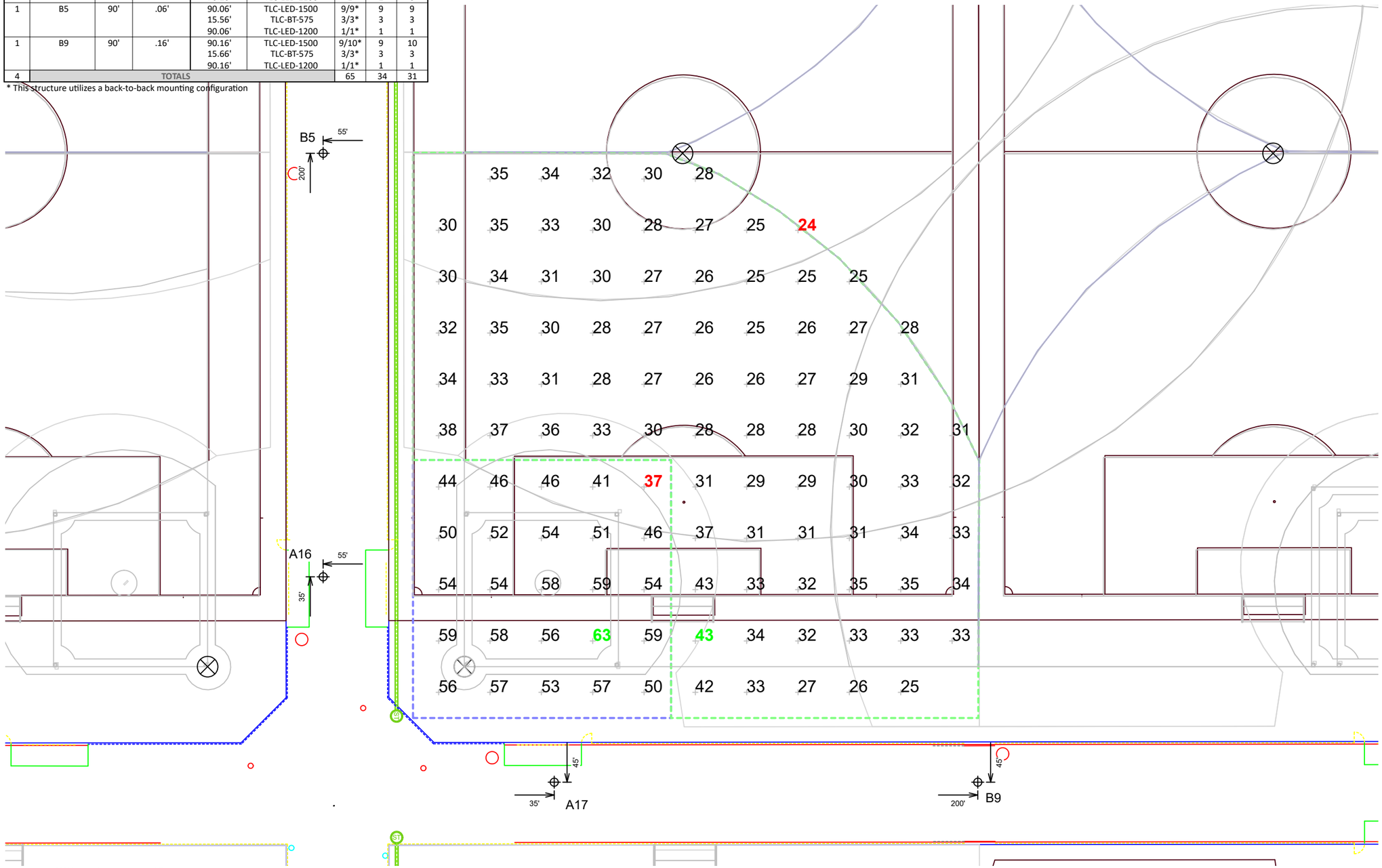
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A16	70'	.06'	70.06'	TLC-LED-900	1/1*	1	1
				15.56'	TLC-BT-575	1/1*	1	1
				70.06'	TLC-LED-1200	2/2*	2	2
1	A17	70'	.16'	70.16'	TLC-LED-900	1	1	0
				15.66'	TLC-BT-575	1	1	0
				70.16'	TLC-LED-1200	2	2	0
1	B5	90'	.06'	90.06'	TLC-LED-1500	9/9*	9	9
				15.56'	TLC-BT-575	3/3*	3	3
				90.06'	TLC-LED-1200	1/1*	1	1
1	B9	90'	.16'	90.16'	TLC-LED-1500	9/10*	9	10
				15.66'	TLC-BT-575	3/3*	3	3
				90.16'	TLC-LED-1200	1/1*	1	1
4	TOTALS					65	34	31

* This structure utilizes a back-to-back mounting configuration



Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Field 10**
Size:	Irregular 200' / 215' / 200'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	52.6	30.7
Maximum:	63	43
Minimum:	37	24
Avg / Min:	1.43	1.27
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.71	1.78
UG (adjacent pts):	1.26	1.32
CU:	0.36	
No. of Points:	25	82

LUMINAIRE INFORMATION

Applied Circuits:	AF, AG, AH, AI
No. of Luminaires:	**34**
Total Load:	39.14 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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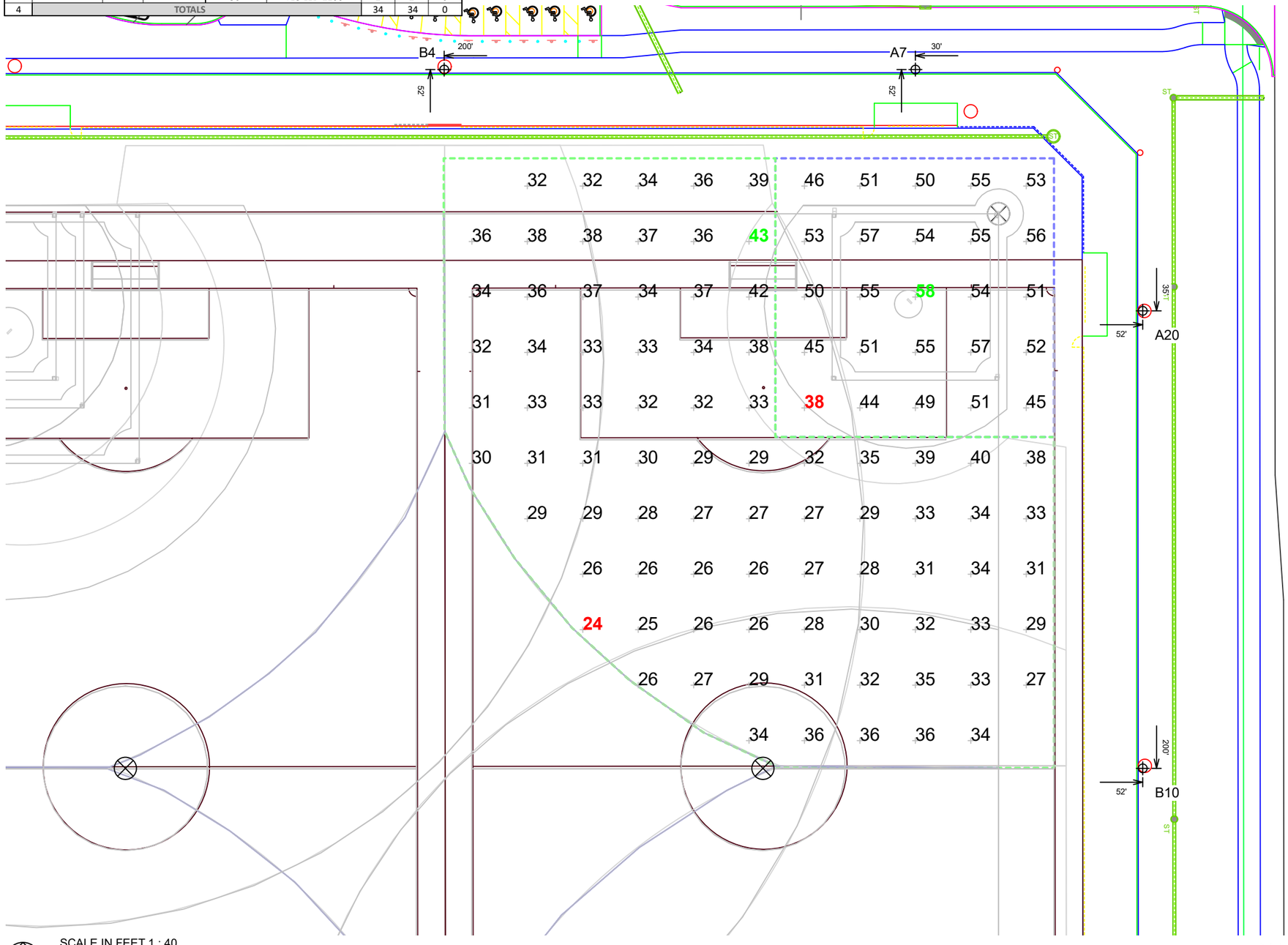
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A7, A20	70'	0'	70'	TLC-LED-900	1	1	0
				15.54'	TLC-BT-575	1	1	0
				70'	TLC-LED-1200	2	2	0
2	B4, B10	90'	0'	90'	TLC-LED-1500	9	9	0
				15.54'	TLC-BT-575	3	3	0
				90'	TLC-LED-1200	1	1	0
4	TOTALS					34	34	0



SCALE IN FEET 1 : 40

0' 40' 80'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

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Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Field 11**
Size:	Irregular 200' / 214' / 200'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	51.4	32.2
Maximum:	58	43
Minimum:	38	24
Avg / Min:	1.35	1.35
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.53	1.81
UG (adjacent pts):	1.17	1.23
CU:	0.37	
No. of Points:	25	81

LUMINAIRE INFORMATION

Applied Circuits:	AA, AB, AC, Z
No. of Luminaires:	**34**
Total Load:	39.14 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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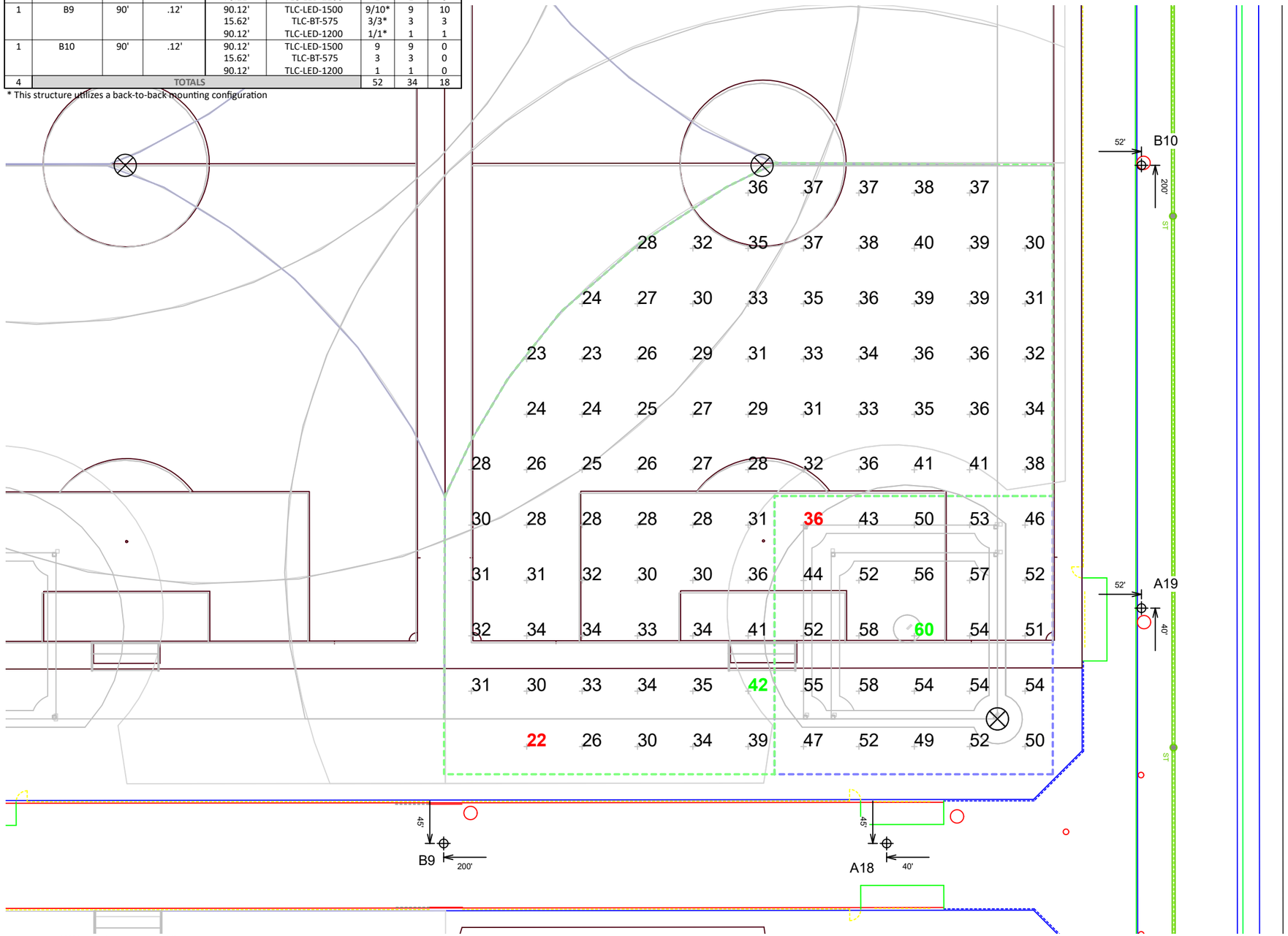
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A18	70'	.12'	70.12'	TLC-LED-900	1/1*	1	1
				15.62'	TLC-BT-575	1/1*	1	1
				70.12'	TLC-LED-1200	2/2*	2	2
1	A19	70'	.12'	70.12'	TLC-LED-900	1	1	0
				15.62'	TLC-BT-575	1	1	0
				70.12'	TLC-LED-1200	2	2	0
1	B9	90'	.12'	90.12'	TLC-LED-1500	9/10*	9	10
				15.62'	TLC-BT-575	3/3*	3	3
				90.12'	TLC-LED-1200	1/1*	1	1
1	B10	90'	.12'	90.12'	TLC-LED-1500	9	9	0
				15.62'	TLC-BT-575	3	3	0
				90.12'	TLC-LED-1200	1	1	0
4	TOTALS					52	34	18

* This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 40

0' 40' 80'

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Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Field 12**
Size:	Irregular 200' / 215' / 200'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	51.6	32.1
Maximum:	60	42
Minimum:	36	22
Avg / Min:	1.43	1.44
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.65	1.89
UG (adjacent pts):	1.22	1.35
CU:	0.37	
No. of Points:	25	82

LUMINAIRE INFORMATION

Applied Circuits:	AC, AD, AE, AF
No. of Luminaires:	**34**
Total Load:	39.14 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

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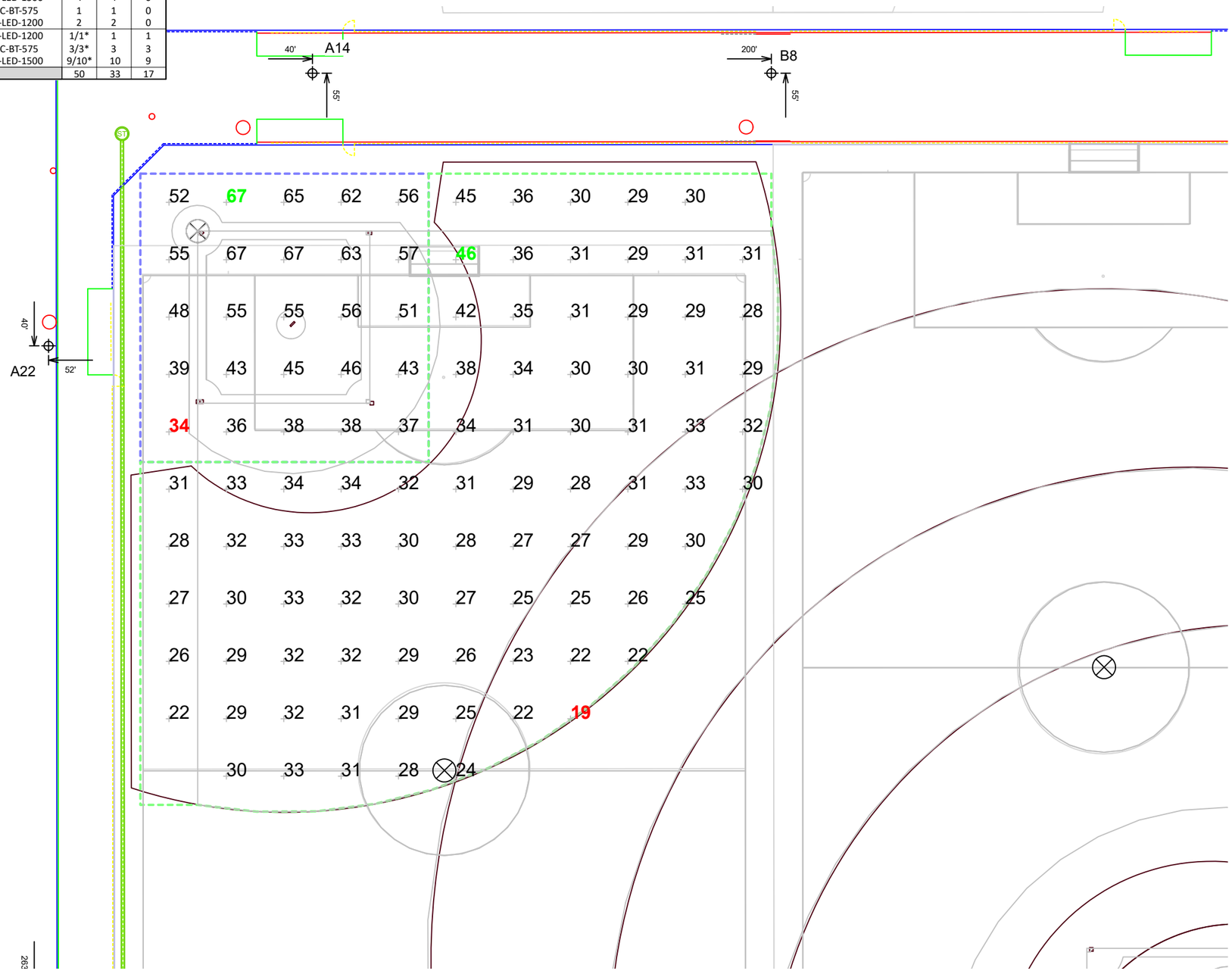
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A14	70'	.12'	70.12'	TLC-LED-900	1/1*	1	1
				15.62'	TLC-BT-575	1/1*	1	1
				70.12'	TLC-LED-1200	2/2*	2	2
1	A21	80'	.42'	15.92'	TLC-BT-575	3	3	0
				80.42'	TLC-LED-1500	5	5	0
1	A22	80'	.42'	80.42'	TLC-LED-1500	4	4	0
				15.92'	TLC-BT-575	1	1	0
				80.42'	TLC-LED-1200	2	2	0
1	B8	90'	.12'	90.12'	TLC-LED-1200	1/1*	1	1
				15.62'	TLC-BT-575	3/3*	3	3
				90.12'	TLC-LED-1500	9/10*	10	9
4	TOTALS					50	33	17

* This structure utilizes a back-to-back mounting configuration



Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Field 13**
Size:	200'/215'/200' - basepath 60'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	51.0	30.1
Maximum:	67	46
Minimum:	34	19
Avg / Min:	1.49	1.55
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.97	2.38
UG (adjacent pts):	1.30	1.30
CU:	0.36	
No. of Points:	25	82

LUMINAIRE INFORMATION

Applied Circuits:	AK, AL, AQ, AR
No. of Luminaires:	**33**
Total Load:	38.51 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 40

0' 40' 80'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

ENGINEERED DESIGN By: Ben Drost · File #209347f · 23-Aug-22

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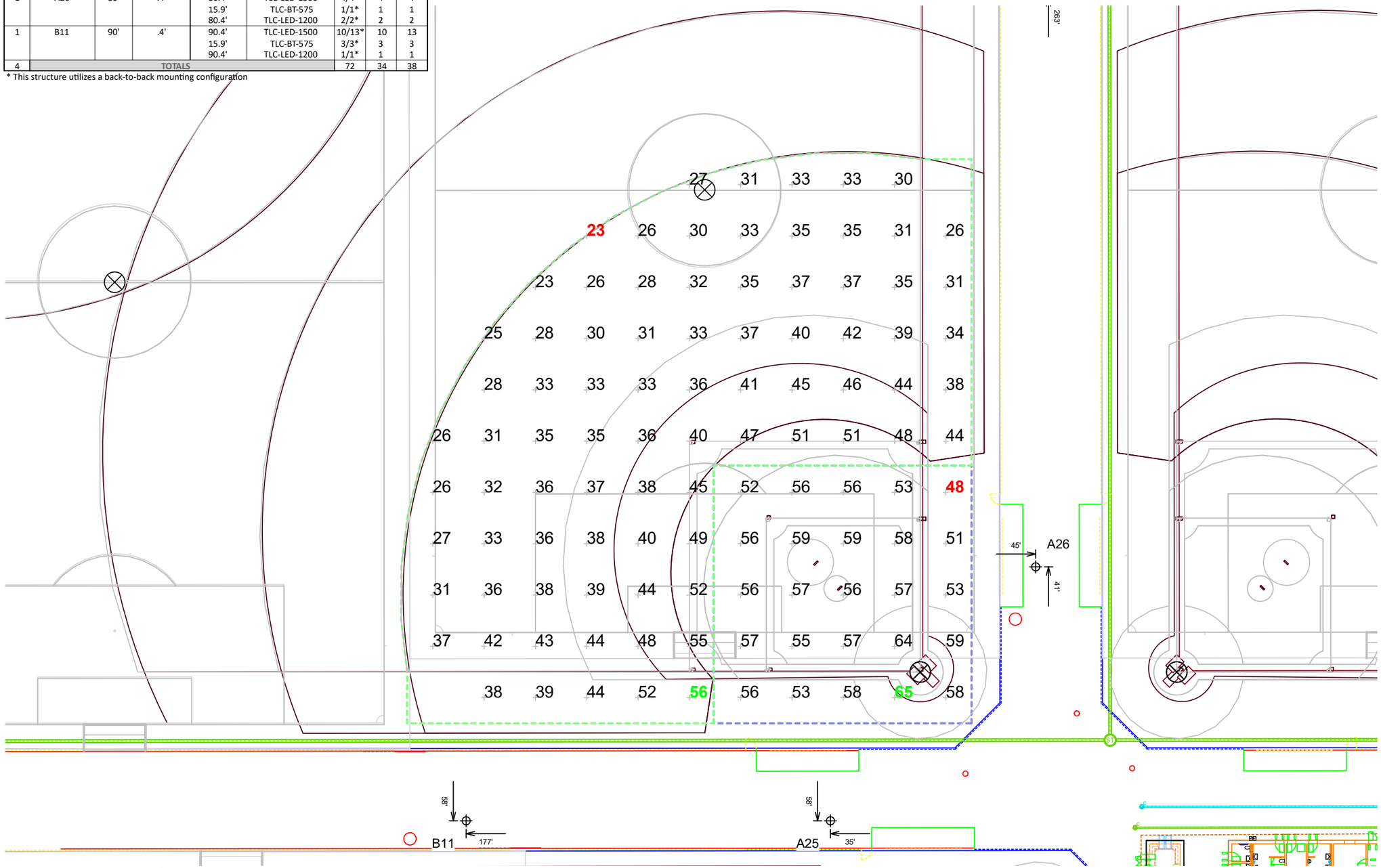
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A23	80'	.4'	15.9'	TLC-BT-575	3/3*	3	3
				80.4'	TLC-LED-1500	5/5*	5	5
1	A25	70'	.4'	70.4'	TLC-LED-1500	1*	0	1
				15.9'	TLC-BT-575	1/2*	1	2
				70.4'	TLC-LED-1200	4/3*	4	3
1	A26	80'	.4'	80.4'	TLC-LED-1500	4/4*	4	4
				15.9'	TLC-BT-575	1/1*	1	1
				80.4'	TLC-LED-1200	2/2*	2	2
1	B11	90'	.4'	90.4'	TLC-LED-1500	10/13*	10	13
				15.9'	TLC-BT-575	3/3*	3	3
				90.4'	TLC-LED-1200	1/1*	1	1
4	TOTALS					72	34	38

* This structure utilizes a back-to-back mounting configuration



Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Field 14**
Size:	200'/215'/200' - basepath 60'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	56.3	36.7
Maximum:	65	56
Minimum:	48	23
Avg / Min:	1.17	1.62
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.35	2.46
UG (adjacent pts):	1.13	1.25
CU:	0.41	
No. of Points:	25	82

LUMINAIRE INFORMATION

Applied Circuits:	AM, AN, AO, AP
No. of Luminaires:	**34**
Total Load:	39.96 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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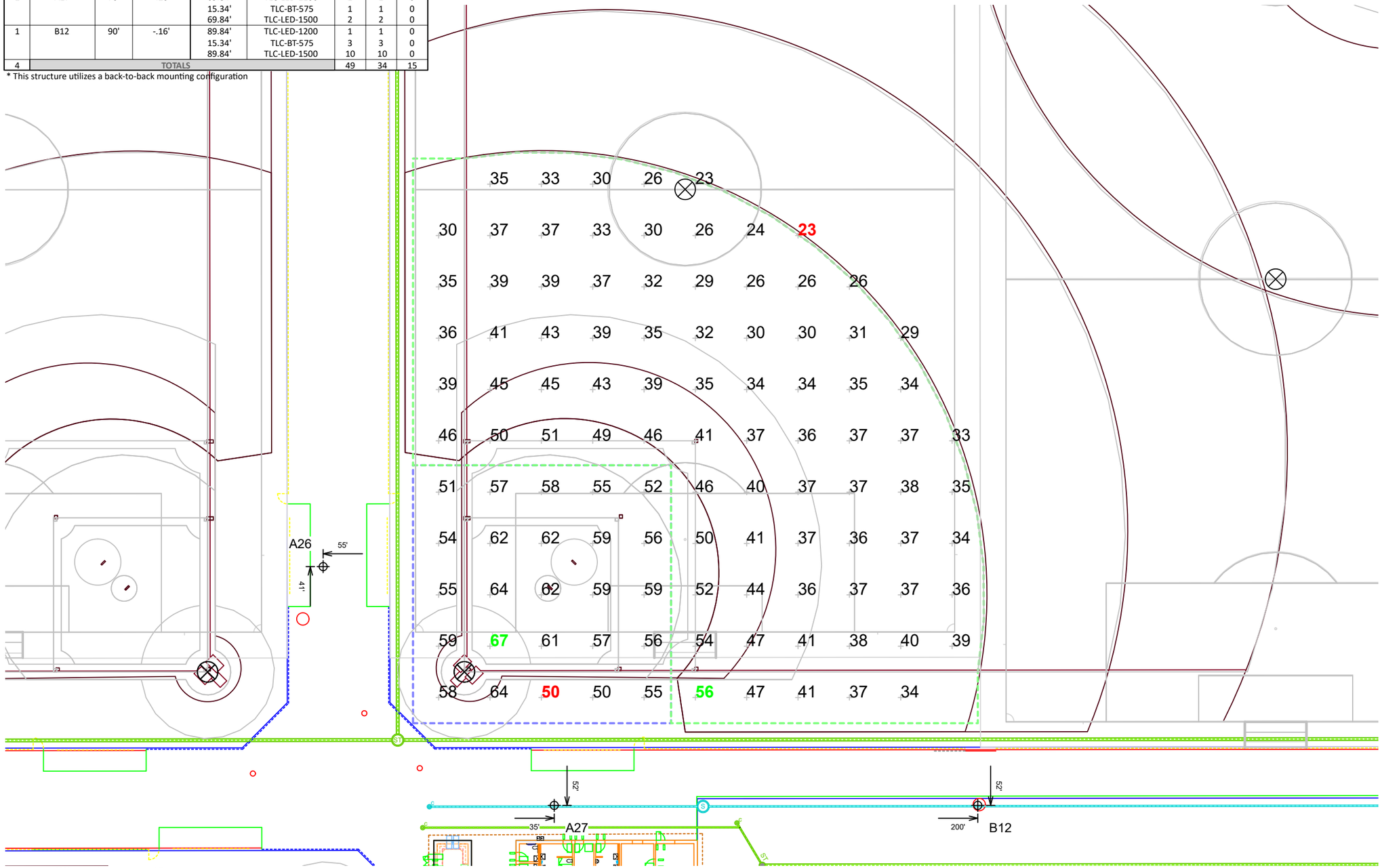
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A23	80'	.42'	15.92'	TLC-BT-575	3/3*	3	3
				80.42'	TLC-LED-1500	5/5*	5	5
1	A26	80'	.42'	80.42'	TLC-LED-1500	4/4*	4	4
				15.92'	TLC-BT-575	1/1*	1	1
				80.42'	TLC-LED-1200	2/2*	2	2
1	A27	70'	-.16'	69.84'	TLC-LED-1200	2	2	0
				15.34'	TLC-BT-575	1	1	0
				69.84'	TLC-LED-1500	2	2	0
1	B12	90'	-.16'	89.84'	TLC-LED-1200	1	1	0
				15.34'	TLC-BT-575	3	3	0
				89.84'	TLC-LED-1500	10	10	0
4	TOTALS					49	34	15

* This structure utilizes a back-to-back mounting configuration



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Field 15**
Size:	200'/215'/200' - basepath 60'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	57.7	37.2
Maximum:	67	56
Minimum:	50	23
Avg / Min:	1.15	1.64
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.34	2.46
UG (adjacent pts):	1.28	1.23
CU:	0.41	
No. of Points:	25	82

LUMINAIRE INFORMATION

Applied Circuits:	AW, AX, AY, AZ
No. of Luminaires:	**34**
Total Load:	40.48 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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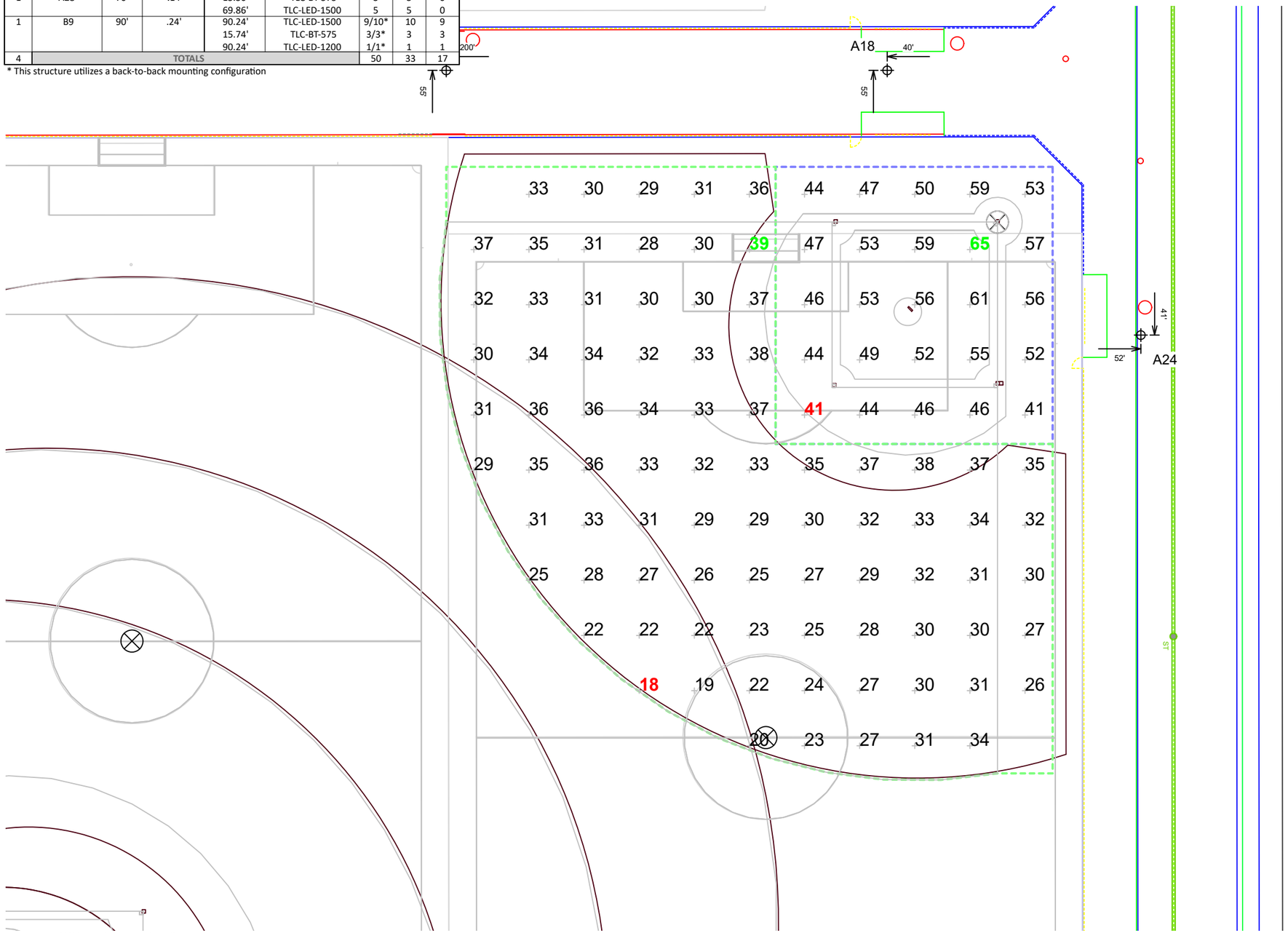
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A18	70'	.24'	70.24'	TLC-LED-900	1/1*	1	1
				15.74'	TLC-BT-575	1/1*	1	1
				70.24'	TLC-LED-1200	2/2*	2	2
1	A24	70'	-.14'	15.36'	TLC-BT-575	1	1	0
				69.86'	TLC-LED-1200	6	6	0
1	A28	70'	-.14'	15.36'	TLC-BT-575	3	3	0
				69.86'	TLC-LED-1500	5	5	0
1	B9	90'	.24'	90.24'	TLC-LED-1500	9/10*	10	9
				15.74'	TLC-BT-575	3/3*	3	3
				90.24'	TLC-LED-1200	1/1*	1	1
4	TOTALS					50	33	17

* This structure utilizes a back-to-back mounting configuration



Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Field 16**
Size:	200'/215'/200' - basepath 60'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	51.1	30.4
Maximum:	65	39
Minimum:	41	18
Avg / Min:	1.26	1.67
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.61	2.12
UG (adjacent pts):	1.26	1.29
CU:	0.37	
No. of Points:	25	82

LUMINAIRE INFORMATION

Applied Circuits:	AS, AT, AU, AV
No. of Luminaires:	**33**
Total Load:	37.47 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

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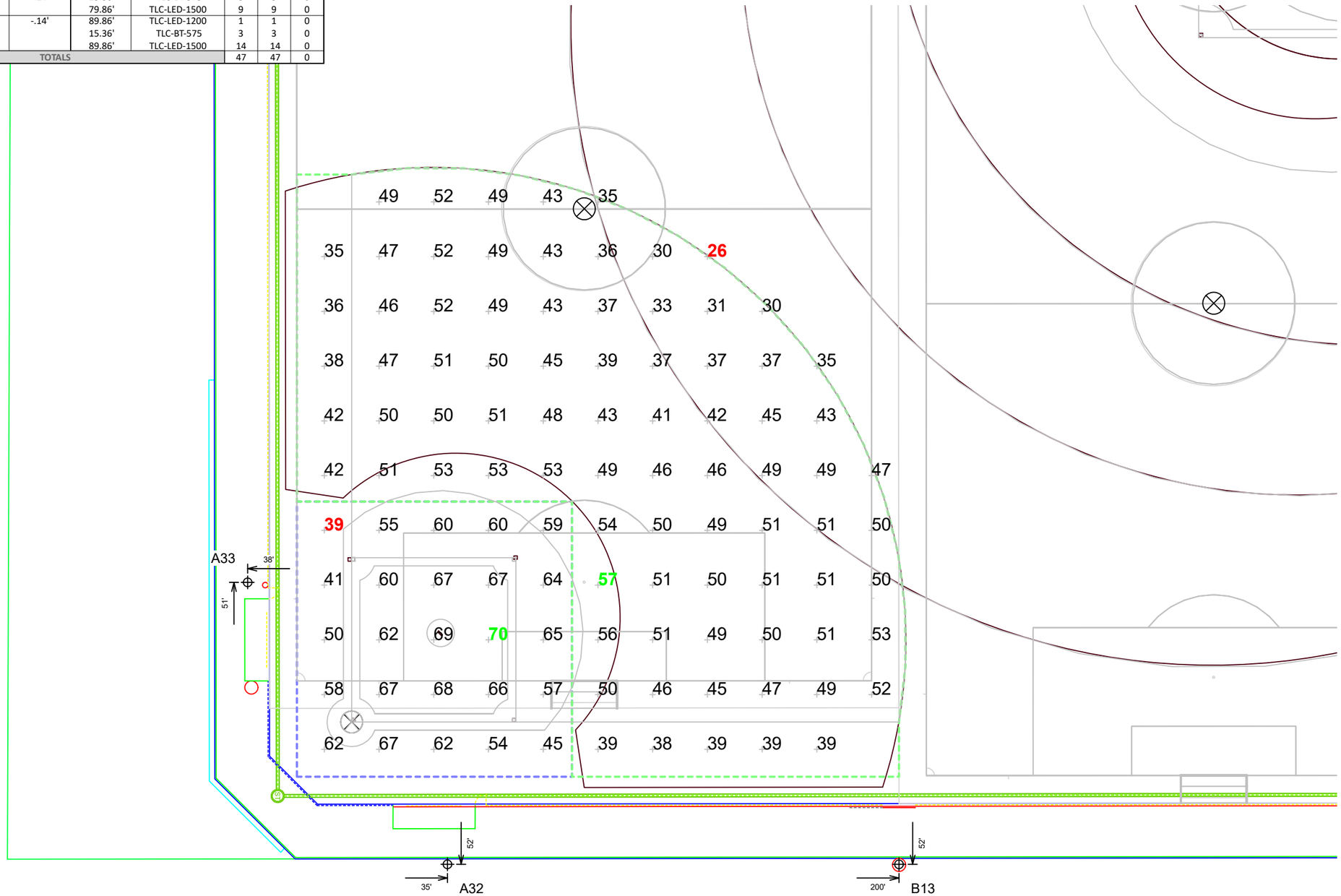
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A29	80'	-.14'	79.86'	TLC-LED-1200	1	1	0
				15.36'	TLC-BT-575	3	3	0
				79.86'	TLC-LED-1500	8	8	0
1	A32	70'	-.14'	15.36'	TLC-BT-575	2	2	0
				69.86'	TLC-LED-900	3	3	0
1	A33	80'	-.14'	15.36'	TLC-BT-575	3	3	0
				79.86'	TLC-LED-1500	9	9	0
1	B13	90'	-.14'	89.86'	TLC-LED-1200	1	1	0
				15.36'	TLC-BT-575	3	3	0
				89.86'	TLC-LED-1500	14	14	0
4	TOTALS					47	47	0



Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Field 17**
Size:	200'/215'/200' - basepath 60'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	59.7	45.4
Maximum:	70	57
Minimum:	39	26
Avg / Min:	1.54	1.74
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.82	2.17
UG (adjacent pts):	1.48	1.32
CU:	0.35	
No. of Points:	25	82

LUMINAIRE INFORMATION

Applied Circuits:	BE, BF, BG, BH
No. of Luminaires:	**47**
Total Load:	55.67 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 40

0' 40' 80'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

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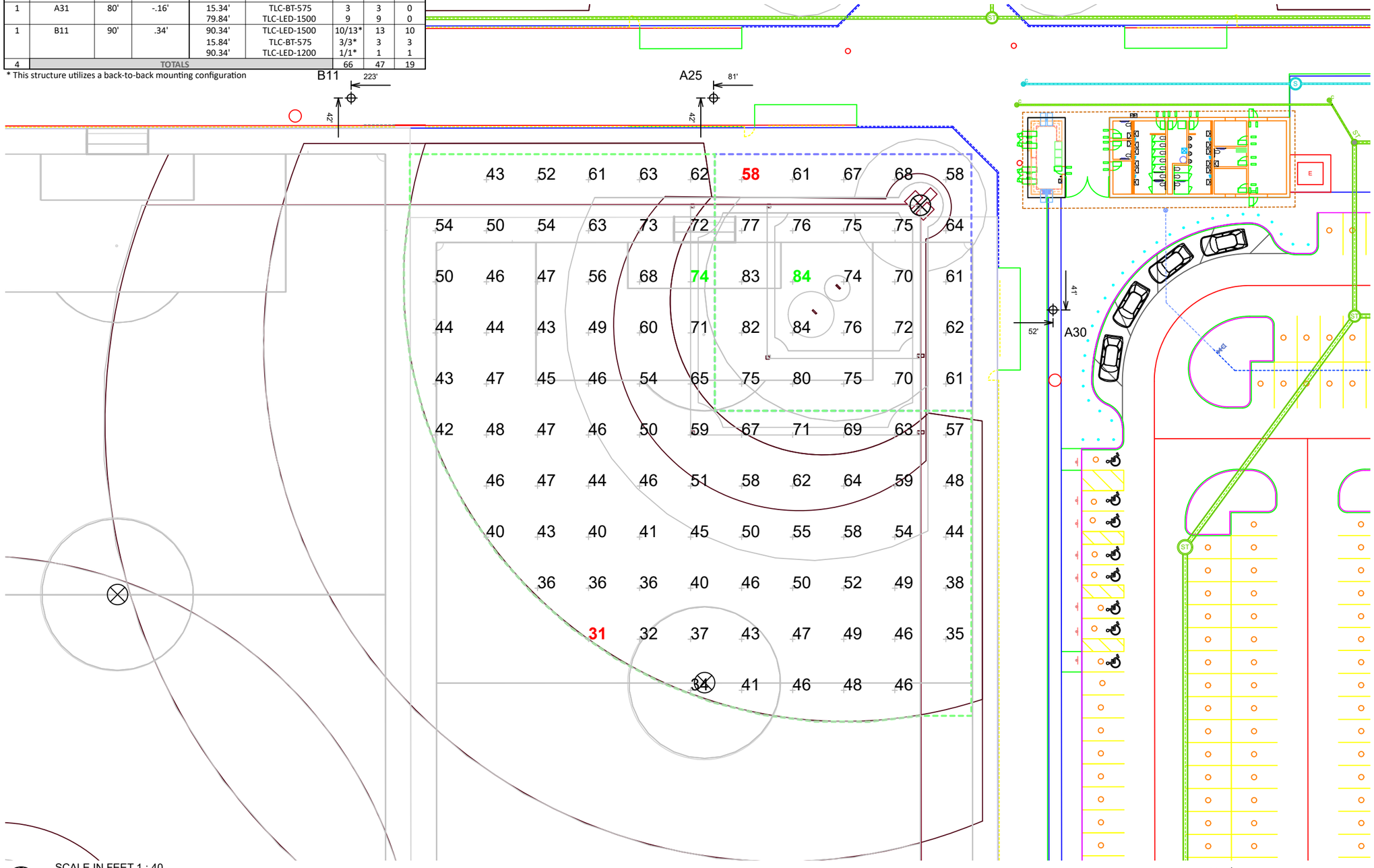
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A25	70'	.34'	70.34'	TLC-LED-1500	1*	1	0
				15.84'	TLC-BT-575	1/2*	2	1
				70.34'	TLC-LED-1200	4/3*	3	4
1	A30	80'	-.16'	79.84'	TLC-LED-1200	2	2	0
				15.34'	TLC-BT-575	3	3	0
				79.84'	TLC-LED-1500	7	7	0
1	A31	80'	-.16'	15.34'	TLC-BT-575	3	3	0
				79.84'	TLC-LED-1500	9	9	0
1	B11	90'	.34'	90.34'	TLC-LED-1500	10/13*	13	10
				15.84'	TLC-BT-575	3/3*	3	3
				90.34'	TLC-LED-1200	1/1*	1	1
4	TOTALS					66	47	19

* This structure utilizes a back-to-back mounting configuration



Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Field 18**
Size:	200'/215'/200' - basepath 60'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	71.5	50.4
Maximum:	84	74
Minimum:	58	31
Avg / Min:	1.24	1.65
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.46	2.42
UG (adjacent pts):	1.34	1.31
CU:	0.39	
No. of Points:	25	82

LUMINAIRE INFORMATION

Applied Circuits:	BA, BB, BC, BD
No. of Luminaires:	**47**
Total Load:	56.25 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

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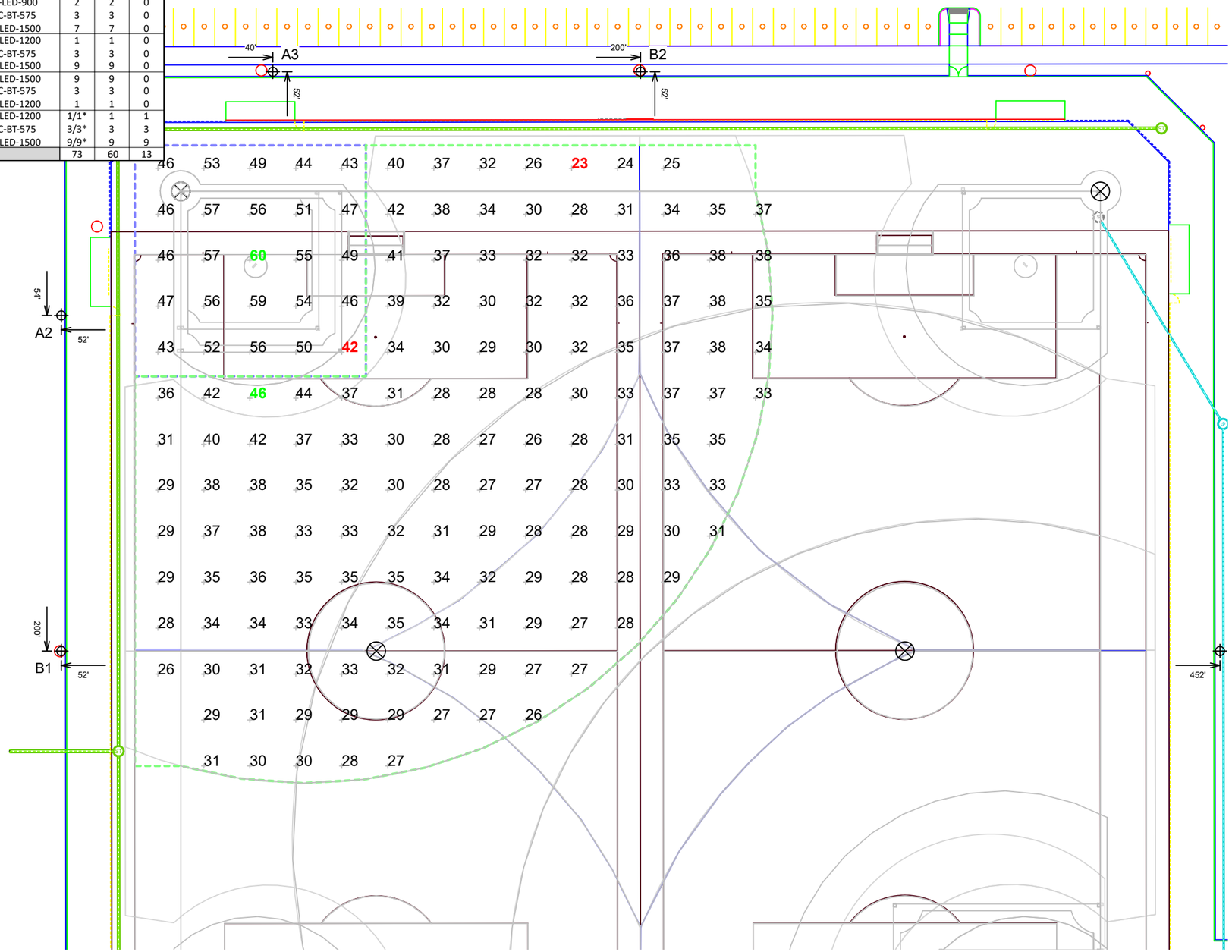
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A2	70'	.28'	70.28'	TLC-LED-900	1	1	0
				15.78'	TLC-BT-575	1	1	0
				70.28'	TLC-LED-1200	2	2	0
1	A3	70'	.28'	70.28'	TLC-LED-900	2	2	0
				15.78'	TLC-BT-575	1	1	0
				70.28'	TLC-LED-1200	1	1	0
1	B1	90'	.28'	90.28'	TLC-LED-1200	1	1	0
				90.28'	TLC-LED-900	2	2	0
				15.78'	TLC-BT-575	3	3	0
				90.28'	TLC-LED-1500	7	7	0
1	B2	90'	.28'	90.28'	TLC-LED-1200	1	1	0
				15.78'	TLC-BT-575	3	3	0
				90.28'	TLC-LED-1500	9	9	0
1	B3	90'	.28'	90.28'	TLC-LED-1500	9	9	0
				15.78'	TLC-BT-575	3	3	0
				90.28'	TLC-LED-1200	1	1	0
1	B6	90'	.28'	90.28'	TLC-LED-1200	1/1*	1	1
				15.78'	TLC-BT-575	3/3*	3	3
				90.28'	TLC-LED-1500	9/9*	9	9
6	TOTALS					73	60	13

* This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 50

0' 50' 100'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

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Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Softball 1**
Size:	250'/280'/250' - basepath 70'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	50.6	32.2
Maximum:	60	46
Minimum:	42	23
Avg / Min:	1.20	1.40
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.43	1.97
UG (adjacent pts):	1.24	1.35
CU:	0.31	
No. of Points:	25	142

LUMINAIRE INFORMATION

Applied Circuits:	A, B, E, H, K, L
No. of Luminaires:	**60**
Total Load:	69.31 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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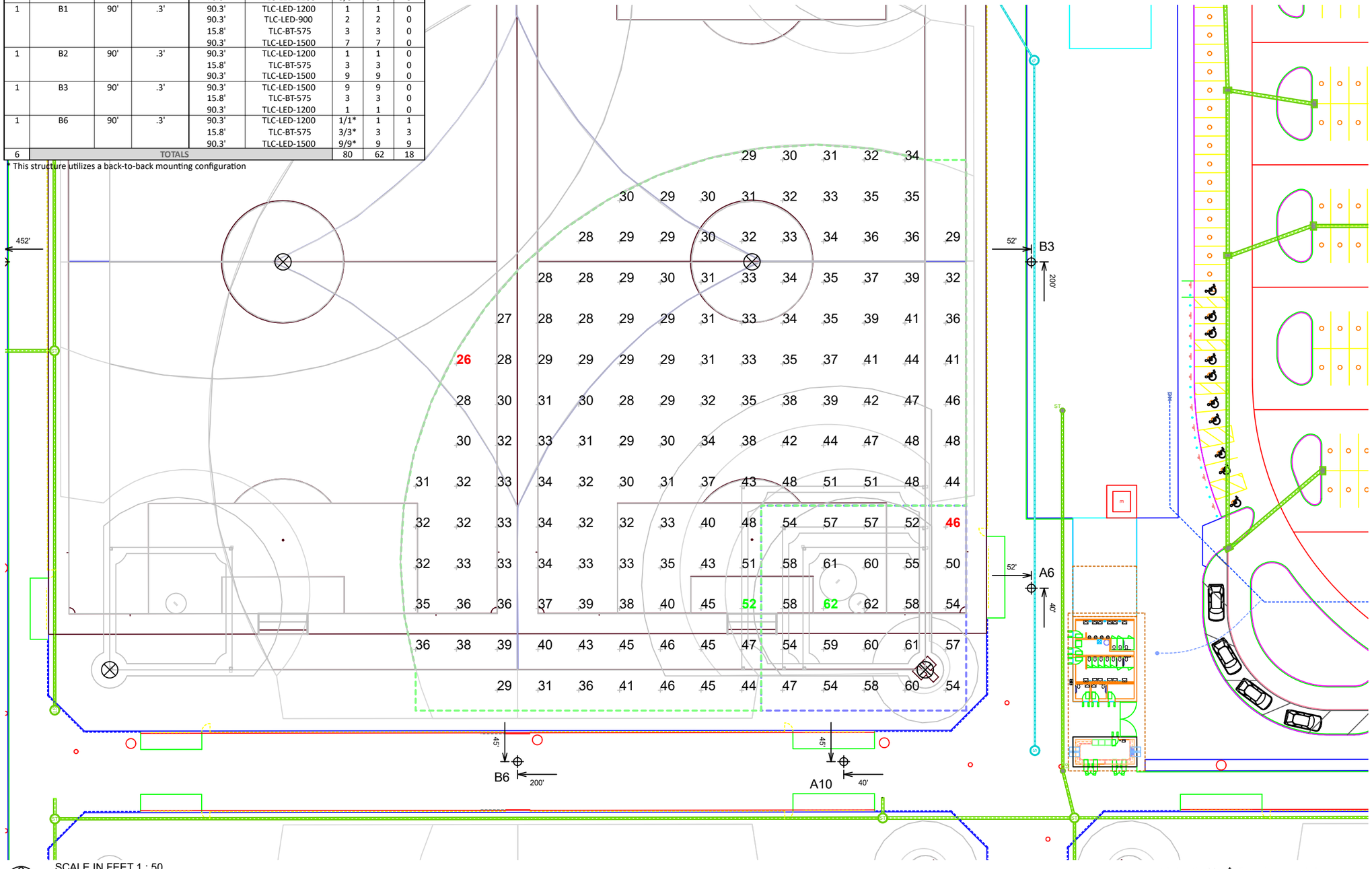
Grimes Sportsplex

Grimes,IA

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A6	70'	.3'	70.3'	TLC-LED-1500	1	1	0
				15.8'	TLC-BT-575	1	1	0
				70.3'	TLC-LED-1200	3	3	0
1	A10	70'	.3'	70.3'	TLC-LED-1500	1/1*	1	1
				15.8'	TLC-BT-575	1/1*	1	1
				70.3'	TLC-LED-1200	3/3*	3	3
1	B1	90'	.3'	90.3'	TLC-LED-1200	1	1	0
				90.3'	TLC-LED-900	2	2	0
				15.8'	TLC-BT-575	3	3	0
				90.3'	TLC-LED-1500	7	7	0
1	B2	90'	.3'	90.3'	TLC-LED-1200	1	1	0
				15.8'	TLC-BT-575	3	3	0
				90.3'	TLC-LED-1500	9	9	0
1	B3	90'	.3'	90.3'	TLC-LED-1500	9	9	0
				15.8'	TLC-BT-575	3	3	0
				90.3'	TLC-LED-1200	1	1	0
1	B6	90'	.3'	90.3'	TLC-LED-1200	1/1*	1	1
				15.8'	TLC-BT-575	3/3*	3	3
				90.3'	TLC-LED-1500	9/9*	9	9
6	TOTALS					80	62	18

* This structure utilizes a back-to-back mounting configuration



GRID SUMMARY

Name:	**Softball 2**
Size:	250'/280'/250' - basepath 70'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	56.3	35.5
Maximum:	62	52
Minimum:	46	26
Avg / Min:	1.21	1.37
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.34	1.99
UG (adjacent pts):	1.15	1.37
CU:	0.33	
No. of Points:	25	142

LUMINAIRE INFORMATION

Applied Circuits:	B, E, F, G, H, K
No. of Luminaires:	**62**
Total Load:	73.01 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 50

0' 50' 100'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

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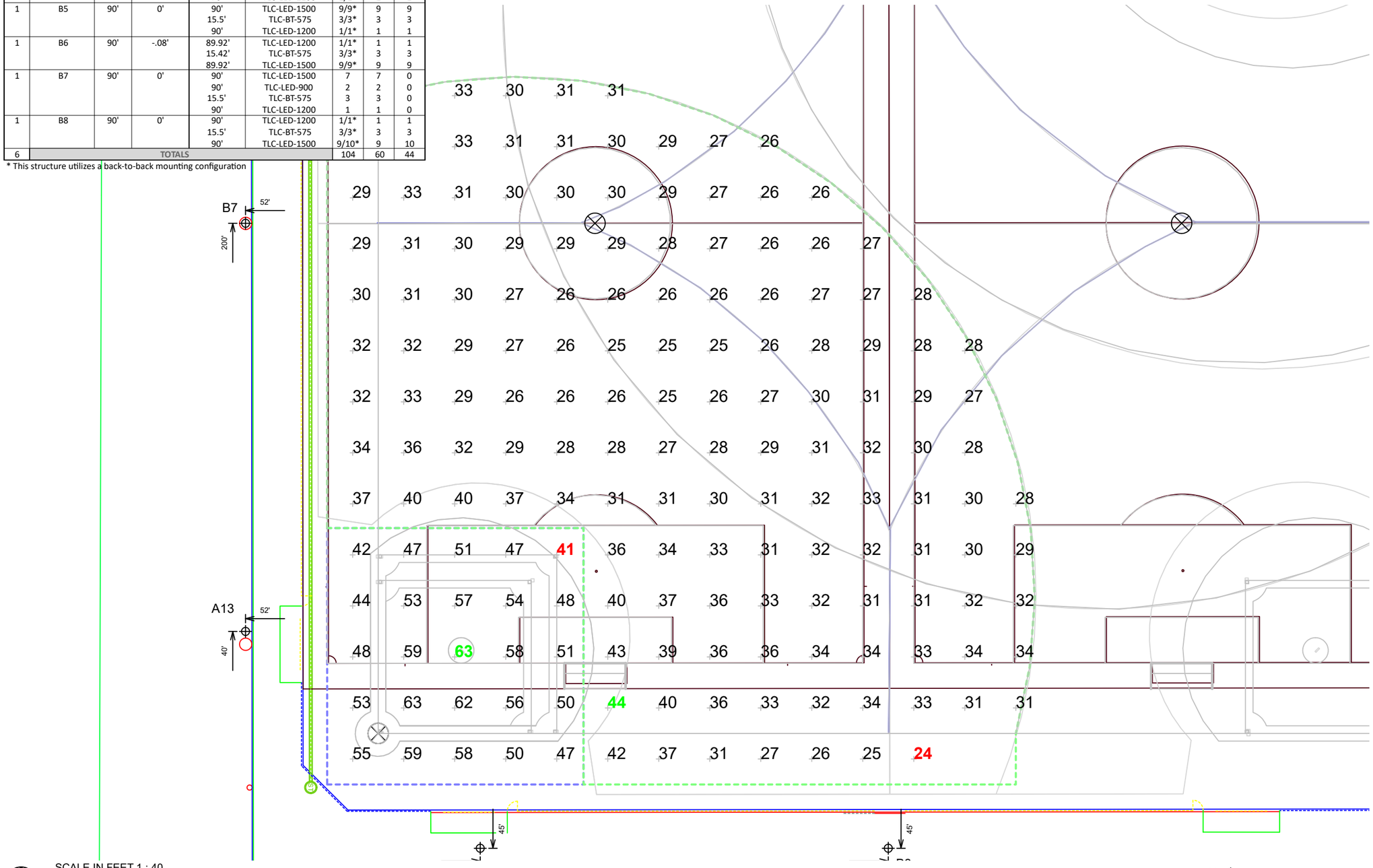
Grimes Sportsplex

Grimes,IA

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A13	70'	0'	70'	TLC-LED-900	1	1	0
				15.5'	TLC-BT-575	1	1	0
				70'	TLC-LED-1200	2	2	0
1	A14	70'	0'	70'	TLC-LED-900	1/1*	1	1
				15.5'	TLC-BT-575	1/1*	1	1
				70'	TLC-LED-1200	2/2*	2	2
1	B5	90'	0'	90'	TLC-LED-1500	9/9*	9	9
				15.5'	TLC-BT-575	3/3*	3	3
				90'	TLC-LED-1200	1/1*	1	1
1	B6	90'	-.08'	89.92'	TLC-LED-1200	1/1*	1	1
				15.42'	TLC-BT-575	3/3*	3	3
				89.92'	TLC-LED-1500	9/9*	9	9
1	B7	90'	0'	90'	TLC-LED-1500	7	7	0
				90'	TLC-LED-900	2	2	0
				15.5'	TLC-BT-575	3	3	0
				90'	TLC-LED-1200	1	1	0
1	B8	90'	0'	90'	TLC-LED-1200	1/1*	1	1
				15.5'	TLC-BT-575	3/3*	3	3
				90'	TLC-LED-1500	9/10*	9	10
6	TOTALS					104	60	44

* This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 40

0' 40' 80'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

GRID SUMMARY

Name:	**Softball 3**
Size:	250'/280'/250' - basepath 70'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	52.6	30.6
Maximum:	63	44
Minimum:	41	24
Avg / Min:	1.29	1.26
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.56	1.82
UG (adjacent pts):	1.22	1.36
CU:	0.30	
No. of Points:	25	142

LUMINAIRE INFORMATION

Applied Circuits:	N, Q, T, U, V, W
No. of Luminaires:	**60**
Total Load:	69.59 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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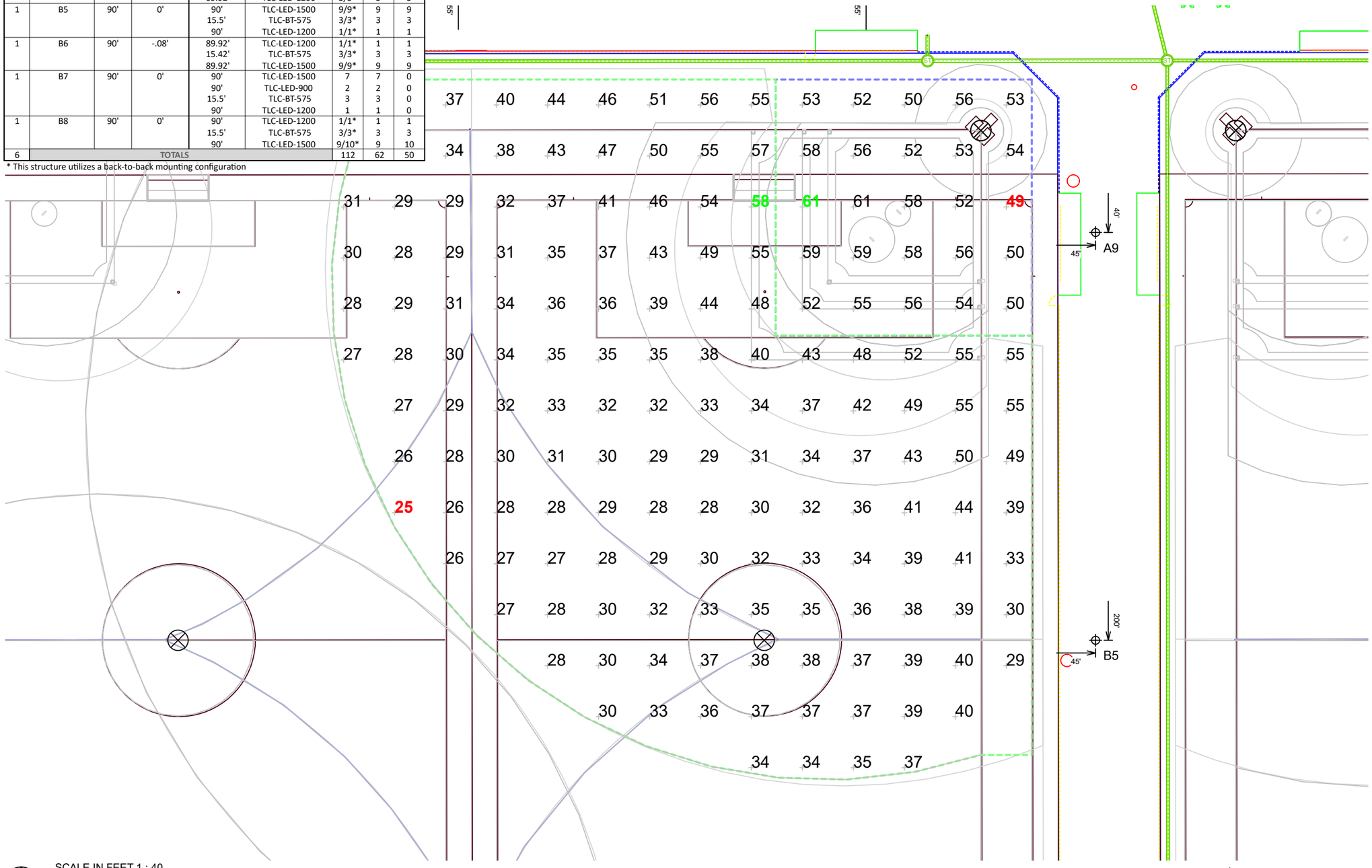
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A9	70'	0'	70'	TLC-LED-1200	3/3*	3	3
				15.5'	TLC-BT-575	1/1*	1	1
				70'	TLC-LED-1500	1/1*	1	1
1	A10	70'	-.08'	69.92'	TLC-LED-1500	1/1*	1	1
				15.42'	TLC-BT-575	1/1*	1	1
				69.92'	TLC-LED-1200	3/3*	3	3
1	B5	90'	0'	90'	TLC-LED-1500	9/9*	9	9
				15.5'	TLC-BT-575	3/3*	3	3
				90'	TLC-LED-1200	1/1*	1	1
1	B6	90'	-.08'	89.92'	TLC-LED-1200	1/1*	1	1
				15.42'	TLC-BT-575	3/3*	3	3
				89.92'	TLC-LED-1500	9/9*	9	9
1	B7	90'	0'	90'	TLC-LED-1500	7	7	0
				90'	TLC-LED-900	2	2	0
				15.5'	TLC-BT-575	3	3	0
				90'	TLC-LED-1200	1	1	0
1	B8	90'	0'	90'	TLC-LED-1200	1/1*	1	1
				15.5'	TLC-BT-575	3/3*	3	3
				90'	TLC-LED-1500	9/10*	9	10
6	TOTALS					112	62	50

* This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 40

0' 40' 80'

ENGINEERED DESIGN By: Ben Drost · File #209347f · 23-Aug-22

Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Softball 4**
Size:	245'/280'/245' - basepath 70'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	54.7	36.7
Maximum:	61	58
Minimum:	49	25
Avg / Min:	1.11	1.46
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.24	2.32
UG (adjacent pts):	1.14	1.40
CU:	0.33	
No. of Points:	25	140

LUMINAIRE INFORMATION

Applied Circuits:	N, O, P, Q, T, W
No. of Luminaires:	**62**
Total Load:	73.01 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

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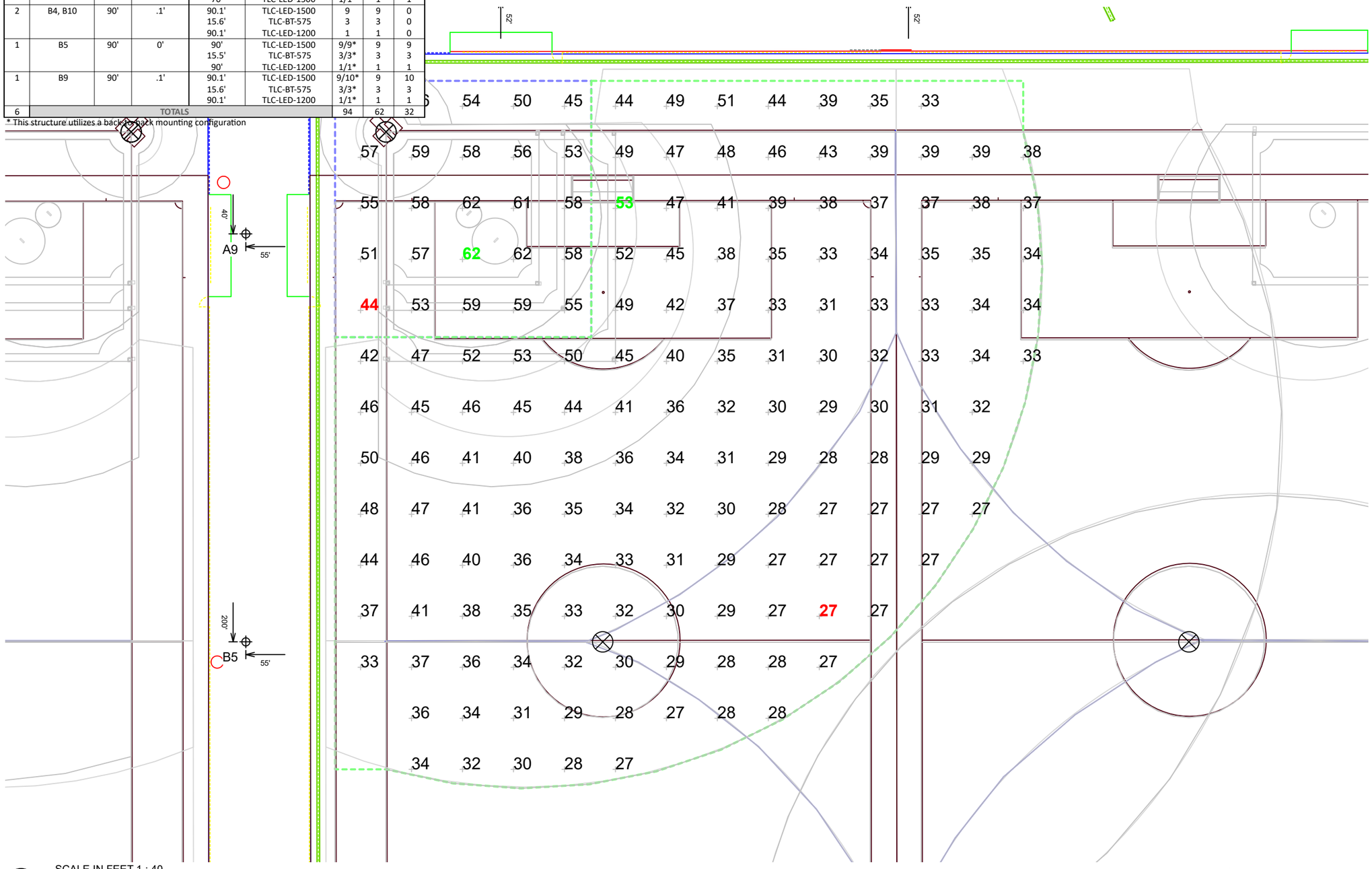
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A8	70'	.1'	70.1'	TLC-LED-1500	1	1	0
				15.6'	TLC-BT-575	1	1	0
				70.1'	TLC-LED-1200	3	3	0
1	A9	70'	0'	70'	TLC-LED-1200	3/3*	3	3
				15.5'	TLC-BT-575	1/1*	1	1
				70'	TLC-LED-1500	1/1*	1	1
2	B4, B10	90'	.1'	90.1'	TLC-LED-1500	9	9	0
				15.6'	TLC-BT-575	3	3	0
				90.1'	TLC-LED-1200	1	1	0
1	B5	90'	0'	90'	TLC-LED-1500	9/9*	9	9
				15.5'	TLC-BT-575	3/3*	3	3
				90'	TLC-LED-1200	1/1*	1	1
1	B9	90'	.1'	90.1'	TLC-LED-1500	9/10*	9	10
				15.6'	TLC-BT-575	3/3*	3	3
				90.1'	TLC-LED-1200	1/1*	1	1
6	TOTALS					94	62	32

* This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 40

0' 40' 80'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

ENGINEERED DESIGN By: Ben Drost · File #209347f · 23-Aug-22

Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Softball 5**
Size:	250'/280'/250' - basepath 70'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	55.8	36.1
Maximum:	62	53
Minimum:	44	27
Avg / Min:	1.27	1.35
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.42	1.99
UG (adjacent pts):	1.20	1.19
CU:	0.33	
No. of Points:	25	142

LUMINAIRE INFORMATION

Applied Circuits:	AC, AF, AI, AJ, Y, Z
No. of Luminaires:	**62**
Total Load:	74.09 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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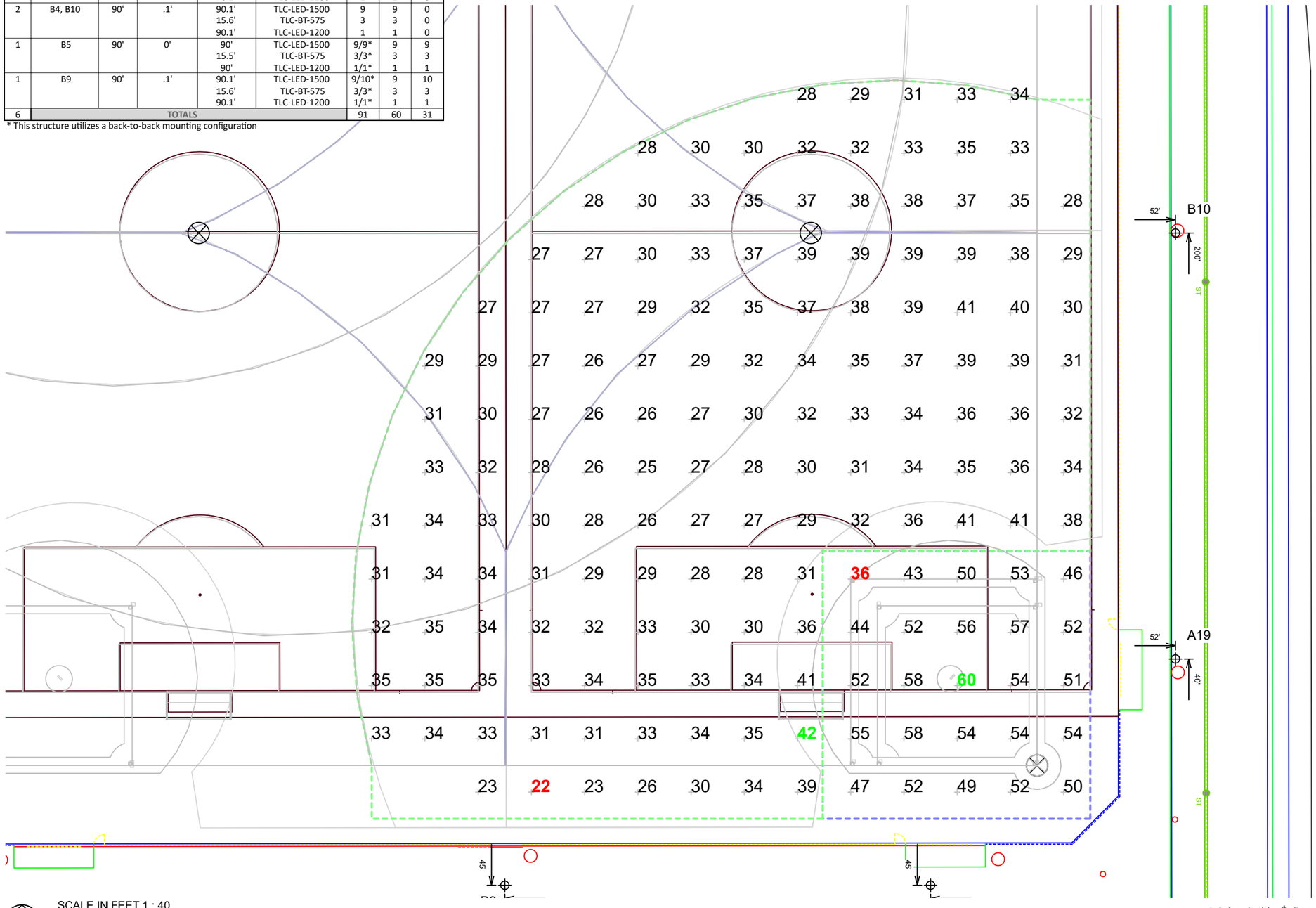
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A18	70'	.1'	70.1'	TLC-LED-900	1/1*	1	1
				15.6'	TLC-BT-575	1/1*	1	1
				70.1'	TLC-LED-1200	2/2*	2	2
1	A19	70'	.1'	70.1'	TLC-LED-900	1	1	0
				15.6'	TLC-BT-575	1	1	0
				70.1'	TLC-LED-1200	2	2	0
2	B4, B10	90'	.1'	90.1'	TLC-LED-1500	9	9	0
				15.6'	TLC-BT-575	3	3	0
				90.1'	TLC-LED-1200	1	1	0
1	B5	90'	0'	90'	TLC-LED-1500	9/9*	9	9
				15.5'	TLC-BT-575	3/3*	3	3
				90'	TLC-LED-1200	1/1*	1	1
1	B9	90'	.1'	90.1'	TLC-LED-1500	9/10*	9	10
				15.6'	TLC-BT-575	3/3*	3	3
				90.1'	TLC-LED-1200	1/1*	1	1
6	TOTALS					91	60	31

* This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 40

0' 40' 80'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

ENGINEERED DESIGN By: Ben Drost · File #209347f · 23-Aug-22

Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Softball 6**
Size:	250'/280'/250' - basepath 70'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	51.6	32.3
Maximum:	60	42
Minimum:	36	22
Avg / Min:	1.42	1.48
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.64	1.93
UG (adjacent pts):	1.22	1.45
CU:	0.31	
No. of Points:	25	142

LUMINAIRE INFORMATION

Applied Circuits:	AC, AD, AE, AF, AI, Z
No. of Luminaires:	**60**
Total Load:	70.67 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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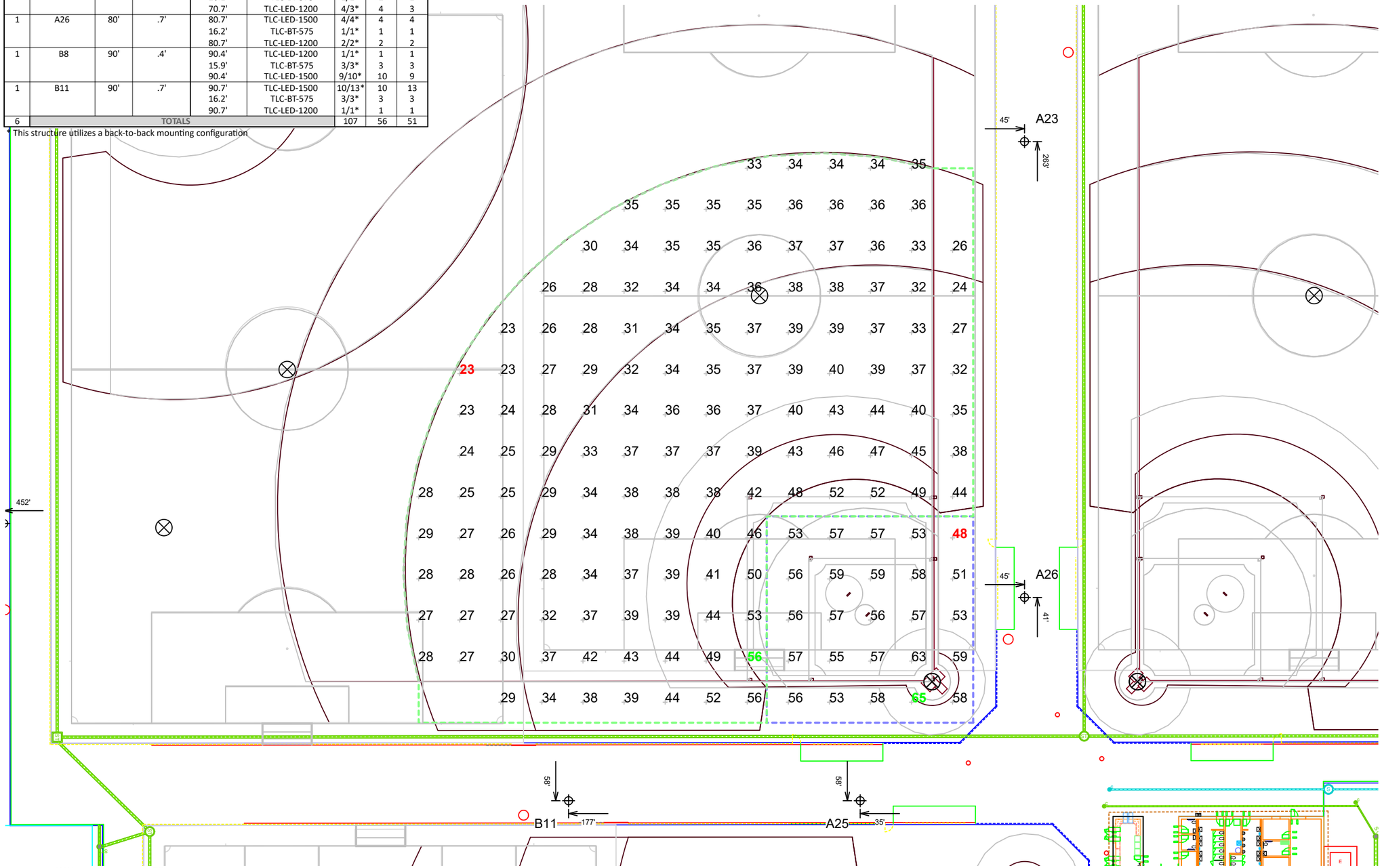
Grimes Sportsplex

Grimes,IA

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A21	80'	.7'	16.2'	TLC-BT-575	3	3	0
				80.7'	TLC-LED-1500	5	5	0
1	A23	80'	.7'	16.2'	TLC-BT-575	3/3*	3	3
				80.7'	TLC-LED-1500	5/5*	5	5
1	A25	70'	.7'	70.7'	TLC-LED-1500	1*	0	1
				16.2'	TLC-BT-575	1/2*	1	2
				70.7'	TLC-LED-1200	4/3*	4	3
1	A26	80'	.7'	80.7'	TLC-LED-1500	4/4*	4	4
				16.2'	TLC-BT-575	1/1*	1	1
				80.7'	TLC-LED-1200	2/2*	2	2
1	B8	90'	.4'	90.4'	TLC-LED-1200	1/1*	1	1
				15.9'	TLC-BT-575	3/3*	3	3
				90.4'	TLC-LED-1500	9/10*	10	9
1	B11	90'	.7'	90.7'	TLC-LED-1500	10/13*	10	13
				16.2'	TLC-BT-575	3/3*	3	3
				90.7'	TLC-LED-1200	1/1*	1	1
6	TOTALS					107	56	51

* This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 50

0' 50' 100'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

GRID SUMMARY

Name:	**Softball 7**
Size:	250'/280'/250' - basepath 60'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	56.5	35.5
Maximum:	65	56
Minimum:	48	23
Avg / Min:	1.17	1.55
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.35	2.44
UG (adjacent pts):	1.14	1.32
CU:	0.36	
No. of Points:	25	142

LUMINAIRE INFORMATION

Applied Circuits:	AL, AM, AN, AO, AP, AQ
No. of Luminaires:	**56**
Total Load:	66.03 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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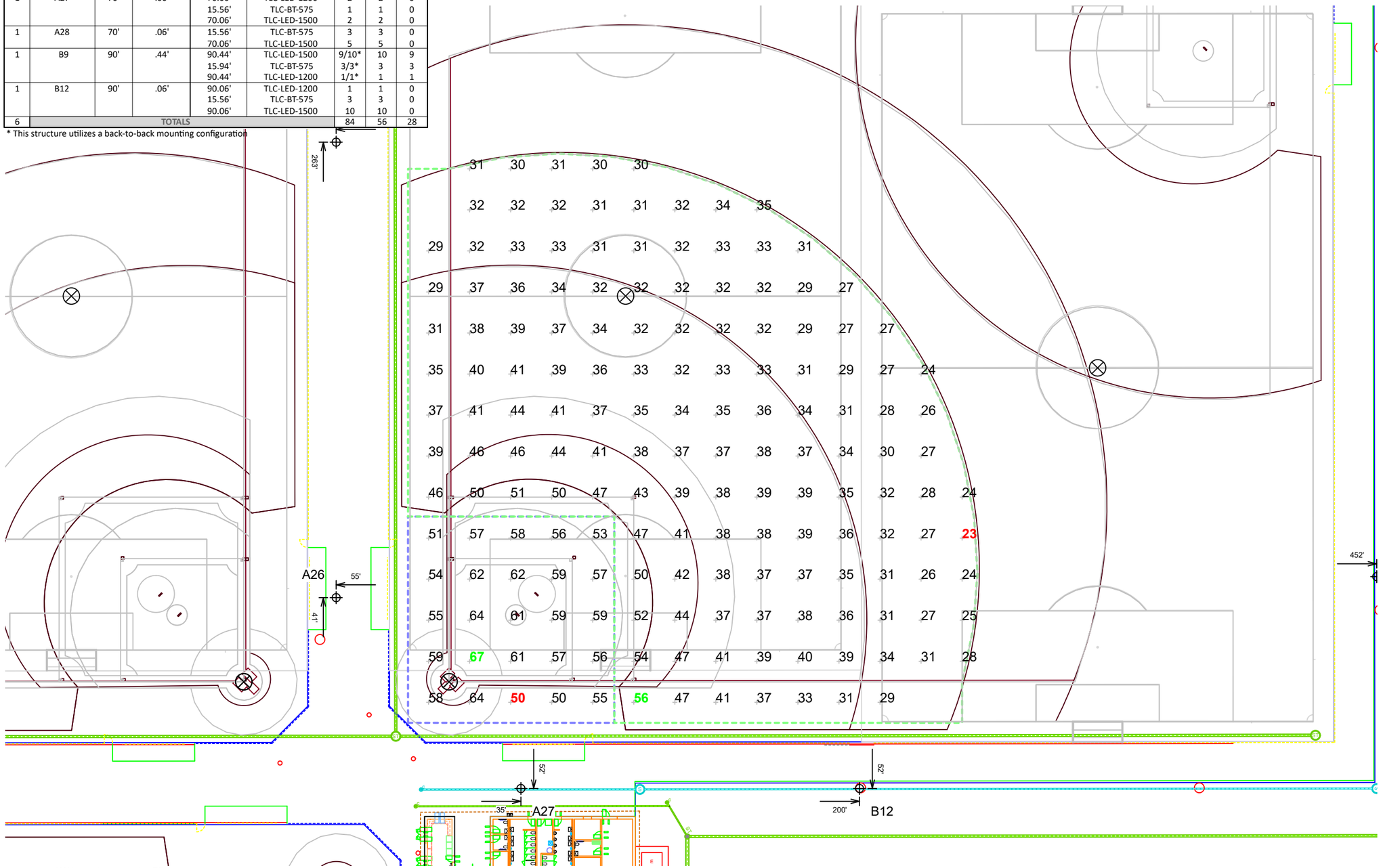
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A23	80'	.64'	16.14'	TLC-BT-575	3/3*	3	3
				80.64'	TLC-LED-1500	5/5*	5	5
1	A26	80'	.64'	80.64'	TLC-LED-1500	4/4*	4	4
				16.14'	TLC-BT-575	1/1*	1	1
				80.64'	TLC-LED-1200	2/2*	2	2
1	A27	70'	.06'	70.06'	TLC-LED-1200	2	2	0
				15.56'	TLC-BT-575	1	1	0
				70.06'	TLC-LED-1500	2	2	0
1	A28	70'	.06'	15.56'	TLC-BT-575	3	3	0
				70.06'	TLC-LED-1500	5	5	0
1	B9	90'	.44'	90.44'	TLC-LED-1500	9/10*	10	9
				15.94'	TLC-BT-575	3/3*	3	3
				90.44'	TLC-LED-1200	1/1*	1	1
1	B12	90'	.06'	90.06'	TLC-LED-1200	1	1	0
				15.56'	TLC-BT-575	3	3	0
				90.06'	TLC-LED-1500	10	10	0
6	TOTALS					84	56	28

* This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 50

0' 50' 100'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

ENGINEERED DESIGN By: Ben Drost · File #209347f · 23-Aug-22

Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Softball 8**
Size:	250'/280'/250' - basepath 60'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	57.7	35.3
Maximum:	67	56
Minimum:	50	23
Avg / Min:	1.16	1.51
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.34	2.39
UG (adjacent pts):	1.28	1.27
CU:	0.36	
No. of Points:	25	142

LUMINAIRE INFORMATION

Applied Circuits:	AS, AV, AW, AX, AY, AZ
No. of Luminaires:	**56**
Total Load:	66.55 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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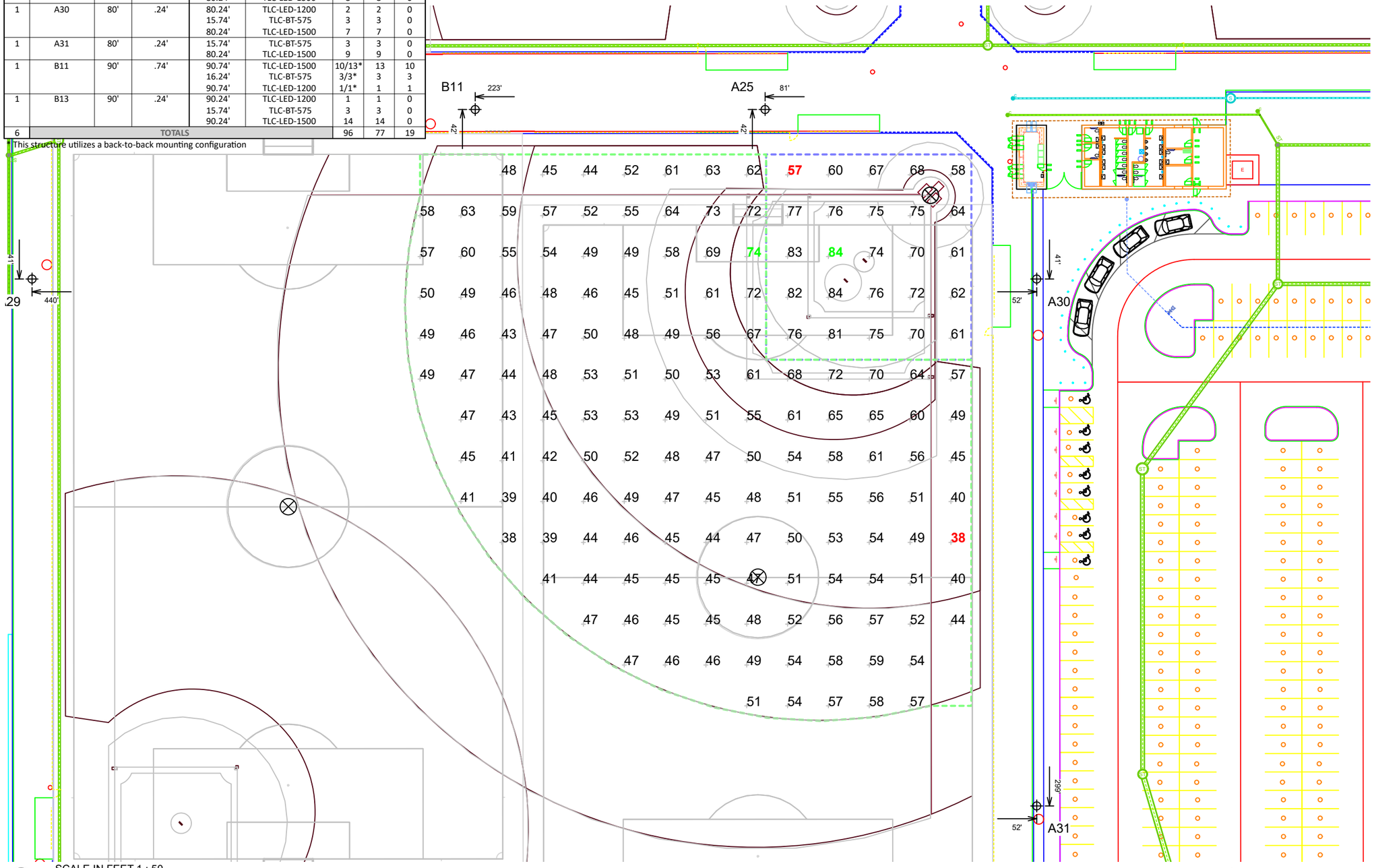
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A25	70'	.74'	70.74'	TLC-LED-1500	1*	1	0
				16.24'	TLC-BT-575	1/2*	2	1
				70.74'	TLC-LED-1200	4/3*	3	4
1	A29	80'	.24'	80.24'	TLC-LED-1200	1	1	0
				15.74'	TLC-BT-575	3	3	0
				80.24'	TLC-LED-1500	8	8	0
1	A30	80'	.24'	80.24'	TLC-LED-1200	2	2	0
				15.74'	TLC-BT-575	3	3	0
				80.24'	TLC-LED-1500	7	7	0
1	A31	80'	.24'	15.74'	TLC-BT-575	3	3	0
				80.24'	TLC-LED-1500	9	9	0
1	B11	90'	.74'	90.74'	TLC-LED-1500	10/13*	13	10
				16.24'	TLC-BT-575	3/3*	3	3
				90.74'	TLC-LED-1200	1/1*	1	1
1	B13	90'	.24'	90.24'	TLC-LED-1200	1	1	0
				15.74'	TLC-BT-575	3	3	0
				90.24'	TLC-LED-1500	14	14	0
6	TOTALS					96	77	19

* This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 50

0' 50' 100'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Softball 9**
Size:	250'/280'/250' - basepath 60'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	71.5	51.9
Maximum:	84	74
Minimum:	57	38
Avg / Min:	1.25	1.38
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.47	1.98
UG (adjacent pts):	1.34	1.31
CU:	0.36	
No. of Points:	25	142

LUMINAIRE INFORMATION

Applied Circuits:	BA, BB, BC, BD, BE, BH
No. of Luminaires:	**77**
Total Load:	93.5 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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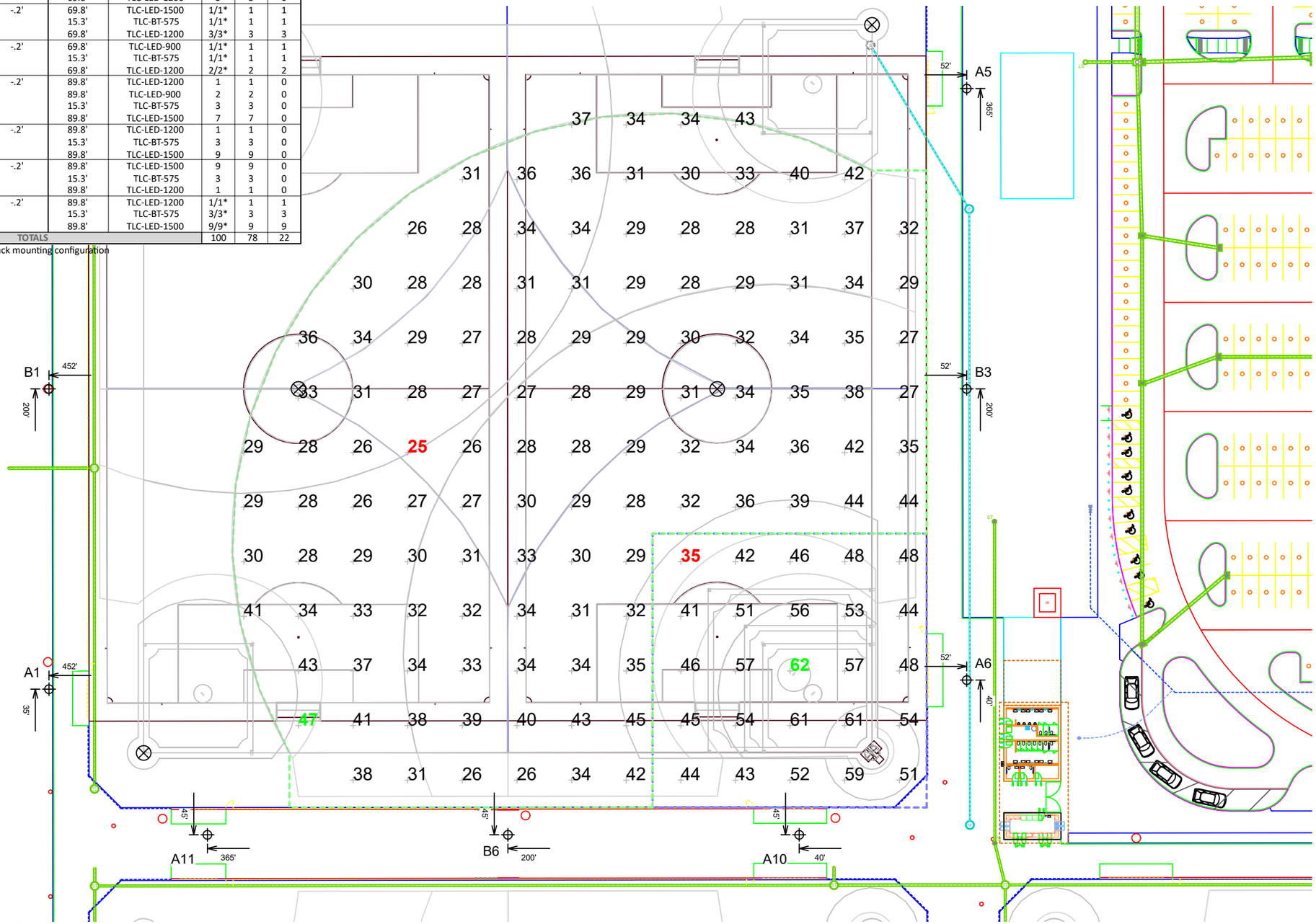
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
3	A1, A4-A5	70'	-.2'	69.8'	TLC-LED-900	1	1	0
				15.3'	TLC-BT-575	1	1	0
				69.8'	TLC-LED-1200	2	2	0
1	A6	70'	-.2'	69.8'	TLC-LED-1500	1	1	0
				15.3'	TLC-BT-575	1	1	0
				69.8'	TLC-LED-1200	3	3	0
1	A10	70'	-.2'	69.8'	TLC-LED-1500	1/1*	1	1
				15.3'	TLC-BT-575	1/1*	1	1
				69.8'	TLC-LED-1200	3/3*	3	3
1	A11	70'	-.2'	69.8'	TLC-LED-900	1/1*	1	1
				15.3'	TLC-BT-575	1/1*	1	1
				69.8'	TLC-LED-1200	2/2*	2	2
1	B1	90'	-.2'	89.8'	TLC-LED-1200	1	1	0
				89.8'	TLC-LED-900	2	2	0
				15.3'	TLC-BT-575	3	3	0
				89.8'	TLC-LED-1500	7	7	0
1	B2	90'	-.2'	89.8'	TLC-LED-1200	1	1	0
				15.3'	TLC-BT-575	3	3	0
				89.8'	TLC-LED-1500	9	9	0
1	B3	90'	-.2'	89.8'	TLC-LED-1500	9	9	0
				15.3'	TLC-BT-575	3	3	0
				89.8'	TLC-LED-1200	1	1	0
1	B6	90'	-.2'	89.8'	TLC-LED-1200	1/1*	1	1
				15.3'	TLC-BT-575	3/3*	3	3
				89.8'	TLC-LED-1500	9/9*	9	9
10	TOTALS					100	78	22

* This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 60

0' 60' 120'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

ENGINEERED DESIGN By: Ben Drost · File #209347f · 23-Aug-22

Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Baseball 1**
Size:	320'/400'/320' - basepath 90'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	50.2	32.5
Maximum:	62	47
Minimum:	35	25
Avg / Min:	1.42	1.28
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.76	1.86
UG (adjacent pts):	1.26	1.50
CU:	0.48	
No. of Points:	25	119

LUMINAIRE INFORMATION

Applied Circuits:	B, C, D, E, F, G, H, I, J, K
No. of Luminaires:	**78**
Total Load:	88.23 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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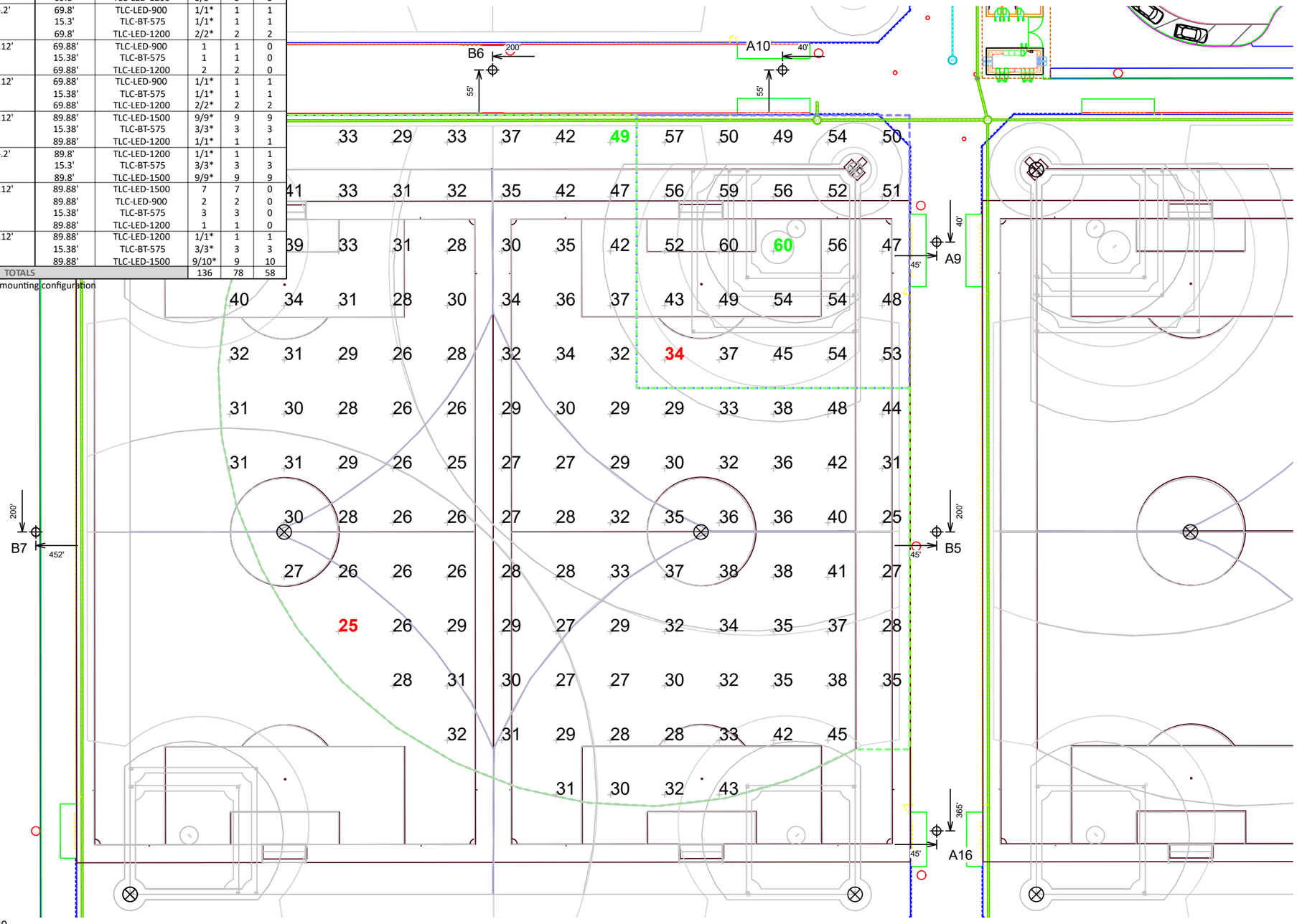
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A9	70'	-.12'	69.88'	TLC-LED-1200	3/3*	3	3
				15.38'	TLC-BT-575	1/1*	1	1
				69.88'	TLC-LED-1500	1/1*	1	1
1	A10	70'	-.2'	69.8'	TLC-LED-1500	1/1*	1	1
				15.3'	TLC-BT-575	1/1*	1	1
				69.8'	TLC-LED-1200	3/3*	3	3
1	A11	70'	-.2'	69.8'	TLC-LED-900	1/1*	1	1
				15.3'	TLC-BT-575	1/1*	1	1
				69.8'	TLC-LED-1200	2/2*	2	2
2	A12, A15	70'	-.12'	69.88'	TLC-LED-900	1	1	0
				15.38'	TLC-BT-575	1	1	0
				69.88'	TLC-LED-1200	2	2	0
1	A16	70'	-.12'	69.88'	TLC-LED-900	1/1*	1	1
				15.38'	TLC-BT-575	1/1*	1	1
				69.88'	TLC-LED-1200	2/2*	2	2
1	B5	90'	-.12'	89.88'	TLC-LED-1500	9/9*	9	9
				15.38'	TLC-BT-575	3/3*	3	3
				89.88'	TLC-LED-1200	1/1*	1	1
1	B6	90'	-.2'	89.8'	TLC-LED-1200	1/1*	1	1
				15.3'	TLC-BT-575	3/3*	3	3
				89.8'	TLC-LED-1500	9/9*	9	9
1	B7	90'	-.12'	89.88'	TLC-LED-1500	7	7	0
				89.88'	TLC-LED-900	2	2	0
				15.38'	TLC-BT-575	3	3	0
				89.88'	TLC-LED-1200	1	1	0
1	B8	90'	-.12'	89.88'	TLC-LED-1200	1/1*	1	1
				15.38'	TLC-BT-575	3/3*	3	3
				89.88'	TLC-LED-1500	9/10*	9	10
10	TOTALS					136	78	58

* This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 60

0' 60' 120'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Baseball 2**
Size:	320'/400'/320' - basepath 90'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	51.3	32.3
Maximum:	60	49
Minimum:	34	25
Avg / Min:	1.49	1.31
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.75	1.98
UG (adjacent pts):	1.31	1.56
CU:	0.48	
No. of Points:	25	119

LUMINAIRE INFORMATION

Applied Circuits:	M, N, O, P, Q, R, S, T, W, X
No. of Luminaires:	**78**
Total Load:	88.23 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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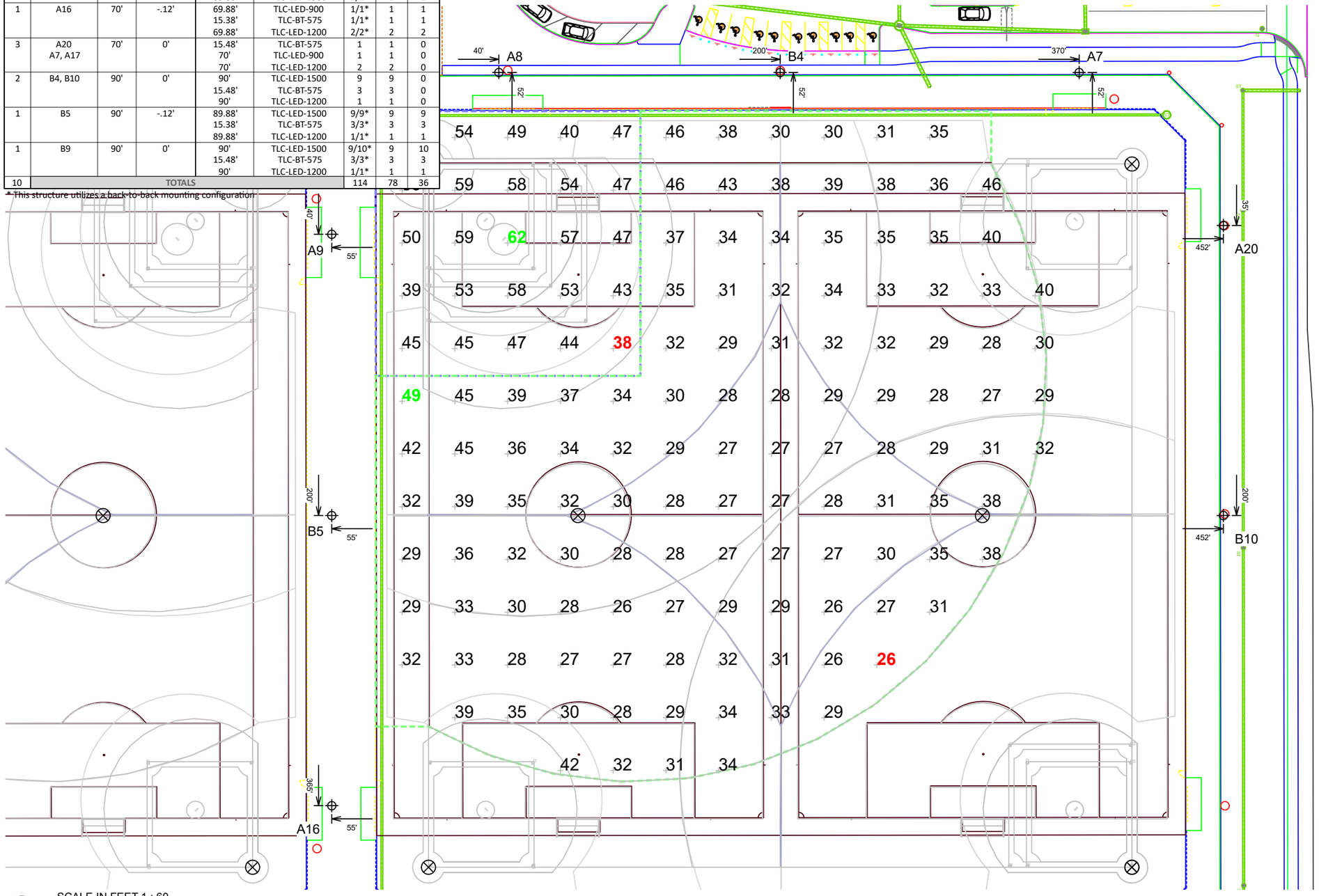
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A8	70'	0'	70'	TLC-LED-1500	1	1	0
				15.48'	TLC-BT-575	1	1	0
				70'	TLC-LED-1200	3	3	0
1	A9	70'	-.12'	69.88'	TLC-LED-1200	3/3*	3	3
				15.38'	TLC-BT-575	1/1*	1	1
				69.88'	TLC-LED-1500	1/1*	1	1
1	A16	70'	-.12'	69.88'	TLC-LED-900	1/1*	1	1
				15.38'	TLC-BT-575	1/1*	1	1
				69.88'	TLC-LED-1200	2/2*	2	2
3	A20	70'	0'	15.48'	TLC-BT-575	1	1	0
	A7, A17			70'	TLC-LED-900	1	1	0
				70'	TLC-LED-1200	2	2	0
2	B4, B10	90'	0'	90'	TLC-LED-1500	9	9	0
				15.48'	TLC-BT-575	3	3	0
				90'	TLC-LED-1200	1	1	0
1	B5	90'	-.12'	89.88'	TLC-LED-1500	9/9*	9	9
				15.38'	TLC-BT-575	3/3*	3	3
				89.88'	TLC-LED-1200	1/1*	1	1
1	B9	90'	0'	90'	TLC-LED-1500	9/10*	9	10
				15.48'	TLC-BT-575	3/3*	3	3
				90'	TLC-LED-1200	1/1*	1	1
10	TOTALS					114	78	36

* This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 60

0' 60' 120'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

ENGINEERED DESIGN By: Ben Drost · File #209347f · 23-Aug-22

Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Baseball 3**
Size:	320'/400'/320' - basepath 90'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	50.3	32.4
Maximum:	62	49
Minimum:	38	26
Avg / Min:	1.31	1.27
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.63	1.92
UG (adjacent pts):	1.37	1.37
CU:	0.48	
No. of Points:	25	119

LUMINAIRE INFORMATION

Applied Circuits:	AA, AB, AC, AF, AG, AH, AI, AJ, Y, Z
No. of Luminaires:	**78**
Total Load:	89.31 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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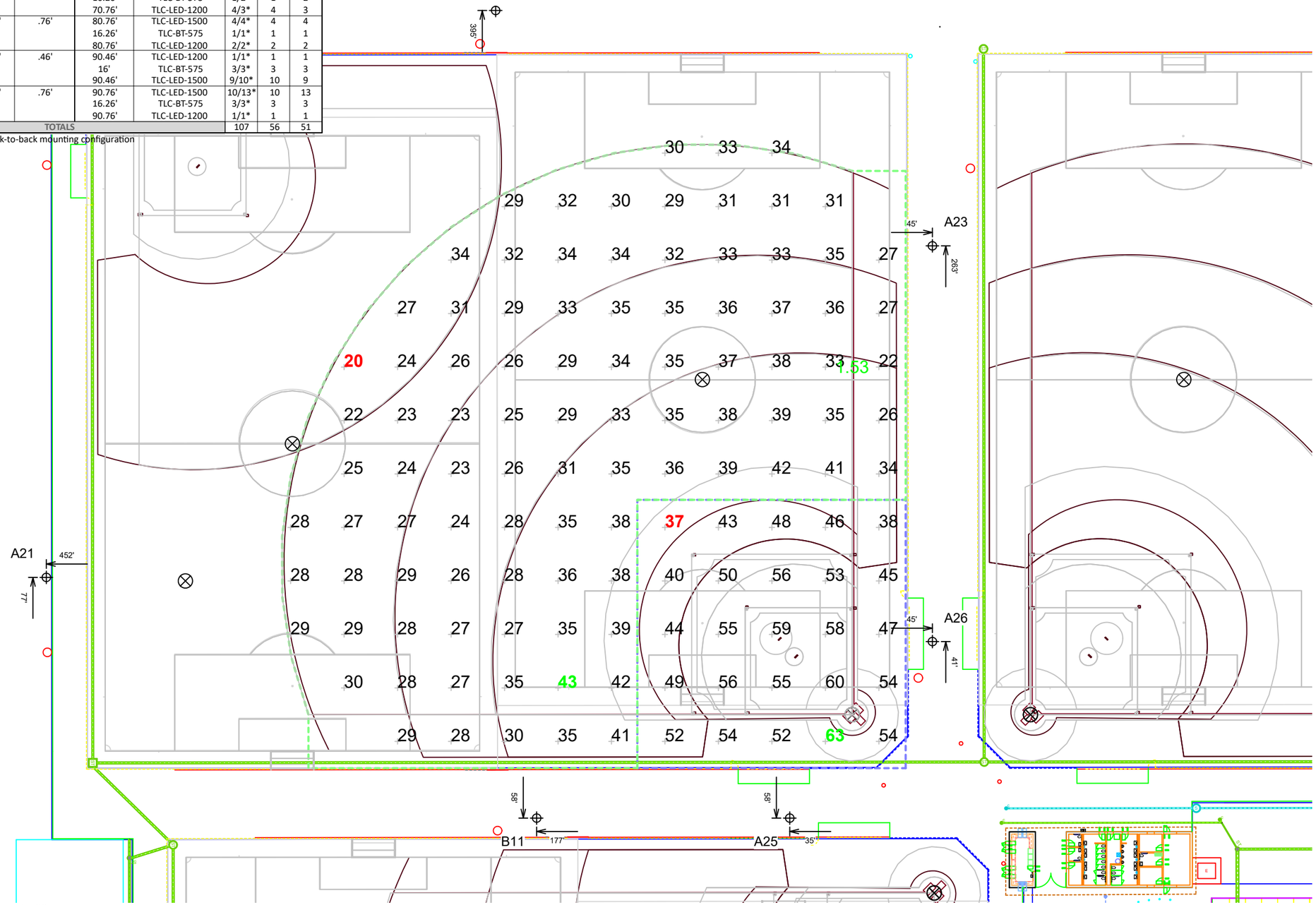
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A21	80'	.76'	16.26'	TLC-BT-575	3	3	0
				80.76'	TLC-LED-1500	5	5	0
1	A23	80'	.76'	16.26'	TLC-BT-575	3/3*	3	3
				80.76'	TLC-LED-1500	5/5*	5	5
1	A25	70'	.76'	70.76'	TLC-LED-1500	1*	0	1
				16.26'	TLC-BT-575	1/2*	1	2
				70.76'	TLC-LED-1200	4/3*	4	3
1	A26	80'	.76'	80.76'	TLC-LED-1500	4/4*	4	4
				16.26'	TLC-BT-575	1/1*	1	1
				80.76'	TLC-LED-1200	2/2*	2	2
1	B8	90'	.46'	90.46'	TLC-LED-1200	1/1*	1	1
				16'	TLC-BT-575	3/3*	3	3
				90.46'	TLC-LED-1500	9/10*	10	9
1	B11	90'	.76'	90.76'	TLC-LED-1500	10/13*	10	13
				16.26'	TLC-BT-575	3/3*	3	3
				90.76'	TLC-LED-1200	1/1*	1	1
6	TOTALS					107	56	51

* This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 60

0' 60' 120'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Baseball 4**
Size:	305'/355'/305' - basepath 90'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	50.8	31.3
Maximum:	63	43
Minimum:	37	20
Avg / Min:	1.36	1.54
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.69	2.10
UG (adjacent pts):	1.27	1.53
CU:	0.53	
No. of Points:	25	94

LUMINAIRE INFORMATION

Applied Circuits:	AL, AM, AN, AO, AP, AQ
No. of Luminaires:	**56**
Total Load:	66.03 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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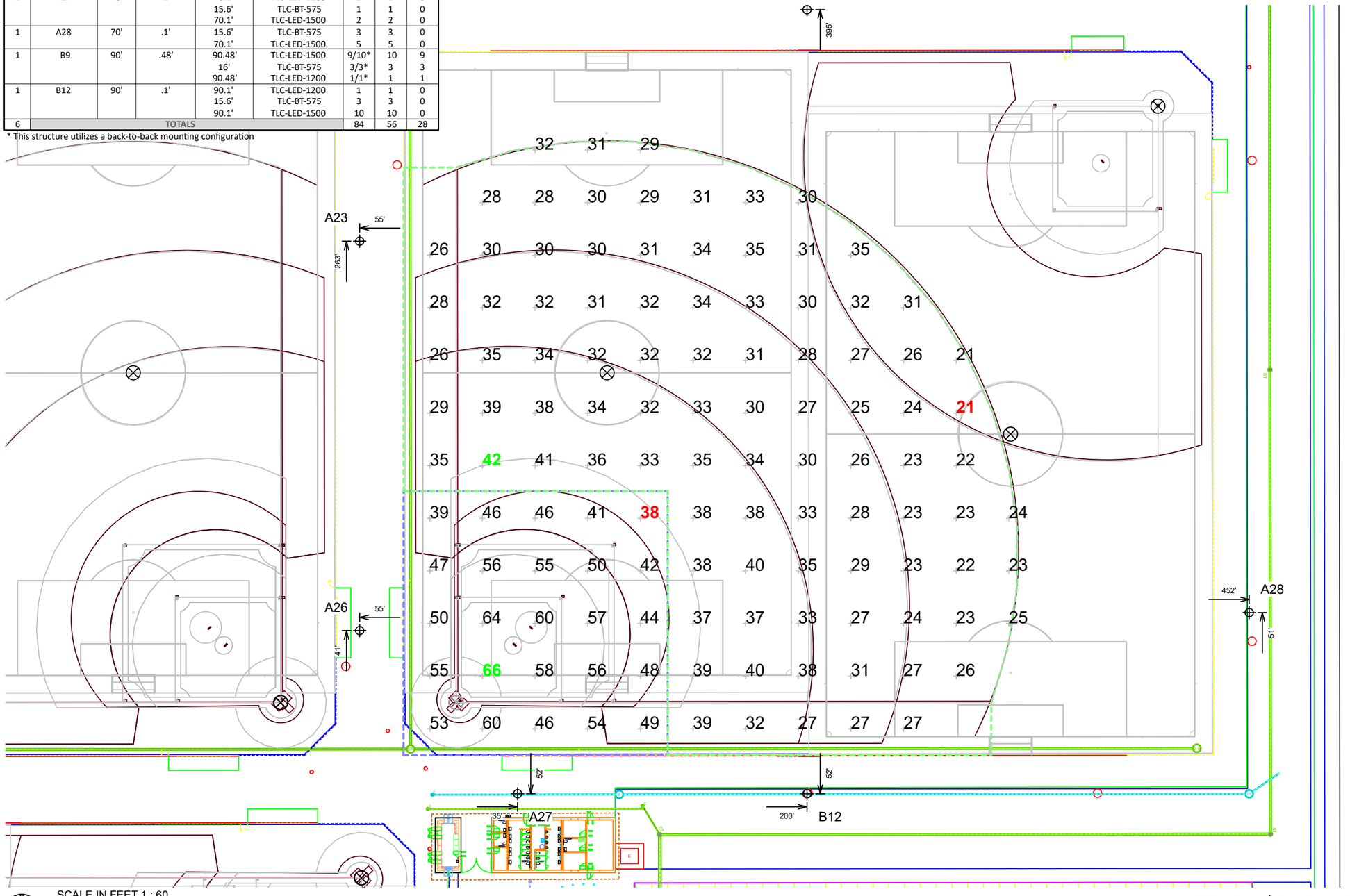
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A23	80'	.68'	16.18'	TLC-BT-575	3/3*	3	3
				80.68'	TLC-LED-1500	5/5*	5	5
1	A26	80'	.68'	80.68'	TLC-LED-1500	4/4*	4	4
				16.18'	TLC-BT-575	1/1*	1	1
				80.68'	TLC-LED-1200	2/2*	2	2
1	A27	70'	.1'	70.1'	TLC-LED-1200	2	2	0
				15.6'	TLC-BT-575	1	1	0
				70.1'	TLC-LED-1500	2	2	0
1	A28	70'	.1'	15.6'	TLC-BT-575	3	3	0
				70.1'	TLC-LED-1500	5	5	0
1	B9	90'	.48'	90.48'	TLC-LED-1500	9/10*	10	9
				16'	TLC-BT-575	3/3*	3	3
				90.48'	TLC-LED-1200	1/1*	1	1
1	B12	90'	.1'	90.1'	TLC-LED-1200	1	1	0
				15.6'	TLC-BT-575	3	3	0
				90.1'	TLC-LED-1500	10	10	0
6	TOTALS					84	56	28

* This structure utilizes a back-to-back mounting configuration



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Baseball 5**
Size:	305'/355'/305' - basepath 90'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	51.1	30.7
Maximum:	66	42
Minimum:	38	21
Avg / Min:	1.36	1.47
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.76	2.01
UG (adjacent pts):	1.31	1.40
CU:	0.52	
No. of Points:	25	94

LUMINAIRE INFORMATION

Applied Circuits:	AS, AV, AW, AX, AY, AZ
No. of Luminaires:	**56**
Total Load:	66.55 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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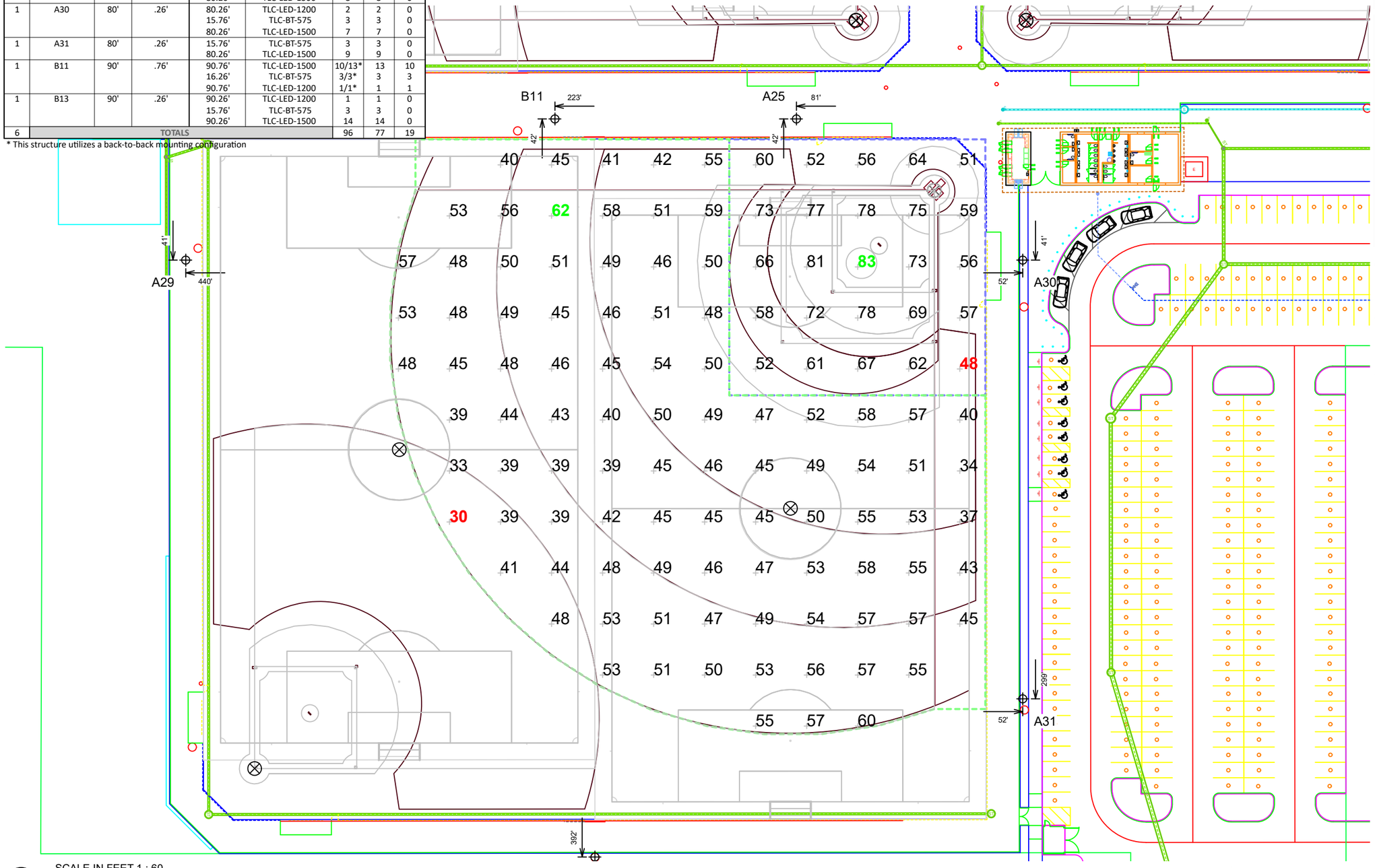
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A25	70'	.76'	70.76'	TLC-LED-1500	1*	1	0
				16.26'	TLC-BT-575	1/2*	2	1
				70.76'	TLC-LED-1200	4/3*	3	4
1	A29	80'	.26'	80.26'	TLC-LED-1200	1	1	0
				15.76'	TLC-BT-575	3	3	0
				80.26'	TLC-LED-1500	8	8	0
1	A30	80'	.26'	80.26'	TLC-LED-1200	2	2	0
				15.76'	TLC-BT-575	3	3	0
				80.26'	TLC-LED-1500	7	7	0
1	A31	80'	.26'	15.76'	TLC-BT-575	3	3	0
				80.26'	TLC-LED-1500	9	9	0
1	B11	90'	.76'	90.76'	TLC-LED-1500	10/13*	13	10
				16.26'	TLC-BT-575	3/3*	3	3
				90.76'	TLC-LED-1200	1/1*	1	1
1	B13	90'	.26'	90.26'	TLC-LED-1200	1	1	0
				15.76'	TLC-BT-575	3	3	0
				90.26'	TLC-LED-1500	14	14	0
6	TOTALS					96	77	19

* This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 60

0' 60' 120'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Baseball 6**
Size:	305'/355'/305' - basepath 90'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	65.3	48.4
Maximum:	83	62
Minimum:	48	30
Avg / Min:	1.36	1.62
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.74	2.08
UG (adjacent pts):	1.50	1.50
CU:	0.55	
No. of Points:	25	94

LUMINAIRE INFORMATION

Applied Circuits:	BA, BB, BC, BD, BE, BH
No. of Luminaires:	**77**
Total Load:	93.5 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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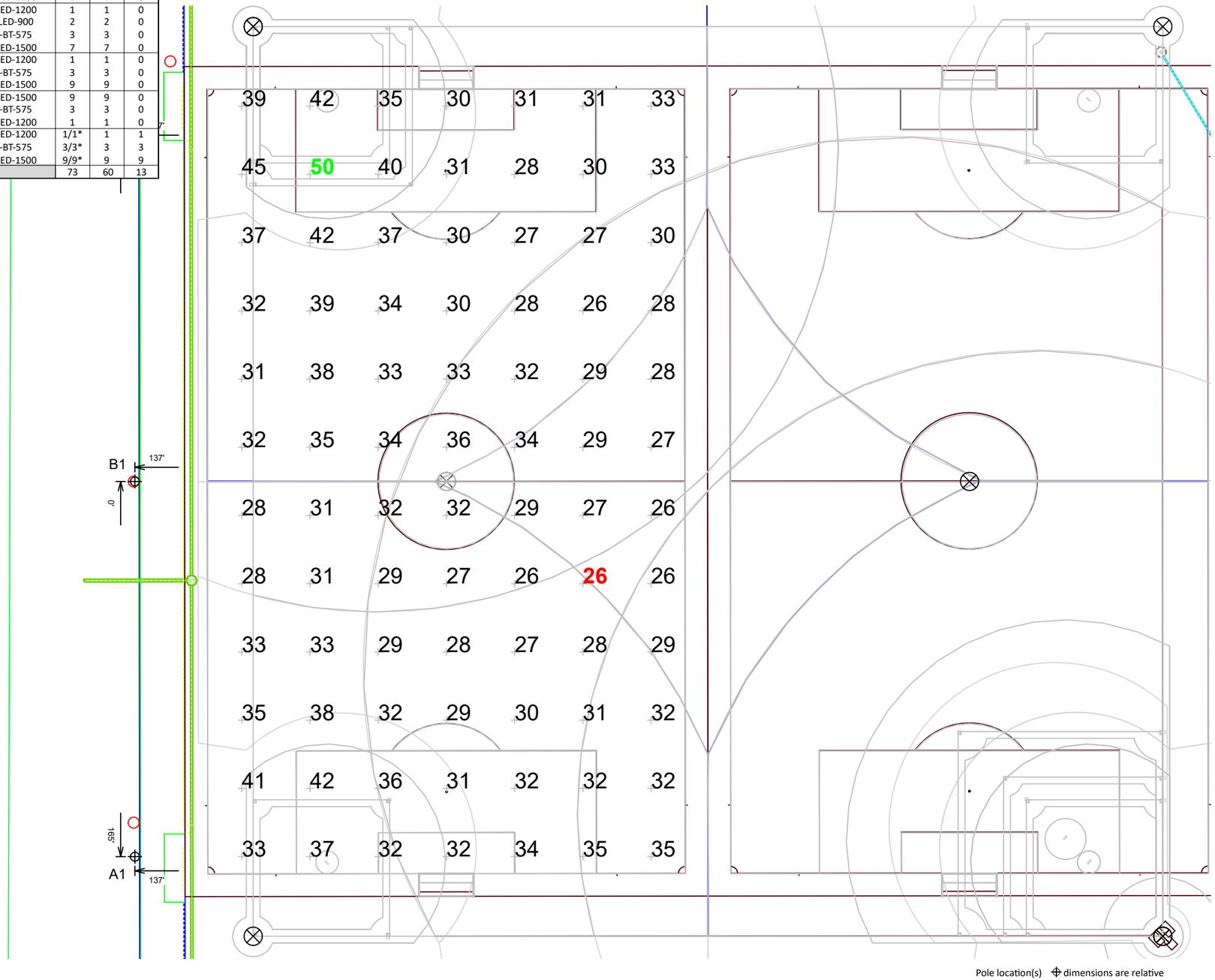
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A1	70'	.12'	70.12'	TLC-LED-900	1	1	0
				15.62'	TLC-BT-575	1	1	0
				70.12'	TLC-LED-1200	2	2	0
1	A2	70'	.12'	70.12'	TLC-LED-900	1	1	0
				15.62'	TLC-BT-575	1	1	0
				70.12'	TLC-LED-1200	2	2	0
1	B1	90'	.12'	90.12'	TLC-LED-1200	1	1	0
				90.12'	TLC-LED-900	2	2	0
				15.62'	TLC-BT-575	3	3	0
				90.12'	TLC-LED-1500	7	7	0
1	B2	90'	.12'	90.12'	TLC-LED-1200	1	1	0
				15.62'	TLC-BT-575	3	3	0
				90.12'	TLC-LED-1500	9	9	0
1	B3	90'	.12'	90.12'	TLC-LED-1500	9	9	0
				15.62'	TLC-BT-575	3	3	0
				90.12'	TLC-LED-1200	1	1	0
1	B6	90'	.12'	90.12'	TLC-LED-1200	1/1*	1	1
				15.62'	TLC-BT-575	3/3*	3	3
				90.12'	TLC-LED-1500	9/9*	9	9
6	TOTALS					73	60	13

* This structure utilizes a back-to-back mounting configuration



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

SCALE IN FEET 1 : 50

0' 50' 100'

ENGINEERED DESIGN By: Ben Drost · File #209347f · 23-Aug-22

Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Soccer 1**
Size:	345' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Guaranteed Average:	**30**
Scan Average:	32.3
Maximum:	50
Minimum:	26
Avg / Min:	1.26
Guaranteed Max / Min:	**2.5**
Max / Min:	1.95
UG (adjacent pts):	1.28
CU:	0.33
No. of Points:	84

LUMINAIRE INFORMATION

Applied Circuits:	B, E, H, J, K, L
No. of Luminaires:	**60**
Total Load:	69.59 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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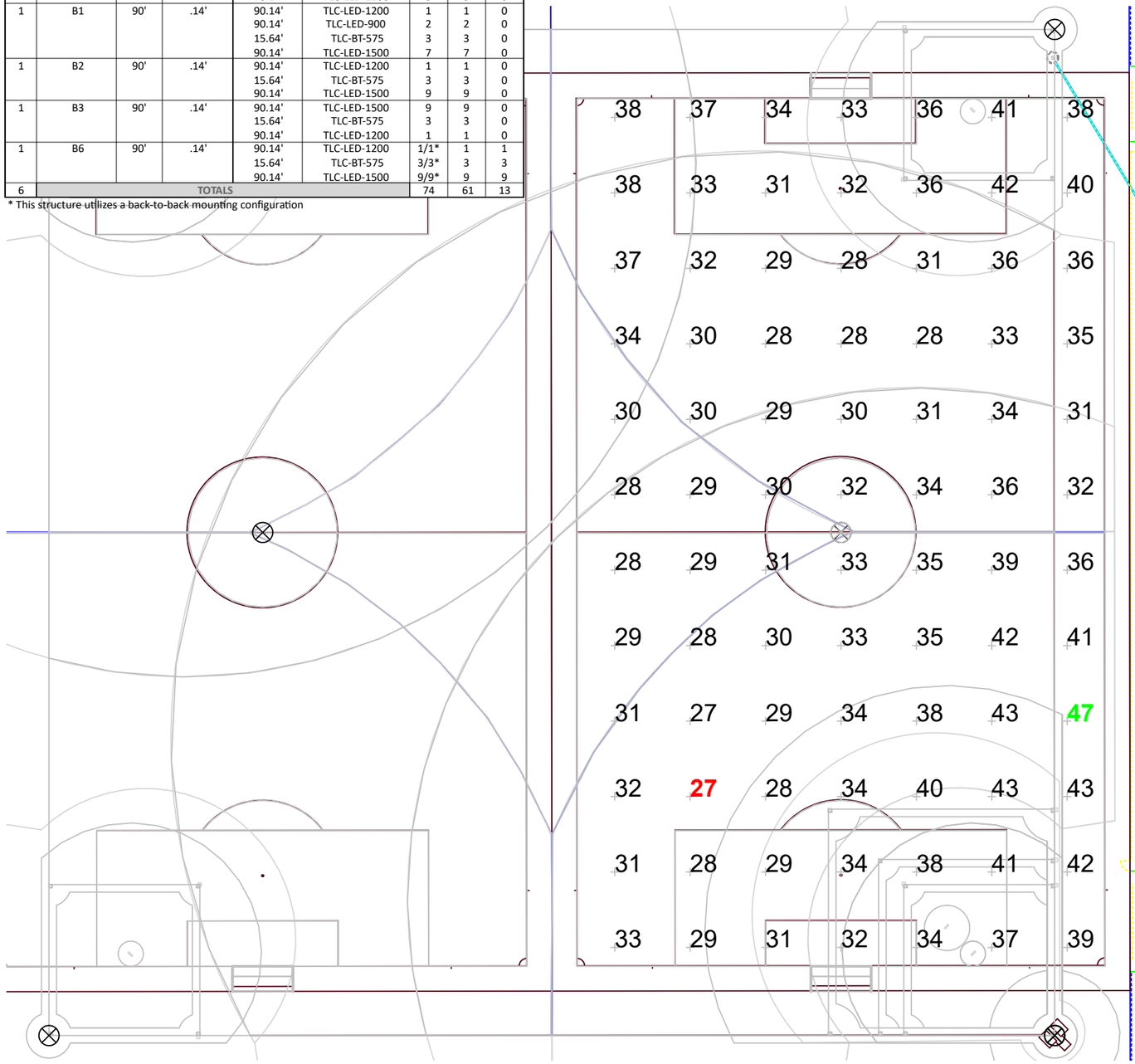
Grimes Sportsplex

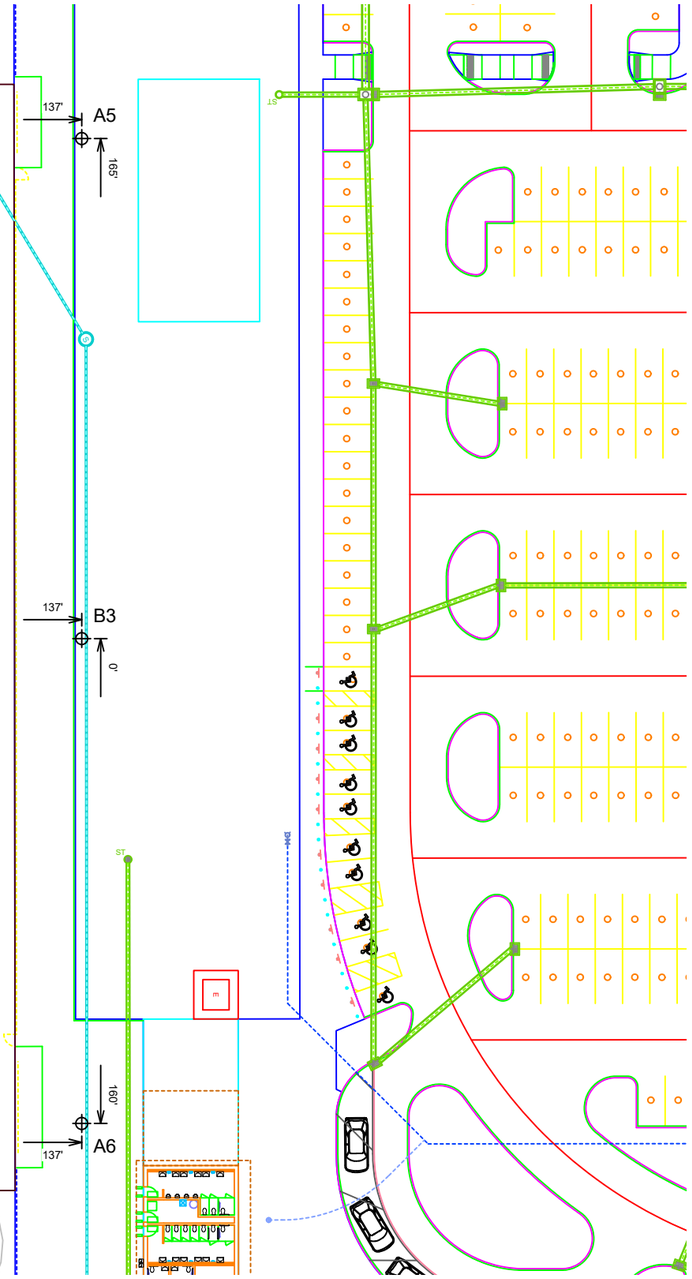
Grimes,IA

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A5	70'	.14'	70.14'	TLC-LED-900	1	1	0
				15.64'	TLC-BT-575	1	1	0
				70.14'	TLC-LED-1200	2	2	0
1	A6	70'	.14'	70.14'	TLC-LED-1500	1	1	0
				15.64'	TLC-BT-575	1	1	0
				70.14'	TLC-LED-1200	3	3	0
1	B1	90'	.14'	90.14'	TLC-LED-1200	1	1	0
				90.14'	TLC-LED-900	2	2	0
				15.64'	TLC-BT-575	3	3	0
				90.14'	TLC-LED-1500	7	7	0
1	B2	90'	.14'	90.14'	TLC-LED-1200	1	1	0
				15.64'	TLC-BT-575	3	3	0
				90.14'	TLC-LED-1500	9	9	0
1	B3	90'	.14'	90.14'	TLC-LED-1500	9	9	0
				15.64'	TLC-BT-575	3	3	0
				90.14'	TLC-LED-1200	1	1	0
1	B6	90'	.14'	90.14'	TLC-LED-1200	1/1*	1	1
				15.64'	TLC-BT-575	3/3*	3	3
				90.14'	TLC-LED-1500	9/9*	9	9
6	TOTALS					74	61	13

* This structure utilizes a back-to-back mounting configuration





SCALE IN FEET 1 : 50

0' 50' 100'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

GRID SUMMARY

Name:	**Soccer 2**
Size:	345' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Guaranteed Average:	**30**
Scan Average:	33.7
Maximum:	47
Minimum:	27
Avg / Min:	1.24
Guaranteed Max / Min:	**2.5**
Max / Min:	1.73
UG (adjacent pts):	1.21
CU:	0.33
No. of Points:	84

LUMINAIRE INFORMATION

Applied Circuits:	B, D, E, F, H, K
No. of Luminaires:	**61**
Total Load:	71.3 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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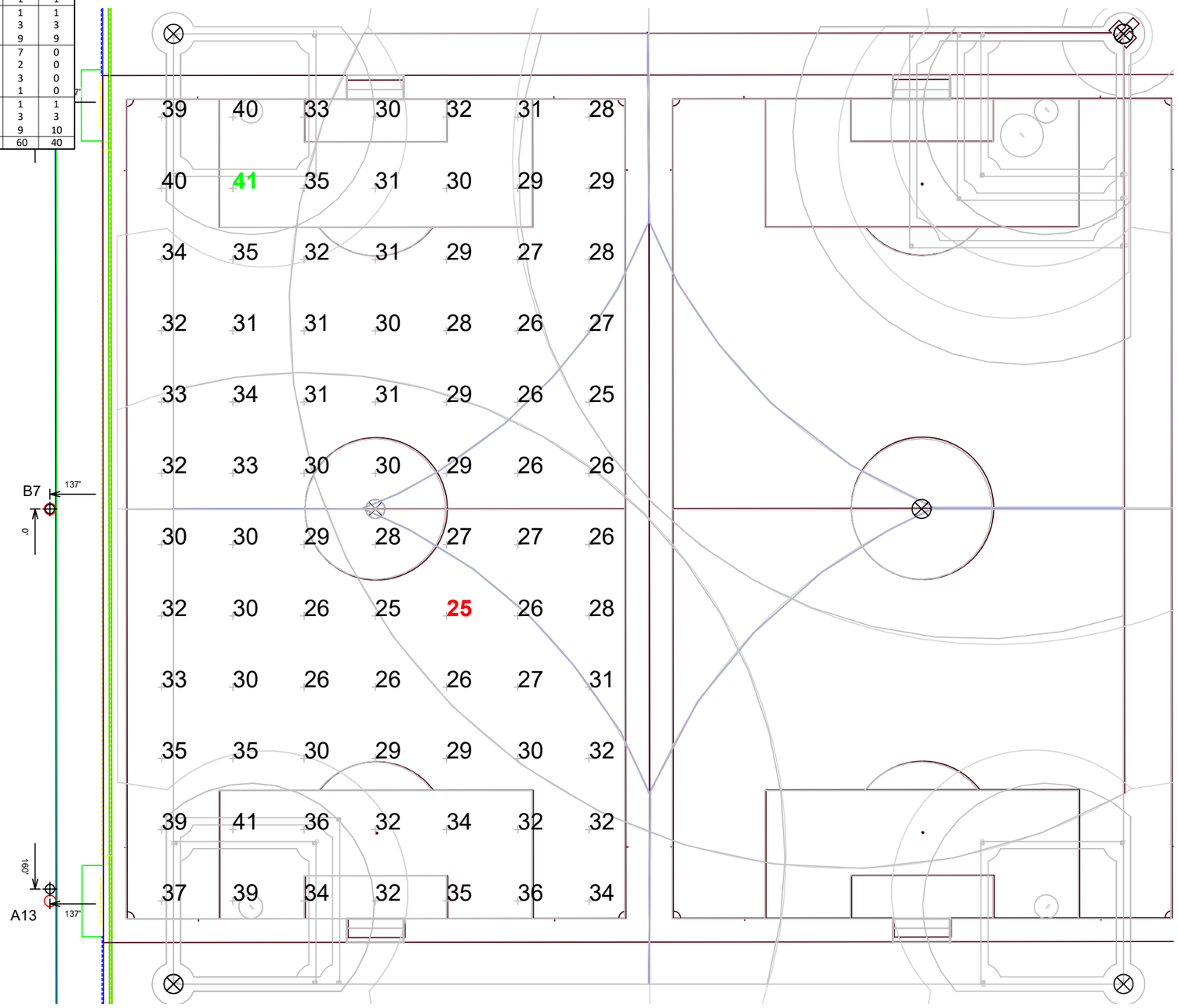
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A12-A13	70'	.24'	70.24'	TLC-LED-900	1	1	0
				15.74'	TLC-BT-575	1	1	0
				70.24'	TLC-LED-1200	2	2	0
1	B5	90'	.24'	90.24'	TLC-LED-1500	9/9*	9	9
				15.74'	TLC-BT-575	3/3*	3	3
				90.24'	TLC-LED-1200	1/1*	1	1
1	B6	90'	.16'	90.16'	TLC-LED-1200	1/1*	1	1
				15.66'	TLC-BT-575	3/3*	3	3
				90.16'	TLC-LED-1500	9/9*	9	9
1	B7	90'	.24'	90.24'	TLC-LED-1500	7	7	0
				90.24'	TLC-LED-900	2	2	0
				15.74'	TLC-BT-575	3	3	0
				90.24'	TLC-LED-1200	1	1	0
1	B8	90'	.24'	90.24'	TLC-LED-1200	1/1*	1	1
				15.74'	TLC-BT-575	3/3*	3	3
				90.24'	TLC-LED-1500	9/10*	9	10
6	TOTALS					100	60	40

* This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 50

0' 50' 100'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Soccer 3**
Size:	345' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Guaranteed Average:	**30**
Scan Average:	31.0
Maximum:	41
Minimum:	25
Avg / Min:	1.25
Guaranteed Max / Min:	**2.5**
Max / Min:	1.67
UG (adjacent pts):	1.19
CU:	0.31
No. of Points:	84

LUMINAIRE INFORMATION

Applied Circuits:	N, Q, T, V, W, X
No. of Luminaires:	**60**
Total Load:	69.59 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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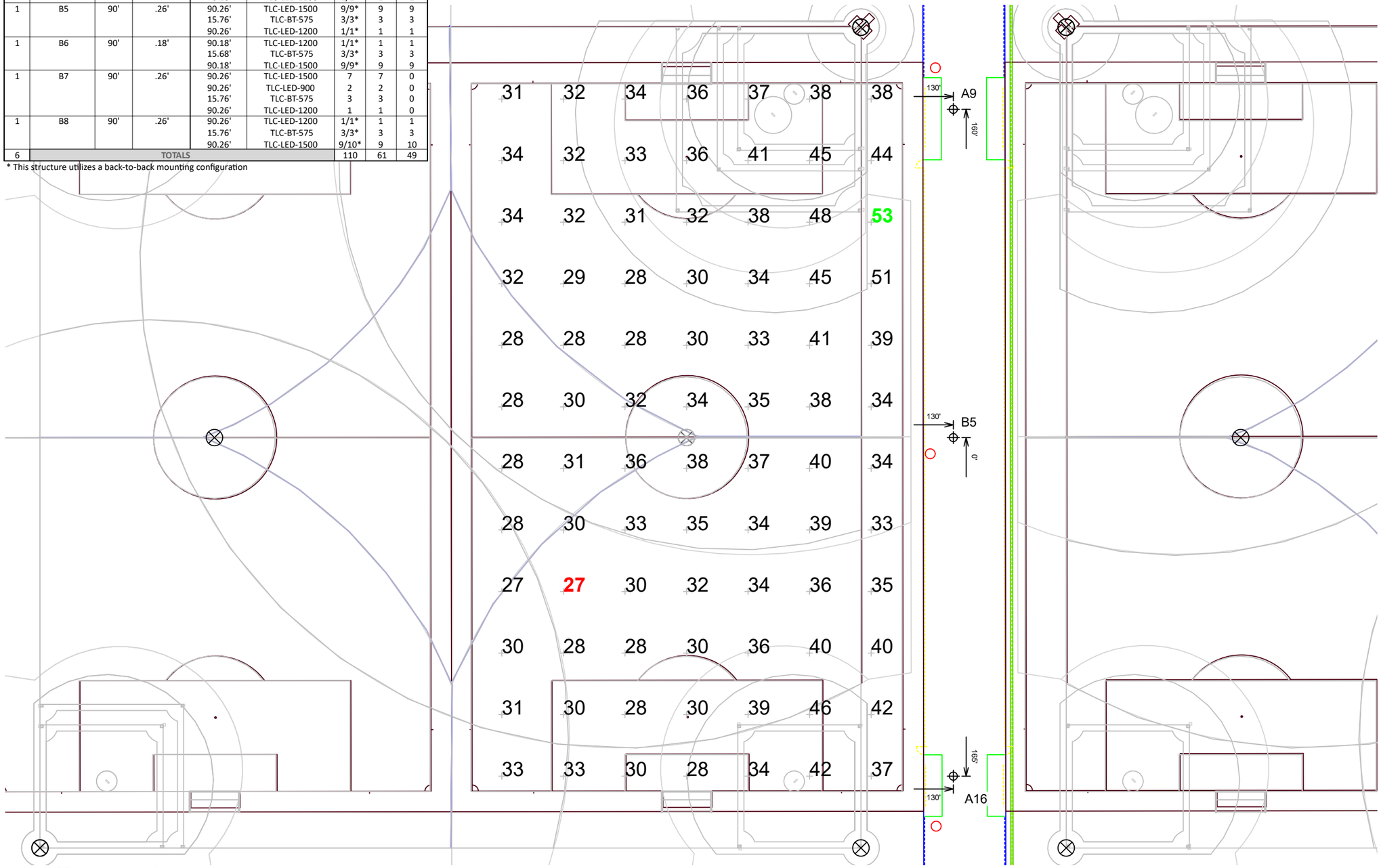
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A9	70'	.26'	70.26'	TLC-LED-1200	3/3*	3	3
				15.76'	TLC-BT-575	1/1*	1	1
				70.26'	TLC-LED-1500	1/1*	1	1
1	A16	70'	.26'	70.26'	TLC-LED-900	1/1*	1	1
				15.76'	TLC-BT-575	1/1*	1	1
				70.26'	TLC-LED-1200	2/2*	2	2
1	B5	90'	.26'	90.26'	TLC-LED-1500	9/9*	9	9
				15.76'	TLC-BT-575	3/3*	3	3
				90.26'	TLC-LED-1200	1/1*	1	1
1	B6	90'	.18'	90.18'	TLC-LED-1200	1/1*	1	1
				15.68'	TLC-BT-575	3/3*	3	3
				90.18'	TLC-LED-1500	9/9*	9	9
1	B7	90'	.26'	90.26'	TLC-LED-1500	7	7	0
				90.26'	TLC-LED-900	2	2	0
				15.76'	TLC-BT-575	3	3	0
				90.26'	TLC-LED-1200	1	1	0
1	B8	90'	.26'	90.26'	TLC-LED-1200	1/1*	1	1
				15.76'	TLC-BT-575	3/3*	3	3
				90.26'	TLC-LED-1500	9/10*	9	10
6	TOTALS					110	61	49

* This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 50

0' 50' 100'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

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Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Soccer 4**
Size:	345' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Guaranteed Average:	**30**
Scan Average:	34.6
Maximum:	53
Minimum:	27
Avg / Min:	1.27
Guaranteed Max / Min:	**2.5**
Max / Min:	1.96
UG (adjacent pts):	1.32
CU:	0.34
No. of Points:	84

LUMINAIRE INFORMATION

Applied Circuits:	N, P, Q, R, T, W
No. of Luminaires:	**61**
Total Load:	71.3 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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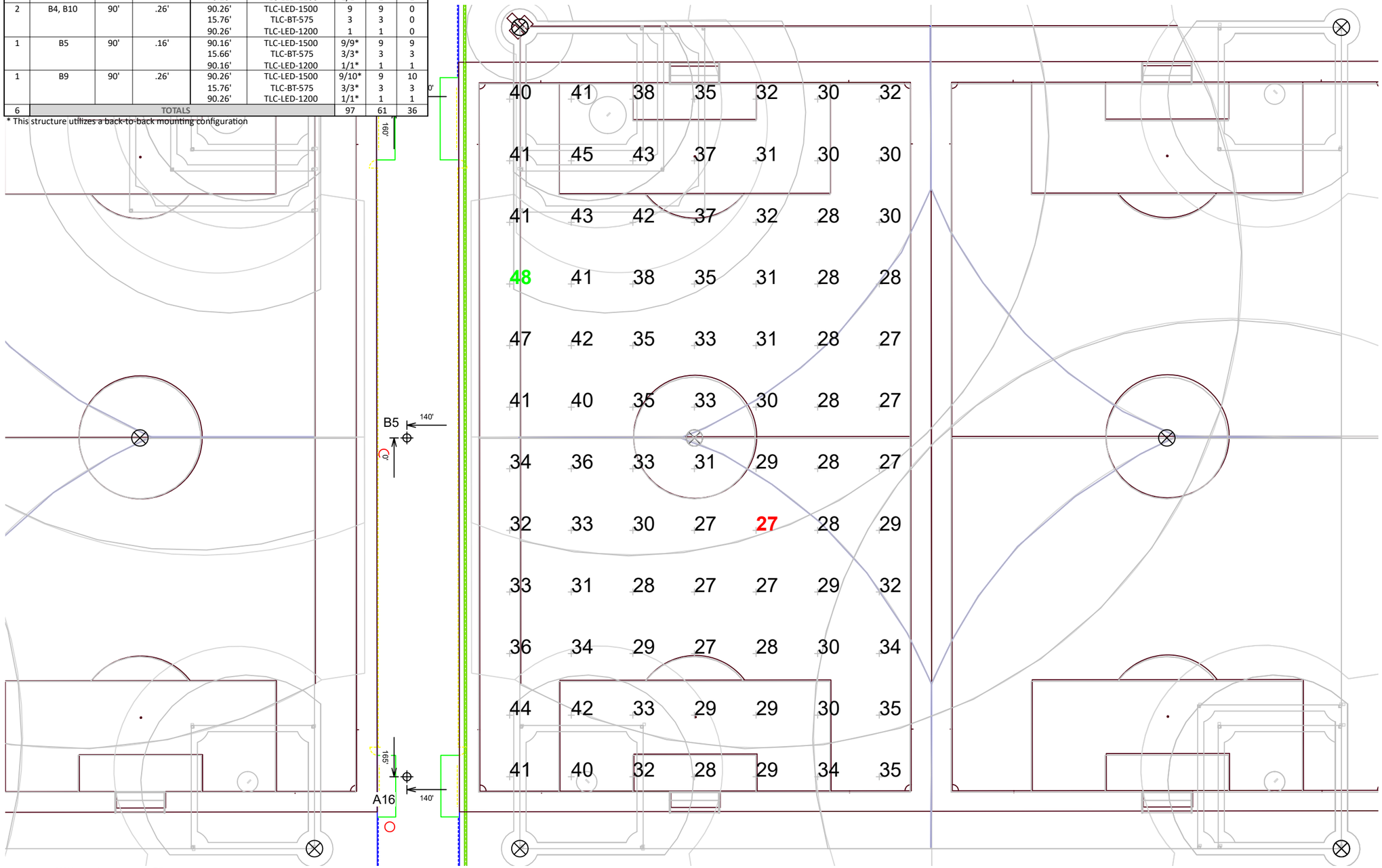
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A9	70'	.16'	70.16'	TLC-LED-1200	3/3*	3	3
				15.66'	TLC-BT-575	1/1*	1	1
				70.16'	TLC-LED-1500	1/1*	1	1
1	A16	70'	.16'	70.16'	TLC-LED-900	1/1*	1	1
				15.66'	TLC-BT-575	1/1*	1	1
				70.16'	TLC-LED-1200	2/2*	2	2
2	B4, B10	90'	.26'	90.26'	TLC-LED-1500	9	9	0
				15.76'	TLC-BT-575	3	3	0
				90.26'	TLC-LED-1200	1	1	0
1	B5	90'	.16'	90.16'	TLC-LED-1500	9/9*	9	9
				15.66'	TLC-BT-575	3/3*	3	3
				90.16'	TLC-LED-1200	1/1*	1	1
1	B9	90'	.26'	90.26'	TLC-LED-1500	9/10*	9	10
				15.76'	TLC-BT-575	3/3*	3	3
				90.26'	TLC-LED-1200	1/1*	1	1
6	TOTALS					97	61	36

* This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 50

0' 50' 100'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

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Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Soccer 5**
Size:	345' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Guaranteed Average:	**30**
Scan Average:	33.4
Maximum:	48
Minimum:	27
Avg / Min:	1.25
Guaranteed Max / Min:	**2.5**
Max / Min:	1.78
UG (adjacent pts):	1.25
CU:	0.32
No. of Points:	84

LUMINAIRE INFORMATION

Applied Circuits:	AC, AF, AH, AI, AJ, Z
No. of Luminaires:	**61**
Total Load:	72.38 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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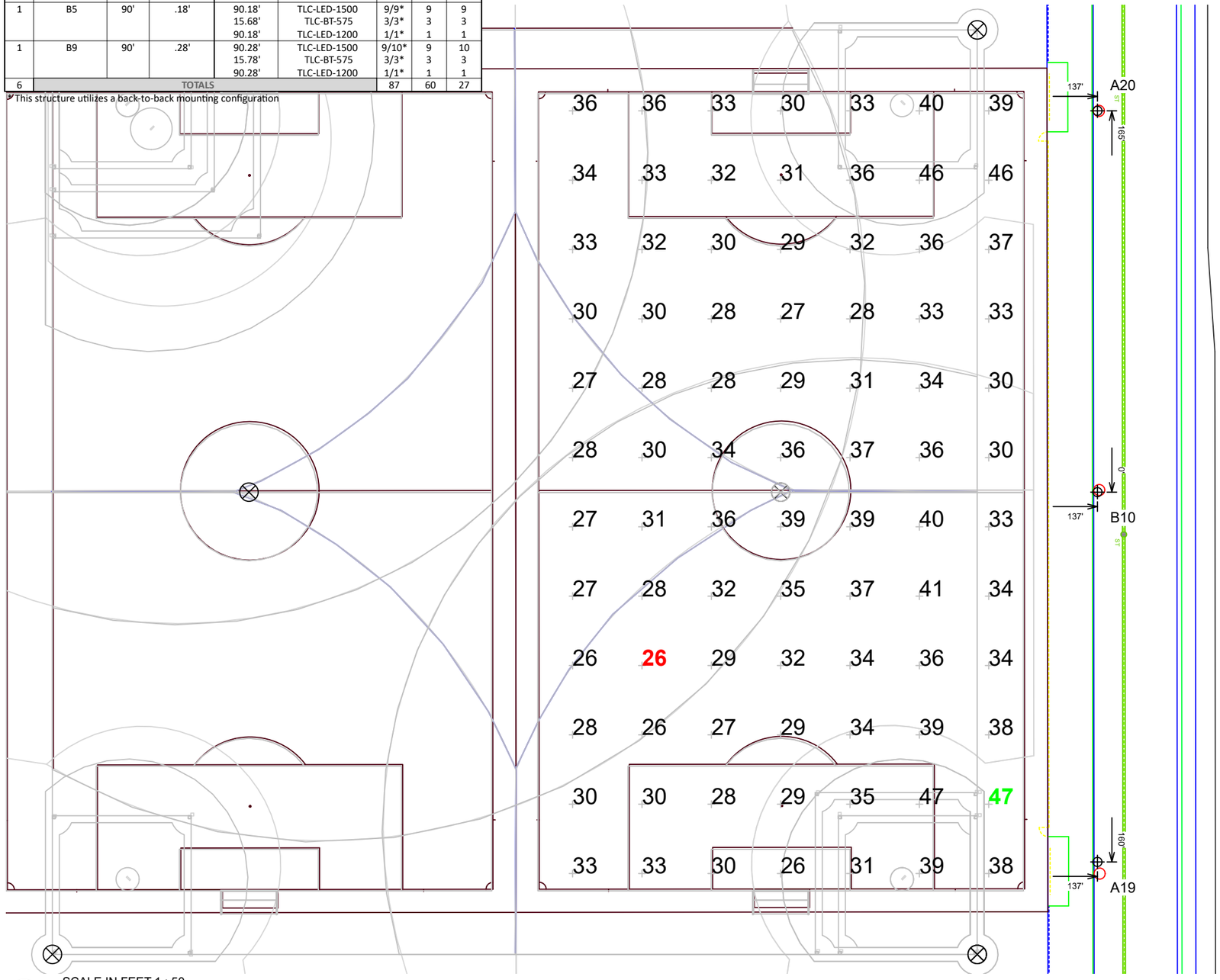
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A19-A20	70'	.28'	70.28'	TLC-LED-900	1	1	0
				15.78'	TLC-BT-575	1	1	0
				70.28'	TLC-LED-1200	2	2	0
2	B4, B10	90'	.28'	90.28'	TLC-LED-1500	9	9	0
				15.78'	TLC-BT-575	3	3	0
				90.28'	TLC-LED-1200	1	1	0
1	B5	90'	.18'	90.18'	TLC-LED-1500	9/9*	9	9
				15.68'	TLC-BT-575	3/3*	3	3
				90.18'	TLC-LED-1200	1/1*	1	1
1	B9	90'	.28'	90.28'	TLC-LED-1500	9/10*	9	10
				15.78'	TLC-BT-575	3/3*	3	3
				90.28'	TLC-LED-1200	1/1*	1	1
6	TOTALS					87	60	27

* This structure utilizes a back-to-back mounting configuration



Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Soccer 6**
Size:	345' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Guaranteed Average:	**30**
Scan Average:	33.0
Maximum:	47
Minimum:	26
Avg / Min:	1.28
Guaranteed Max / Min:	**2.5**
Max / Min:	1.81
UG (adjacent pts):	1.33
CU:	0.33
No. of Points:	84

LUMINAIRE INFORMATION

Applied Circuits:	AB, AC, AD, AF, AI, Z
No. of Luminaires:	**60**
Total Load:	70.67 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

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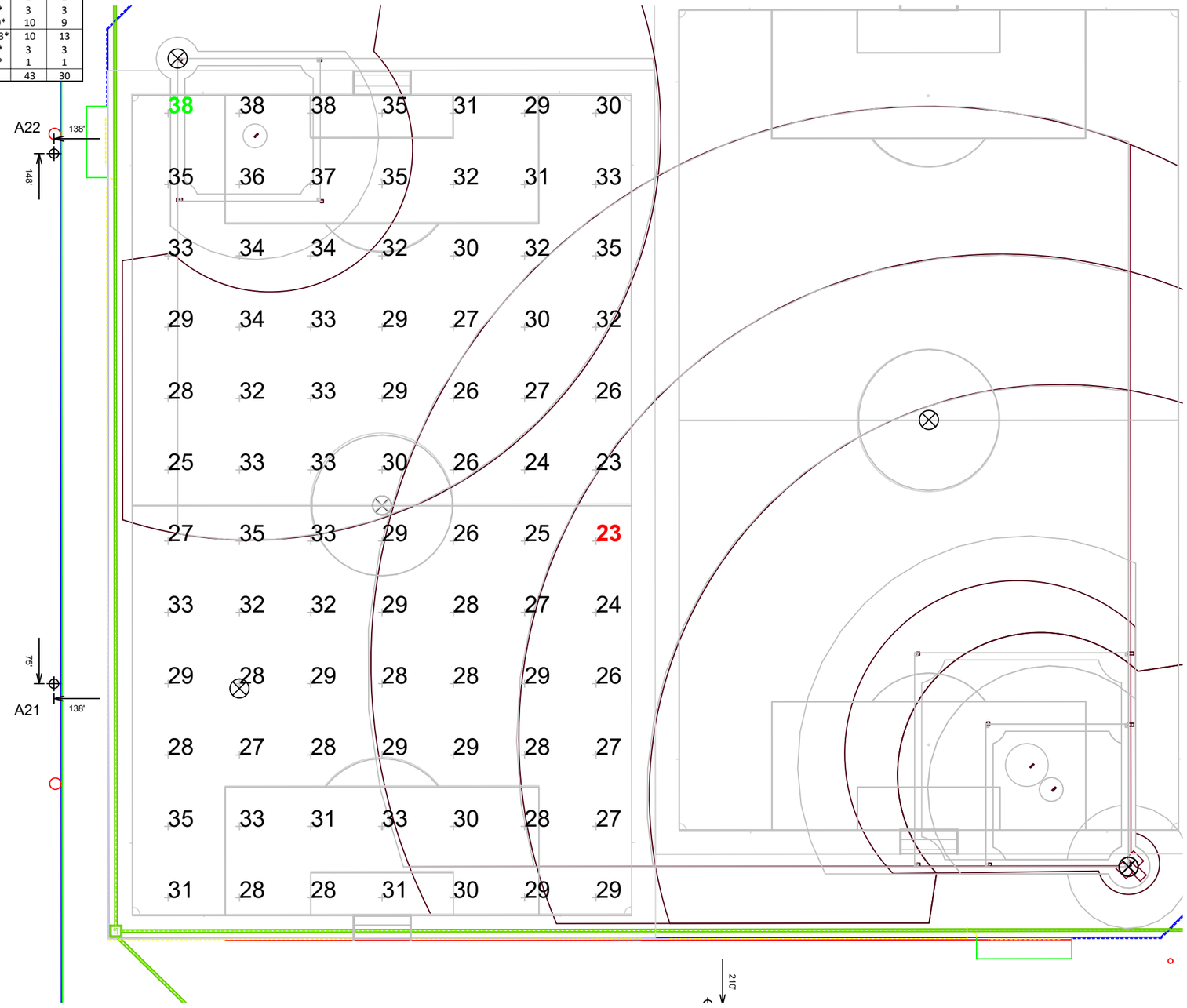
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A21	80'	-	15.5'	TLC-BT-575	3	3	0
				80'	TLC-LED-1500	5	5	0
1	A22	80'	-	80'	TLC-LED-1500	4	4	0
				15.5'	TLC-BT-575	1	1	0
				80'	TLC-LED-1200	2	2	0
1	B8	90'	-.3'	89.7'	TLC-LED-1200	1/1*	1	1
				15.2'	TLC-BT-575	3/3*	3	3
				89.7'	TLC-LED-1500	9/10*	10	9
1	B11	90'	-	90'	TLC-LED-1500	10/13*	10	13
				15.5'	TLC-BT-575	3/3*	3	3
				90'	TLC-LED-1200	1/1*	1	1
4	TOTALS					73	43	30

* This structure utilizes a back-to-back mounting configuration



Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Soccer 7**
Size:	345' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Guaranteed Average:	**30**
Scan Average:	30.1
Maximum:	38
Minimum:	23
Avg / Min:	1.32
Guaranteed Max / Min:	**2.5**
Max / Min:	1.65
UG (adjacent pts):	1.32
CU:	0.41
No. of Points:	84

LUMINAIRE INFORMATION

Applied Circuits:	AL, AP, AQ, AR
No. of Luminaires:	**43**
Total Load:	51.9 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 50

0' 50' 100'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

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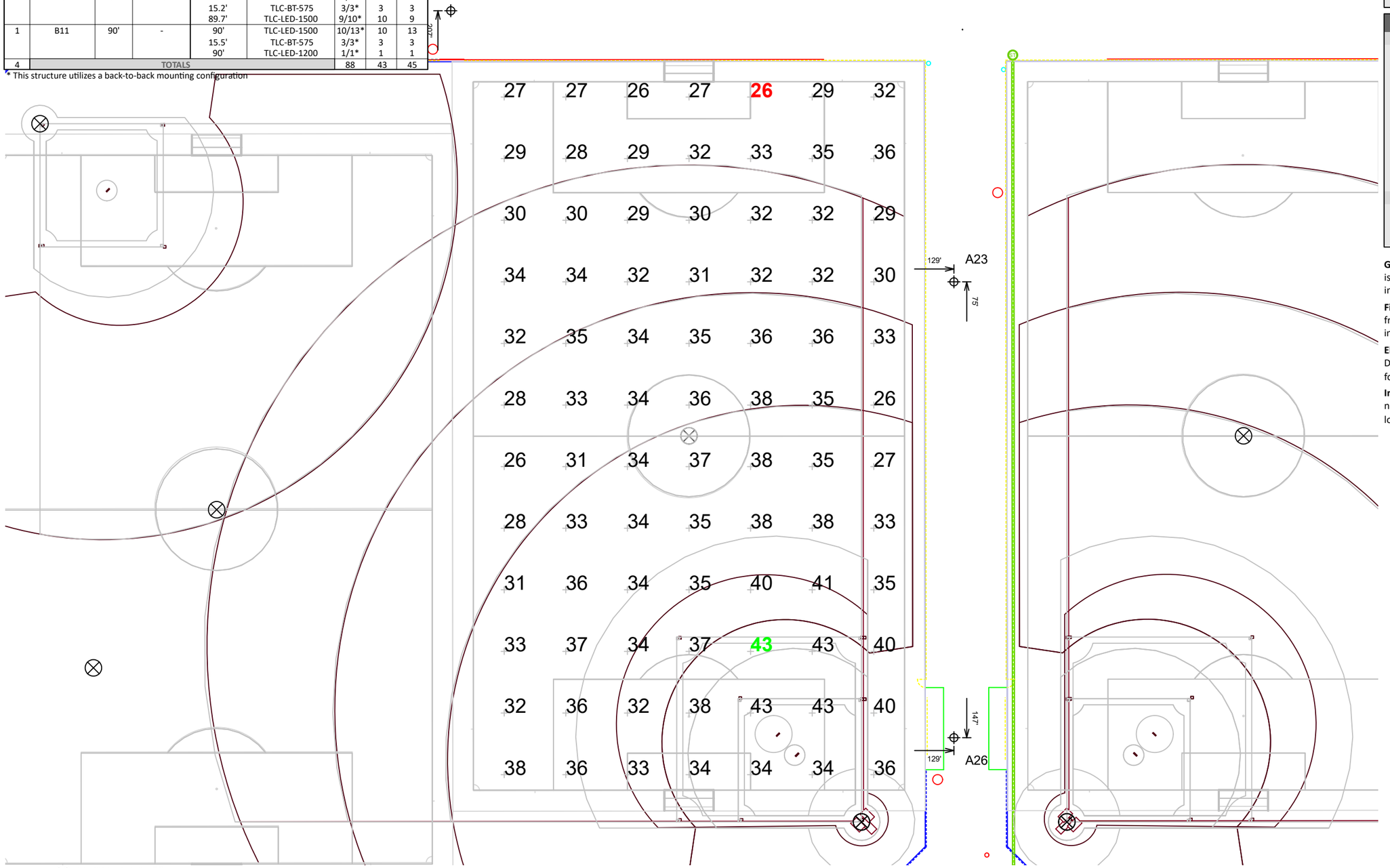
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A23	80'	-	15.5'	TLC-BT-575	3/3*	3	3
				80'	TLC-LED-1500	5/5*	5	5
1	A26	80'	-	80'	TLC-LED-1500	4/4*	4	4
				15.5'	TLC-BT-575	1/1*	1	1
				80'	TLC-LED-1200	2/2*	2	2
1	B8	90'	-.3'	89.7'	TLC-LED-1200	1/1*	1	1
				15.2'	TLC-BT-575	3/3*	3	3
				89.7'	TLC-LED-1500	9/10*	10	9
1	B11	90'	-	90'	TLC-LED-1500	10/13*	10	13
				15.5'	TLC-BT-575	3/3*	3	3
				90'	TLC-LED-1200	1/1*	1	1
4	TOTALS					88	43	45

* This structure utilizes a back-to-back mounting configuration



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

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Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Soccer 8**
Size:	345' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Guaranteed Average:	**30**
Scan Average:	33.6
Maximum:	43
Minimum:	26
Avg / Min:	1.28
Guaranteed Max / Min:	**2.5**
Max / Min:	1.66
UG (adjacent pts):	1.33
CU:	0.45
No. of Points:	84

LUMINAIRE INFORMATION

Applied Circuits:	AL, AM, AN, AP
No. of Luminaires:	**43**
Total Load:	51.9 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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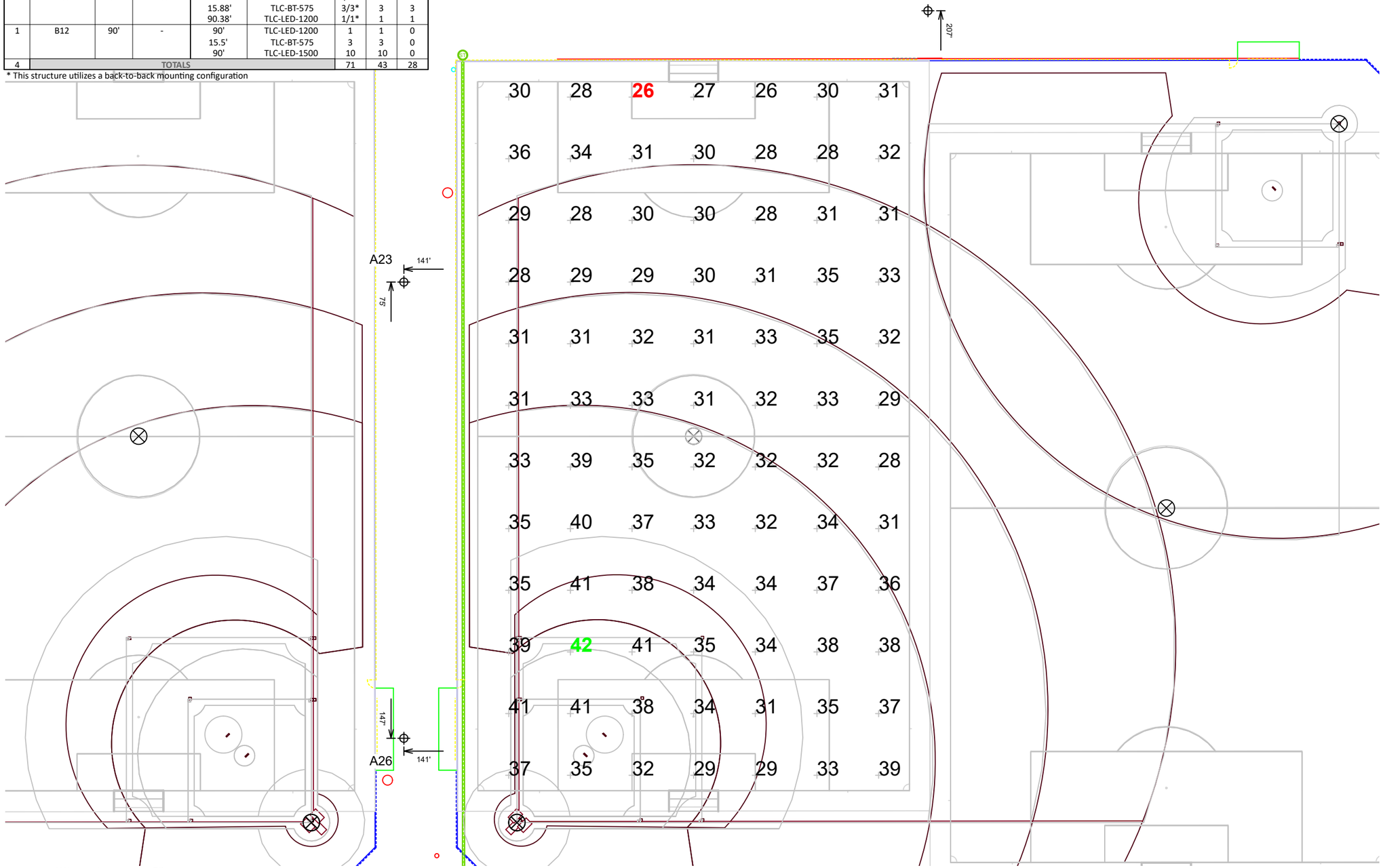
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A23	80'	.58'	16.08'	TLC-BT-575	3/3*	3	3
				80.58'	TLC-LED-1500	5/5*	5	5
1	A26	80'	.58'	80.58'	TLC-LED-1500	4/4*	4	4
				16.08'	TLC-BT-575	1/1*	1	1
				80.58'	TLC-LED-1200	2/2*	2	2
1	B9	90'	.38'	90.38'	TLC-LED-1500	9/10*	10	9
				15.88'	TLC-BT-575	3/3*	3	3
				90.38'	TLC-LED-1200	1/1*	1	1
1	B12	90'	-	90'	TLC-LED-1200	1	1	0
				15.5'	TLC-BT-575	3	3	0
				90'	TLC-LED-1500	10	10	0
4	TOTALS					71	43	28

* This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 50

0' 50' 100'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

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Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Soccer 9**
Size:	345' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Guaranteed Average:	**30**
Scan Average:	33.0
Maximum:	42
Minimum:	26
Avg / Min:	1.28
Guaranteed Max / Min:	**2.5**
Max / Min:	1.63
UG (adjacent pts):	1.25
CU:	0.45
No. of Points:	84

LUMINAIRE INFORMATION

Applied Circuits:	AS, AW, AY, AZ
No. of Luminaires:	**43**
Total Load:	51.9 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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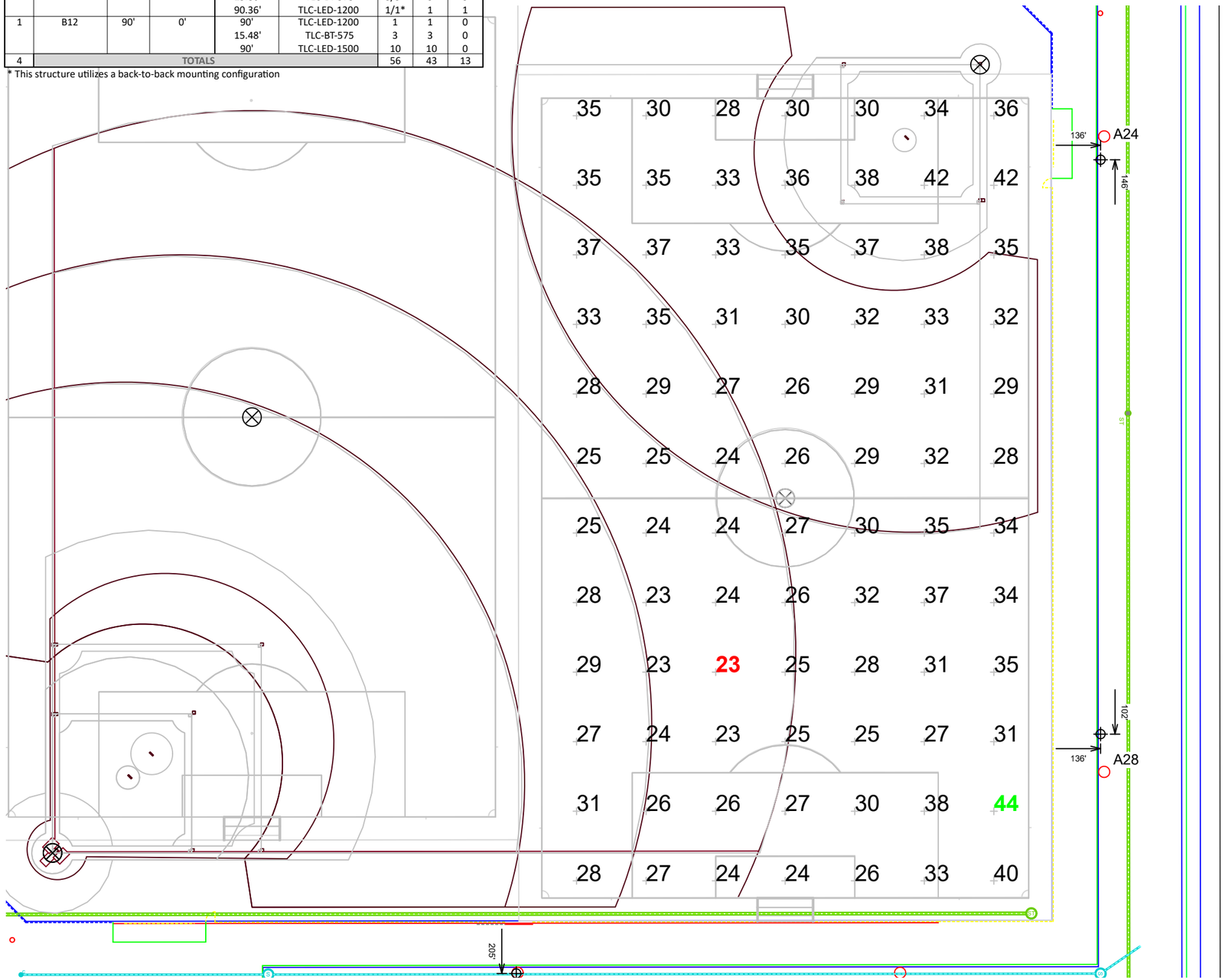
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A24	70'	0'	15.48'	TLC-BT-575	1	1	0
				70'	TLC-LED-1200	6	6	0
1	A28	70'	0'	15.48'	TLC-BT-575	3	3	0
				70'	TLC-LED-1500	5	5	0
1	B9	90'	.36'	90.36'	TLC-LED-1500	9/10*	10	9
				15.86'	TLC-BT-575	3/3*	3	3
				90.36'	TLC-LED-1200	1/1*	1	1
1	B12	90'	0'	90'	TLC-LED-1200	1	1	0
				15.48'	TLC-BT-575	3	3	0
				90'	TLC-LED-1500	10	10	0
4	TOTALS					56	43	13

* This structure utilizes a back-to-back mounting configuration



ENGINEERED DESIGN By: Ben Drost · File #209347f · 23-Aug-22

Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Soccer 10**
Size:	345' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Guaranteed Average:	**30**
Scan Average:	30.4
Maximum:	44
Minimum:	23
Avg / Min:	1.33
Guaranteed Max / Min:	**2.5**
Max / Min:	1.92
UG (adjacent pts):	1.42
CU:	0.42
No. of Points:	84

LUMINAIRE INFORMATION

Applied Circuits:	AS, AU, AV, AW
No. of Luminaires:	**43**
Total Load:	50.86 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

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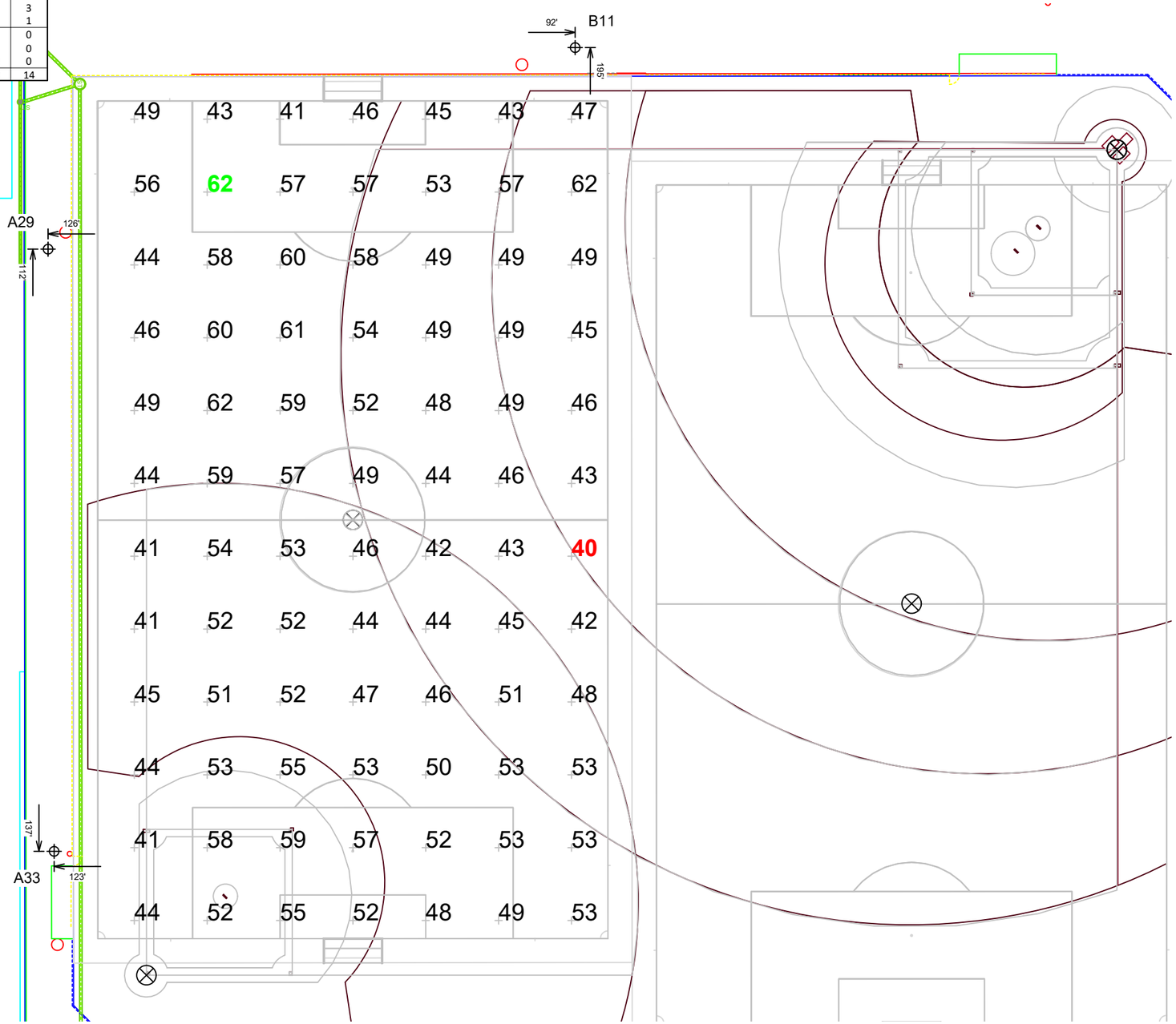
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A29	80'	-.22'	79.78'	TLC-LED-1200	1	1	0
				15.28'	TLC-BT-575	3	3	0
				79.78'	TLC-LED-1500	8	8	0
1	A33	80'	-.22'	15.28'	TLC-BT-575	3	3	0
				79.78'	TLC-LED-1500	9	9	0
1	B11	90'	.28'	90.28'	TLC-LED-1500	10/13*	13	10
				15.78'	TLC-BT-575	3/3*	3	3
				90.28'	TLC-LED-1200	1/1*	1	1
1	B13	90'	-.22'	89.78'	TLC-LED-1200	1	1	0
				15.28'	TLC-BT-575	3	3	0
				89.78'	TLC-LED-1500	14	14	0
4	TOTALS					73	59	14

* This structure utilizes a back-to-back mounting configuration



Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Soccer 11**
Size:	345' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Guaranteed Average:	**50**
Scan Average:	50.2
Maximum:	62
Minimum:	40
Avg / Min:	1.27
Guaranteed Max / Min:	**2**
Max / Min:	1.57
UG (adjacent pts):	1.43
CU:	0.48
No. of Points:	84

LUMINAIRE INFORMATION

Applied Circuits:	BA, BE, BG, BH
No. of Luminaires:	**59**
Total Load:	73.33 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 50

0' 50' 100'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

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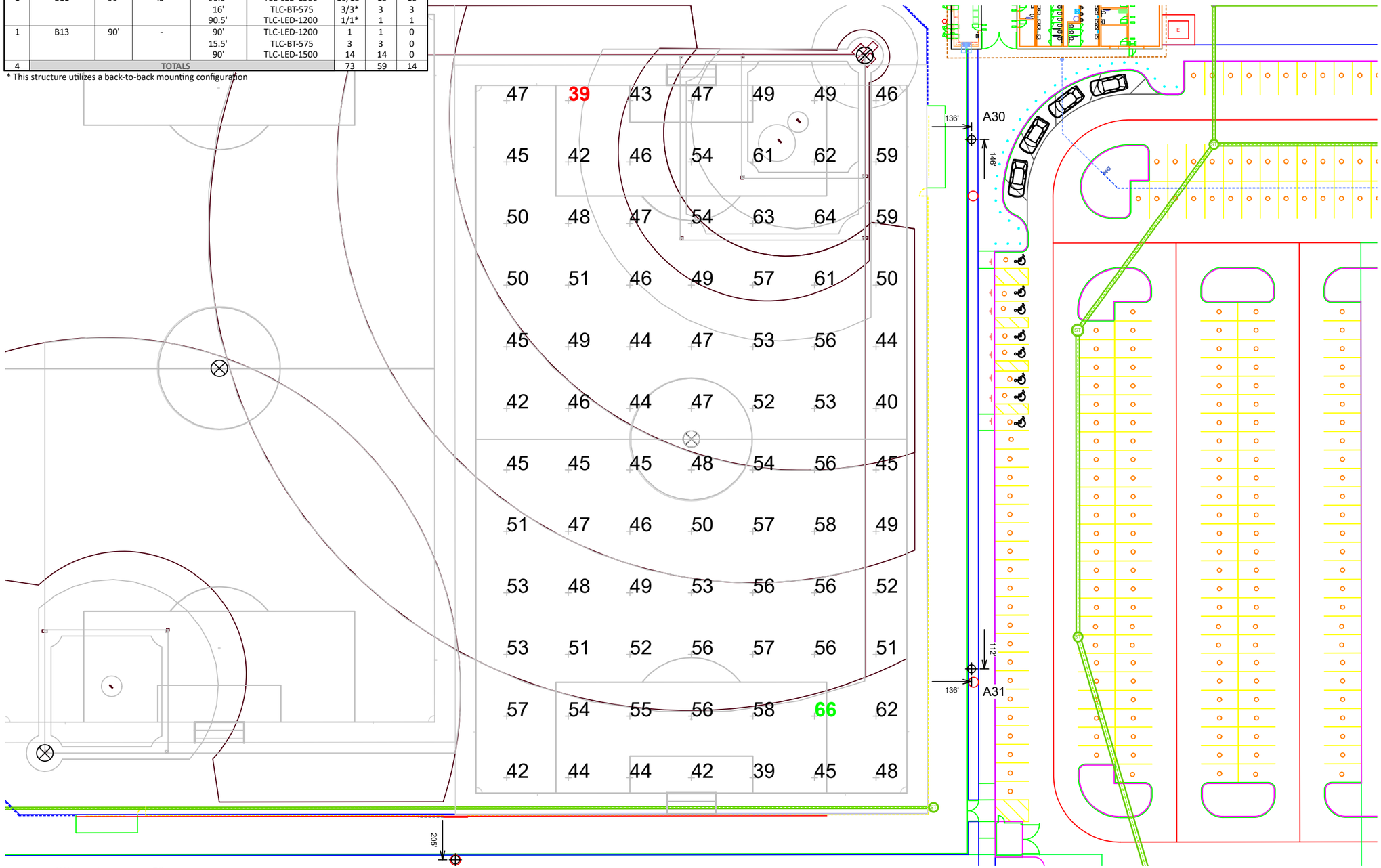
EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A30	80'	-	80'	TLC-LED-1200	2	2	0
				15.5'	TLC-BT-575	3	3	0
				80'	TLC-LED-1500	7	7	0
1	A31	80'	-	15.5'	TLC-BT-575	3	3	0
				80'	TLC-LED-1500	9	9	0
1	B11	90'	.5'	90.5'	TLC-LED-1500	10/13*	13	10
				16'	TLC-BT-575	3/3*	3	3
				90.5'	TLC-LED-1200	1/1*	1	1
1	B13	90'	-	90'	TLC-LED-1200	1	1	0
				15.5'	TLC-BT-575	3	3	0
				90'	TLC-LED-1500	14	14	0
4	TOTALS					73	59	14

* This structure utilizes a back-to-back mounting configuration



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

Grimes Sportsplex

Grimes,IA

GRID SUMMARY

Name:	**Soccer 12**
Size:	345' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Guaranteed Average:	**50**
Scan Average:	50.7
Maximum:	66
Minimum:	39
Avg / Min:	1.30
Guaranteed Max / Min:	**2**
Max / Min:	1.68
UG (adjacent pts):	1.48
CU:	0.48
No. of Points:	84

LUMINAIRE INFORMATION

Applied Circuits:	BA, BC, BD, BE
No. of Luminaires:	**59**
Total Load:	73.07 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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C. CONTROLS AND MONITORING

Control System Summary

Project Specific Notes:

Project Information

Project #:	209347
Project Name:	Grimes Sportsplex
Date:	10/14/22
Project Engineer:	Ben Drost
Sales Representative:	Jason Schillig
Control System Type:	Control-Link™ Control and Monitoring System
Communication Type:	PowerLine-ST
Scan:	209347f2-a2
Document ID:	209347P1V3-1014101901
Distribution Panel Location or ID:	North 3 Pods
Total # of Distribution Panel Locations for Project:	2
Design Voltage/Hertz/Phase:	480/60/3
Control Voltage:	120

Equipment Listing

DESCRIPTION	APPROXIMATE SIZE
1.Control and Monitoring Cabinet	24 X 72
2.Control and Monitoring Cabinet	24 X 72
3.Control and Monitoring Cabinet	24 X 72
4.Control and Monitoring Cabinet	24 X 72
5.Control and Monitoring Cabinet	24 X 48

	QTY	SIZE (AMPS)
Total Contactors	30	30 AMP
Total Off/On/Auto Switches:	30	

Preliminary Plans:
Confirm all Details - voltage
# of distribution panels, etc.

Materials Checklist

Contractor/Customer Supplied:

- ❑ A dedicated control circuit must be supplied per distribution panel location
  - — If the control voltage is NOT available, a control transformer is required
- ❑ Electrical distribution panel to provide overcurrent protection for circuits
  - — HID rated or D-curve circuit breaker sized per full load amps on Circuit Summary by Zone Chart
- ❑ Wiring
  - — See chart on page 2 for wiring requirements
  - — Equipment grounding conductor and splices must be insulated (per circuit)
  - — Lightning ground protection (per pole), if not Musco supplied
- ❑ Electrical conduit wireway system
  - — Entrance hubs rated NEMA 4, must be die-cast zinc, PVC, or copper-free die-cast aluminum
- ❑ Mounting hardware for cabinets
- ❑ Breaker lock-on device to prevent unauthorized power interruption to control power and powerline connection (if present)
- ❑ Anti-corrosion compound to apply to ends of wire, if necessary

Call Control-Link Central™ operations center at 877/347-3319 to schedule activation of the control system upon completion of the installation.

Note: Activation may take up to 1 1/2 hours.

IMPORTANT NOTES

1. Please confirm that the design voltage listed above is accurate for this facility. Design voltage/phase is defined as the voltage/phase being connected and utilized at each lighting pole's electrical components enclosure disconnect. Inaccurate design voltage/phase can result in additional costs and delays. Contact your Musco sales representative to confirm this item.
2. In a 3 phase design, all 3 phases are to be run to each pole. When a 3 phase design is used Musco's single phase luminaires come pre-wired to utilize all 3 phases across the entire facility.
3. One contactor is required for each pole. When a pole has multiple circuits, one contactor is required for each circuit. All contactors are 100% rated for the published continuous load. All contactors are 3 pole.
4. If the lighting system will be fed from more than one distribution location, additional equipment may be required. Contact your Musco sales representative.
5. A single control circuit must be supplied per control system.
6. Size overcurrent devices using the full load amps column of the Circuit Summary By Zone chart- Minimum power factor is 0.9.

NOTE: Refer to Installation Instructions for more details on equipment information and the installation requirements.

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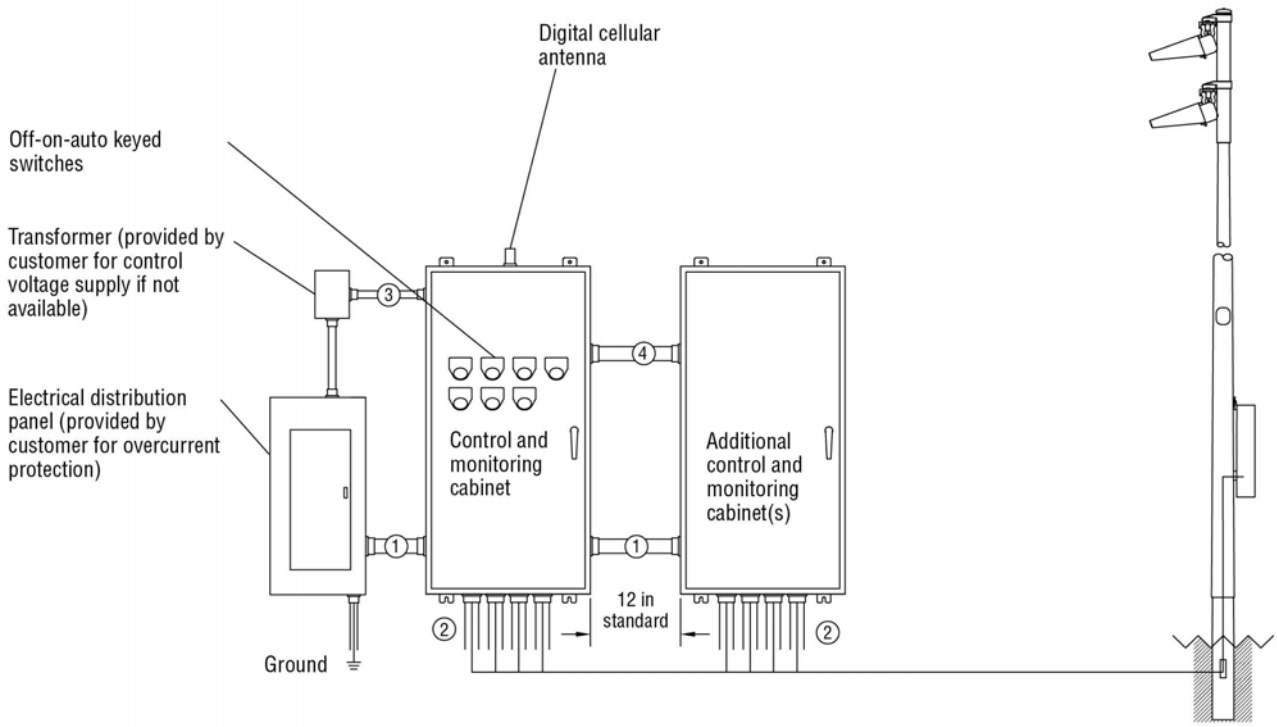
Control•Link® Control and Monitoring System



Conduit ID	Description	# of Wires	Wire (AWG)	Conduit (in)	Max. Wire Length (ft)	MUSCO Supplied	Notes
1	Line power to contactors, and equipment grounding conductor	*A	*B	*C	N/A	No	A-E
2	Load power to lighting circuits, and equipment grounding conductor	*A	*B	*C	N/A	No	A-E
3	Control power (dedicated, 20A)	3	12	*C	N/A	No	C,E
4	Control harnesses	*F	12	2	*F	Yes	C,E,F

R60-101-00_B

* Notes:
A. See voltage and phasing per the notes on cover page.
B. Calculate per load and voltage drop.
C. All conduit diameters should be per code unless otherwise specified to allow for connector size.
D. Equipment grounding conductor and any splices must be insulated.
E. Refer to control and monitoring system installation instructions for more details on equipment information and the installation requirements.
F. Harness is provided in 8-ft length.

IMPORTANT: Control wires (3,4) must be in separate conduit from line and load power wires (1, 2).

SWITCHING SCHEDULE

Field/Zone Description	Zones
West Blanket Grid	**1,2,3,4,5,6,7,8,9,10,11,12,**
-Field 1	1
-Baseball 3	2
-Baseball 3	3
-Baseball 3	4
-Field 12	5
-Baseball 3	6
-Baseball 3	7
-Baseball 3	8
-Baseball 1	9
-Baseball 1	10
-Baseball 1	11
-Baseball 1	12
-Baseball 1	13
-Baseball 1	14
-Baseball 1	15
-Baseball 1	16
-Baseball 1	17
-Baseball 1	18
-Field 1	19
-Baseball 2	20
-Baseball 2	21
-Baseball 2	22
-Baseball 2	23
-Baseball 2	24
-Baseball 2	25
-Field 6	26
-Baseball 2	27
-Baseball 2	28
-Baseball 3	29
-Baseball 3	30
Field 1	**1,9,18,19**
-Field 1	1
-Baseball 1	9
-Baseball 1	18
-Field 1	19
Softball 1	**1,9,12,15,18,19**
-Field 1	1
-Baseball 1	9
-Baseball 1	12
-Baseball 1	15
-Baseball 1	18
-Field 1	19
West Blanket Grid	**25,26,27,28,29,30**
-Field 1	1

CONTINUED ON NEXT PAGE

CONTROL POWER CONSUMPTION	
120V Single Phase	
VA loading of Musco Supplied Equipment	INRUSH: 7350.0
	SEALED: 780.0

SWITCHING SCHEDULE

Field/Zone Description	Zones
-Baseball 3	2
-Baseball 3	3
-Baseball 3	4
-Field 12	5
-Baseball 3	6
-Baseball 3	7
-Baseball 3	8
-Baseball 1	9
-Baseball 1	10
-Baseball 1	11
-Baseball 1	12
-Baseball 1	13
-Baseball 1	14
-Baseball 1	15
-Baseball 1	16
-Baseball 1	17
-Baseball 1	18
-Field 1	19
-Baseball 2	20
-Baseball 2	21
-Baseball 2	22
-Baseball 2	23
-Baseball 2	24
-Baseball 2	25
-Field 6	26
-Baseball 2	27
-Baseball 2	28
-Baseball 3	29
-Baseball 3	30
Field 11	**2,3,4,30**
-Baseball 3	2
-Baseball 3	3
-Baseball 3	4
-Baseball 3	30
Baseball 3	**2,3,4,6,7,8,29,30**
-Baseball 3	2
-Baseball 3	3
-Baseball 3	4
-Baseball 3	6
-Baseball 3	7
-Baseball 3	8
-Baseball 3	29
-Baseball 3	30
Soccer 6	**3,4,5,7,30**
-Baseball 3	3

CONTINUED ON NEXT PAGE

SWITCHING SCHEDULE

Field/Zone Description	Zones
-Baseball 3	4
-Field 12	5
-Baseball 3	7
-Baseball 3	30
Field 12	**4,5**
-Baseball 3	4
-Field 12	5
Softball 5	**4,7,8,29,30**
-Baseball 3	4
-Baseball 3	7
-Baseball 3	8
-Baseball 3	29
-Baseball 3	30
Softball 6	**4,5,7,30**
-Baseball 3	4
-Field 12	5
-Baseball 3	7
-Baseball 3	30
Soccer 5	**4,6,7,8,30**
-Baseball 3	4
-Baseball 3	6
-Baseball 3	7
-Baseball 3	8
-Baseball 3	30
Field 10	**6,7**
-Baseball 3	6
-Baseball 3	7
Field 9	**7,8,29,30**
-Baseball 3	7
-Baseball 3	8
-Baseball 3	29
-Baseball 3	30
Field 3	**9,10,11,12**
-Baseball 1	9
-Baseball 1	10
-Baseball 1	11
-Baseball 1	12
Softball 2	**9,12,13,14,15,18**
-Baseball 1	9
-Baseball 1	12
-Baseball 1	13
-Baseball 1	14
-Baseball 1	15
-Baseball 1	18
Baseball 1	**9,10,11,12,13,14,15,16,17,18**
-Baseball 1	9

CONTINUED ON NEXT PAGE

SWITCHING SCHEDULE

Field/Zone Description	Zones
-Baseball 1	10
-Baseball 1	11
-Baseball 1	12
-Baseball 1	13
-Baseball 1	14
-Baseball 1	15
-Baseball 1	16
-Baseball 1	17
-Baseball 1	18
Soccer 1	**9,12,15,17,18,19**
-Baseball 1	9
-Baseball 1	12
-Baseball 1	15
-Baseball 1	17
-Baseball 1	18
-Field 1	19
Soccer 2	**9,11,12,13,15,18**
-Baseball 1	9
-Baseball 1	11
-Baseball 1	12
-Baseball 1	13
-Baseball 1	15
-Baseball 1	18
Field 4	**12,13,14,15**
-Baseball 1	12
-Baseball 1	13
-Baseball 1	14
-Baseball 1	15
West Blanket Grid	**13,14,15,16,17,18,19,20,21,22,23,24,**
-Field 1	1
-Baseball 3	2
-Baseball 3	3
-Baseball 3	4
-Field 12	5
-Baseball 3	6
-Baseball 3	7
-Baseball 3	8
-Baseball 1	9
-Baseball 1	10
-Baseball 1	11
-Baseball 1	12
-Baseball 1	13
-Baseball 1	14
-Baseball 1	15
-Baseball 1	16

CONTINUED ON NEXT PAGE

SWITCHING SCHEDULE

Field/Zone Description	Zones
-Baseball 1	17
-Baseball 1	18
-Field 1	19
-Baseball 2	20
-Baseball 2	21
-Baseball 2	22
-Baseball 2	23
-Baseball 2	24
-Baseball 2	25
-Field 6	26
-Baseball 2	27
-Baseball 2	28
-Baseball 3	29
-Baseball 3	30
Field 2	**15,16,17,18**
-Baseball 1	15
-Baseball 1	16
-Baseball 1	17
-Baseball 1	18
Field 5	**20,21,27,28**
-Baseball 2	20
-Baseball 2	21
-Baseball 2	27
-Baseball 2	28
Baseball 2	**20,21,22,23,24,25,27,28**
-Baseball 2	20
-Baseball 2	21
-Baseball 2	22
-Baseball 2	23
-Baseball 2	24
-Baseball 2	25
-Baseball 2	27
-Baseball 2	28
Field 7	**21,22,23,24**
-Baseball 2	21
-Baseball 2	22
-Baseball 2	23
-Baseball 2	24
Softball 3	**21,24,26,27**
-Baseball 2	21
-Baseball 2	24
-Field 6	26
-Baseball 2	27
Softball 4	**21,22,23,24,27**
-Baseball 2	21

CONTINUED ON NEXT PAGE

SWITCHING SCHEDULE

Field/Zone Description	Zones
-Baseball 2	22
-Baseball 2	23
-Baseball 2	24
-Baseball 2	27
Soccer 3	**21,24,26,27,28**
-Baseball 2	21
-Baseball 2	24
-Field 6	26
-Baseball 2	27
-Baseball 2	28
Soccer 4	**21,23,24,25,27**
-Baseball 2	21
-Baseball 2	23
-Baseball 2	24
-Baseball 2	25
-Baseball 2	27
Field 8	**24,25**
-Baseball 2	24
-Baseball 2	25
Field 6	**26,27**
-Field 6	26
-Baseball 2	27

CIRCUIT SUMMARY BY ZONE

POLE	CIRCUIT DESCRIPTION	# OF FIXTURES	# OF DRIVERS	*FULL LOAD AMPS	CONTACTOR SIZE (AMPS)	CONTACTOR ID	ZONE
A3	Field 1	4	4	**5.9**	30	C1	1
A7	Baseball 3	4	4	**5.9**	30	C2	2
A20	Baseball 3	4	4	**6.5**	30	C3	3
B10	Baseball 3	13	13	**24.9**	30	C4	4
A19	Field 12	4	4	**6.5**	30	C5	5
A16	Baseball 3	4	4	**6.5**	30	C6	6
B5	Baseball 3	13	13	**24.9**	30	C7	7
A9	Baseball 3	5	5	**9.7**	30	C8	8
B2	Baseball 1	13	13	**24.9**	30	C9	9
A4	Baseball 1	4	4	**5.9**	30	C10	10
A5	Baseball 1	4	4	**6.5**	30	C11	11
B3	Baseball 1	13	13	**24.9**	30	C12	12
A6	Baseball 1	5	5	**9.7**	30	C13	13
A10	Baseball 1	5	5	**9.1**	30	C14	14
B6	Baseball 1	13	13	**24.9**	30	C15	15
A11	Baseball 1	4	4	**5.9**	30	C16	16
A1	Baseball 1	4	4	**6.5**	30	C17	17
B1	Baseball 1	13	13	**23.1**	30	C18	18
A2	Field 1	4	4	**5.9**	30	C19	19
A11	Baseball 2	4	4	**6.5**	30	C20	20
B6	Baseball 2	13	13	**24.9**	30	C21	21
A10	Baseball 2	5	5	**9.7**	30	C22	22

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Control System Summary

CIRCUIT SUMMARY BY ZONE

POLE	CIRCUIT DESCRIPTION	# OF FIXTURES	# OF DRIVERS	*FULL LOAD AMPS	CONTACTOR SIZE (AMPS)	CONTACTOR ID	ZONE
A9	Baseball 2	5	5	**9.1**	30	C23	23
B5	Baseball 2	13	13	**24.9**	30	C24	24
A16	Baseball 2	4	4	**5.9**	30	C25	25
A13	Field 6	4	4	**6.5**	30	C26	26
B7	Baseball 2	13	13	**22.5**	30	C27	27
A12	Baseball 2	4	4	**5.9**	30	C28	28
A8	Baseball 3	5	5	**9.1**	30	C29	29
B4	Baseball 3	13	13	**24.9**	30	C30	30

*Full Load Amps based on amps per driver.

PANEL SUMMARY

CABINET #	CONTROL MODULE LOCATION	CONTACTOR ID	CIRCUIT DESCRIPTION	FULL LOAD AMPS	DISTRIBUTION PANEL ID (BY OTHERS)	CIRCUIT BREAKER POSITION (BY OTHERS)
1	1	C1	Pole A3	5.86		
1	1	C2	Pole A7	5.86		
1	1	C3	Pole A20	6.50		
1	1	C4	Pole B10	24.94		
1	1	C5	Pole A19	6.48		
1	1	C6	Pole A16	6.50		
1	1	C7	Pole B5	24.94		
2	2	C8	Pole A9	9.71		
2	2	C9	Pole B2	24.94		
2	2	C10	Pole A4	5.86		
2	2	C11	Pole A5	6.50		
2	2	C12	Pole B3	24.94		
2	2	C13	Pole A6	9.71		
2	2	C14	Pole A10	9.13		
3	3	C15	Pole B6	24.94		
3	3	C16	Pole A11	5.86		
3	3	C17	Pole A1	6.50		
3	3	C18	Pole B1	23.14		
3	3	C19	Pole A2	5.86		
3	3	C20	Pole A11	6.50		
3	3	C21	Pole B6	24.94		
4	4	C22	Pole A10	9.71		
4	4	C23	Pole A9	9.13		
4	4	C24	Pole B5	24.94		
4	4	C25	Pole A16	5.86		
4	4	C26	Pole A13	6.50		
4	4	C27	Pole B7	22.50		
4	4	C28	Pole A12	5.86		
5	5	C29	Pole A8	9.13		
5	5	C30	Pole B4	24.94		

ZONE SCHEDULE

			CIRCUIT DESCRIPTION	
ZONE	SELECTOR SWITCH	ZONE DESCRIPTION	POLE ID	CONTACTOR ID
Zone 1	1	Field 1	A3	C1
Zone 2	2	Baseball 3	A7	C2
Zone 3	3	Baseball 3	A20	C3
Zone 4	4	Baseball 3	B10	C4
Zone 5	5	Field 12	A19	C5
Zone 6	6	Baseball 3	A16	C6
Zone 7	7	Baseball 3	B5	C7
Zone 8	1	Baseball 3	A9	C8
Zone 9	2	Baseball 1	B2	C9
Zone 10	3	Baseball 1	A4	C10
Zone 11	4	Baseball 1	A5	C11

CONTINUED ON NEXT PAGE

ZONE SCHEDULE

			CIRCUIT DESCRIPTION	
ZONE	SELECTOR SWITCH	ZONE DESCRIPTION	POLE ID	CONTACTOR ID
Zone 12	5	Baseball 1	B3	C12
Zone 13	6	Baseball 1	A6	C13
Zone 14	7	Baseball 1	A10	C14
Zone 15	1	Baseball 1	B6	C15
Zone 16	2	Baseball 1	A11	C16
Zone 17	3	Baseball 1	A1	C17
Zone 18	4	Baseball 1	B1	C18
Zone 19	5	Field 1	A2	C19
Zone 20	6	Baseball 2	A11	C20
Zone 21	7	Baseball 2	B6	C21
Zone 22	1	Baseball 2	A10	C22
Zone 23	2	Baseball 2	A9	C23
Zone 24	3	Baseball 2	B5	C24
Zone 25	4	Baseball 2	A16	C25
Zone 26	5	Field 6	A13	C26
Zone 27	6	Baseball 2	B7	C27
Zone 28	7	Baseball 2	A12	C28
Zone 29	1	Baseball 3	A8	C29
Zone 30	2	Baseball 3	B4	C30

Control System Summary

Project Specific Notes:

Project Information

Project #:	209347
Project Name:	Grimes Sportsplex
Date:	10/14/22
Project Engineer:	Ben Drost
Sales Representative:	Jason Schillig
Control System Type:	Control-Link™ Control and Monitoring System
Communication Type:	PowerLine-ST
Scan:	209347f2-a2
Document ID:	209347P1V3-1014101901
Distribution Panel Location or ID:	South 3 Pods
Total # of Distribution Panel Locations for Project:	2
Design Voltage/Hertz/Phase:	480/60/3
Control Voltage:	120

Equipment Listing

DESCRIPTION	APPROXIMATE SIZE
1.Control and Monitoring Cabinet	24 X 72
2.Control and Monitoring Cabinet	24 X 72
3.Control and Monitoring Cabinet	24 X 72
4.Control and Monitoring Cabinet	24 X 72
5.Control and Monitoring Cabinet	24 X 48

	QTY	SIZE (AMPS)
Total Contactors	24	30 AMP
Total Contactors	6	60 AMP
Total Off/On/Auto Switches:	31	

Preliminary Plans:
Confirm all Details - voltage
# of distribution panels, etc.

Materials Checklist

Contractor/Customer Supplied:

- ❑ A dedicated control circuit must be supplied per distribution panel location
  - — If the control voltage is NOT available, a control transformer is required
- ❑ Electrical distribution panel to provide overcurrent protection for circuits
  - — HID rated or D-curve circuit breaker sized per full load amps on Circuit Summary by Zone Chart
- ❑ Wiring
  - — See chart on page 2 for wiring requirements
  - — Equipment grounding conductor and splices must be insulated (per circuit)
  - — Lightning ground protection (per pole), if not Musco supplied
- ❑ Electrical conduit wireway system
  - — Entrance hubs rated NEMA 4, must be die-cast zinc, PVC, or copper-free die-cast aluminum
- ❑ Mounting hardware for cabinets
- ❑ Breaker lock-on device to prevent unauthorized power interruption to control power and powerline connection (if present)
- ❑ Anti-corrosion compound to apply to ends of wire, if necessary

Call Control-Link Central™ operations center at 877/347-3319 to schedule activation of the control system upon completion of the installation.

Note: Activation may take up to 1 1/2 hours.

IMPORTANT NOTES

1. Please confirm that the design voltage listed above is accurate for this facility. Design voltage/phase is defined as the voltage/phase being connected and utilized at each lighting pole's electrical components enclosure disconnect. Inaccurate design voltage/phase can result in additional costs and delays. Contact your Musco sales representative to confirm this item.
2. In a 3 phase design, all 3 phases are to be run to each pole. When a 3 phase design is used Musco's single phase luminaires come pre-wired to utilize all 3 phases across the entire facility.
3. One contactor is required for each pole. When a pole has multiple circuits, one contactor is required for each circuit. All contactors are 100% rated for the published continuous load. All contactors are 3 pole.
4. If the lighting system will be fed from more than one distribution location, additional equipment may be required. Contact your Musco sales representative.
5. A single control circuit must be supplied per control system.
6. Size overcurrent devices using the full load amps column of the Circuit Summary By Zone chart- Minimum power factor is 0.9.

NOTE: Refer to Installation Instructions for more details on equipment information and the installation requirements.

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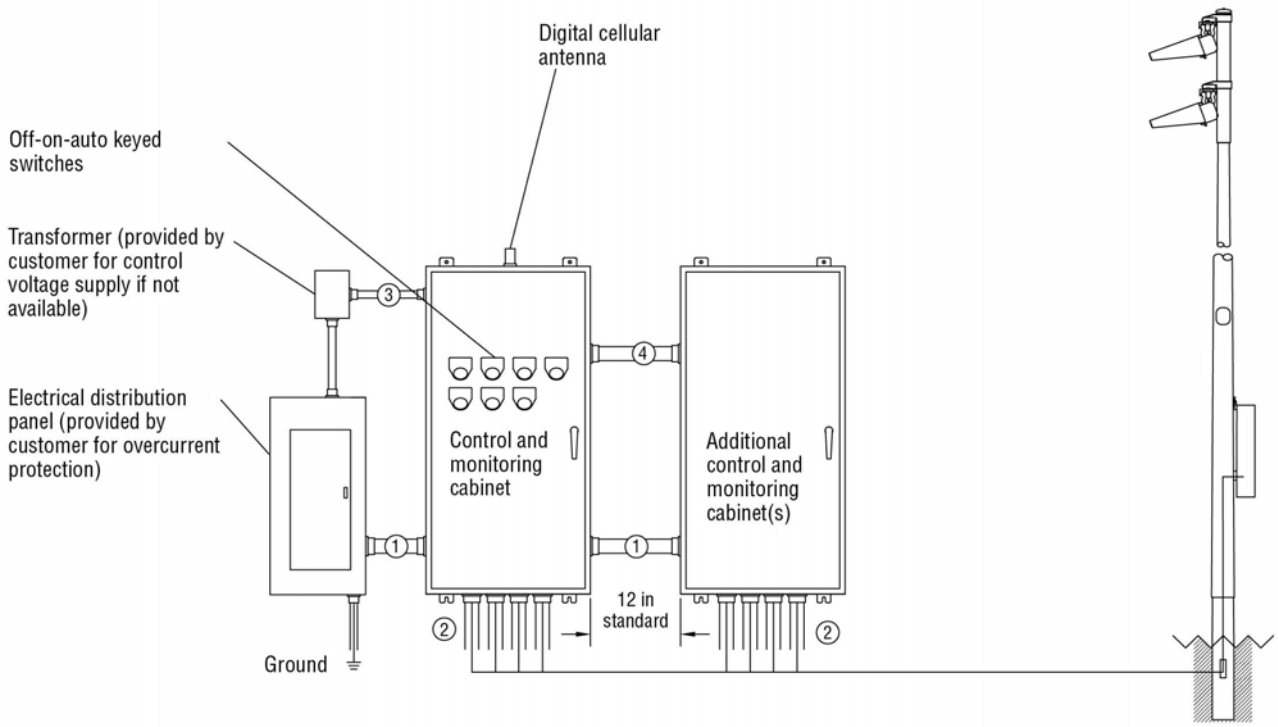
Control•Link® Control and Monitoring System



Conduit ID	Description	# of Wires	Wire (AWG)	Conduit (in)	Max. Wire Length (ft)	MUSCO Supplied	Notes
1	Line power to contactors, and equipment grounding conductor	*A	*B	*C	N/A	No	A-E
2	Load power to lighting circuits, and equipment grounding conductor	*A	*B	*C	N/A	No	A-E
3	Control power (dedicated, 20A)	3	12	*C	N/A	No	C,E
4	Control harnesses	*F	12	2	*F	Yes	C,E,F

R60-101-00_B

* Notes:
A. See voltage and phasing per the notes on cover page.
B. Calculate per load and voltage drop.
C. All conduit diameters should be per code unless otherwise specified to allow for connector size.
D. Equipment grounding conductor and any splices must be insulated.
E. Refer to control and monitoring system installation instructions for more details on equipment information and the installation requirements.
F. Harness is provided in 8-ft length.

IMPORTANT: Control wires (3,4) must be in separate conduit from line and load power wires (1, 2).

SWITCHING SCHEDULE

Field/Zone Description	Zones
West Blanket Grid Service2	**1,2,3,4,5,6,7,8,9,10,11,12,**
-Field 12	1
-Field 12	2
-Baseball 3	3
-Baseball 3	4
-Field 13	5
-Baseball 4	6
-Baseball 4	7
-Baseball 4	8
-Baseball 4	9
-Baseball 4	10
-Baseball 4	11
-Field 13	12
-Baseball 5	13
-Field 16	14
-Field 16	15
-Baseball 5	16
-Baseball 5	17
-Baseball 5	18
-Baseball 5	19
-Baseball 5	20
-Baseball 6	21
-Baseball 6	22
-Baseball 6	23
-Baseball 6	24
-Baseball 6	25
-Field 17	26
-Field 17	27
-Baseball 6	28
-Baseball 2	29
-Baseball 2	30
-Field 6	31
Field 12 Service2	**1,2,3**
-Field 12	1
-Field 12	2
-Baseball 3	3
West Blanket Grid Service2	**25,26,27,28,29,30,31**
-Field 12	1
-Field 12	2
-Baseball 3	3
-Baseball 3	4
-Field 13	5
-Baseball 4	6
-Baseball 4	7
-Baseball 4	8

CONTINUED ON NEXT PAGE

CONTROL POWER CONSUMPTION	
120V Single Phase	
VA loading of Musco Supplied Equipment	INRUSH: 7350.0
	SEALED: 780.0

SWITCHING SCHEDULE

Field/Zone Description	Zones
-Baseball 4	9
-Baseball 4	10
-Baseball 4	11
-Field 13	12
-Baseball 5	13
-Field 16	14
-Field 16	15
-Baseball 5	16
-Baseball 5	17
-Baseball 5	18
-Baseball 5	19
-Baseball 5	20
-Baseball 6	21
-Baseball 6	22
-Baseball 6	23
-Baseball 6	24
-Baseball 6	25
-Field 17	26
-Field 17	27
-Baseball 6	28
-Baseball 2	29
-Baseball 2	30
-Field 6	31
Soccer 6 Service2	**1,3**
-Field 12	1
-Baseball 3	3
Field 10 Service2	**3,4**
-Baseball 3	3
-Baseball 3	4
Softball 5 Service2	**3**
Soccer 5 Service2	**3**
Field 13	**5,6,11,12**
-Field 13	5
-Baseball 4	6
-Baseball 4	11
-Field 13	12
Softball 7	**6,7,8,9,10,11**
-Baseball 4	6
-Baseball 4	7
-Baseball 4	8
-Baseball 4	9
-Baseball 4	10
-Baseball 4	11
Soccer 7	**6,10,11,12**
-Baseball 4	6

CONTINUED ON NEXT PAGE

SWITCHING SCHEDULE

Field/Zone Description	Zones
-Baseball 4	10
-Baseball 4	11
-Field 13	12
Soccer 8	**6,7,8,10**
-Baseball 4	6
-Baseball 4	7
-Baseball 4	8
-Baseball 4	10
Field 14	**7,8,9,10**
-Baseball 4	7
-Baseball 4	8
-Baseball 4	9
-Baseball 4	10
Field 16	**13,14,15,16**
-Baseball 5	13
-Field 16	14
-Field 16	15
-Baseball 5	16
Softball 8	**13,16,17,18,19,20**
-Baseball 5	13
-Baseball 5	16
-Baseball 5	17
-Baseball 5	18
-Baseball 5	19
-Baseball 5	20
West Blanket Grid Service2	**13,14,15,16,17,18,19,20,21,22,23,24,**
-Field 12	1
-Field 12	2
-Baseball 3	3
-Baseball 3	4
-Field 13	5
-Baseball 4	6
-Baseball 4	7
-Baseball 4	8
-Baseball 4	9
-Baseball 4	10
-Baseball 4	11
-Field 13	12
-Baseball 5	13
-Field 16	14
-Field 16	15
-Baseball 5	16
-Baseball 5	17
-Baseball 5	18
-Baseball 5	19

CONTINUED ON NEXT PAGE

SWITCHING SCHEDULE

Field/Zone Description	Zones
-Baseball 5	20
-Baseball 6	21
-Baseball 6	22
-Baseball 6	23
-Baseball 6	24
-Baseball 6	25
-Field 17	26
-Field 17	27
-Baseball 6	28
-Baseball 2	29
-Baseball 2	30
-Field 6	31
Soccer 9	**13,17,19,20**
-Baseball 5	13
-Baseball 5	17
-Baseball 5	19
-Baseball 5	20
Soccer 10	**13,15,16,17**
-Baseball 5	13
-Field 16	15
-Baseball 5	16
-Baseball 5	17
Field 15	**17,18,19,20**
-Baseball 5	17
-Baseball 5	18
-Baseball 5	19
-Baseball 5	20
Field 18	**21,22,23,24**
-Baseball 6	21
-Baseball 6	22
-Baseball 6	23
-Baseball 6	24
Softball 9	**21,22,23,24,25,28**
-Baseball 6	21
-Baseball 6	22
-Baseball 6	23
-Baseball 6	24
-Baseball 6	25
-Baseball 6	28
Soccer 11	**21,25,27,28**
-Baseball 6	21
-Baseball 6	25
-Field 17	27
-Baseball 6	28
Soccer 12	**21,23,24,25**
-Baseball 6	21

CONTINUED ON NEXT PAGE

SWITCHING SCHEDULE

Field/Zone Description	Zones
-Baseball 6	23
-Baseball 6	24
-Baseball 6	25
Field 17	**25,26,27,28**
-Baseball 6	25
-Field 17	26
-Field 17	27
-Baseball 6	28
Field 8 Service2	**29,30**
-Baseball 2	29
-Baseball 2	30
Field 6 Service2	**30,31**
-Baseball 2	30
-Field 6	31
Softball 4 Service2	**30**
Soccer 3 Service2	**30**

CIRCUIT SUMMARY BY ZONE

POLE	CIRCUIT DESCRIPTION	# OF FIXTURES	# OF DRIVERS	*FULL LOAD AMPS	CONTACTOR SIZE (AMPS)	CONTACTOR ID	ZONE
A18	Field 12	4	4	**6.5**	30	C1	2
B9	Baseball 3	13	13	**24.9**	30	C2	3
A17	Baseball 3	4	4	**5.9**	30	C3	4
A14	Field 13	4	4	**6.5**	30	C4	5
B8	Baseball 4	19	19	**37.8**	60	C5	6
A23	Baseball 4	12	12	**21.7**	30	C6	7
A26	Baseball 4	11	11	**21.2**	30	C7	8
A25	Baseball 4	5	5	**9.1**	30	C8	9
B11	Baseball 4	17	17	**34.0**	60	C9	10
A21	Baseball 4	12	12	**21.7**	30	C10	11
A22	Field 13	11	11	**21.2**	30	C11	12
B9	Baseball 5	18	18	**34.6**	60	C12	13
A18	Field 16	4	4	**5.9**	30	C13	14
A24	Field 16	11	11	**20.0**	30	C14	15
A28	Baseball 5	12	12	**21.7**	30	C15	16
B12	Baseball 5	18	18	**34.6**	60	C16	17
A27	Baseball 5	5	5	**9.7**	30	C17	18
A26	Baseball 5	11	11	**21.2**	30	C18	19
A23	Baseball 5	12	12	**21.7**	30	C19	20
B11	Baseball 6	17	17	**34.0**	60	C20	21
A25	Baseball 6	6	6	**9.7**	30	C21	22
A30	Baseball 6	12	12	**21.2**	30	C22	23
A31	Baseball 6	12	12	**21.7**	30	C23	24
B13	Baseball 6	18	18	**34.6**	60	C24	25
A32	Field 17	5	5	**6.5**	30	C25	26
A33	Field 17	12	12	**21.7**	30	C26	27
A29	Baseball 6	12	12	**21.7**	30	C27	28
A15	Baseball 2	4	4	**6.5**	30	C28	29
B8	Baseball 2	13	13	**24.9**	30	C29	30

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Control System Summary

CIRCUIT SUMMARY BY ZONE

POLE	CIRCUIT DESCRIPTION	# OF FIXTURES	# OF DRIVERS	*FULL LOAD AMPS	CONTACTOR SIZE (AMPS)	CONTACTOR ID	ZONE
A14	Field 6	4	4	**5.9**	30	C30	31

*Full Load Amps based on amps per driver.

Control System Summary

PANEL SUMMARY

CABINET #	CONTROL MODULE LOCATION	CONTACTOR ID	CIRCUIT DESCRIPTION	FULL LOAD AMPS	DISTRIBUTION PANEL ID (BY OTHERS)	CIRCUIT BREAKER POSITION (BY OTHERS)
6	6	C1	Pole A18	6.50		
6	6	C2	Pole B9	24.94		
6	6	C3	Pole A17	5.86		
6	6	C4	Pole A14	6.50		
6	6	C5	Pole B8	37.76		
6	6	C6	Pole A23	21.74		
6	6	C7	Pole A26	21.16		
7	7	C8	Pole A25	9.13		
7	7	C9	Pole B11	33.97		
7	7	C10	Pole A21	21.74		
7	7	C11	Pole A22	21.16		
7	7	C12	Pole B9	34.55		
7	7	C13	Pole A18	5.86		
7	7	C14	Pole A24	20.00		
8	8	C15	Pole A28	21.74		
8	8	C16	Pole B12	34.55		
8	8	C17	Pole A27	9.71		
8	8	C18	Pole A26	21.16		
8	8	C19	Pole A23	21.74		
8	8	C20	Pole B11	33.97		
8	8	C21	Pole A25	9.71		
9	9	C22	Pole A30	21.16		
9	9	C23	Pole A31	21.74		
9	9	C24	Pole B13	34.55		
9	9	C25	Pole A32	6.48		
9	9	C26	Pole A33	21.74		
9	9	C27	Pole A29	21.74		
9	9	C28	Pole A15	6.50		
10	10	C29	Pole B8	24.94		
10	10	C30	Pole A14	5.86		

ZONE SCHEDULE

			CIRCUIT DESCRIPTION	
ZONE	SELECTOR SWITCH	ZONE DESCRIPTION	POLE ID	CONTACTOR ID
Zone 2	1	Field 12	A18	C1
Zone 3	2	Baseball 3	B9	C2
Zone 4	3	Baseball 3	A17	C3
Zone 5	4	Field 13	A14	C4
Zone 6	5	Baseball 4	B8	C5
Zone 7	6	Baseball 4	A23	C6
Zone 8	7	Baseball 4	A26	C7
Zone 9	1	Baseball 4	A25	C8
Zone 10	2	Baseball 4	B11	C9
Zone 11	3	Baseball 4	A21	C10
Zone 12	4	Field 13	A22	C11

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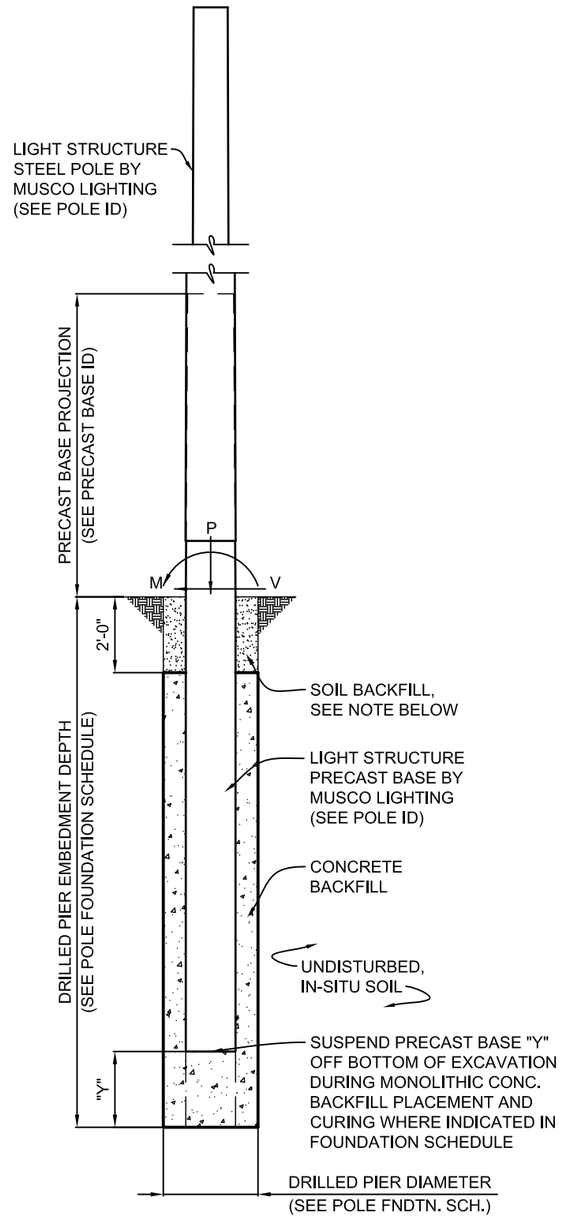
Control System Summary

ZONE SCHEDULE

			CIRCUIT DESCRIPTION	
ZONE	SELECTOR SWITCH	ZONE DESCRIPTION	POLE ID	CONTACTOR ID
Zone 13	5	Baseball 5	B9	C12
Zone 14	6	Field 16	A18	C13
Zone 15	7	Field 16	A24	C14
Zone 16	1	Baseball 5	A28	C15
Zone 17	2	Baseball 5	B12	C16
Zone 18	3	Baseball 5	A27	C17
Zone 19	4	Baseball 5	A26	C18
Zone 20	5	Baseball 5	A23	C19
Zone 21	6	Baseball 6	B11	C20
Zone 22	7	Baseball 6	A25	C21
Zone 23	1	Baseball 6	A30	C22
Zone 24	2	Baseball 6	A31	C23
Zone 25	3	Baseball 6	B13	C24
Zone 26	4	Field 17	A32	C25
Zone 27	5	Field 17	A33	C26
Zone 28	6	Baseball 6	A29	C27
Zone 29	7	Baseball 2	A15	C28
Zone 30	1	Baseball 2	B8	C29
Zone 31	2	Field 6	A14	C30

D. STRUCTURAL INFORMATION



POLE FOUNDATION ELEV.

SCALE: NOT TO SCALE

SOIL BACKFILL NOTE:
THE TOP TWO FEET OF ANNULUS SHALL BE BACKFILLED WITH SOIL, WITH A CLASSIFICATION OF CLASS 5 (TABLE 1806.2) OR BETTER. COMPACTION, 95% FOR COHESIVE SOIL AND 98% FOR A COHESIONLESS SOIL BASED UPON STANDARD PROCTOR TESTING (ASTM D698).

DESIGN NOTES

DESIGN PARAMETERS:
WIND: V_{ult} = 115 MPH, V_{asd} = 89 MPH (EXPOSURE C, RISK CATEGORY II) PER INTERNATIONAL BUILDING CODE, 2015 EDITION (ASCE 7-10). DESIGN WIND PARAMETERS ARE AS NOTED, ACTUAL EXPOSURE MUST BE VERIFIED FOR THE SITE BY THE PROPER GOVERNING OFFICIAL.

GEOTECHNICAL PARAMETERS:
ALLOWABLE END BEARING SOIL PRESSURE: 2,000 PSF
ALLOWABLE LATERAL SOIL BEARING PRESSURE:
0 PSF/FT (GRADE TO -2'-0"); 150 PSF/FT (BELOW -2'-0")
IN ACCORDANCE WITH THE 2015 EDITION OF THE INTERNATIONAL BUILDING CODE, CHAPTER 18.

DESIGN SOIL PARAMETERS ARE AS NOTED. ACTUAL ALLOWABLE SOIL PARAMETERS MUST BE VERIFIED ON SITE. REFERENCE GEOTECHNICAL ENGINEERING REPORTS, PROJECT #08195021-03 & #08215116-01, PREPARED BY TERRACON CONSULTANTS, INC.; DES MOINES, IA.

A GEOTECHNICAL ENGINEER OR REPRESENTATIVE OF IS RECOMMENDED (NOT REQUIRED) TO BE AVAILABLE AT THE TIME OF THE FOUNDATION INSTALLATION TO VERIFY THE SOIL DESIGN PARAMETERS AND TO PROVIDE ASSISTANCE IF ANY PROBLEMS ARISE IN FOUNDATION INSTALLATION.

ENCOUNTERING SOIL FORMATIONS THAT WILL REQUIRE SPECIAL DESIGN CONSIDERATIONS OR EXCAVATION PROCEDURES MAY OCCUR. POLE FOUNDATIONS WILL NEED TO BE ANALYZED ACCORDING TO THE SOIL CONDITIONS THAT EXIST. IF ANY DISCREPANCIES OR INCONSISTENCIES ARISE, NOTIFY THE ENGINEER OF SUCH DISCREPANCIES. FOUNDATIONS WILL THEN BE REVISED ACCORDINGLY. REVISIONS WILL BE ANALYZED PER RECOMMENDATIONS DIRECTED BY A REGISTERED ENGINEER.

ALL EXCAVATIONS MUST BE FREE OF LOOSE SOIL AND DEBRIS PRIOR TO FOUNDATION INSTALLATION AND CONCRETE BACKFILL PLACEMENT. TEMPORARY CASINGS OR DRILLERS SLURRY MAY BE USED TO STABILIZE THE EXCAVATION DURING INSTALLATION. CASINGS MUST BE REMOVED DURING CONCRETE BACKFILL PLACEMENT. CONCRETE BACKFILL MUST BE PLACED WITH A TREMIE WHEN SLURRY OR WATER IS PRESENT WITHIN THE EXCAVATION OR WHEN THE FREE DROP EXCEEDS 6'-0".

CONTRACTOR MUST BE FAMILIAR WITH THE COMPLETE SOIL INVESTIGATION REPORT AND BORINGS, AND CONTACT THE GEOTECHNICAL FIRM (IF NECESSARY) TO UNDERSTAND THE SOIL CONDITIONS AND THE POSSIBILITY OF GROUND WATER PUMPING AND EXCAVATION STABILIZATION OR BRACING DURING PRECAST BASE INSTALLATION AND PLACEMENT OF CONCRETE BACKFILL.

CONCRETE:
CONCRETE SHALL BE AIR-ENTRAINED AND HAVE A MINIMUM COMPRESSIVE DESIGN STRENGTH AT 28 DAYS OF 3,000 PSI. 3,000 PSI CONCRETE SPECIFIED FOR EARLY POLE ERECTION, ACTUAL REQUIRED MINIMUM ALLOWABLE CONCRETE STRENGTH IS 1,000 PSI. ALL PIERS AND CONCRETE BACKFILL MUST BEAR ON AND AGAINST FIRM UNDISTURBED SOIL.

GENERAL NOTES:
FIXTURES MUST BE LOCATED TO MAINTAIN 10'-0" MINIMUM HORIZONTAL CLEARANCE FROM ANY OBSTRUCTION. ENGINEER MUST BE NOTIFIED IF FOUNDATIONS ARE NEAR ANY RETAINING WALLS OR WITHIN / NEAR ANY SLOPES STEEPER THAN 3H : 1V. POLES, FIXTURES, PRECAST BASES, ELECTRICAL ITEMS AND INSTALLATION PER MUSCO LIGHTING.

PRELIMINARY
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PURPOSES ONLY

GRIMES
SPORTSPLEX
FIELD LIGHTING
GRIMES, IA

musco Lighting
CORPORATE: 100 1st AVE WEST
OSKALOOSA, IA 52577
(800) 825-6020

STRUCTURAL
ENGINEERS, P.C.
114 NICHOLAS DRIVE
MARSHALLTOWN, IOWA 50158
PHONE NUMBER: 641-752-6334
EMAIL: MSL.INFO@SEPC.BIZ

DRAWING TITLE:
POLE AND FOUNDATION
SCALE: SEE PLAN
NOTES:
SCAN #209347f

PROJECT NUMBER
209347

DATE
14 OCTOBER 2022

DRAWING NUMBER
C1
OF TWO

USE OR REPRODUCTION OF THIS INFORMATION OTHER THAN ITS INTENDED PURPOSE FOR THIS PROJECT IS PROHIBITED WITHOUT WRITTEN CONSENT FROM MUSCO SPORTS LIGHTING, LLC.

PRECAST BASE IDENTIFICATION

PRECAST BASE TYPE	PRECAST BASE WEIGHT	PRECAST BASE LENGTH	PROJECTION ABOVE GRADE	STANDARD EMBEDMENT	OUTSIDE DIAMETER
2B	1,690 LBS	17'-3"	7'-3"	10'-0"	12.00"
3B	2,470 LBS	20'-0"	8'-0"	12'-0"	13.38"
4B	3,490 LBS	22'-0"	8'-0"	14'-0"	15.75"
5B	4,580 LBS	23'-11"	7'-11"	16'-0"	18.25"
6B	6,930 LBS	26'-1"	8'-1"	18'-0"	20.56"
7B	10,160 LBS	27'-10"	7'-10"	20'-0"	23.75"

POLE IDENTIFICATION

POLE DESIGNATION	POLE TYPE	PRECAST BASE TYPE	FIXTURE CONFIGURATION (FIX. PER XARM)	FIXTURE AND ACCESSORIES EPA (FT^2)
A1 - A5, A7, A12, A13, A15, A17, A19, A20	LSS70AA	2B	4 (3)	10.5
A6, A8, A27	LSS70A	3B	5 (4)	12.3
A9, A10	LSS70C	4B	10 (4) / (4)	22.2
A11, A14, A16, A18	LSS70B	3B	8 (3) / (3)	19.8
A21	LSS80A	4B	8 (5)	21.2
A22	LSS80B	5B	7 (6)	19.2
A23	LSS80B	5B	16 (5) / (5)	39.3
A24	LSS70B	3B	7 (6)	14.4
A25	LSS70C	4B	11 (4) / (4)	25.2
A26	LSS80B	5B	14 (6) / (6)	36.0
A28	LSS70B	3B	8 (5)	21.2
A29 - A31, A33	LSS80B	5B	12 (5+4)	33.3
A32	LSS70AA	2B	5 (3)	11.5
B1 - B4, B7, B10	LSS90A	5B	13 (5+5)	34.3
B5, B6	LSS90C	7B	26 (5+5) / (5+5)	64.6
B8, B9	LSS90C	7B	27 (5+5) / (6+5)	68.2
B11	LSS90C	7B	31 (6+5) / (7+7)	81.1
B12	LSS90B	6B	14 (6+5)	37.0
B13	LSS90B	6B	18 (5+5+5)	47.0

- A1 - A8, A12, A13, A15, A17, A19, A20, A22, A24, & A27 HAVE (1) MUSCO LED AT 15'-6" AGL INCLUDED ABOVE.
- A9 - A11, A14, A16, A18, A26, & A32 HAVE (2) MUSCO LED's AT 15'-6" AGL INCLUDED ABOVE.
- A21, A25, A28 - A31, A33, B1 - B4, B7, B10, B12, & B13 HAVE (3) MUSCO LED's AT 15'-6" AGL INCLUDED ABOVE.
- A23, B5, B6, B8, B9, & B11 HAVE (6) MUSCO LED's AT 15'-6" AGL INCLUDED ABOVE.

POLE FOUNDATION SCHEDULE

POLE DESIGNATION	FORCES (1.)			DRILLED PIER			
	MOMENT (M) FT-LBS	SHEAR (V) LBS	VERTICAL (P) LBS	DIAMETER INCHES	EMBEDMENT DEPTH	SUSPENSION "Y" (2.)	CONCRETE BACKFILL YD^3 (3.)
A1 - A5, A7, A12, A13, A15, A17, A19, A20	43,869	1,012	1,236	42	12'-0"	2'-0"	3.4
A6, A8, A27	51,409	1,175	1,505	42	12'-0"	NA	3.3
A9, A10	76,651	1,652	2,425	42	14'-0"	NA	3.7
A11, A14, A16, A18	65,650	1,388	1,751	42	13'-0"	1'-0"	3.6
A21	85,211	1,733	2,306	42	14'-0"	NA	3.7
A22	95,163	1,911	3,188	42	16'-0"	NA	4.1
A23	123,929	2,416	3,766	42	16'-0"	NA	4.1
A24	58,898	1,274	1,788	42	13'-0"	1'-0"	3.6
A25	78,909	1,715	2,482	42	14'-0"	NA	3.7
A26	137,531	2,451	3,884	42	16'-0"	NA	4.1
A28	65,424	1,423	1,861	42	13'-0"	1'-0"	3.6
A29 - A31, A33	119,678	2,283	3,528	42	16'-0"	NA	4.1
A32	41,846	1,017	1,279	42	12'-0"	2'-0"	3.4
B1 - B4, B7, B10	150,557	2,485	3,827	42	16'-0"	NA	4.1
B5, B6	227,812	3,743	7,082	42	20'-0"	NA	4.4
B8, B9	238,414	3,858	7,244	42	20'-0"	NA	4.4
B11	275,426	4,258	7,787	42	20'-0"	NA	4.4
B12	158,639	2,730	4,466	42	18'-0"	NA	4.4
B13	186,446	3,045	4,798	42	18'-0"	NA	4.4

1. ASD LOAD COMBINATION D + 0.6W.
   VERTICAL FORCE IS WEIGHT OF DRESSED POLE (DOES NOT INCLUDE PRECAST BASE WEIGHT)
2. SUSPEND PRECAST BASE "Y" OFF THE BOTTOM OF THE EXCAVATION DURING MONOLITHIC CONCRETE BACKFILL PLACEMENT AND CURING. NA = NOT APPLICABLE, SUSPENSION NOT REQUIRED.
3. MINIMUM CONCRETE BACKFILL VOLUME, SITE CONDITIONS MAY REQUIRE ADDITIONAL BACKFILL.

PRELIMINARY
FOR BID
PURPOSES ONLY

GRIMES
SPORTSPLEX
FIELD LIGHTING
GRIMES, IA

musco Lighting
CORPORATE: 100 1st AVE WEST
OSKALOOSA, IA 52577
(800) 825-6020

STRUCTURAL
ENGINEERS, P.C.
114 NICHOLAS DRIVE
MARSHALLTOWN, IOWA 50158
PHONE NUMBER: 641-752-6334
EMAIL: MSLINFO@SEPC.BIZ

DRAWING TITLE: POLE AND FOUNDATION
SCALE: SEE PLAN
NOTES: SCAN #209347f

PROJECT NUMBER
209347

DATE
14 OCTOBER 2022

DRAWING NUMBER
C2
OF TWO

USE OR REPRODUCTION OF THIS INFORMATION OTHER THAN ITS INTENDED PURPOSE FOR THIS PROJECT IS PROHIBITED WITHOUT WRITTEN CONSENT FROM MUSCO SPORTS LIGHTING, LLC.

E. WARRANTY

Musco Constant 25™

25-Year Product Assurance & Warranty Program

Project name: Grimes Sportsplex Project number: 209347

Owner: City of Grimes City: Grimes State: IA

Covered product(s): Light-Structure System™ with TLC for LED™ technology

Date issued: Date of Shipment Expiration: Date of Shipment + 25 Years

Musco Sports Lighting, LLC will provide all materials and labor to maintain operation of your lighting system to original design criteria for 25 years. Musco products and services are guaranteed to perform on your project as detailed in this document.

Light Performance

Specified illumination levels will be maintained and are marked as guaranteed in the Musco Illumination Summary.

Individual luminaire outages that occur during the warranty and maintenance period are repaired when the usage of any field is materially impacted.

Spill Light Control

If specified, spill light levels at identified locations are guaranteed to be controlled to the maximum values provided in the Musco Illumination Summary.

Energy Consumption

Total average kW consumption for your lighting system is guaranteed to be not more than the total load shown in the Musco Illumination Summary.

Monitoring, Maintenance, and Control Services

Musco shall monitor the performance of your lighting system, including on/off status, hours of usage, and luminaire outages. If outages that affect playability are detected, Musco will contact you and proactively dispatch technicians.

On-off control of your lighting system is provided via an easy-to-use web site scheduling system, smartphone app, phone, email, or fax. Our trained Control-Link Central™ service center staff is available toll-free 24/7. Regular usage reports are always available on Control-Link Central's web site.

Structural Integrity

Your project has been designed to IBC, 2015, 115mph, Exposure C .
Structural integrity of equipment manufactured by Musco is guaranteed.

Musco has a team of people to ensure fulfillment of our product and services warranty and maintains financial reserves dedicated to support our fulfillment of this warranty. Please keep this document as your signed contract guaranteeing comprehensive service for the 25 year period.

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Musco Constant 25™

25-Year Product Assurance & Warranty Program

Terms and Conditions

Service under this Contract is provided by Musco Sports Lighting, LLC ("Musco") or an authorized servicer approved by Musco. Services performed under this Contract shall consist of furnishing labor and parts necessary to restore the operation of the Covered Product(s) to original design criteria provided such service is necessitated by failure of the Covered Product(s) during normal usage. This Contract covers Product(s) consisting of Musco's Total Light Control – TLC for LED® with Control-Link® and any additional Musco manufactured product as listed on page 1.

"We", "us," and "our" mean Musco. "You" and "your" mean the purchaser of the Covered Product(s). No one has the authority to change this Contract without the prior written approval of Musco. Musco shall not assume responsibility for their agents or assignees other than as described below. If there is a conflict between the terms of this Contract and information communicated either orally or in writing by one or more of our employees or agents, this Contract shall control.

Additional Provisions

1. Availability of Service: Control-Link Central™ operators shall be available 24/7 via web site, phone, fax, or email. Maintenance service specialists shall be available 8AM to 5PM Central Time, and services shall be rendered during these same hours in your local time zone, Monday through Friday (with the exception of national holidays). Hours of operation are subject to change without notice to you. Musco will exercise all reasonable efforts to perform service under this Contract, but will not be responsible for delays or failure in performing such services caused by adverse weather conditions, acts of any government, failure of transportation, accidents, riots, war, labor actions or strikes or other causes beyond its control.

2. Determination of Repairs: Musco will utilize the field monitoring system and any information provided by the customer to determine when the usage of the field is materially impacted. From this information, Musco will determine needed repair and/or replacement of Covered Product(s) and parts. Repair will be with Product(s) of like kind and quality.

3. Your Requirements Under this Contract: You must meet all electrical and installation requirements as specified by the manufacturer. In addition, you promise and assure: full cooperation with Musco, Musco's technicians and authorized servicers during telephone diagnosis and repair of the Covered Product(s); reasonable accessibility of the Covered Product(s); a nonthreatening and safe environment for service.

   You agree to check fuses and to replace fuses as needed. Musco provides spare fuses in the lowest alpha-numeric numbered enclosure. Musco will replenish spare fuses used.

   You agree to keep your control system online. This means keeping the required control voltage to the control system at all times. Any deviation from this practice must be discussed with Musco's Warranty Department.

4. Service Limitations — This Contract does not cover: Maintenance, repair, or replacement necessitated by loss or damage resulting from any external causes such as, but not limited to, theft, environmental conditions, negligence, misuse, abuse, improper electrical/power supply, unauthorized repairs by third parties, attachments, damage to cabinetry, equipment modifications, vandalism, animal or insect infestation, physical damage to Covered Product(s) parts or components, failure of existing structures, supporting electrical systems or any non-Musco equipment, or acts of God/nature (including, but not limited to: earthquake, flood, tornadoes, typhoons, hurricanes, or lightning).

5. Contract Limitations:

   a. EXCLUSIONS FROM COVERAGE: IN NO EVENT WILL MUSCO BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES WHICH INCLUDE, BUT ARE NOT LIMITED TO, ANY DELAY IN RENDERING SERVICE OR LOSS OF USE DURING THE REPAIR PERIOD OF THE COVERED PRODUCT(S) OR WHILE OTHERWISE AWAITING PARTS.

   b. Limitation of Liability: To the extent permitted by applicable law, the liability of Musco, if any, for any allegedly defective Covered Product(s) or components shall be limited to repair or replacement of the Covered Product(s) or components at Musco's option. THIS CONTRACT IS YOUR SOLE EXPRESS WARRANTY WITH RESPECT TO THE COVERED PRODUCT(S). ALL IMPLIED WARRANTIES WITH RESPECT TO THE COVERED PRODUCT(S) INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY EXPRESSLY EXCLUDED.

   c. For the purposes of and by your acceptance of this Contract you acknowledge and agree that if a surety bond ("Bond") is provided the warranty and/or maintenance guarantee provided for in this Contract and any corresponding liability on behalf of the issuing surety under the Bond is limited to the first twelve (12) months of said warranty and/or maintenance guarantee coverage period. Any warranty and/or guarantee coverage period in excess of said initial 12 month period does not fall within the scope of the Bond and shall be the sole responsibility of Musco.

   d. Musco requires reasonable access for a crane or man lift equipment to service the lighting system. Musco will not be responsible for damage from operating the vehicle on the property when the equipment is operated in the prescribed manner over the designated access route.

   e. Obsolescence or Environmental Restrictions: If during any maintenance or other work performed under this Warranty, any of the parts of the Covered Product(s) are found to be either obsolete, no longer available, or prohibited by any state of federal agency, Musco shall replace said parts with comparable parts and materials with equal operating characteristics solely at Musco's discretion. The cost of replacement of any obsolete cellular related technology shall be borne by you. Prior to completing any such work, Musco shall notify you of the cost (if any) you will incur in the replacement of such parts under this section.

6. Transfer and Assignment: Except to owners, you shall not have the right to assign or otherwise transfer your rights and obligations under this Contract except with the prior written consent of Musco; however, a successor in interest by merger, operation of law, assignment or purchase or otherwise of your entire business shall acquire all of your interests under this Contract.

7. Governing Law: Unless otherwise governed by applicable state law, the Contract shall be interpreted and enforced according to the laws of the State of Iowa.

8. Subrogation: In the event Musco repairs or replaces any Covered Product(s), parts or components due to any defect for which the manufacturer or its agents or suppliers may be legally responsible, you agree to assign your rights of recovery to Musco. You will be reimbursed for any reasonable costs and expenses you may incur in connection with the assignment of your rights. You will be made whole before Musco retains any amounts it may recover.

Signature: _____

Vice President of Sales

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F. PRODUCT INFORMATION

TLC for LED®

5 Easy Pieces™

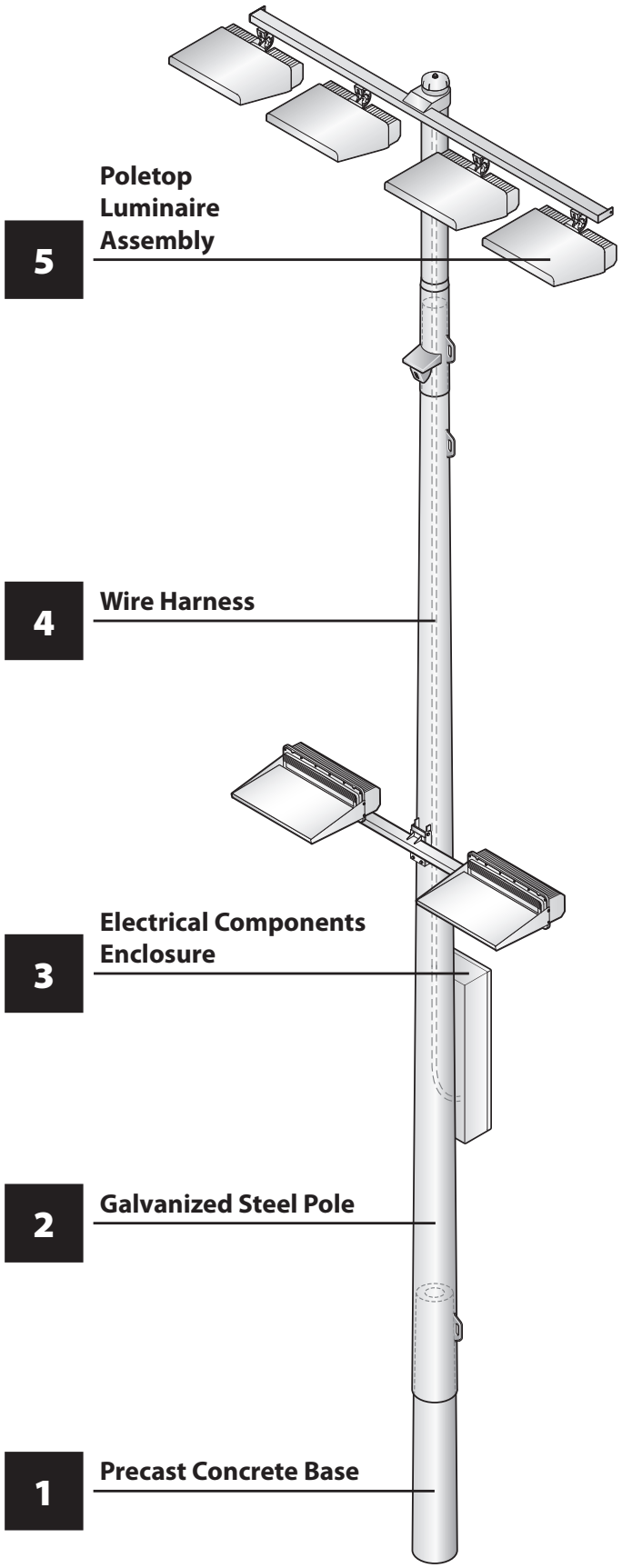
Complete System from Foundation to Poletop

Factory wired, aimed, and tested

Fast, trouble-free installation

Comprehensive corrosion package

Integrated lightning ground



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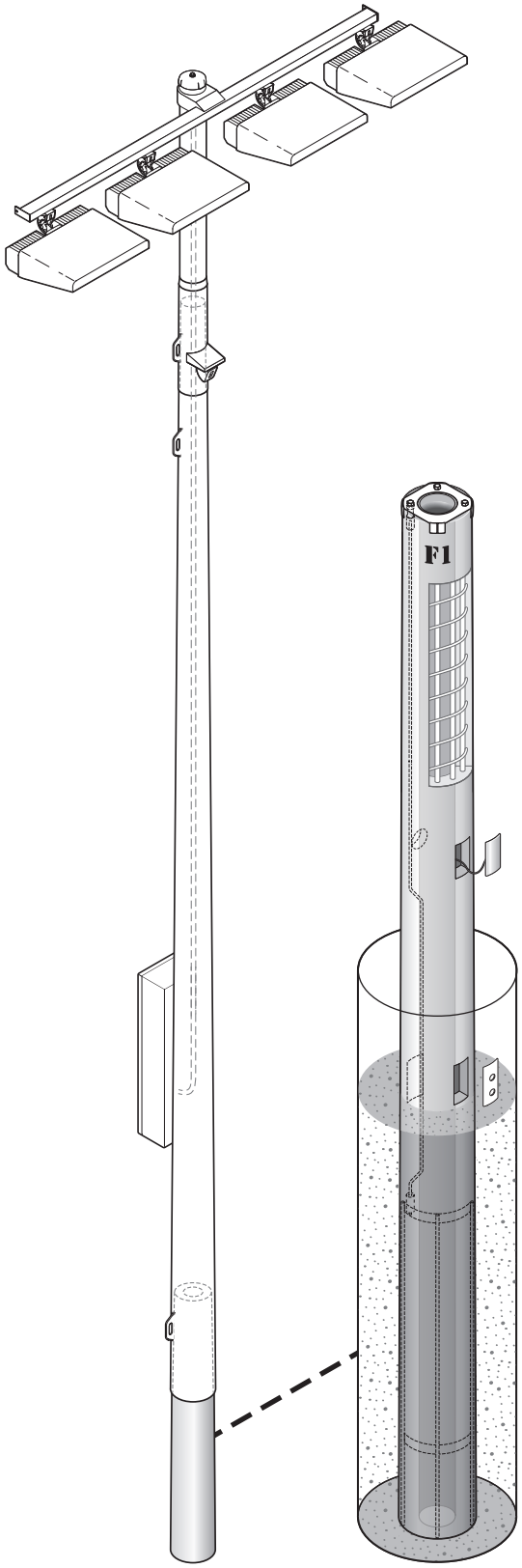
TLC for LED® – Precast Concrete Base



Overview

The precast concrete base is set directly into the ground and backfilled with concrete. The base includes an integrated lightning ground system.

Features

Base

- Set pole on base in 24 hours
- Tapered upper section for slip-fit steel pole
- Access holes for wire entry
- Epoxy-coated ends prevent water intrusion
- Lifting hole accepts load-rated steel rod provided by Musco

Integrated Lightning Ground System

- Complies with NFPA 780, UL 96A, and EN 62305 standards when installed per Musco installation instructions
- UL Listed, Class II Lightning Protection, file number E337467
- Tested up to 100 kA by independent laboratory
- Steel pole interfaces with integrated grounding system by means of the pole grounding connector
- 2/0 AWG (crossectional area of 67.4 mm^2) grounding electrode conductor
- Concrete-encased grounding electrode, 20 feet (6.1 m) total length, ½ inch (12.7 mm) diameter

Technical Specifications

Base dimensions vary. For measurements refer to project-specific *Foundation and Pole Assembly* drawing.

Construction

- Spun concrete construction
- Prestressed steel vertical strands and coil spiral for strength throughout base
- Minimum design strength is 9500 lb/in^2 (65.5 MPa) at 28 days
- Meets ASTM C1804 design requirements

Quality Assurance Tests

- 28-day compressive strength
- Bending moment capacity
- Grounding system continuity

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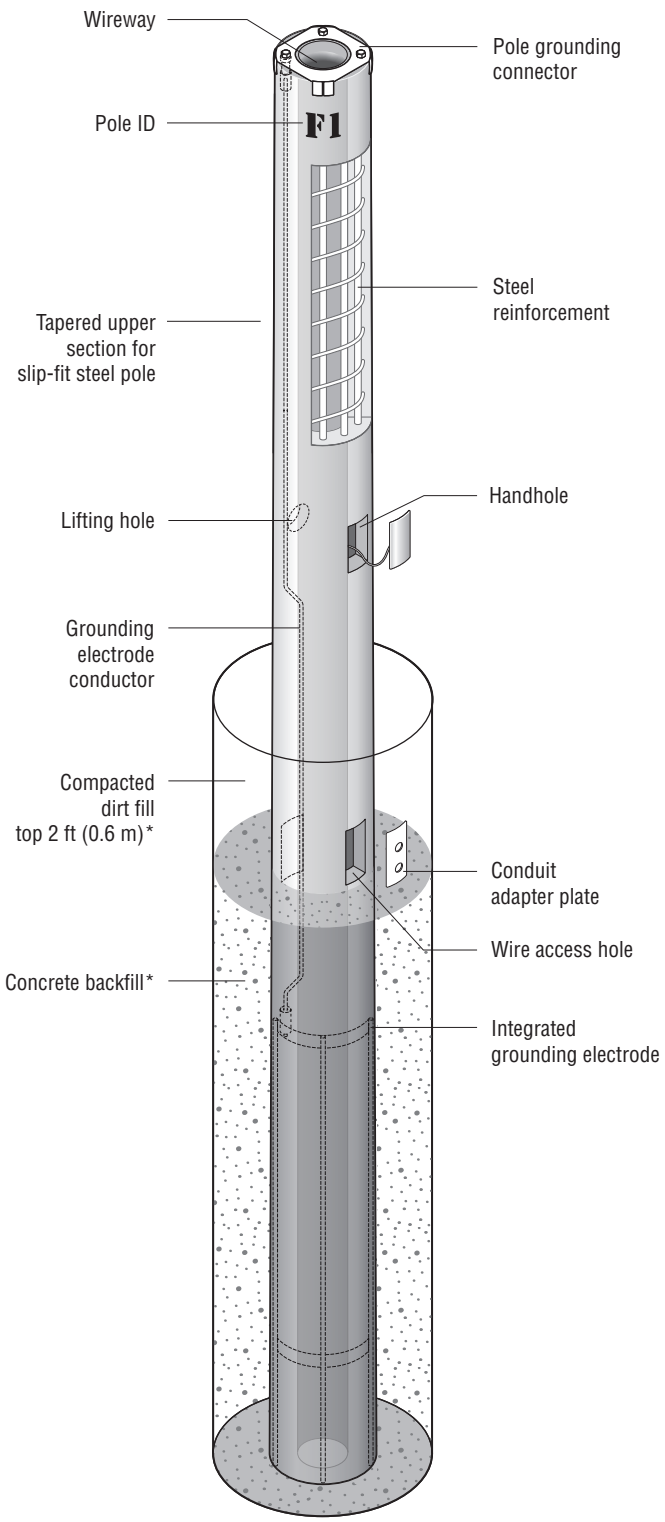
TLC for LED® – Precast Concrete Base



*Standard pier foundation shown. Foundation and/or backfill may vary per alternate foundation design.

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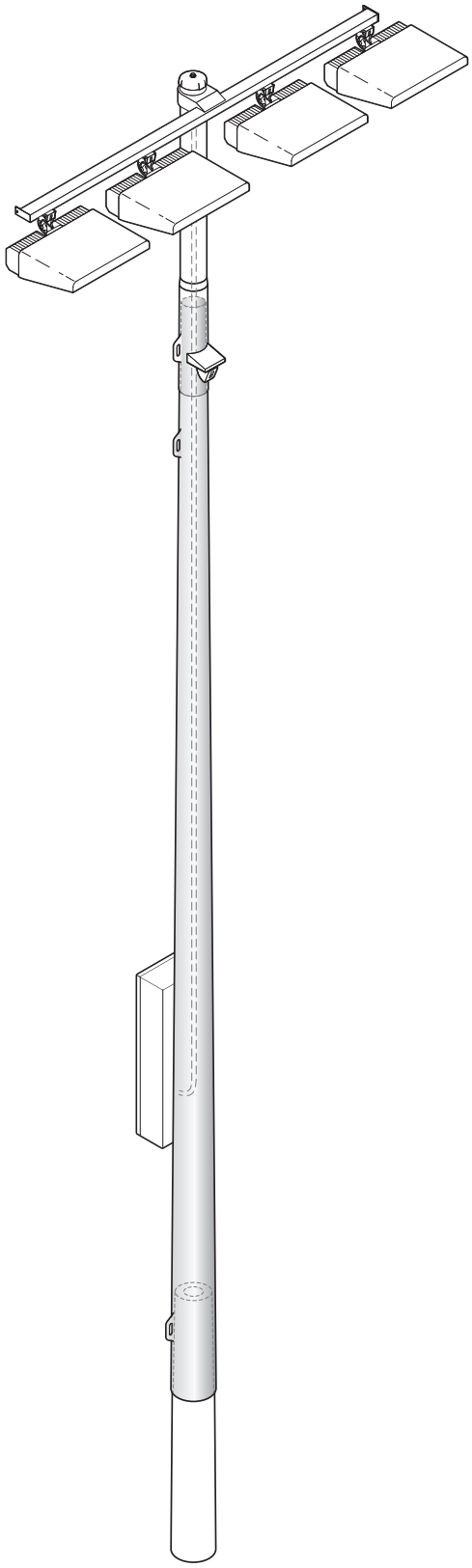
TLC for LED® – Galvanized Steel Pole



Overview

The galvanized steel pole is designed to slip-fit together with the precast concrete base and the poletop luminaire assembly.

Features

- Slip-fit connection allows pole assembly with come-alongs
- Built-in hardware for attaching electrical components enclosure
- Wire access from inside the pole (no exposed wiring or conduit)
- Shipped in sections for easier handling
- Labeled with pole identification for location on field

Technical Specifications

Pole dimensions vary. For measurements refer to project specific pole configuration drawing.

Construction

- Pole designs comply with all major building codes
- High strength, low alloy, tapered, round steel pole
- Hot-dip galvanizing inside and outside after fabrication meets ASTM-A123 and EN 1461 standards
- Conforms to AASHTO stress standards and BS EN 40-3-1
- Grounding lug—rated for aluminum (AL) or copper (CU) wiring
- Pole shipped in sections
- Stainless steel fasteners passivated and coated
- Material certifications are available

Quality Assurance Tests

- Bending stress
- Minimum galvanizing thickness
- Straightness measurement

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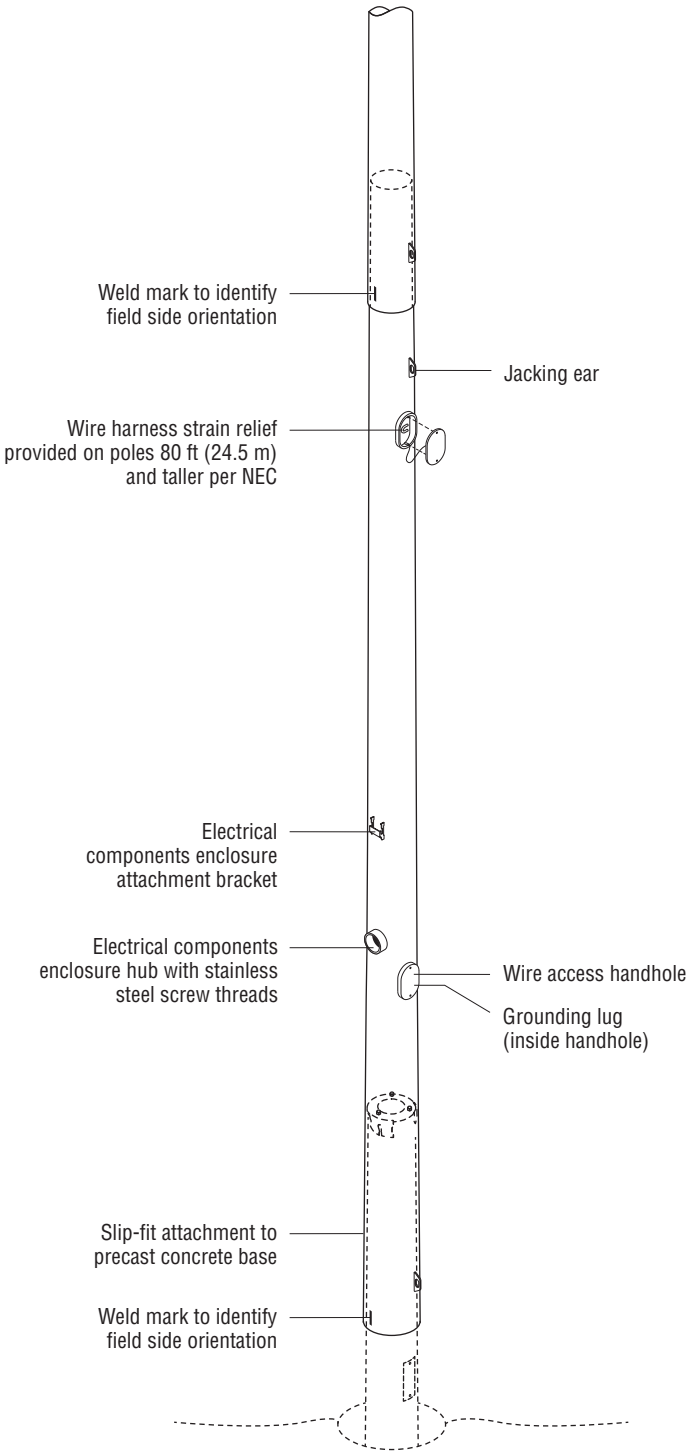
TLC for LED® – Galvanized Steel Pole



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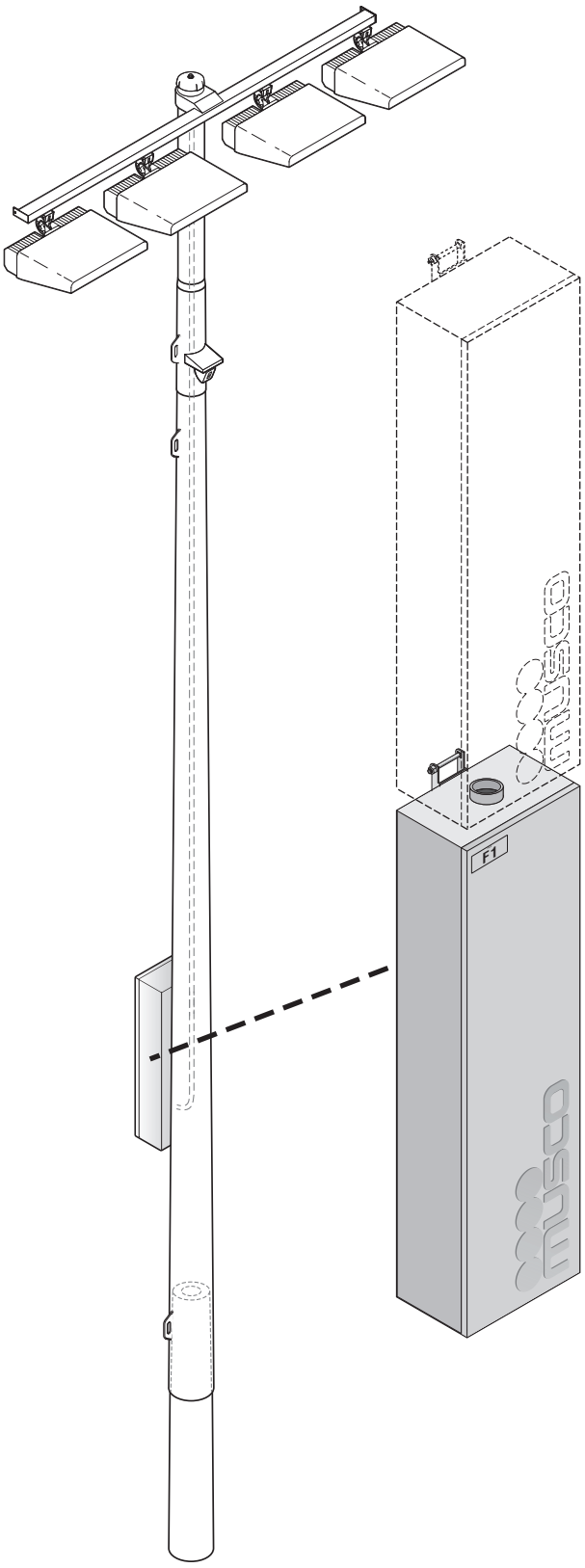
TLC for LED® – Electrical Components Enclosure



Overview

The electrical components enclosure contains all necessary equipment to operate luminaires. Built-in mounting hardware allows for easy attachment to the galvanized steel pole. Quick connect plugs fasten to the wire harness.

Features

- Factory-built and tested as a unit
- Quick connect plug for easy field wiring
- Mounted 10 ft (3 m) above grade for servicing with ladder
- Labeled with pole identification and electrical information
- Drivers individually fused and spare fuses supplied
- Wire access from inside the pole (no exposed wiring or conduit)
- Disconnect per circuit

Technical Specifications

For amperage draws and circuitry refer to project specific document.

Construction

- 0.08 inch (2 mm) thick, powder-coated aluminum
- Enclosure ratings: NEMA 3R, IP54
- Designed to operate in up to 50˚ C (122˚ F) ambient temperature
- Full length stainless steel hinge
- All stainless steel fasteners passivated and coated
- Meets touchsafe standards
- Up to four drivers per enclosure
- Approximate weight 65 lb (29 kg)
- Lower enclosure size 14.25 in (362 mm) wide x 8 in (203 mm) deep x 52.5 in (1334 mm) high
- Upper enclosure size 14.25 in (362 mm) wide x 8 in (203 mm) deep x 40.5 in (1029 mm) high

Quality Assurance Tests

- Grounding continuity
- High potential dielectric withstand
- Full functionality test

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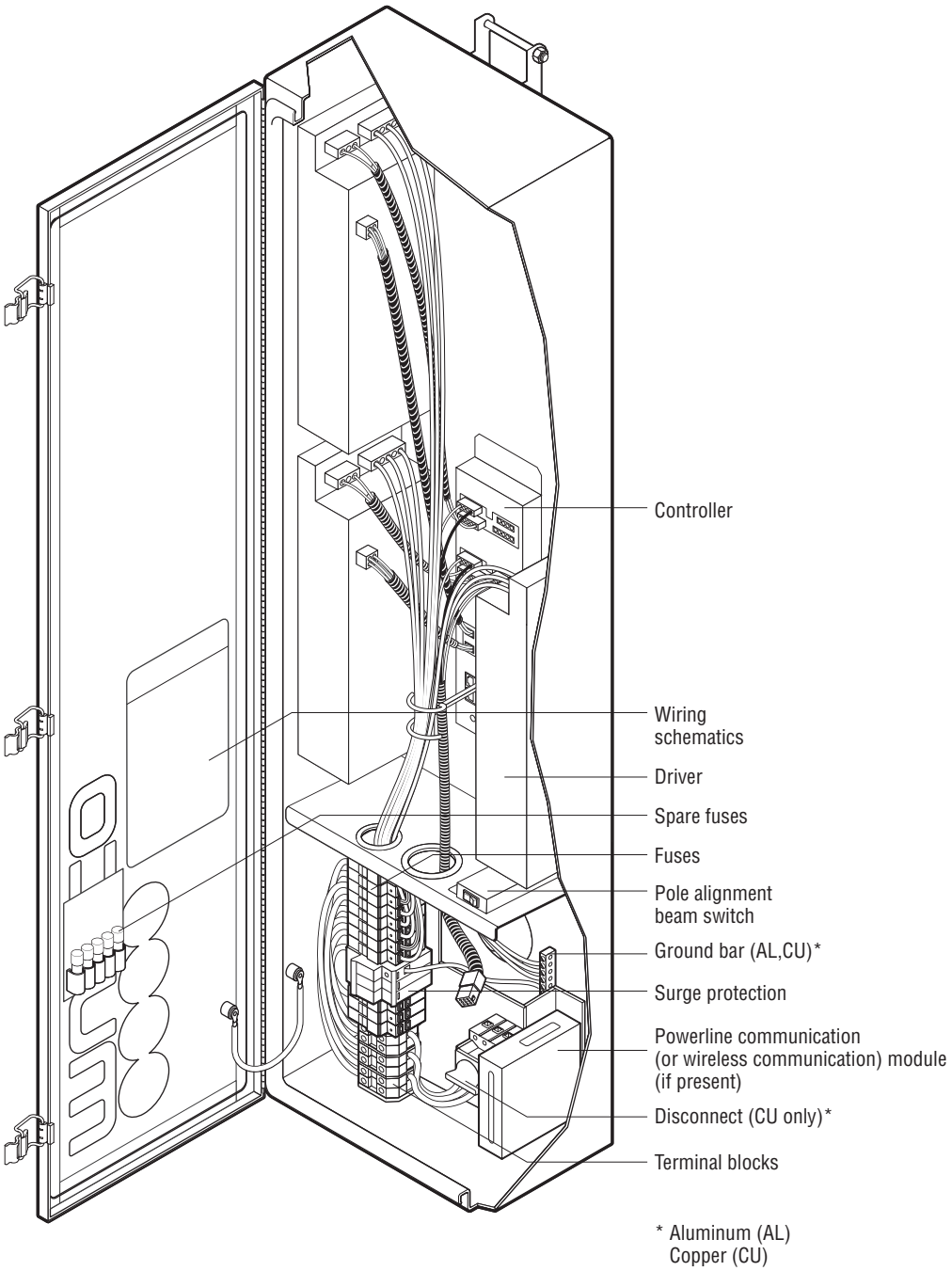
TLC for LED® – Electrical Components Enclosure



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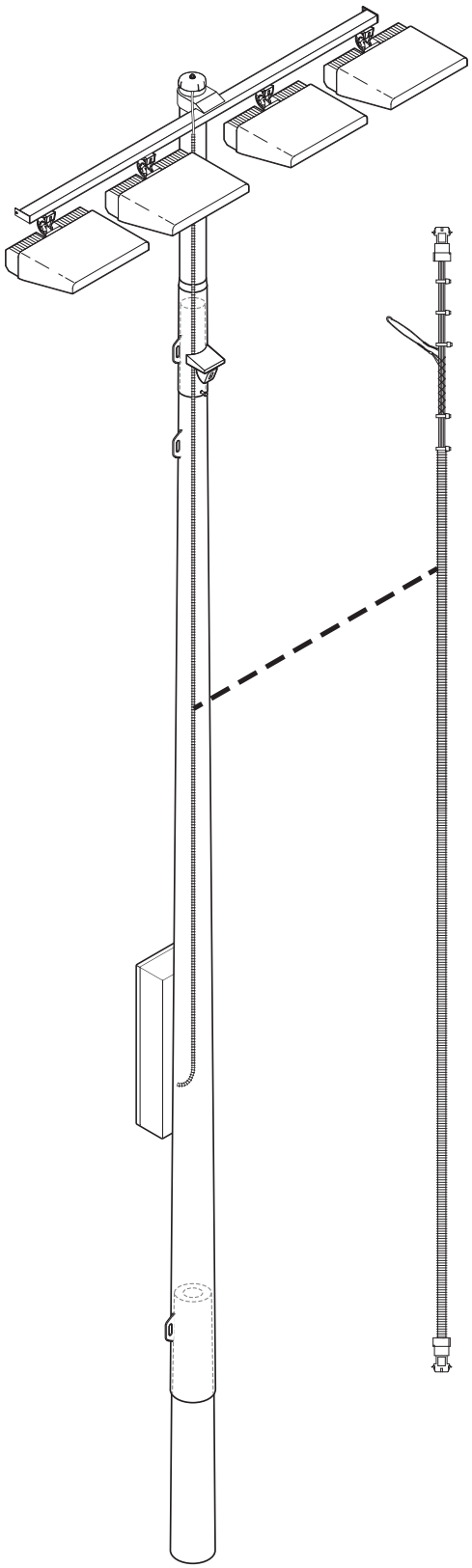
TLC for LED® – Wire Harness



Overview

The factory-built wire harness connects the electrical components enclosure to the poletop luminaire assembly.

Features

- Quick connect plugs for easy field wiring
- Factory-assembled support grip alleviates strain on connections
- Spiral wound cable eliminates slippage
- Protective sleeve prevents wire damage
- All internal wiring, no exposed wires
- Labels identify pole and luminaires

Technical Specifications

Construction

- Spiral wound, wrapped cable, 14 AWG (cross-sectional area of 2.08 mm^2) copper wire
- Integral cable support grip
- Two wires per driver
- Each harness supports up to four drivers
- Multiple top connectors may be present if required for number of luminaires

Quality Assurance Tests

- Connector/load resistance
- High potential dielectric withstand
- Grounding continuity
- Termination crimp

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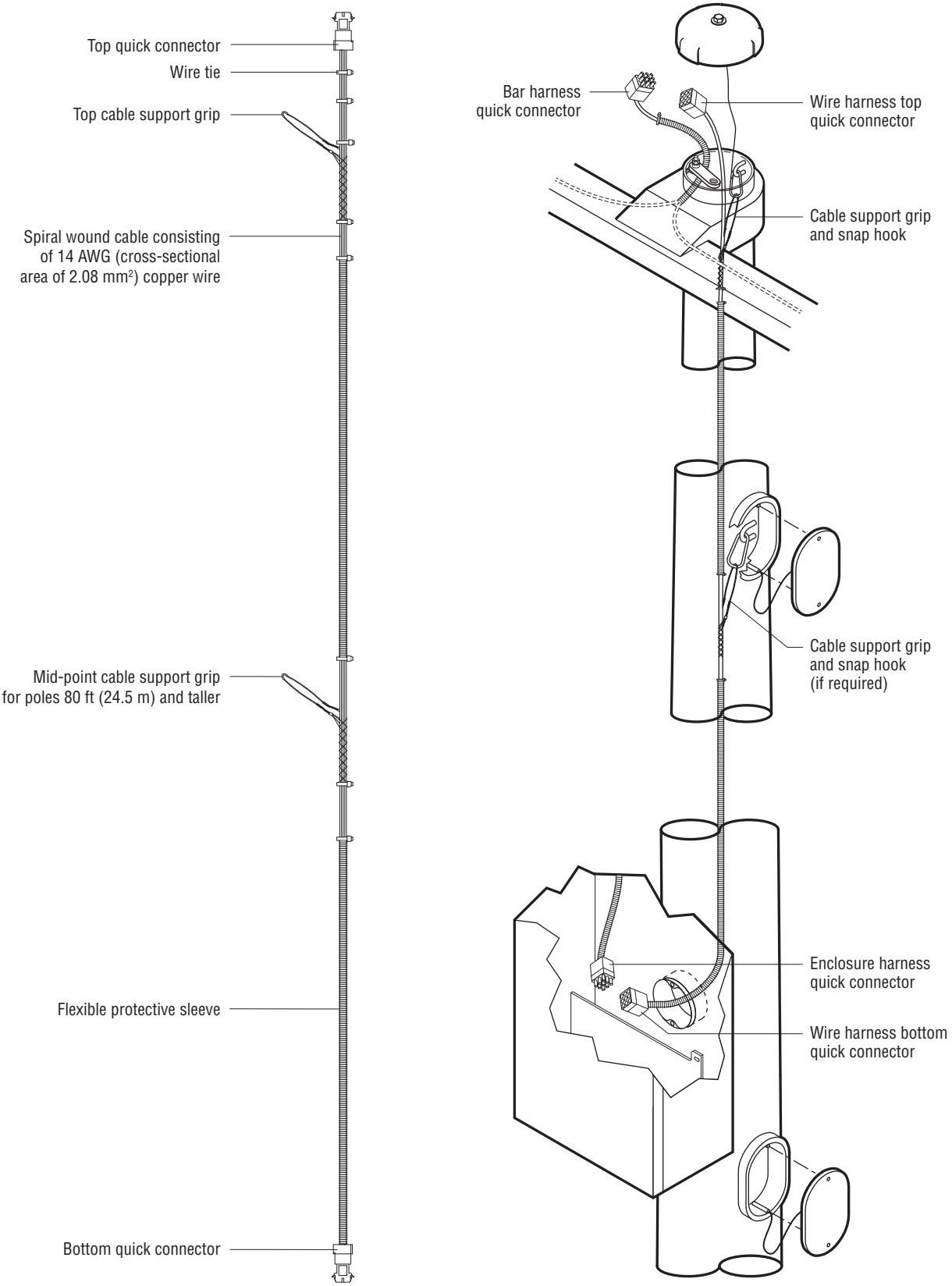
TLC for LED® – Wire Harness



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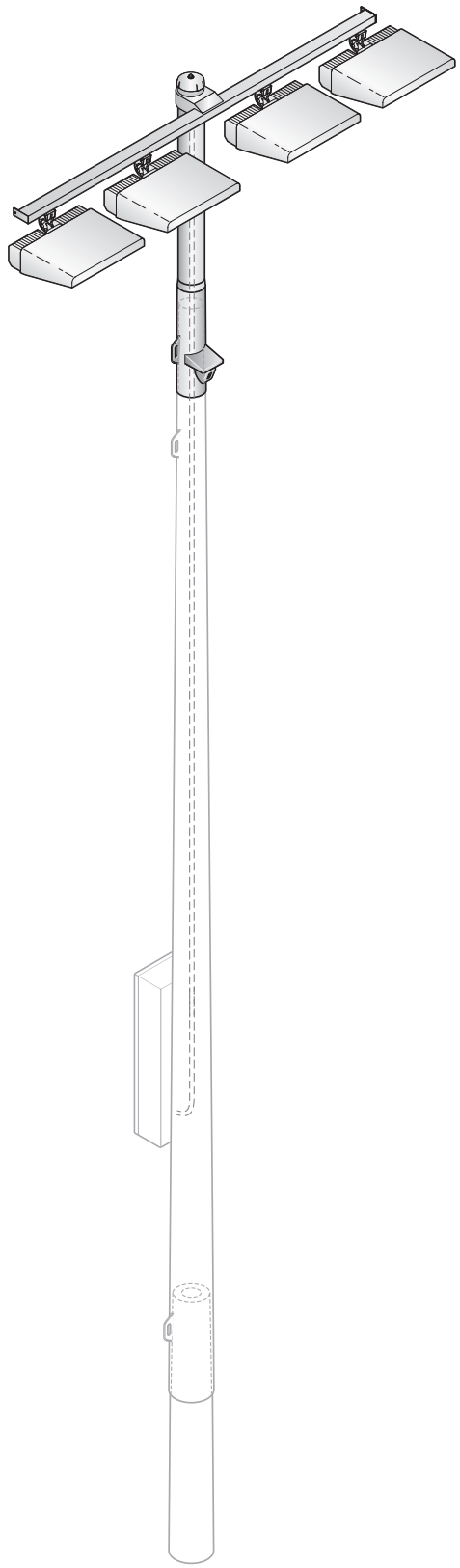
TLC for LED® – Poletop Luminaire Assembly, Weld On



Overview

The factory-aimed poletop luminaire assembly is the upper section of the pole and slip-fits together with the galvanized steel pole.

Features

- Each luminaire is factory-built, tested, and ships as a unit
- Luminaires are factory-aimed to two-tenths degree of accuracy
- Luminaire mounts and connects in a single step
- Slip-fit connection allows assembly with come-alongs
- All luminaires are factory-wired to a quick connect harness for easy installation
- Labels identify pole and luminaire location
- No exposed wiring or conduit
- Factory-set pole alignment beam allows easy field alignment

Technical Specifications

Construction

- Crossarms and pole shaft hot-dip galvanizing inside and outside after fabrication meets ASTM-A123 and EN 1461 standards
- All aluminum components are powder-coated or anodized to mil-A-8625F and BS 5599
- Luminaire and knuckle are powder-coated die-cast aluminum
- All stainless steel fasteners are passivated and coated
- Crossarms are constructed of rectangular steel tubing
- Polecap is attached with stainless steel lanyard and securing bolt

Quality Assurance Tests

- Galvanizing thickness
- High potential dielectric withstand
- Electrical continuity

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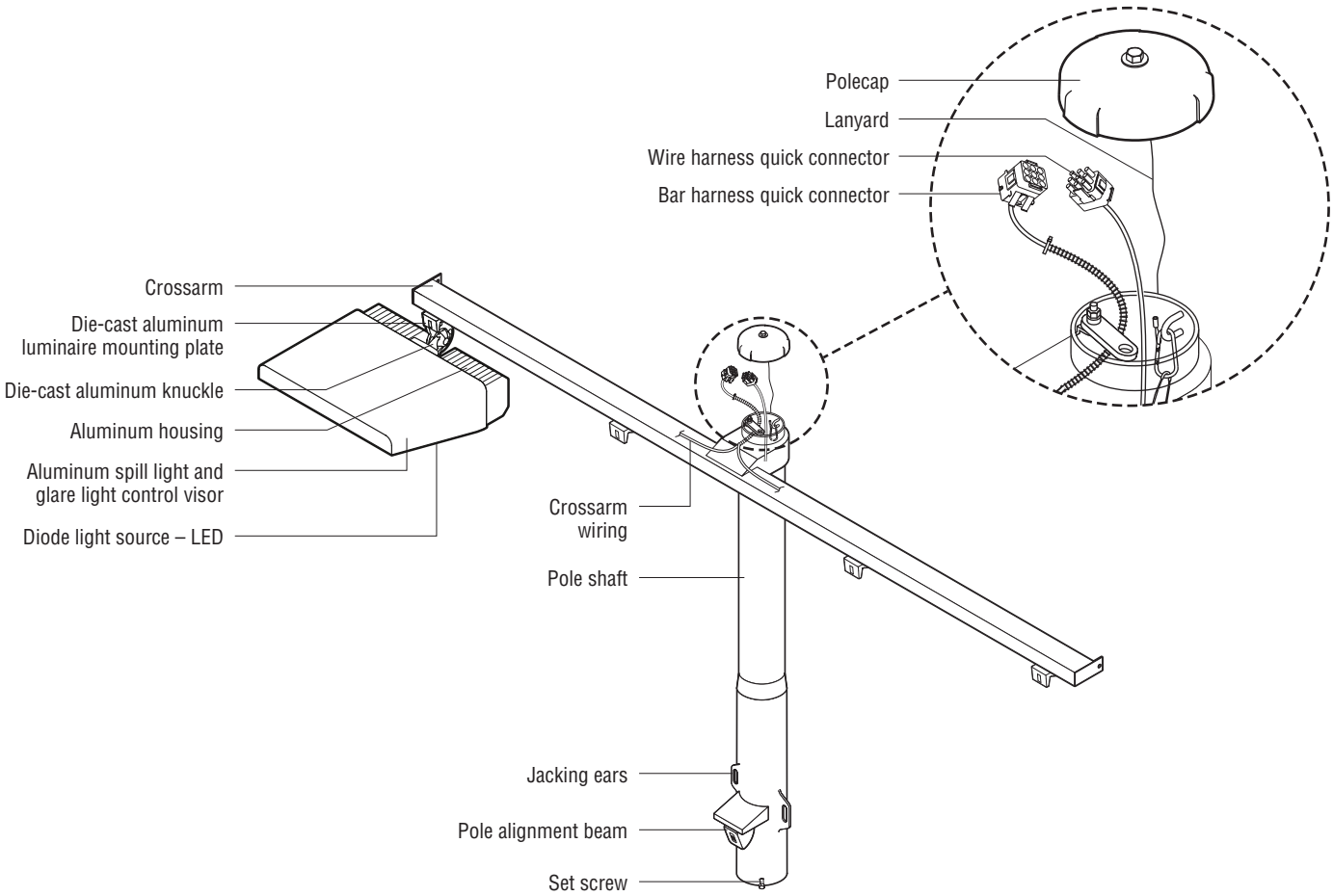
TLC for LED® – Poletop Luminaire Assembly, Weld On



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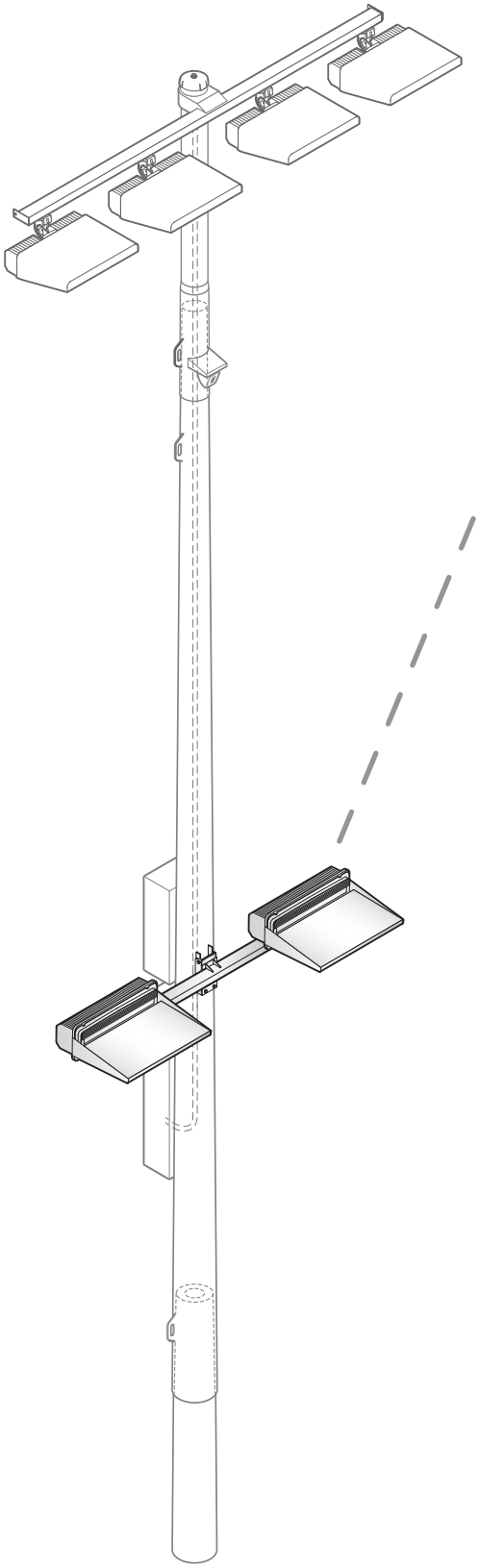
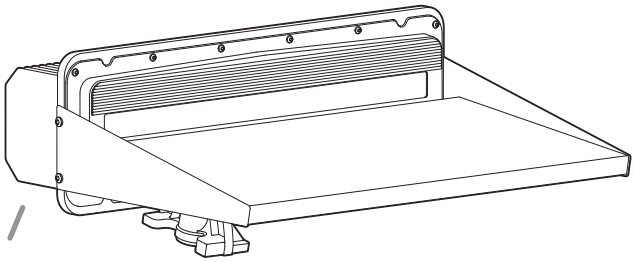
Luminaire and Driver – TLC-BT-575





Luminaire Data

Weight (luminaire)	34 lb (15 kg)
UL listing number	E338094
UL listed for USA/Canada	UL1598 CSA-C22.2 No.250.0
CE Declaration	LVD, EMC, RoHS
Ingress protection (luminaire)	IP65
Impact rating	IK07
Material and finish	Aluminum, powder-coat painted
Wind speed rating (aiming only)	150 mi/h (67 m/s)
UL, IEC ambient temperature rating (luminaire)	50°C (122°F)

Photometric Characteristics

Projected lumen maintenance per IES TM-21-11	
L90 (20k)	>120,000 h
L80 (20k)	>120,000 h
L70 (20k)	>120,000 h
Lumens[1]	52,000
CIE correlated color temperature	5700 K
Color rendering index (CRI)	75 typ, 70 min
LED binning tolerance	7-step MacAdam Ellipse

Footnotes:

1) Incorporates appropriate dirt depreciation factor for life of luminaire.

All components from foundation to poletop are designed to work together in Light-Structure System™ to ensure reliable, trouble-free operation.

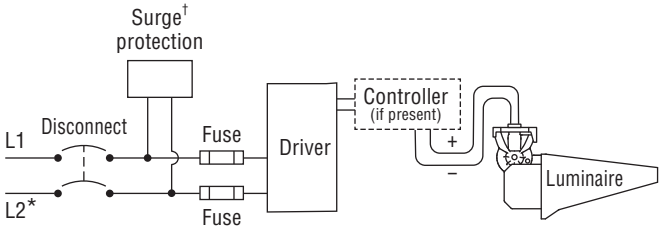
Luminaire and Driver – TLC-BT-575

Driver Data

Electrical Data

Rated wattage[1]	
Per driver	575 W
Per luminaire	575 W
Number of luminaires per driver	1
Starting (inrush) current	<40 A, 256 µs
Fuse rating	15 A
UL, IEC ambient temperature rating, electrical components enclosure	50°C (122°F)
Ingress protection, electrical components enclosure	IP54
Efficiency	95%
Total harmonic distortion (THD) at full output	<20%

Typical Wiring



* If L2 is neutral then not switched or fused.
† Not present if indoor installation.

	200 Vac 50/60 Hz	208 Vac 60 Hz	220 Vac 50/60 Hz	230 Vac 50 Hz	240 Vac 50/60 Hz	277 Vac 60 Hz	347 Vac 60 Hz	380 Vac 50/60 Hz	400 Vac 50 Hz	415 Vac 50 Hz	480 Vac 60 Hz
Max operating current per luminaire[2]	3.48 A	3.35 A	3.16 A	3.03 A	2.90 A	2.51 A	2.01 A	1.83 A	1.74 A	1.68 A	1.45 A

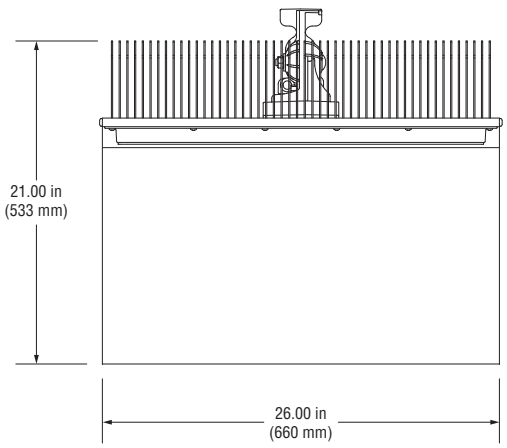
Footnotes:

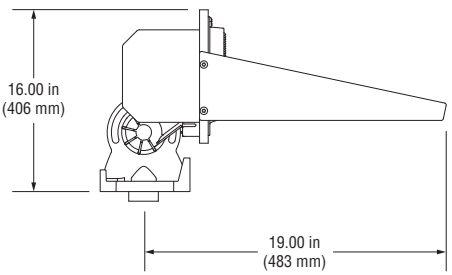
1) Rated wattage is the power consumption, including driver efficiency losses, at stabilized operation in 25°C ambient temperature environment.

2) Operating current includes allowance for 0.90 minimum power factor, operating temperature, and LED light source manufacturing tolerances.

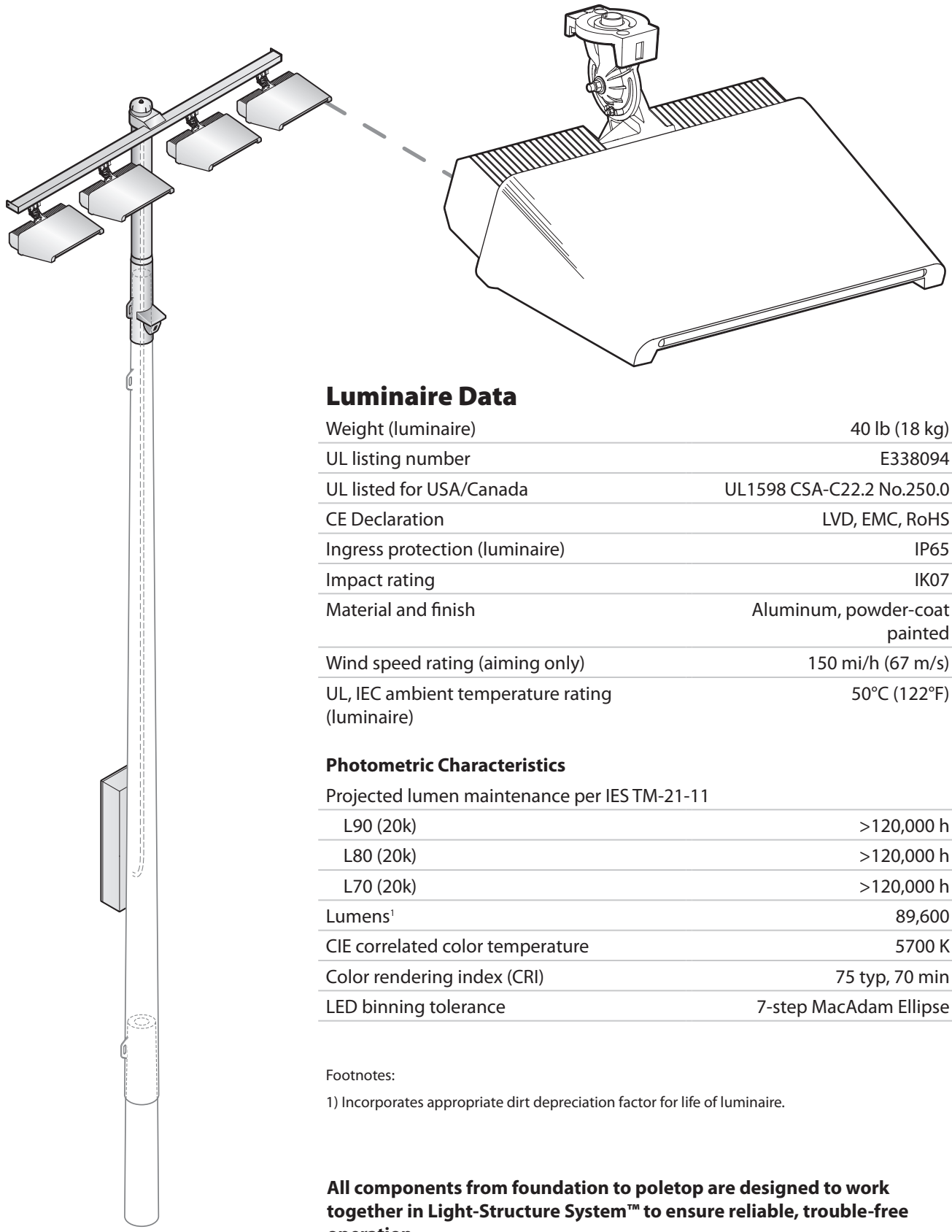
Notes

1. Use thermal magnetic HID-rated or D-curve circuit breakers.
2. See *Musco Control System Summary* for circuit information.





Luminaire and Driver – TLC-LED-900



Luminaire Data

Weight (luminaire)	40 lb (18 kg)
UL listing number	E338094
UL listed for USA/Canada	UL1598 CSA-C22.2 No.250.0
CE Declaration	LVD, EMC, RoHS
Ingress protection (luminaire)	IP65
Impact rating	IK07
Material and finish	Aluminum, powder-coat painted
Wind speed rating (aiming only)	150 mi/h (67 m/s)
UL, IEC ambient temperature rating (luminaire)	50°C (122°F)

Photometric Characteristics

Projected lumen maintenance per IES TM-21-11	
L90 (20k)	>120,000 h
L80 (20k)	>120,000 h
L70 (20k)	>120,000 h
Lumens[1]	89,600
CIE correlated color temperature	5700 K
Color rendering index (CRI)	75 typ, 70 min
LED binning tolerance	7-step MacAdam Ellipse

Footnotes:

1) Incorporates appropriate dirt depreciation factor for life of luminaire.

All components from foundation to poletop are designed to work together in Light-Structure System™ to ensure reliable, trouble-free operation.

U.S. and foreign patent(s) issued and pending • 2018, 2021 Musco Sports Lighting, LLC • TLC-LED-900 5700K 75 CRI • M-2629-en04-5

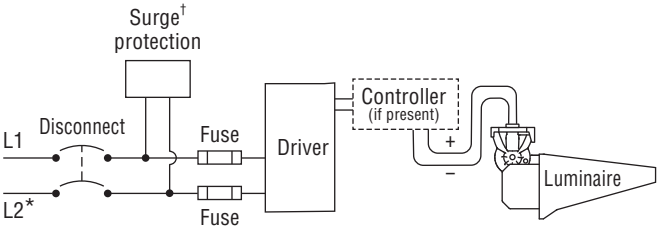
Luminaire and Driver – TLC-LED-900

Driver Data

Electrical Data

Rated wattage[1]	
Per driver	890 W
Per luminaire	890 W
Number of luminaires per driver	1
Starting (inrush) current	<40 A, 256 µs
Fuse rating	15 A
UL, IEC ambient temperature rating, electrical components enclosure	50°C (122°F)
Ingress protection, electrical components enclosure	IP54
Efficiency	95%
Dimming mode	optional
Range, energy consumption	25 – 100%
Range, light output	30 – 100%
Flicker	<2%
Total harmonic distortion (THD) at full output	<20%

Typical Wiring



* If L2 is neutral then not switched or fused.
† Not present if indoor installation.

	200 Vac 50/60 Hz	208 Vac 60 Hz	220 Vac 50/60 Hz	230 Vac 50 Hz	240 Vac 50/60 Hz	277 Vac 60 Hz	347 Vac 60 Hz	380 Vac 50/60 Hz	400 Vac 50 Hz	415 Vac 50 Hz	480 Vac 60 Hz
Max operating current per luminaire[2]	5.50 A	5.29 A	5.00 A	4.78 A	4.58 A	3.97 A	3.17 A	2.90 A	2.75 A	2.65 A	2.29 A

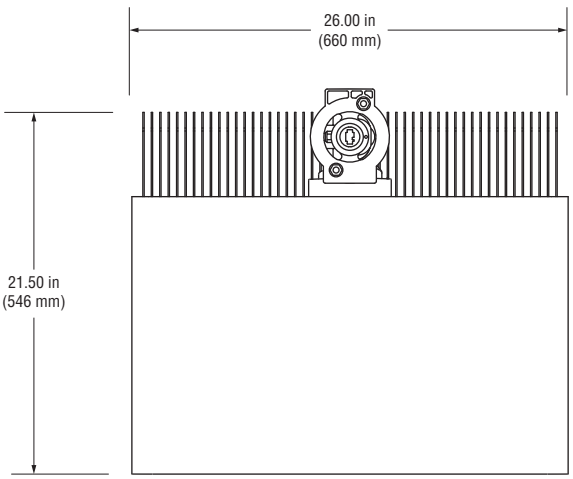
Footnotes:

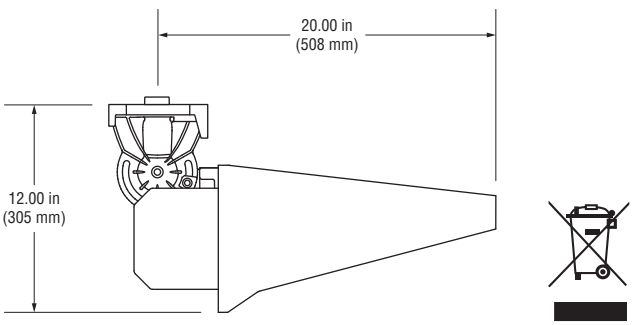
1) Rated wattage is the power consumption, including driver efficiency losses, at stabilized operation in 25°C ambient temperature environment.

2) Operating current includes allowance for 0.90 minimum power factor, operating temperature, and LED light source manufacturing tolerances.

Notes

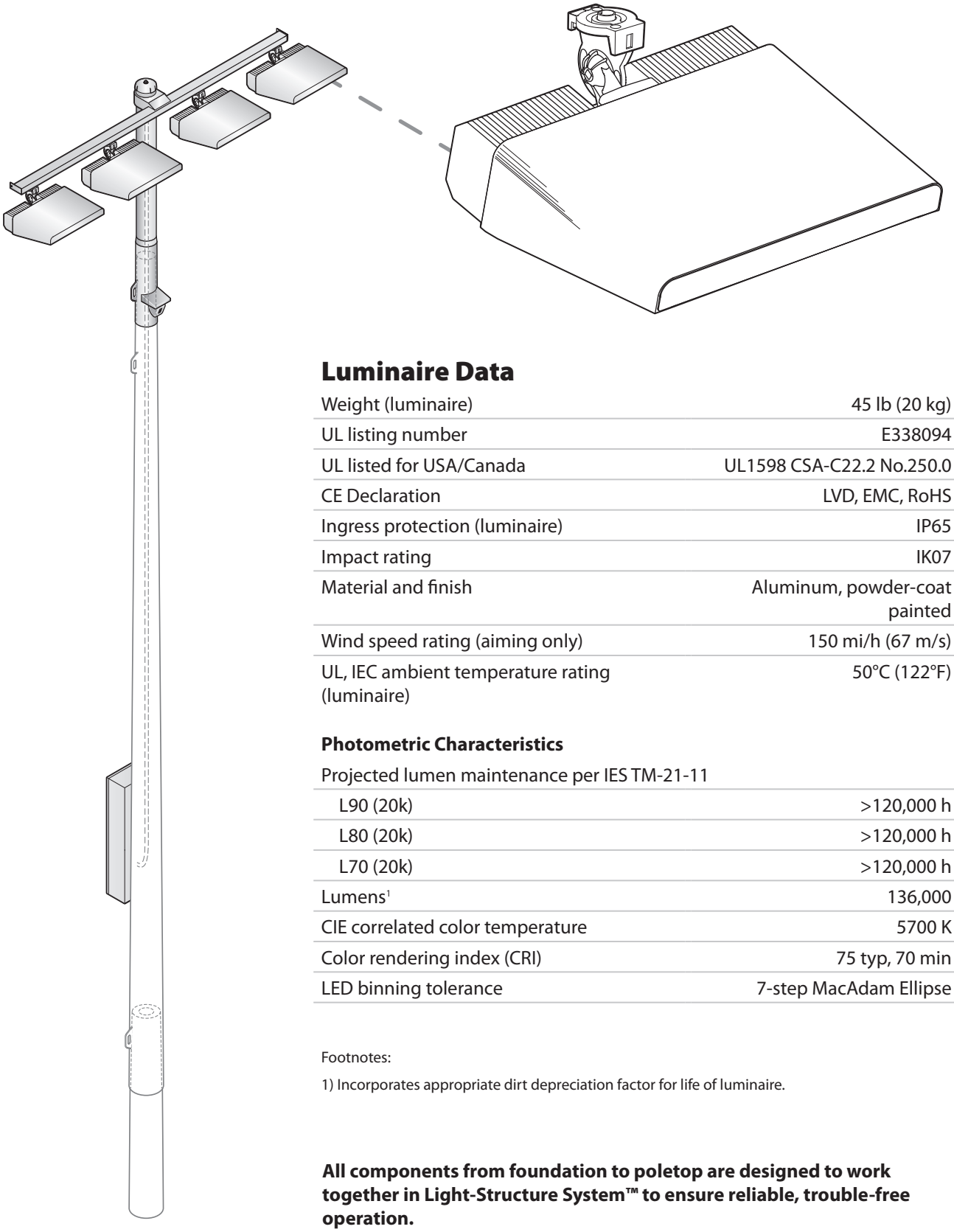
1. Use thermal magnetic HID-rated or D-curve circuit breakers.
2. See *Musco Control System Summary* for circuit information.





U.S. and foreign patent(s) issued and pending • 2018, 2021 Musco Sports Lighting, LLC • TLC-LED-900 5700K 75 CRI • M-2629-en04-5

Luminaire and Driver – TLC-LED-1200



Luminaire Data

Weight (luminaire)	45 lb (20 kg)
UL listing number	E338094
UL listed for USA/Canada	UL1598 CSA-C22.2 No.250.0
CE Declaration	LVD, EMC, RoHS
Ingress protection (luminaire)	IP65
Impact rating	IK07
Material and finish	Aluminum, powder-coat painted
Wind speed rating (aiming only)	150 mi/h (67 m/s)
UL, IEC ambient temperature rating (luminaire)	50°C (122°F)

Photometric Characteristics

Projected lumen maintenance per IES TM-21-11	
L90 (20k)	>120,000 h
L80 (20k)	>120,000 h
L70 (20k)	>120,000 h
Lumens[1]	136,000
CIE correlated color temperature	5700 K
Color rendering index (CRI)	75 typ, 70 min
LED binning tolerance	7-step MacAdam Ellipse

Footnotes:

1) Incorporates appropriate dirt depreciation factor for life of luminaire.

All components from foundation to poletop are designed to work together in Light-Structure System™ to ensure reliable, trouble-free operation.

U.S. and foreign patent(s) issued and pending • 2019, 2021 Musco Sports Lighting, LLC • TLC-LED-1200 5700K 75 CRI • M-2967-en04-4

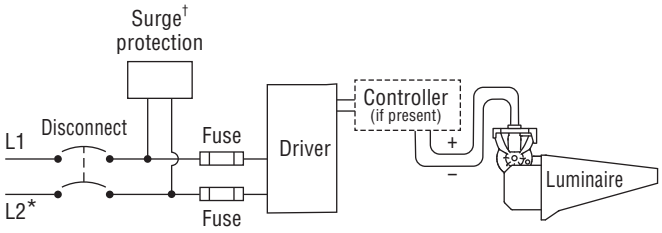
Luminaire and Driver – TLC-LED-1200

Driver Data

Electrical Data

Rated wattage[1]	
Per driver	1170 W
Per luminaire	1170 W
Number of luminaires per driver	1
Starting (inrush) current	<40 A, 256 µs
Fuse rating	15 A
UL, IEC ambient temperature rating, electrical components enclosure	50°C (122°F)
Ingress protection, electrical components enclosure	IP54
Efficiency	95%
Dimming mode	optional
Range, energy consumption	14 – 100%
Range, light output	19 – 100%
Flicker	<2%
Total harmonic distortion (THD) at full output	<20%

Typical Wiring



* If L2 is neutral then not switched or fused.
† Not present if indoor installation.

	200 Vac 50/60 Hz	208 Vac 60 Hz	220 Vac 50/60 Hz	230 Vac 50 Hz	240 Vac 50/60 Hz	277 Vac 60 Hz	347 Vac 60 Hz	380 Vac 50/60 Hz	400 Vac 50 Hz	415 Vac 50 Hz	480 Vac 60 Hz
Max operating current per luminaire[2]	7.26 A	6.98 A	6.60 A	6.31 A	6.05 A	5.24 A	4.18 A	3.82 A	3.63 A	3.50 A	3.03 A

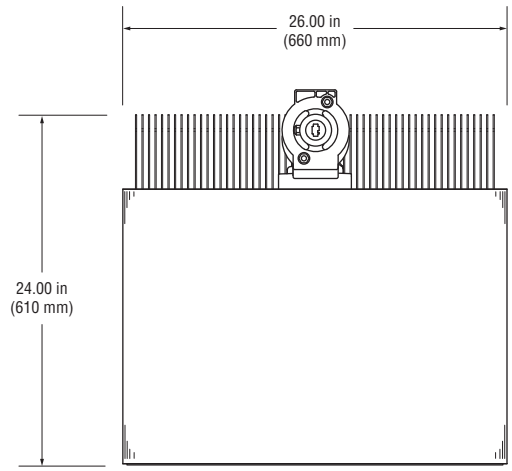
Footnotes:

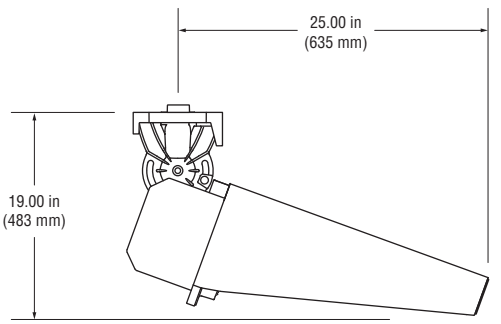
1) Rated wattage is the power consumption, including driver efficiency losses, at stabilized operation in 25°C ambient temperature environment.

2) Operating current includes allowance for 0.90 minimum power factor, operating temperature, and LED light source manufacturing tolerances.

Notes

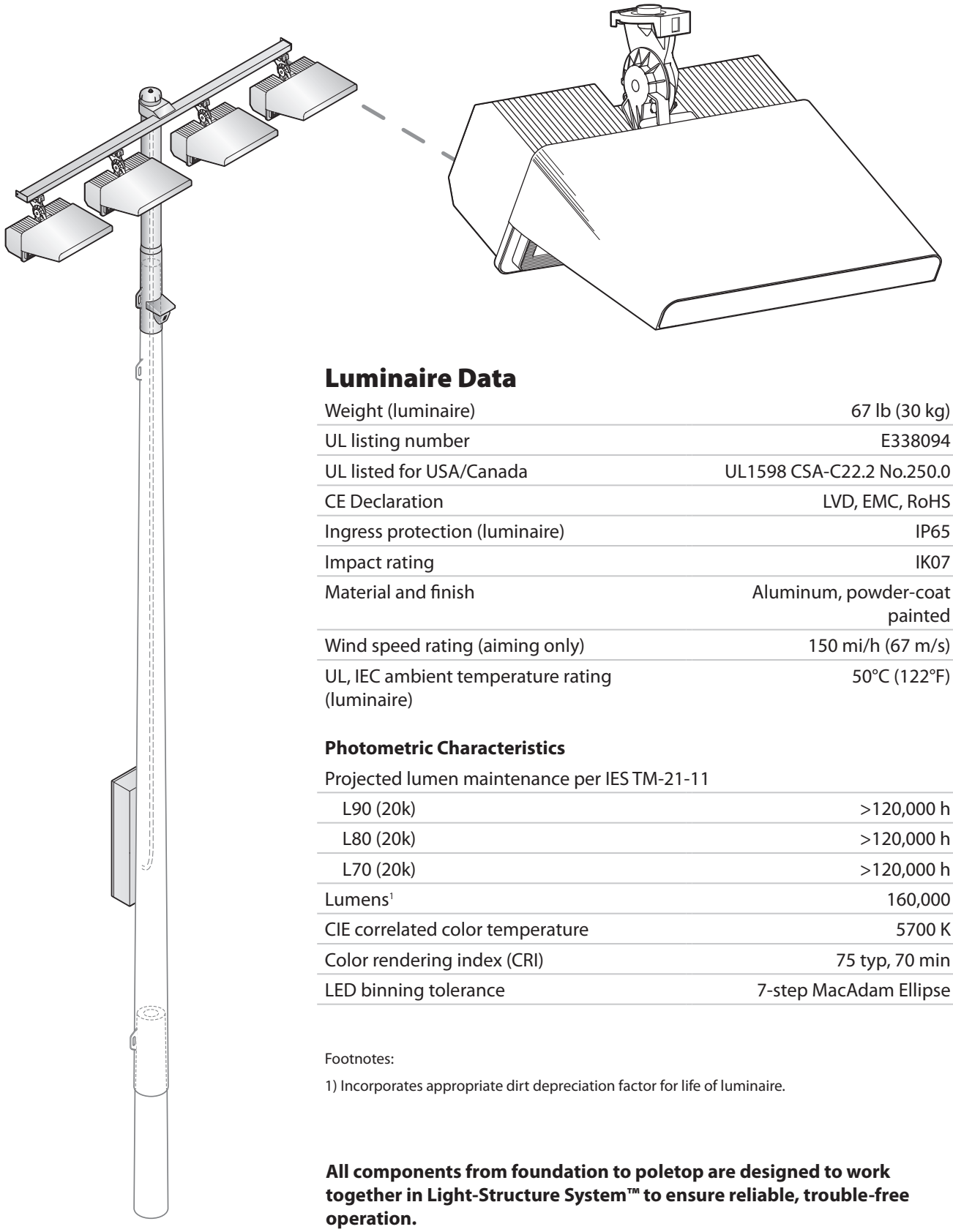
1. Use thermal magnetic HID-rated or D-curve circuit breakers.
2. See *Musco Control System Summary* for circuit information.





U.S. and foreign patent(s) issued and pending • 2019, 2021 Musco Sports Lighting, LLC • TLC-LED-1200 5700K 75 CRI • M-2967-en04-4

Luminaire and Driver – TLC-LED-1500



Luminaire Data

Weight (luminaire)	67 lb (30 kg)
UL listing number	E338094
UL listed for USA/Canada	UL1598 CSA-C22.2 No.250.0
CE Declaration	LVD, EMC, RoHS
Ingress protection (luminaire)	IP65
Impact rating	IK07
Material and finish	Aluminum, powder-coat painted
Wind speed rating (aiming only)	150 mi/h (67 m/s)
UL, IEC ambient temperature rating (luminaire)	50°C (122°F)

Photometric Characteristics

Projected lumen maintenance per IES TM-21-11	
L90 (20k)	>120,000 h
L80 (20k)	>120,000 h
L70 (20k)	>120,000 h
Lumens[1]	160,000
CIE correlated color temperature	5700 K
Color rendering index (CRI)	75 typ, 70 min
LED binning tolerance	7-step MacAdam Ellipse

Footnotes:

1) Incorporates appropriate dirt depreciation factor for life of luminaire.

All components from foundation to poletop are designed to work together in Light-Structure System™ to ensure reliable, trouble-free operation.

U.S. and foreign patent(s) issued and pending • 2019, 2021 Musco Sports Lighting, LLC • TLC-LED-1500 5700K 75 CRI • M-2979-en04-4

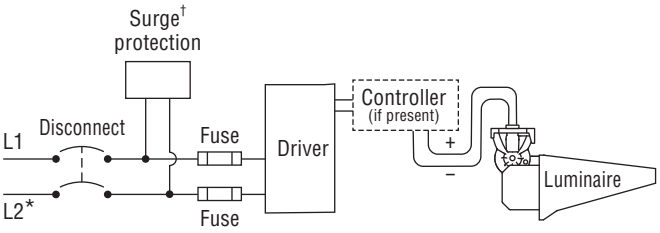
Luminaire and Driver – TLC-LED-1500

Driver Data

Electrical Data

Rated wattage[1]	
Per driver	1430 W
Per luminaire	1430 W
Number of luminaires per driver	1
Starting (inrush) current	<40 A, 256 µs
Fuse rating	15 A
UL, IEC ambient temperature rating, electrical components enclosure	50°C (122°F)
Ingress protection, electrical components enclosure	IP54
Efficiency	95%
Dimming mode	optional
Range, energy consumption	12 – 100%
Range, light output	17 – 100%
Flicker	<2%
Total harmonic distortion (THD) at full output	<20%

Typical Wiring



* If L2 is neutral then not switched or fused.
† Not present if indoor installation.

	200 Vac 50/60 Hz	208 Vac 60 Hz	220 Vac 50/60 Hz	230 Vac 50 Hz	240 Vac 50/60 Hz	277 Vac 60 Hz	347 Vac 60 Hz	380 Vac 50/60 Hz	400 Vac 50 Hz	415 Vac 50 Hz	480 Vac 60 Hz
Max operating current per luminaire[2]	8.86 A	8.52 A	8.06 A	7.71 A	7.39 A	6.40 A	5.11 A	4.67 A	4.43 A	4.27 A	3.70 A

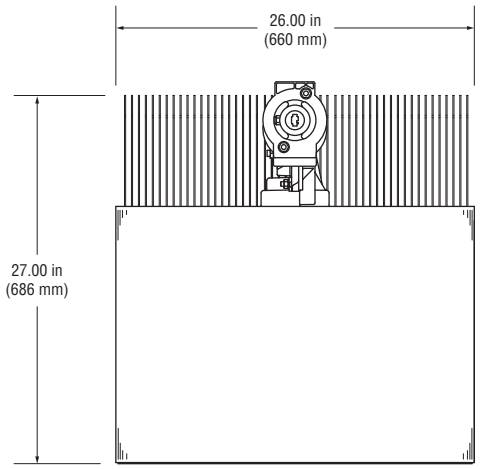
Footnotes:

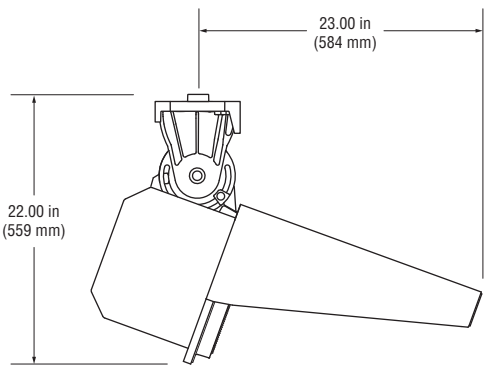
1) Rated wattage is the power consumption, including driver efficiency losses, at stabilized operation in 25°C ambient temperature environment.

2) Operating current includes allowance for 0.90 minimum power factor, operating temperature, and LED light source manufacturing tolerances.

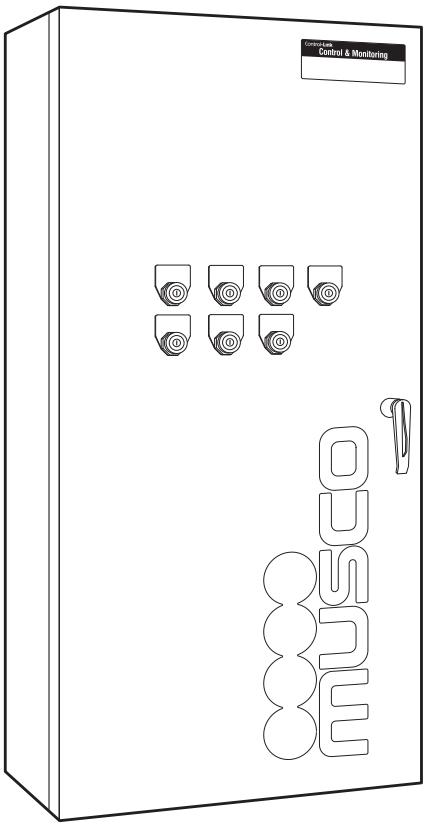
Notes

1. Use thermal magnetic HID-rated or D-curve circuit breakers.
2. See *Musco Control System Summary* for circuit information.





Datasheet: **Control-Link® Control and Monitoring System**



Overview

Control-Link® Control and Monitoring System provides remote on/off control, dimming, system monitoring, and management of your lighting system.

Features

Control

- Lighting system and auxiliary equipment
- Control with: Control-Link website, smartphone app, phone call, email, or fax up to 10 years in advance
- Seven controllable lighting zones
- Three customizable dimming levels (factory set at 100%, 50%, 20%)
- Multi-level user security settings
- Door-mounted or remote-mounted on/off/auto switches allow for manual override of automated control

Monitoring

- Detects luminaire outages and other issues that affect light quality

Management and Support

- Control-Link Central™ service center provides support 24 hours a day, 7 days a week for scheduling, monitoring, and reporting
- Luminaire outage notification within the next business day
- Customized usage reports through website

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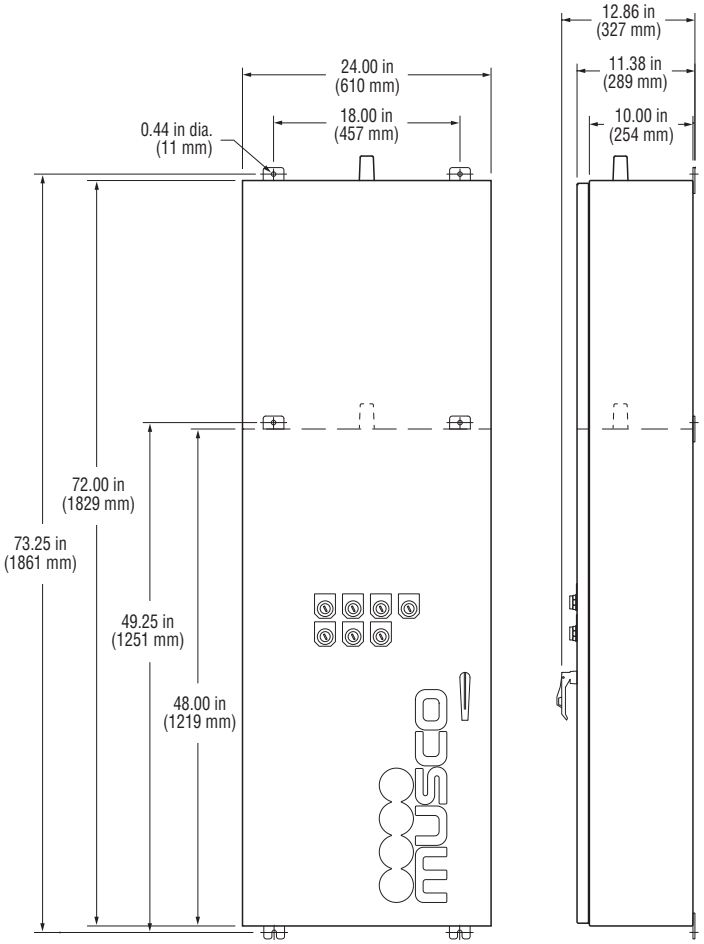
Technical Specifications

Control and Monitoring Cabinet Ratings

UL 508A Listed E204954
CE declaration . . . . . LVD, EMC, RoHS
IEC 60439-1 compliant . . . . . UL test report 05NK26317
IEC Emissions/Immunity. . . . . Class A compliant
Operating temperature . . . . . -4˚F to 140˚F (-20˚C to 60˚C)
FCC Part 15 . . . . . Class A compliant
Weight for 72 inch (1829 mm) cabinet . . . . . 180 lb (82 kg)
Weight for 48 inch (1219 mm) cabinet . . . . . 140 lb (64 kg)
Short Circuit Current Rating (SCCR)
with 30 A contactors* . . . . . 18 kA
with 60 or 100 A contactors* . . . . . 25 kA

*Minimum circuit breaker interrupt rating must be greater than or equal to SCCR rating listed above.



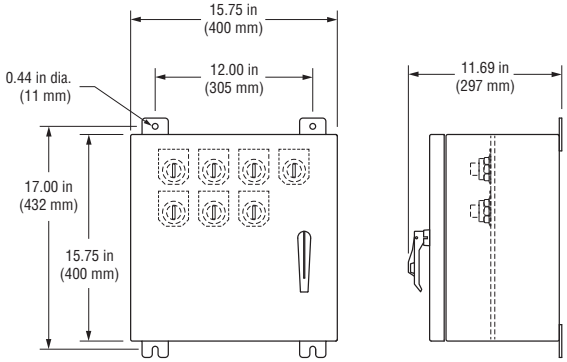
Construction

Control and Monitoring Cabinet

- NEMA type 4 (IP65) cabinet
- Powder-coated aluminum 5052 H32 cabinet and panel
- Lockable, 3-point latch
- Supports lighting system voltage up to 480 V
- Requires 120 V or 230 V phase-to-neutral control voltage
- Protective cover isolates high voltage

On/Off/Auto Manual Switches Cabinet (optional)

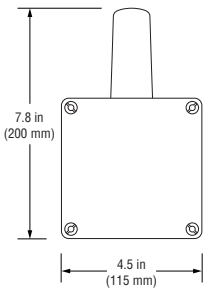
- NEMA type 4 (IP65) cabinet
- Powder-coated aluminum 5052 H32 cabinet and panel
- Lockable door
- Hinged interior panel for switch mounting



Manual switches cabinet

Remote Wireless Antenna Cabinet (for wireless communication)

- Cast aluminum with texture gray paint finish
- Omnidirectional antenna
- Operating temperature: -40˚C (-40˚F) to 85˚C to (185˚F)
- Frequency: 900 MHz or 2.4 GHz



Remote wireless antenna cabinet

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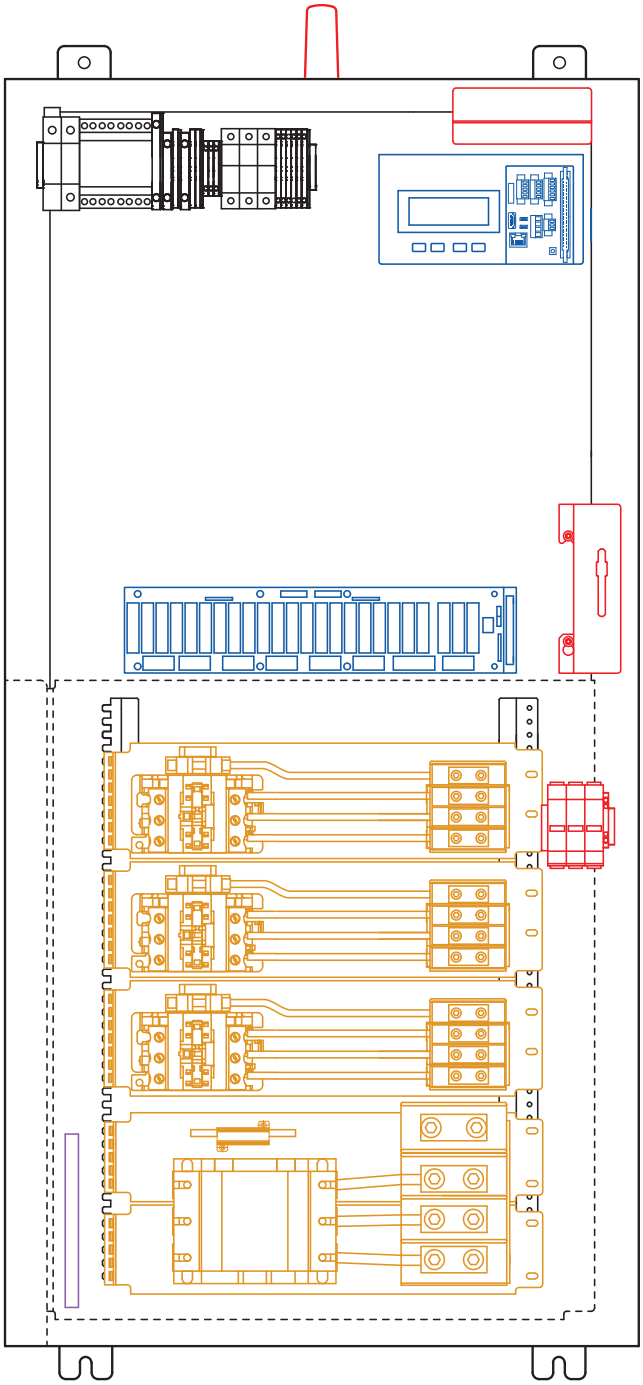
Internal Details

- Factory wired, programmed, and tested
- Internally fused
- Control power terminal blocks provided
- One control circuit operates entire cabinet
- Plug-in wire harnesses provided to connect multiple cabinets



Control Module

Receives and stores schedules from Control-Link Central™ service center, operates your equipment, and verifies schedules were carried out.

- Executes scheduled on/off or dimming events.
- Stores schedules for up to 7 days
- Reboots automatically and executes current schedule when power is restored, in case of power interruption
- Monitors Musco lighting system and reports issues to keep facilities operating and to help plan routine maintenance. Alerts Control-Link Central service center to schedule appropriate action or maintenance.

Communication Modules

Communication with Control-Link Central is done via an integrated, high speed, cellular connection with no additional monthly charges during the warranty period.

Communication with light poles is done via powerline communication or wireless communication.

- Powerline communication requires a dedicated 20A circuit (lighting circuit distribution panel)
- Wireless communication requires a dedicated antenna to be mounted at least 3 ft above the cellular antenna, and 7 ft total distance away, and line of sight to lighting poles.

Contactor Modules

Operates equipment based on control module schedules.

- Compliant with IEC 60947-4-1 for continuous operation at 100% of rated current
- Contactors rated for 30, 60, or 100 amps

Ground Bar

Provides integral ground bar for lighting equipment grounding.

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Safety: **UL Product Certification**

UL Product Certification for:

Musco Sports Lighting, LLC
100 1st Ave W
PO Box 808
Oskaloosa, IA 52577
USA

UL Category	Covers	UL Number
High-Intensity Discharge Surface-Mounted Luminaires	• Green Generation™ luminaires and remote ballast assemblies • SportsCluster® and SportsCluster-2® luminaires and remote ballast assemblies • Light-Structure 2™ and Light-Structure System™ luminaires and remote ballast assemblies • 1000 W Light-Pak™ and Light-Pak indoor luminaires with Multi-Watt™ control system • 1000 W Show-Light™ and Show-Light Green™ luminaires with hooded light actuator system and remote ballast assemblies • 2000 W Mirtran™ luminaire • Stadium 2K Fixture™ 2000 W luminaire and Hot Restrike Green™ 2000 W hot restrike luminaire	E33316
Management Equipment, Energy	Lighting control systems for: • Control-Link® control and monitoring system • Control-Link retrofit control system	E139944
Industrial Control Panels	Control panels and enclosures for: • Control-Link® control and monitoring system • Control-Link retrofit control system • Lighting contactor cabinets • Multi-Watt™ control systems	E204954
Emergency Lighting and Power Equipment	• Auxiliary Lighting Interface Cabinet (ALIC)	E311491
Luminaire Fittings	Galvanized steel poles 12 ft (3.7 m) or less for: • Poles for Mirtran™ luminaire mounting • Rooftop poles • Special applications	E132445
Luminaire Pole in Excess of 12 ft (3.7 m)	Galvanized steel poles greater than 12 ft (3.7 m) for: • Light-Structure System™ luminaire mounting • Sportspole™ structure or mounting system and special applications	E325078

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Safety: **UL Product Certification**

UL Category	Covers	UL Number
Devices, Scaffolding	Service platforms for: • Light-Structure System™ luminaires and remote ballast assemblies • SportsCluster® System luminaires and remote ballast assemblies	SA7004
Lightning Conductors, Air Terminals, and Fittings	• Light-Structure System™ pole structure concrete base	E337467
Light-Emitting-Diode Surface-Mounted Luminaires	• LED luminaires and driver assemblies • LED auxiliary luminaires	E338094

A copy of the UL Certificate of Compliance is available upon your request.

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Manufacturer's Certification of Corrosion Protection for Light-Structure System™ and SportsCluster® Lighting Systems

The following standard corrosion protection is provided on your equipment:

- All exposed components are constructed of corrosion-resistant material and/or coated to protect against corrosion.
- All exposed carbon steel is hot-dip galvanized, meeting ASTM A123 and ISO/EN 1461.
- All exposed aluminum is powder-coated with high-performance polyester or anodized. All exterior reflective inserts are anodized, coated with a clear, high-gloss, durable fluorocarbon, and protected from direct environmental exposure to prevent reflective degradation or corrosion.
- All exposed hardware and fasteners are stainless steel, passivated, and coated with an aluminum based thermosetting epoxy resin for protection against corrosion and stress corrosion cracking. Alternately, for hardware in non-stressed applications, an electroless nickel coating meeting ASTM B733 may be used. Pole strapping used to mount certain equipment to light poles is annealed grade 304 stainless steel and passivated.
- Certain structural fasteners are carbon steel, galvanized meeting ASTM A153 and ISO/EN 1461 (for hot-dip galvanizing), or ASTM B695 (for mechanical galvanizing).

This corrosion protection package only applies to equipment manufactured by Musco.

Musco Sports Lighting, LLC

Greg Kubbe
Director of Product Performance

2005, 2020 Musco Sports Lighting, LLC · M-1502-en04-6

NE HERITAGE DRIVE

NE 10TH STREET

NE 2ND COURT

NE LITTLE BEAVER ST

NE 12TH STREET

NE 11TH STREET

POD #1

POD #2

POD #3

POD #4

POD #5

POD #6

1.

2.

3.

4.

5.

OUTLOT Z
OWNER:
CITY OF GRIMES

OUTLOT Y
OWNER:
CITY OF GRIMES

OWNER:
HOPE K
FARMS LLC

OWNER:
SPLASH EXPRESS LLC

OWNER:
JOHNSON DEVELOPMENT LC

OWNER:
JOAN E
WARREN

OWNER:
LAWRENCE AND
MIRANDA VANWINKLE

OWNER:
JACOB M AND
KATELYN M PRIME

OWNER:
ELIZABETH BROWN
AND KOLTON
KERSTEN

OWNER:
ROND AND
TODD HOING

OWNER:
BETHANY L AND
JOHN C DAVIDSON

OWNER:
LEORY A AND
SUSAN L EDGE

OWNER:
HEATHER SPURLOCK
AND PAUL OLIVERSON

OWNER:
KEVIN L AND
SARAH SCHOCK

OWNER:
DESERCREST
OK LLC

OWNER:
CONNOR M AND
KELSEY E STEELE

OWNER:
RYAN AND
REBECCA BURGER

OWNER:
KATHRYN ROBBINS
LIVING TRUST

OWNER:
GARY AND
LORETTA GRAEBER

OWNER:
JOSEPH ELLSWORTH
AND
JILL WELSHEIMER

OWNER:
CITY OF GRIMES

OWNER:
RUSSELL AND
PATRICIA TASSIN

OWNER:
COURTNEY RUMMEL

OWNER:
DENISE MORTON

OWNER:
STEVEN, LYNDA AND
JEANETTE BROWN

OWNER:
TAMMY TYLER &
SANDRA THOMPSON

OWNER:
DEWAYNE LEWIS JR
AND KATHERINE
KINNEY

OWNER:
NANCY TWINING

OWNER:
RHONDA PICKERING

OWNER:
ANN MILLER

SCALE
0' 50' 100' 200'

NO.	REVISIONS	DATE	BY

FILE: H:\2022\2202086\DWG\SITE PLAN\2202086-DIMENSION SHEETS.DWG
FILE DATE: 10/21/22
DATE PLOTTED: 10/17/2022 4:39 PM
PLOTTED BY: ERIC SCHULTE
COMMENT:
SCALE: 1"=50'

DESIGN TEAM – CITY OF GRIMES / CIVIL DESIGN ADVANTAGE	POLK	COUNTY	PROJECT NUMBER	2202.086	SHEET TITLE	DIMENSION PLAN	SHEET NUMBER	C3.0

1. North Residential

2. Northwest Residential

3. West Residential

4. Southwest Residential

5. NE Heritage Dr - Northbound

5. NE Heritage Dr - Southbound