

PLAN COMMISSION / ZONING BOARD OF APPEALS AGENDA

Thursday, October 26, 2023 6:30 P.M.

Frankfort Village Hall 432 W. Nebraska Street (Board Room)

- 1. Call to Order
- 2. Roll Call
- 3. Approval of Minutes of October 12, 2023
- 4. Public Hearing: 165 Industry Avenue, Unit C (Unit 3 on Plat of Survey) CNC Lawncare (Ref#107) Requests: (1) Special Use Permit for a Landscape Business; and (2) Special Use Permit for Outdoor Storage of uncontained bulk materials in the I-2 General Industrial District (PINs: 19-09-34-103-009-1001, 19-09-34-902-000-0000, 19-09-34-100-071-0000).
- 5. Public Hearing: 21420 S. Harlem Avenue Thrift Home & Restoration (The Bridge Teen Center) (Ref#108)

Requests: (1) Special Use Permit for a Planned Unit Development including certain zoning exceptions; and (2) Special Use Permit for indoor retail sales of goods, between 5,000 and 10,000 square feet, in the B-4 Office District, (3) Preliminary/Final PUD Development Plan, and (4) Preliminary and Final Plat of Resubdivision (PIN 19-09-24-401-022-0000).

6. Public Hearing: 601 Prestwick Drive – Prestwick Country Club Cart Barn (Ref#109)

Requests: Four (4) Zoning Ordinance variations which pertain to exceeding the maximum size of an accessory structure, exceeding the maximum height of an accessory structure, location of an accessory structure in a location other than a side or rear yard, and location of an accessory structure in front of the front façade of the primary structure, to construct a new accessory building (cart barn for the storage of golf carts) for the property located at 601 Prestwick Drive, Frankfort, IL 60423 (PIN: 19-09-25-102-009-0000).

- 7. Workshop: Village of Frankfort Zoning Ordinance Text Amendment Accessory Structures Future Public Hearing Request: Consideration of proposed revisions to the Village of Frankfort Zoning Ordinance regarding accessory structures (Article 5, Section D).
- 8. Public Comments
- 9. Village Board & Committee Updates
- 10. Other Business
- 11. Attendance Confirmation (November 9, 2023)

12. Adjournment

All applicants are advised to be present when the meeting is called to order. Agenda items are generally reviewed in the order shown on the agenda, however, the Plan Commission/Zoning Board of Appeals reserves the right to amend the agenda and consider items in a different order. The Commission may adjourn its meeting to another day prior to consideration of all agenda items. All persons interested in providing public testimony are encouraged to do so. If you wish to provide public testimony, please come forward to the podium and state your name for the record and address your comments and questions to the Chairperson.

MINUTES



MEETING OF VILLAGE OF FRANKFORT PLAN COMMISSION / ZONING BOARD OF APPEALS

October 12, 2023 -VILLAGE ADMINISTRATION BUILDING

432 W. NEBRASKA STREET

Call to Order:	Chair Schaeffer called the meeting to order at 6:30 PM
Commissioners Present:	Nichole Schaeffer (Chair), Will Markunas, Dan Knieriem, Brian James, Jessica Jakubowski, David Hogan, Johnny Morris
Commissioners Absent:	None
Staff Present:	Planning & Economic Development Director Mike Schwarz, Senior Planner Christopher Gruba, Planner Amanda Martinez

Elected Officials Present: None

A. Approval of the Minutes from September 7th, 2023

Chair Schaeffer asked for questions or comments regarding the minutes. There were none.

Motion (#1): To approve the minutes from September 7th, 2023, as presented.

Motion by: James Seconded by: Morris

Approved: (4-0, commissioners Hogan, Knieriem and Markunas abstained)

B. Approval of the Minutes from September 28th, 2023

Chair Schaeffer asked for questions or comments regarding the minutes. There were none.

Motion (#2): To approve the minutes from September 28th, 2023, as amended.

Motion by: Jakubowski Seconded by: Markunas

Approved: (7-0)

C. Public Hearing: 9115 Roma Court – Roma Sports Building Addition & Outdoor Recreation

Christopher Gruba presented the staff report.

The applicant, Steve Rotondi, signed in at the podium. He noted that the plans before the Commission had incorporated comments made at the workshop.

Commissioner Schaeffer asked if there were any members of the public that wished to speak. Bruce Warner signed in at the podium. He said that he owns the adjacent property to the east and that he does not have any objections to the project. He did note that there is a row of trees between his property and the applicants and that this tree row is technically located on his property and not on Roma's property. He noted that the property lines shown on the aerial photograph are slightly incorrect and that he wants the trees to remain unaffected by any development.

Chair Schaeffer said that staff had received a letter from adjacent property owner, Jeff Graefen, that she read into the record. Mr. Graefen's letter said that he did not object to the proposed development.

Chair Schaeffer asked if any other members of the public wished to speak. There were none.

Motion (#3): To close the public hearing.

Motion by: Markunas Seconded by: Jakubowski

Chair Schaeffer asked the Commission for comments regarding the Special Use Permit for indoor recreation. There were none. She asked the Commission for comments regarding the Special Use Permit for outdoor recreation. There were none.

Chair Schaeffer asked the Commission for comments regarding the variation to permit three points of vehicular access to Roma Court, whereas only two are permitted. She added that staff had spoken to the Public Works Department regarding this request and they had no objection. Commissioner Markunas said that he thought that three points of vehicle access to Roma Court seemed appropriate given the length of the property itself, including the length of the parking lot.

Chair Schaeffer asked the Commission for comments regarding the variation to permit a front yard landscape setback of 15.2', whereas 20' is required. Commissioner Knieriem asked the applicant why he chose to not move the smaller soccer field closer to the larger soccer field. Mr. Rotondi said that they were moved further away from the street for safety reasons and because he intended to use as much of the "crown" of the existing playfields as before, meaning he would have to move less dirt. He also said that there were existing

stormwater facilities in place that he didn't want to disturb. Commissioner Knieriem said that it looked like there was potential to expand the parking lot even further without impacting the smaller soccer field. Mr. Rotondi replied that the project has already gone over budget and expanding the parking lot even further would make it even more over budget. Commissioner Knieriem asked the applicant if gates were proposed in the new 8' tall black, vinyl coated chain link fencing, in case balls needed to be retrieved. Mr. Rotondi replied that there would be a pedestrian gate every 100' in the fencing.

Commissioner Markunas said that the proposed landscaping looked good, but asked if the landscaping could be extended to the rest of the property. Mr. Rotondi replied that there are existing bushes and river rock along the building and that all parking lot islands have trees. He said that the proposed street trees meet the requirement of 1 every 35' along Roma Court.

Chair Schaeffer asked staff to elaborate on the loading zone as illustrated on the plans. Chris Gruba said that the loading area that was originally approved for the building was removed and restriped with customer parking and that it should be reverted back to a striped loading zone as part of the proposed site improvements. He noted that the Geometric Plan (Sheet C-2) included a note stating "existing loading area to remain, loading area to be restriped and existing parking stall striping in front of loading area to be removed".

Chair Schaeffer asked staff if a trash enclosure was included on the plans. Chris Gruba replied that Sheet C-2 stated that a trash enclosure, meeting code, would be installed. However, staff has not received any detail drawings of the proposed trash enclosure todate. Mr. Rotondi and his architect, Robin Ersfeldt, said that they had submitted a dumpster enclosure detail drawing to staff. Chris Gruba responded that it may have been missed and not included but could not confirm that it had been received. Regardless, he'd either locate the dumpster detail or request it from the applicant and ensure that it would be included with the Village Board's packet.

Commissioner James said that he appreciated that the applicant had added more parking since the workshop, which would help lessen the need to shuttle people in from other locations.

Chair Schaeffer asked for comments regarding the Plat of Resubdivision. There were none.

Motion (#4): Recommend to the Village Board to approve the Special Use Permit for indoor recreation on Lot 1 of the Roma 2 Resubdivision to include the building addition, in accordance with the reviewed plans, findings of fact, and public testimony, conditioned on final engineering approval.

Motion by: Jakubowski Seconded by: Hogan

Approved: (7-0)

<u>Motion (#5):</u> Recommend to the Village Board to approve the Special Use Permit for outdoor recreation greater than 1 acre on Lot 1 of the Roma 2 Resubdivision for the outdoor playing fields, in accordance with the reviewed plans, findings of fact, and public testimony, conditioned on final engineering approval.

Motion by: James Seconded by: Morris

Approved: (7-0)

Motion (#6): Recommend to the Village Board to approve the Variation to permit at 15.2' front landscape setback whereas 20' is required per Article 6, Section C, Part 1, in accordance with the reviewed plans, findings of fact, and public testimony, conditioned on final engineering approval.

Motion by: James Seconded by: Hogan

Approved: (7-0)

Motion (#7): Recommend to the Village Board to approve the Variation to permit three points of vehicular access to Roma Court, whereas a maximum of two are permitted per Article 6, Section C, Part 2 (n)(3), in accordance with the reviewed plans, findings of fact, and public testimony, conditioned on final engineering approval.

Motion by: Markunas Seconded by: Jakubowski

Approved: (7-0)

Motion (#8): Recommend approval of a Plat of Resubdivision to consolidate Lot 1 of Roma Resubdivision with Lots 16-18 of East Point Park Subdivision, to create a single Lot 1 of Roma 2 Resubdivision, subject to staff approval of any technical revisions prior to recording.

Motion by: Morris Seconded by: Markunas

Approved: (7-0)

D. Workshop: Dunkin' Donuts

Mike Schwarz presented the staff report and noted that the presentation slides show newly submitted plans.

The applicant, Krupa Shah, and the applicant's architect, Eric Carlson, approached the podium. Eric Carlson added the following points for discussion:

- The grade difference between the north and south sides of the property is very significant.
- The engineers working on the project tried to minimize the amount of retaining walls, so they put them in places that are least visible from the public right-of-way; there is a berm from Route 45 to the parking lot.
- The proposed CMU color for the wainscot of the building will closely match the Vineyards development.
- The applicant, Ms. Shah, had to buy 6 acres and ended up only with 3 acres of buildable land for this project.
- Dunkin has a need for visibility along Route 45. The applicant would like to have space on the monument sign for all four proposed tenant spaces.
- As suggested by staff, the applicant is willing to add a horizontal banding feature on the elevations of the building.
- The applicant would like feedback on the proposed orange, white and pink colors for the Dunkin' signage since it relates to branding.

Chair Schaeffer stated that there may be an error in the staff report pertaining to the hours of operation and asked the applicant for clarification.

The applicant responded that business would open from 4:00 a.m. to 8:00 p.m. Monday through Saturday and 5:00 a.m. to 8:00 p.m. on Sunday. These are the same hours of operation as the existing location.

Chair Schaeffer stated that all the special use requests seem reasonable and asked Commissioners if they have any initial questions on the special use requests.

Commissioner Markunas asked if the furnishings and fencing for the proposed outdoor seating will be submitted to staff.

Eric Carlson responded that they will submit those details after the workshop and that they usually try to keep the fence away from vehicular traffic.

Commissioner Markunas asked staff to assist in guiding the applicant to match other approved outdoor seating locations in the Village of Frankfort.

Mike Schwarz responded that the applicant is not at the point of submitting such details, but he will guide them to be consistent with other locations and that he will ensure that staff receives the details.

Commissioner Morris asked about the Dunkin' Green program.

Eric Carlson responded that the program has not been discussed for a while since the Covid-19 Pandemic.

Commissioner Hogan asked about the proposed retaining wall and if there are any other alternatives that can be discussed by the engineers.

Eric Carlson responded that the project engineers tried a lot of options and had concluded on still having retaining walls but minimizing the amount of retaining wall as much as possible. The entrance along Route 45 becomes steep, so the only people who will see the wall will be the people who visit the subject site.

Commissioner Hogan asked how well the wall will hold up over time.

Eric Carlson responded that the retaining wall is proposed outside of the flood zone so that there won't be any water pushing up against that wall.

Chair Schaeffer stated that there is not much to do with the existing slope on the subject site and it is almost a necessity to have retaining walls to have a flat parking lot. She advised staff and the applicant to make sure there is a structural engineer to ensure the wall will have structural integrity over time.

Commissioner Jakubowski stated that she is fine with the proposed retaining wall because it is not very visible from adjacent properties.

Commissioner James stated that the proposed retaining wall is not a variation request, and the intent of the Code may be more for residential property.

Commissioner Markunas asked if there is any way to have the retaining wall color blend in with the landscaping on the subject site.

Commissioner Jakubowski added that the proposed Abbey Woods North retaining wall has a stone look which may be a good comparison material.

Eric Carlson responded that they could provide more landscaping to make the wall less visible.

Chair Schaeffer asked if there are any native plantings proposed for the wet bottom detention basin.

Eric Carlson responded that they don't know the answer right now on what type of detention will be required, so they are not sure if landscaping will be at the bottom.

Chair Schaeffer asked if the parking lot island will have landscaping.

Mike Schwarz responded that the parking lot islands are required to have landscaping. He also notes that the applicant provided foundation landscaping even though it is not required.

Commissioner Markunas stated that the applicant will need to provide details on the drivethrough overhead bars.

Chair Schaeffer asked if there will be any signage to identify where the one-way circulation in the parking lot starts.

Eric Carlson responded that the newly submitted plans point out such signage.

Commissioner Markunas asked if the applicant knows who the other tenants will be and what their respective hours of operations will be.

The applicant responded that she has started conversations but wanted to hear the feedback from the workshop meeting first.

Commissioner Morris stated that he likes the second drive-through lane being dedicated for mobile orders only. He asked if any parking spaces will be specifically dedicated for carry outs. He asked if there is any data as it relates to parking demand.

The applicant responded that a dedicated carry out space will not be provided on the subject site. She did not have information on parking demand but stated that the business is not really sought as a destination; rather it is more sought after for its drive-through service where it typically takes 88 seconds to get through the drive-through lane.

There was some discussion about the proposed access point along Route 45. Commissioners agreed to discuss the access point after IDOT approval and recommendations are received.

Chair Schaeffer asked about how the transition between two-way and one-way provides circulation.

Eric Carlson responded that the intent is to keep the circulation aligned with the flow of the drive-through lanes to avoid conflicts. Additionally, customers of the other tenants have a choice to get out via the two-way circulation. The parking spaces at the south end of the property will be mostly employee parking.

There was general agreement from Commissioners that the flow around the building was okay with them.

Commissioner Markunas stated that the applicant should move the pavement signage further east and that there should be a one-way sign placed on the south end of the site prior to drivers getting behind the building.

Chair Schaeffer stated that the applicant will need to provide trash enclosure details.

Commissioner Markunas stated that there is not a current need for a multi-use path along La Grange Road because a path is nowhere near the subject site and there are already sidewalks constructed along Lagrange Road.

Commissioner Morris asked staff if the transportation plan speaks to improvements planned for Route 45.

Mike Schwarz responded that the Comprehensive Plan calls for a future path along Route 45 but there is no such path located in the immediate area.

Eric Carlson asked the Commissioners how they would feel if the applicant were to remove the outer landscape island proposed by the drive-through lane on the east side of the property for better circulation.

Commissioner Jakubowski stated that she does not have an issue with removing that landscape island because it helps customers who want to get out of the drivethrough lane sooner.

Commissioner Markunas asked staff if removing the landscape island would add a variation request.

Mike Schwarz responded yes.

Commissioner Markunas advised the applicant not to add a variance request. The landscape island prevents people from backing out of a parking space and hitting a person in the drive through lane.

Chair Schaeffer added that the applicant should keep the landscape island in the plans unless it is a necessity to remove it.

Commissioner Knieriem asked if the calculations done for tree preservation were done before or after the property owners cleared the site.

Mike Schwarz stated that the tagging was done after the site was cleared.

The applicant added that the site was cleared before she purchased the land.

Commissioner Knieriem asked if the applicant had already purchased the site.

The applicant responded that she purchased the site June 2023 and plans to continue operation of Dunkin' in one of the tenant spaces and lease the other tenant spaces.

Commissioner Jakubowski stated that she prefers all tenant spaces to have a similar roof pediment type.

Commissioner Hogan added that he is fine with the shape of the roof pediment but would like the Dunkin' sign to be centered over the door.

Eric Carlson responded that he could not center the Dunkin' sign due to the structure of the roof behind the sign.

Commissioner Markunas stated that the submitted plans show a brick veneer instead of full brick. He suggests putting natural stone on the building.

Eric Carlson passed around samples of the proposed material.

Commissioner James added that there are other restaurant buildings along Lagrange Road that have similar architecture and material to what the applicant is proposing.

Eric Carlson stated that visibility of Dunkin' wall sign is a concern. He asked if they can continue with the square look for the Dunkin' sign since newer built Dunkin's are aiming toward that style.

Chair Schaeffer stated that buildings around the property have gables and that a uniform gable look is preferred.

There was some discussion about adding a band on the elevation to be consistent with other commercial buildings in the Village of Frankfort.

Commissioner James stated that the Dunkin' located at Wolf and 187th is a good comparable for architectural purposes.

The applicant asked the Commissioners how Dunkin', as the anchor of the proposed multitenant building, could stand out more.

Commissioner Markunas stated that a taller roof at the corner unit is typically a way that anchor tenants in the Village of Frankfort stand out.

There was some discussion about comparable anchor tenants that provided a prominent architectural feature such as Dollar Tree or Senso Sushi.

Commissioner Jakubowski stated that she prefers the monument sign to be full brick with the letters for the tenant names attached right onto the brick.

Commissioner Knieriem stated that since the applicant may be willing to change the signage on the building that was specific to their branding, Dunkin' could potentially have their branding colors on the monument sign while all other tenants have white lettering on the monument sign.

Commissioner Knieriem stated that he would be open to compromise on the size of the sign if the applicant agrees to not propose a backlit sign.

Eric Carlson stated that with a larger sign, there is flexibility for the number of tenant signs which was originally a concern of the applicant. He added that Dunkin' appreciates a white background for their signs. He asked how they could implement a white background.

Commissioner Knieriem responded that they could put cultured stone as the light background to put the Dunkin' sign on.

There was a consensus among the Commissioners that the request to vary from the 30-foot required landscaped front yard setback is reasonable because it will help with the concern for visibility and the applicant is willing to make accommodations.

Commissioner Knieriem asked why the applicant is planning on moving from the existing location.

The applicant responded that she is seeking to relocate the business because she would like to own the tenant space rather than lease it. Additionally, the flow of traffic at the existing location is not great and there is no space at the existing location for amenities like outdoor seating.

There was some discussion about lighting around the monument sign.

The applicant asked if another drivethrough or pick-up window would be allowed at the subject site.

Commissioner Knieriem asked how a pick-up window is different from a drive-through window.

The applicant stated that a pick-up window would provide service to people who place an order online and walk to the window to pick-up their online order.

There was consensus among the Commissioners that an additional drivethrough or pickup window service would negatively impact the operation of the anchor tenant, Dunkin'.

E. Public Comments

There were no public comments.

F. Village Board & Committee Updates

Mike Schwarz stated that Sparks Coffee and 108 Walnut Street received approval at the Village Board level and the applicants will be working with the Building Department on applying for building permits. He added that the Committee of the Whole held a discussion at its October 9th meeting about a new procedure where any split vote from the Plan Commission will go to a COW meeting before going to a Village Board meeting.

Mike mentioned he will be emailing the Commissioners a draft of the 2024 meeting schedule that was discussed by the Village Board.

G. Other Business

There was no other business discussed.

H. Attendance Confirmation (October 26th, 2023)

Chair Schaeffer asked Commissioners to please let staff know if someone cannot attend the next meeting.

Motion (#9): Adjournment 9:38 P.M.

Motion by: Jakubowski

Seconded by: Markunas

The motion was unanimously approved by voice vote (7-0).

Approved October 26th, 2023

As Presented As Amended

/s/ Nicole Schaeffer, Chair

/s/ Secretary

Plan Commission / ZBA



October 26, 2023

Project:	CNC Lawncare, Inc.
Meeting Type:	Public Hearing
Request:	2 Special Use Permits (Landscape Company and Outdoor Storage of uncontained bulk materials)
Location:	165 Industry Avenue, Unit C (Unit 3 on Plat of Survey)
Subdivision:	165 Industry Avenue Condos
Applicant:	Chad Uthe, President of CNC Lawncare, Inc.
Prop. Owner:	AJ Inter Estate, LLC
Representative:	Same as applicant
Report by:	Michael J. Schwarz, AICP

Site Details

Lot Size: PIN:	2.52 acres 19-09-34-103-009-1001 (Condo Unit),
	19-09-34-902-000-0000 (Common Area),
	19-09-34-100-071-0000 (Storage Area)
Existing Zoning:	I-2, General Industrial
Proposed Zoning:	I-2 with a Special Use for a Landscape Company
	and a Special Use for Outdoor Storage of
	uncontained bulk materials
Buildings:	1 building, 2 parcels
Total Sq. Ft.:	6,500 square feet +/- (tenant space)

Figure 1. Location Map



Adjacent Land Use Summary:

	Land Use	Comp. Plan	Zoning
Subject Property	Industrial	Business Park	I-2
North	Undeveloped/Industrial	Business Park	I-2
South	Industrial	Business Park	I-2
East	Industrial	Business Park	I-2
West	Industrial	Business Park	I-2

Project Summary –

The applicant proposes to operate a landscape company with accessory outdoor storage of uncontained bulk materials at 165 Industry Avenue. The property at 165 Industry Avenue is subdivided into three different condominium units within the principal structure and includes a common area around the principal structure. The applicant would locate his operations in Unit C (Unit 3 on the Plat of Survey) and would have access to the common area around the building. The applicant is proposing outdoor storage on a separate parcel of land immediately adjacent to the north, which is under the same ownership. The PC/ZBA discussed this application at a workshop on April 20, 2023 (see attached minutes).

Attachments –

- 1. 2022 Aerial Photo from Will County GIS
- 2. Plat of Survey of all subject parcels, dated 8.21.14, received 1.12.23

- 3. Topographic Survey of all subject parcels, dated 6.1.21, received 1.19.23
- 4. Site Plan ("Yard Sketch") for all subject parcels, dated 9.27.23, received 9.27.23
- 5. Mesh Screening Image submitted by applicant, received 7.19.23
- 6. Special Use Findings of Fact prepared by applicant
- 7. Site photos taken on 04.20.23
- 8. Approved Minutes of the 4.27.23 PC/ZBA Meeting
- 9. Special Use Findings of Fact Commissioner Evaluation Form

Analysis –

In consideration of the request, staff offers the following points of discussion:

Proposed Uses

- 1. Landscape companies and outdoor storage of uncontained bulk materials are both permitted as special uses in the I-2, General Industrial District.
- 2. Per the Zoning Ordinance, all outdoor storage facilities must comply with the setback requirements and bulk regulations of the I-2 District. All outdoor storage areas shall also be located on a paved surface unless the storage area is located in the rear yard and behind the rear façade of the primary structure and is enclosed by a fence. There is currently no fencing around the uncontained bulk materials located on site.
- 3. Based on early conversations with the applicant, staff was informed that the proposed outdoor storage will be located on the north side of the property on a separate parcel, behind the front façade of the building at 165 Industry Avenue. According to the submitted Plat of Survey and Site Plan ("Yard Sketch"), the outdoor storage is located on the northmost portion of Parcel 1.
- 4. During the initial site visit that staff conducted on April 20, 2023, staff observed a CNC Lawncare sign applied to the inside of a window in Unit C. A CNC Lawncare pickup truck was also parked on the site. Subsequent site visits have confirmed that the business is currently operating from the site. Finally, staff notes that the CNC Lawncare website reflects a business address of 165 Industry Avenue, Unit C. Although a Business License was applied for, it has not yet been issued pending the outcome of the subject Special Use Permits application.

Parcel Layout, the Zoning Ordinance, and the Subdivision Ordinance

- 1. The Special Use Permit requests involve two parcels of land (Parcel 1, which includes Units 1, 2 and 3 in 165 Industry Avenue Condominium, on Lot 3 in Empire's Subdivision; and Parcel 2 which is an unsubdivded property that may at one time have been part of the property located at 1000 and 1018 Lambrecht Road to the east. Staff researched and discovered that the PIN for this parcel was assigned in October 1992. The underlying land was annexed into the Village of Frankfort prior to 1974, which means that the land would have been subject to the 1976 Subdivision Regulations. Parcels 1 and 2 are currently under the same ownership but are separate tax parcels.
- 2. The proposed landscape business would operate out of Unit C (Unit 3 on the Plat of Survey) which is a condominium unit (the PIN ending 009-1001 on Parcel 1) and is considered the principal use of that unit on the property. Meanwhile, the proposed outdoor storage would be located on the northern portion of Parcel 1 (PIN 19-09-34-902-000-0000) which is the common area of the overall subject property and would be accessory to the landscape company use. Per the Zoning Ordinance, accessory uses and structures must be "in connection with" a principal use which is permitted within such district.
- 3. The applicant has permission from the property owner to use both the condominium unit and the northern plot of land to operate his business. However, if a strict interpretation of the Zoning Ordinance was

applied, the proposed outdoor storage would not be permitted on the northern parcel, as it is not associated with a principal use on that same northern parcel. Article 5, Section D, Part 1(d) of the Zoning Ordinance states, *"Accessory uses and structures must be in connection with a principal use which is permitted within such district."* However, one could interpret the phrase "in connection with" in a different way, such that the accessory use is physically adjacent to the principal use.

- 4. Article 5, Section D, Part 1(b) of the Zoning Ordinance states, "Accessory uses and structures, as defined in Article 12, in the B-1, B-2, B-3, B-4, O-R, I-1, I-2 and H-1 when the property is not used for single-family residential, must be approved during the site plan review process (as described in Article 3, Section H)."
- 5. The parcel to the north also does not meet the requirements of the Subdivision Regulations (Ord. 921). Section 9.5-5 states that "[e]very lot shall front on or abut a public street. Lots with access only to private drives or streets shall be permitted only with the approval of the Planning Commission." Today, the only way to access the parcel to the north is by driving through the common area of the condominiums to the south. However, since the two parcels of land are separate tax parcels, it is possible that they may be held by different property owners at some point in the future. In that case, any potential future owner of the parcel to the north would not have frontage for direct access onto a public street.
- 6. Staff has identified several options for the Plan Commission to consider to rectify the above situation.
 - One option (preferable) is for the property owner to consolidate both Parcels 1 and 2 via a Plat of Resubdivision, and amend the condominium documents, so that the northern parcel is brought into compliance with the Subdivision Ordinance. This option would also address the provision stated in the Zoning Ordinance relating to principal and accessory uses being in connection with one another.
 - Another option may be to require the recording of a cross access easement, in which the owner of the condominium property (Parcel 1) grants the owner of parcel to the north (Parcel 2) access to Industry Avenue. This option would require the approval of the Plan Commission per Section 9.5-5 of the Subdivision Regulations which states *"Every lot shall front on or abut a public street. Lots with access only to private drives or streets shall be permitted only with the approval of the Planning Commission."* However, this option would not resolve the Zoning Ordinance issue. There is also some uncertainty regarding the legality of granting an easement to oneself.
- 7. Staff previously communicated with the property owner and his attorney about these options. At the time of writing, the property owner has not indicated how he wishes to proceed in addressing the situation in order for the proposed landscape company to proceed through the Special Use process. Staff is suggesting that the Plan Commission/Zoning Board of Appeals should address this issue with a condition that would stipulate that the property owner shall consolidate the parcels within one year of Village Board approval of the Special Use Permit for a Landscape Business.
- 8. Based on available aerial photographs, it appears that there is a driveway on the north end of 1000 and 1018 Lambrecht Road that runs westward to Parcel 2. The subject property owner has suggested that the proposed tenant (CNC Lawncare, Inc.) could use that driveway to access the proposed outdoor storage area. Staff has confirmed that there is an existing recorded ingress and egress easement located in the northeastern corner of the northern parcel which was recorded in 1998 as depicted on the submitted Plat of Survey. The eastern half of the driveway which is located within that easement (the half which directly connects to Lambrecht Road and runs along 1018 Lambrecht) is paved, while the western half (which

connects to Parcel 2) is gravel. As seen on the aerial photo and the site photos, the driveway narrows to a single travel lane over a culvert as it crosses onto the subject property.

Standards for Special Uses

No special use shall be recommended by the Plan Commission, unless such Commission shall find:

- a. That the establishment, maintenance or operation of the special use will not be detrimental to, or endanger, the public health, safety, morals, comfort or general welfare.
- b. That the special use will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminish and impair property values within the neighborhood.
- c. That the establishment of the special use will not impede the normal and orderly development and improvement of the surrounding property for uses permitted in the district.
- d. That the exterior architectural appeal and functional plan of any proposed structure will not be so at variance with either the exterior architectural appeal and functional plan of the structures already constructed, or in the course of construction in the immediate neighborhood or the character of the applicable district, as to cause a substantial depreciation in the property values within the neighborhood.
- e. That the adequate utilities, access roads, drainage and/or necessary facilities have been or are being provided.
- f. That adequate measures have been or will be taken to provide ingress and egress so designed as to minimize traffic congestion in the public streets.
- g. That the special use shall, in all other respects, conform to the applicable regulations of the district in which it is located, except as such regulations may, in each instance, be modified by the Village Board, pursuant to the recommendations of the Plan Commission.

Findings for Consideration

The Plan Commission/Zoning Board of Appeals finds:

- 1. That the establishment, maintenance or operation of the special use(s) (for a Landscape Business and for the outdoor storage of uncontained bulk materials) will not be detrimental to, or endanger, the public health, safety, morals, comfort or general welfare.
- 2. That the special use(s) (for a Landscape Business and for the outdoor storage of uncontained bulk materials) will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminish and impair property values within the neighborhood.
- 3. That the establishment of the special use(s) (for a Landscape Business and for the outdoor storage of uncontained bulk materials) will not impede the normal and orderly development and improvement of the surrounding property for uses permitted in the district.
- 4. That the exterior architectural appeal and functional plan of any proposed structure will not be so at variance with either the exterior architectural appeal and functional plan of the structures already constructed, or in the course of construction in the immediate neighborhood or the character of the applicable district, as to cause a substantial depreciation in the property values within the neighborhood.

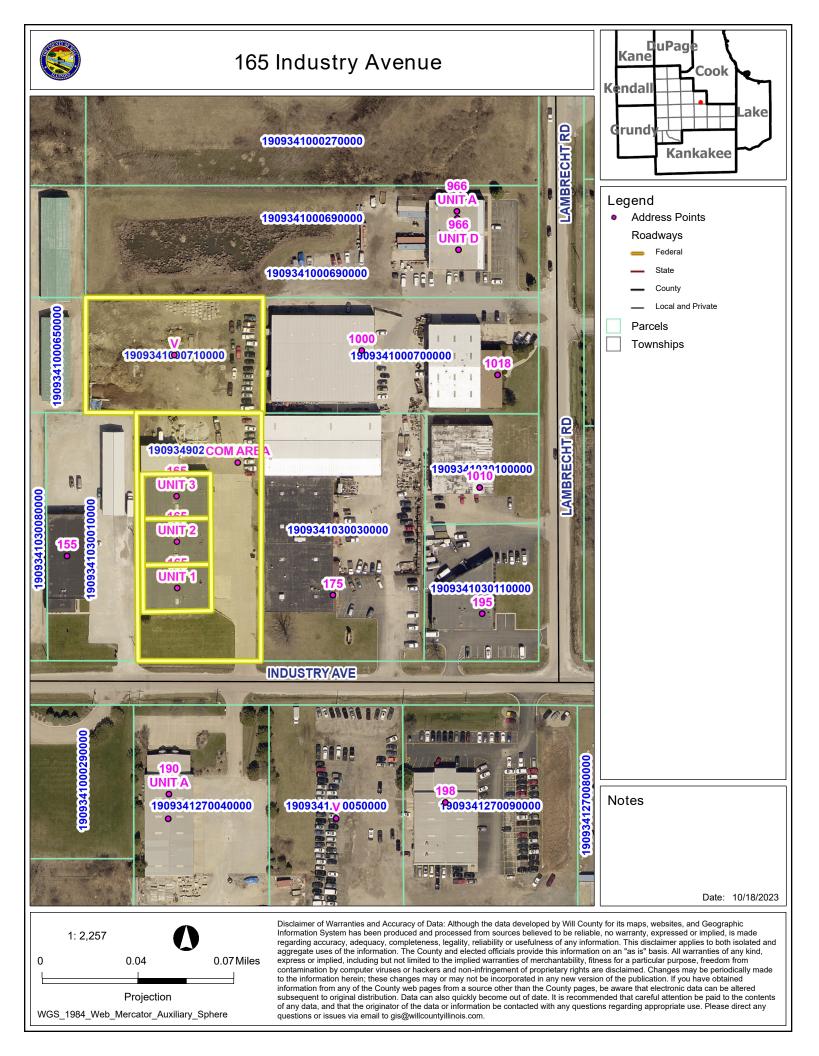
- 5. That the adequate utilities, access roads, drainage and/or necessary facilities have been or are being provided.
- 6. That adequate measures have been or will be taken to provide ingress and egress so designed as to minimize traffic congestion in the public streets.
- 7. That the special use(s) (for a Landscape Business and for the outdoor storage of uncontained bulk materials) shall, in all other respects, conform to the applicable regulations of the district in which it is located, except as such regulations may, in each instance, be modified by the Village Board, pursuant to the recommendations of the Plan Commission.

Affirmative Motions —

For the Commission's consideration, staff provides the following potential affirmative motions:

- Recommend that the Village Board approve the request for a Special Use Permit for a Landscape Business for the property located at 165 Industry Avenue, Unit 3 (PINs: 19-09-34-103-009-1001, 19-09-34-902-000-0000, 19-09-34-100-071-0000), in accordance with the submitted plans, public testimony, and Findings of Fact, subject to the following condition(s):
 - 1. Within one year of the date of Village Board approval of a Special Use Permit for a Landscape Business, the property owner shall record a Plat of Resubdivision to consolidate Parcels 1 and 2, and shall amend the existing condominium documents and record amended condominium documents as may be legally necessary, so that the northern parcel is brought into compliance with the Subdivision Ordinance (by achieving frontage on a public right-of-way) and the proposed accessory use for outdoor storage of uncontained bulk materials is thereby brought into compliance with the Zoning Ordinance (by achieving a location on the same parcel and in connection with the principal use of a landscape business); Non-compliance with this condition may result in fees and penalties pursuant to Article 11, Section A of the Zoning Ordinance; and
 - 2. Any and all vehicles associated with the landscape business, including customer vehicles, employee personal vehicles, trucks, and trailers shall be parked on an approved paved surface; and
 - 3. Semi-trailers, shipping containers or other similar storage containers are prohibited for storage; and
 - 4. Any and all dirt and other debris on the paved surfaces of Parcels 1 and 2 and/or on any portion of the public street, shall be swept clean on a daily basis; and
 - Any and all existing outdoor storage materials, equipment, and vehicles on Parcel 2 (PIN 19-09-34-100-071-0000) that are not in accordance with the submitted Site Plan ("Yard Plan" dated September 27, 2023) shall be removed from said parcel within 60 days of the date of Village Board approval of a Special Use Permit for a Landscape Business; and
 - 6. The property owner or owner of the landscape business shall submit a Grading Plan for Parcel 2 (PIN 19-09-34-100-071-0000), within 60 days of the date of Village Board approval of a Special Use Permit for a Landscape Business, with said Grading Plan to be reviewed by the Village Engineer; Following approval of the Grading Plan, all dirt ground surfaces shall be planted with grass seed or installed with sod within 6 months of the date of Village Board approval of a Special Use Permit for a Landscape Business.

- Recommend that the Village Board approve the request for a Special Use Permit for Outdoor Storage of uncontained bulk materials, in the I-2 General Industrial District, for the property located at 165 Industry Avenue, Unit 3 (PINs: 19-09-34-103-009-1001, 19-09-34-902-000-0000, 19-09-34-100-071-0000), in accordance with the submitted plans, public testimony, and Findings of Fact, subject to the following condition(s):
 - If and when the property owner desires to transfer ownership of Parcel 2 (PIN 19-09-34-100-071-0000), if such transfer is done prior to any consolidation of Parcels 1 and 2, the Special Use Permit for outdoor storage of uncontained bulk materials shall become null and void on any portion of Parcel 2 (PIN 19-09-34-100-071-0000); and
 - 2. Bulk materials stored on site may not exceed the fence height and/or shall be completely screened from the public right-of-way and adjacent properties; and
 - 3. Semi-trailers, shipping containers or other similar storage containers are prohibited for storage; and
 - 4. Any and all dirt and other debris on the paved surfaces of Parcels 1 and 2 and/or on any portion of the public street, shall be swept clean on a daily basis; and
 - 5. Any and all existing outdoor storage materials, equipment, and vehicles on Parcel 2 (PIN 19-09-34-100-071-0000) that are not in accordance with the submitted Site Plan ("Yard Plan" dated September 27, 2023) shall be removed from said parcel within 60 days of the date of Village Board approval of a Special Use Permit for Outdoor Storage of uncontained bulk materials; and
 - 6. The property owner or owner of the landscape business shall submit a Grading Plan for Parcel 2 (PIN 19-09-34-100-071-0000), within 60 days of the date of Village Board approval of a Special Use Permit for a Landscape Business, with said Grading Plan to be reviewed by the Village Engineer; Following approval of the Grading Plan, any and all dirt ground surfaces shall be planted with grass seed or installed with sod within 6 months of the date of Village Board approval of a Special Use Permit for Outdoor Storage of uncontained bulk materials.



PLAT OF SURVEY

LEGAL DESCRIPTION

PARCEL 1:

UNITS 1, 2 AND 3, IN 165 INDUSTRY AVENUE CONDOMINIUM AS DELINEATED ON A SURVEY ON THE FOLLOWING DESCRIBED PARCEL OF REAL ESTATE: LOT 3 IN EMPIRE'S SUBDIVISION, OF THE NORTH 363 FEET OF THE SOUTH 1332.20 FEET OF THE EAST 720.00 FEET OF THE WEST 1320 FEET OF THE NORTHWEST QUARTER OF SECTION 34, TOWNSHIP 35 NORTH, RANGE 12 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED NOVEMBER 21, 1975, AS DOCUMENT NO. R75-32245, IN WILL COUNTY, ILLINOIS, WHICH SURVEY IS ATTACHED AS EXHIBIT "A" TO THE DECLARATION OF CONDOMINIUM RECORDED MAY 13, 1985 AS DOCUMENT NO. R85-14444, TOGETHER WITH ITS UNDIMDED PERCENTAGE INTEREST IN THE COMMON ELEMENTS.

DESCRIBED PROPERTY: THE EAST 660 FEET OF THE WEST 1320 FEET OF THE NORTH 330 FEET OF THE SOUTH 1662.20 FEET OF THE NORTHWEST QUARTER OF SECTION 34, TOWNSHIP 35 NORTH, RANGE 12 EAST OF THE THIRD PRINCIPAL MERIDIAN, IN WILL COUNTY,

(165 INDUSTRY AVENUE, FRANKFORT, ILLINOIS)

DOC. NO. 528109, BOOK 869 PG. 111 AND DOC. NO. 434189 BOOK 390 PG. 349 BLANKET PIPELINE EASEMENTS. NOT SHOWN.

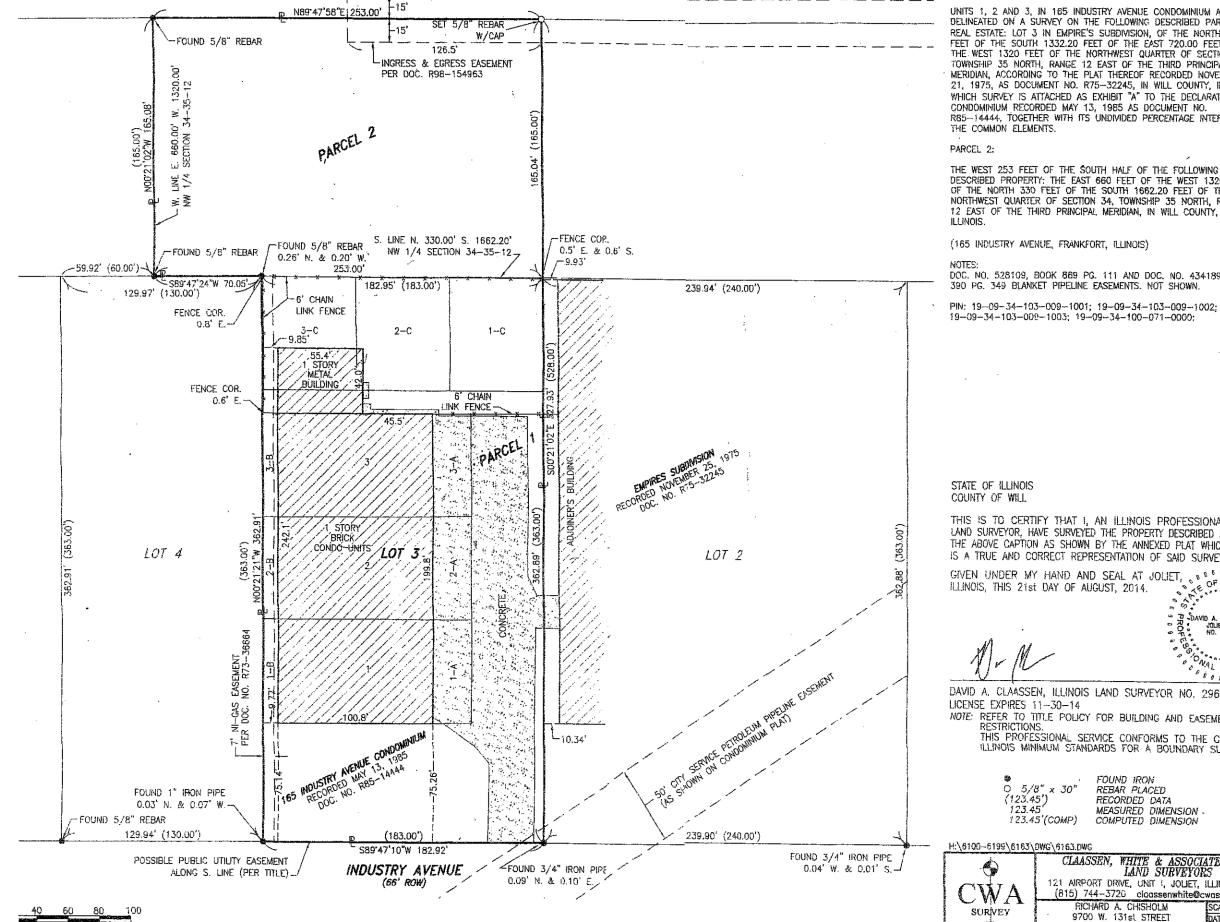
PIN: 19-09-34-103-009-1001; 19-09-34-103-009-3002; 19-09-34-103-009-1003; 19-09-34-100-071-0000;

THIS IS TO CERTIFY THAT I, AN ILLINOIS PROFESSIONAL LAND SURVEYOR, HAVE SURVEYED THE PROP THE ABOVE CAPTION AS SHOWN BY THE AN IS A TRUE AND CORRECT REPRESENTATION

GIVEN UNDER MY HAND AND SEAL AT ILLINOIS, THIS 21st DAY OF AUGUST, 201

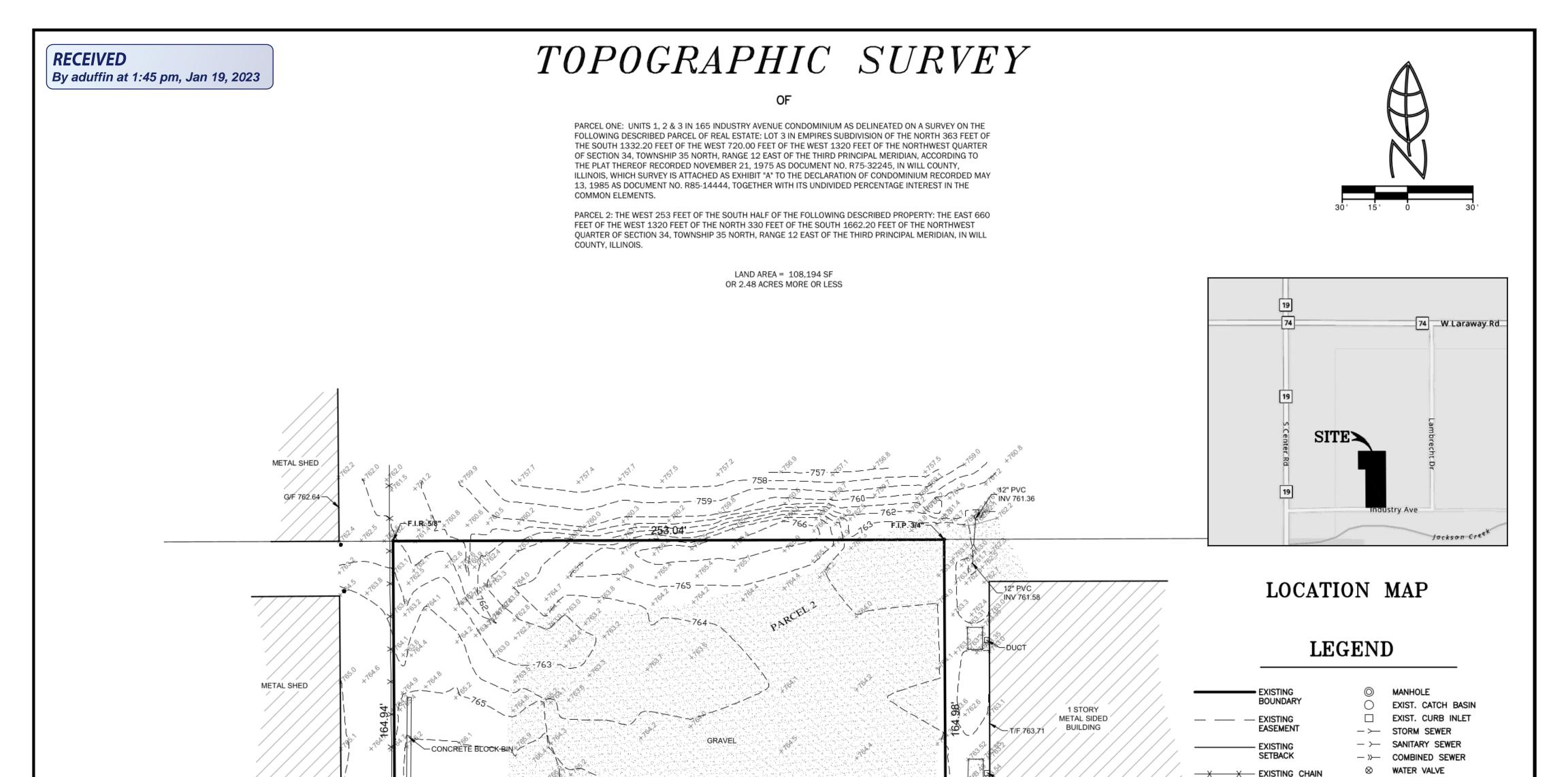
DAVID A. CLAASSEN, ILLINOIS LAND SUF LICENSE EXPIRES 11-30-14 NOTE: REFER TO TITLE POLICY FOR BUILD RESTRICTIONS. THIS PROFESSIONAL SERVICE CONI ILLINOIS MINIMUM STANDARDS FOR FOUND IF 0 5/8" x 30" (123.45') 123.45 REBAR PL RECORDEL MEASUREL 123.45'(COMP) COMPUTED H:\6100-6199\6163\DWG\6163.DWG CLAASSEN, WHI 121 AIRPORT DRIVE, U (815) 744-3720

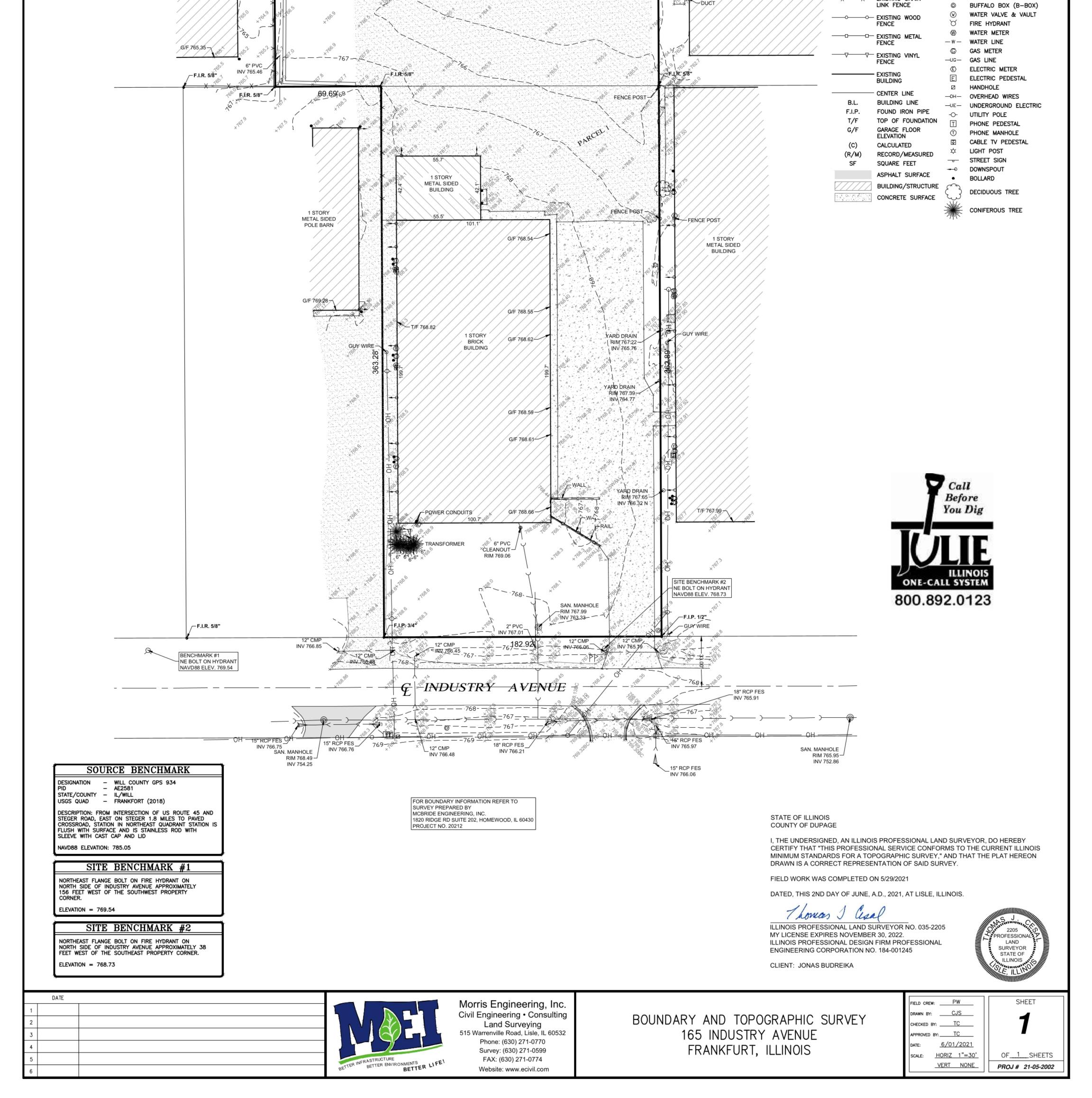
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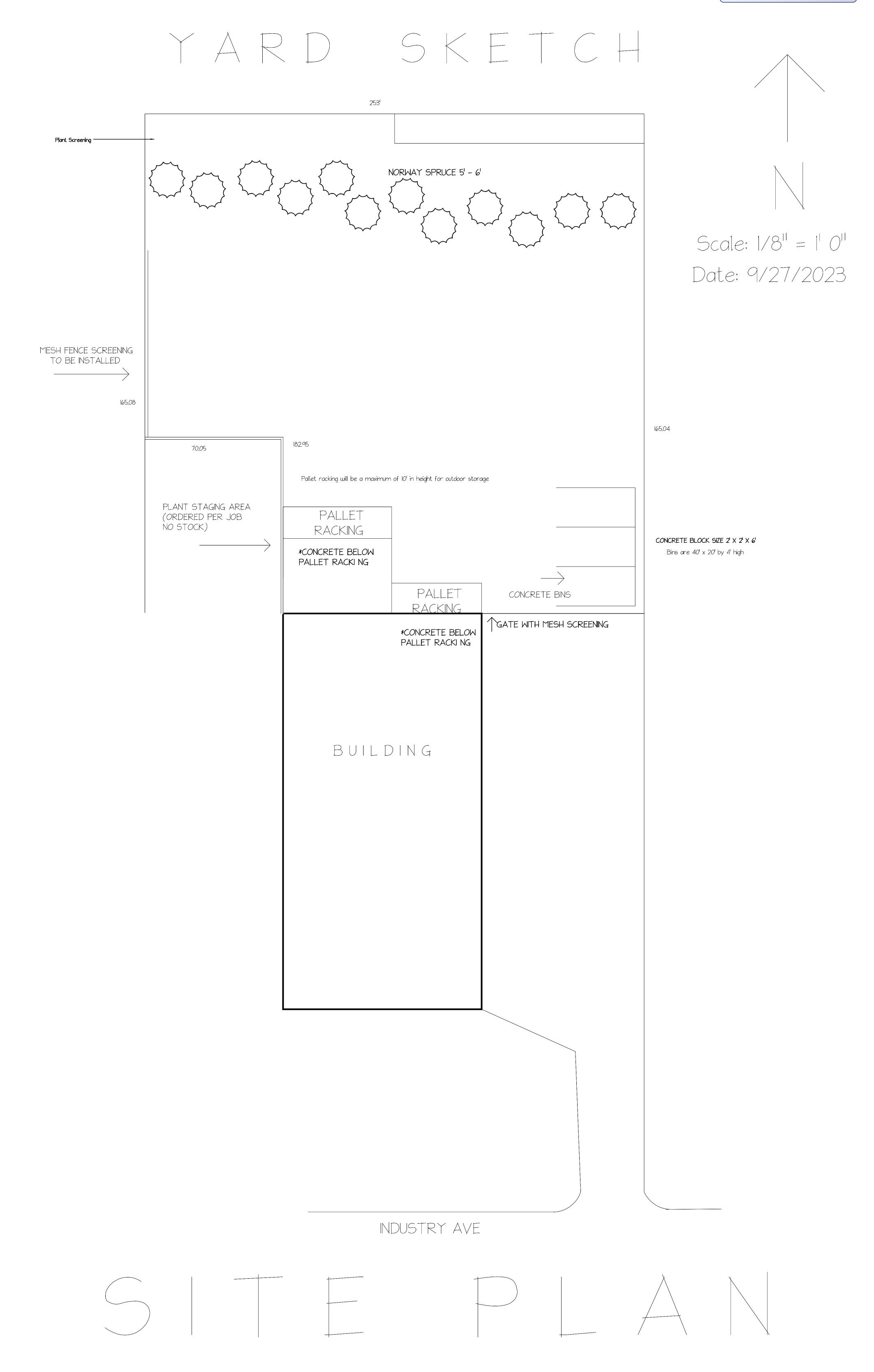


RECEIVED By aduffin at 10:56 am, Jan 12, 2023

SURVEYED THE PROPERTY DESCRIBED IN SHOWN BY THE ANNEXED PLAT WHICH TREPRESENTATION OF SAID SURVEY.
TREPRESENTATION OF SAID SURVEY. ND AND SEAL AT JOLIET, COF ILLING OF AUGUST, 2014. DULET, COF ILLING DAVID A CLAASSEN, CO JOLIET, D MO. 2962
LUNOIS LAND SURVEYOR NO, 2962 0–14 POLICY FOR BUILDING AND EASEMENT
VAL SERVICE CONFORMS TO THE CURRENT STANDARDS FOR A BOUNDARY SURVEY.
FOUND IRON 30" REBAR PLACED RECORDED DATA MEASURED DIMENSION DMP) COMPUTED DIMENSION
5163.DWG JOB #61
CLAASSEN, WHITE & ASSOCIATES, P.C. LAND SURVEYORS
1 AIRPORT DRIVE, UNIT 1, JOLIET, ILLINOIS 60431 815) 744-3720 claassenwhite@cwasurvey.com
RICHARD A. CHISHOLM SCALE: 1"=40"
9700 W. 131st STREET DATE: 08/21/ PALOS PARK. ILLINOIS 60454







RECEIVED By aduffin at 8:15 am, Apr 03, 2023

VILLAGE OF FRANKFORT

Application for Plan Commission / Zoning Board of Appeals Review Special Use Permit Findings of Fact

Article 3, Section E, Part 6 of the Village of Frankfort Zoning Ordinance lists "findings" or "standards" that the Plan Commission must use to evaluate every special use permit request. The Plan Commission must make the following seven findings based upon the evidence provided. To assist the Plan Commission in their review of the special use permit request(s), please provide responses to the following "Findings of Fact." Please attach additional pages as necessary.

- That the establishment, maintenance or operation of the special use will not be detrimental to, or endanger, the public health, safety, morals, comfort or general welfare.
 Our outdoor storage of construction materials and trucks and trailers will not endanger anyone's welfare. Storage will be done to standard practice.
- That the special use will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminish and impair property values within the neighborhood.
 All outdoor storage will be kept in a neat orderly fashion.
- That the establishment of the special use will not impede the normal and orderly development and improvement of the surrounding property for uses permitted in the district.
 All outdoor storage will be kept in a neat orderly fashion.
- 4. That the exterior architectural appeal and functional plan of any proposed structure will not be so at variance with either the exterior architectural appeal and functional plan of the structures already constructed, or in the course of construction in the immediate neighborhood or the character of the applicable district, as to cause a substantial depreciation in the property values within the neighborhood.

No structures are being proposed.

5. That the adequate utilities, access roads, drainage and/or necessary facilities have been or are being provided.

There are no changes to the items listed.

- That adequate measures have been or will be taken to provide ingress and egress so designed as to minimize traffic congestion in the public streets. There will no be any change to the current traffic flow.
- 7. That the special use shall, in all other respects, conform to the applicable regulations of the district in which it is located, except as such regulations may, in each instance, be modified by the Village Board, pursuant to the recommendations of the Plan Commission. The special use will conform to the applicable regulations.



Unit 3 of 165 Industry Avenue Condominiums



The north end of Parcel 1 and all of Parcel 2



Northwest Corner of Parcel 1



Driveway from 1000 and 1018 Lambrecht Road to Parcel 2



North end of Parcel 2, facing west



West side of Parcel 2 and NWC of Parcel 1



North end of Parcel 2, facing south



Units 1 and 2

Motion by: James Seconded by: Schaeffer

Approved: (6-0)

Chair Rigoni said that this case would be brought to the Village Board on May 1st.

D. Workshop: 20500 S. La Grange Road – Sage Salon

Drew Duffin presented the staff report.

The applicant, Talitha Henison, approached the stand. She said that the salon would have no more than three stylists. She planned to use the office to manage the administrative needs of the business. Her salon offered hair cutting services, nothing out of the ordinary.

Commission Knieriem stated that he had no comments, and that the application seemed straight forward to him.

Commissioner Markunas said that he had spoken with another business owner who operated in the same building. They had observed that the parking lot could get busy there on Fridays and on weekends. He believed that it was a result of spillover parking from the restaurant to the south. He asked if the applicant owned any other businesses.

The applicant said that she did, a salon in Mokena and another in Tinley Park. They operated under the same name.

Commissioner Markunas asked when the salon would open.

The applicant said she would open as soon as she was allowed.

Commissioner James asked who the previous occupant of the tenant space was.

Drew Duffin said he was not sure.

The applicant stated she was also unsure.

Chair Rigoni said she had no questions.

Commissioner James stated that it was common for dental offices to skew the parking requirements for a site. He noted that the subject property never seemed to have a lot of cars. He suggested that it might be worth looking at the code requirement and possibly reducing it in the future.

E. Workshop: 165 Industry Avenue, Unit 3 – CNC Lawncare

Drew Duffin presented the staff report.

The applicant, Chad Uthe, approached the stand. He explained that his business Provided landscaping services for Homeowner's Associations, as well as full landscape architecture and construction services.

Commissioner Markunas asked how long the applicant had been in business.

The applicant stated that it was their 24th season.

Commissioner Markunas asked if the business was currently operating in the unit under consideration.

The applicant said that they were.

Commissioner Markunas asked if the applicant was currently using the other parcel for storing material.

The applicant said that he was. He added that the properties were owned by a different landlord when he had first moved in. They were using the northern portion of the property now for outdoor storage. Specifically, they used it to store miscellaneous materials which would come and go frequently.

Commissioner Markunas asked the applicant if he accessed the site off of Industry Avenue.

The applicant said that he did, and that employees would park on east side of the property.

Commissioner Markunas asked if the applicant ever used the driveway on the northeast corner of the subject property.

The applicant said that they do, but only rarely.

Commissioner James said that the proposed use was consistent with other businesses in the area. One of the subject parcels was currently an island, and he thought that a Plat of Resubdivision would make the most sense in order to connect the two subject properties together.

Commissioner Schaeffer asked the applicant to give more detail about what materials were stored in the rear of the property.

The applicant explained that they stored miscellaneous aggregates, brick, stone, and palletized materials on the northern end of the property.

Commissioner Schaeffer asked if he meant bulk gravel when he mentioned aggregates.

The applicant said that he did not, and that those materials were stored on the southern end of the property.

Commissioner Schaeffer asked if they stored any chemicals on site.

The applicant said they did not store chemicals.

Commissioner Jakubowski said that the property owner should combine the lots, and that she had no other comments.

Commissioner Knieriem asked if the applicant would plant any trees or live material on the property.

The applicant explained that they ordered plant material as they need it. Nothing was stored for more than a week. There would be no trees planted or small plant nursery.

Commissioner Knieriem asked the applicant if he was the property owner.

The applicant said he was not, but that the property owner was in the audience. The applicant had been at this location for two years. The previous occupant was a lawn and irrigation company, who had made the set up in the back with storage.

Chair Rigoni asked if the applicant was currently operating at the subject property now and was only asking for the Special Use Permits at this time.

Drew Duffin said that that was the case.

Chair Rigoni asked if the applicant was operating illegally as a result.

Drew Duffin said yes.

Chair Rigoni asked if the applicant had a Business License.

Drew Duffin said that he was not aware of an issued Business License.

Chair Rigoni asked if the applicant was already operating their business with outdoor storage.

Drew Duffin said that was correct.

The applicant explained that he moved into the current space during COVID, and that it was a chaotic time. He said that it should have been taken care of then.

Chair Rigoni asked if there was material being stored on the north side of the property.

Drew Duffin said there was.

Chair Rigoni said that she had gone out to the site, and that the improvements that were there were not typical of what one would see in Frankfort. It looked as though there was a lot of dumping going on the back. Moving forward, she wanted to know what material would be stored on-site, and where.

Commissioner Schaeffer noted that, with respect to outdoor storage, fencing was usually required. She asked if this was this the same in this case.

Mike Schwarz said that outdoor storage had to be screened, even in the I-2 district. Storing uncontained bulk materials would require a Special Use Permit.

Chair Rigoni asked what Special Use Permits were required for the current case.

Mike Schwarz stated that there were two issues. One issue was that there was some bulk material being stored where the building sat. The other issue was that there were two separate parcels, one with a principal use and one with an accessory use. The accessory use was technically not in connection with the main parcel. Staff believed that the property owner was unwilling to consolidate the two parcels.

Chair Rigoni said that, in terms of screening, the current proposal could get out of hand, since there was no defined area showing where material would be stored. Designating a fenced-in storage area would work to contain the stored material. She asked how big the northern parcel was. She said that she was hesitant to approve a blanket Special Use Permit for the entire parcel, and suggested that maybe the storage area should be specified on a plan. She added that there was a clause in the Village of Frankfort Zoning Ordinance which talked about adjacent non-conforming lots. She wanted to make sure that the Special Use Permit for Uncontained Bulk Materials was clear about where material would be stored.

Commissioner Markunas asked the applicant if he had applied for business license.

The applicant said that he had.

Commissioner Markunas asked if that was what prompted the workshop.

The applicant said that it was.

Chair Rigoni asked if there were any other businesses on the southern lot storing materials.

The applicant said that there were none.

Mike Schwarz noted that if the applicant was storing uncontained bulk material, then a Special Use Permit would be required.

Chair Rigoni asked how much extra room would be needed on the northern parcel for outdoor storage. She asked if there was a plan that showed the storage area.

Drew Duffin said that he had received no such plan.

Commissioner Schaeffer asked if the applicant could screen every side of the storage area that needed to be screened other than where the area would be accessed from.

Commissioner Markunas noted that it was hard to see the storage area from the south, east, and west.

Commissioner Knieriem said that he believed the Plan Commission would be overburdening the applicant if they required him to put a fence up against the building. He also asked if the large pile of material shown in the site photos was compost.

The applicant said that it was, and that that material came and went.

Commissioner Knieriem added that it looked as though there was a berm on the north end of the property. He asked the applicant if they were taking material off the property.

The applicant said that they would not be chancing the grading of property.

Chair Rigoni said that her concerns were not so much related to the use, but more about defining where storage would be and how it would be contained.

Commissioner Knieriem observed that the property to the north of the subject property was a retention area and therefore non-buildable.

Commissioner Schaeffer asked if there was a concern with stormwater and drainage in the storage area.

Mike Schwarz noted that the storage area would need to be paved.

The applicant noted that he would prefer to move the pallets rather than pave the outdoor storage area.

Commissioner Markunas asked that the applicant please define where the outdoor storage area would be located for next time.

Commissioner Schaeffer said the applicant should work with staff to make sure the storage area met code and the parameters of the Special Use Permit.

Chair Rigoni also suggested that a condition be added to a future motion that no chemicals or fertilizers were to be stored on-site.

Mike Schwarz said that staff was looking for direction on how to address the situation of the two separate parcels. Staff recommended consolidating the properties, but the property owner was not willing to consolidate. He added that it would take time to get Plat of Consolidation drafted and approved.

Chair Rigoni said that consolidation would be the best path forward, and suggested that the Plat of Consolidation be completed and approved within some amount of time after the Special Use Permits were approved.

F. Workshop: 10043 W. Lincoln Highway – Action Behavior Centers

Drew Duffin gave the staff report.

The applicant, Jacquelyn Fara, approached the stand. She explained that Action Behavior Centers offered intensive, one-on-one therapy, as well as testing and assessment for children with autism. They wanted to provide an outdoor space that was also a safe environment for their clients where they could work on gross motor skills, such as kicking balls. Their goal as an organization was to get all kids back into the school setting.

Commissioner Knieriem asked staff to clarify which parking spaces the applicant was proposing to remove. He asked if the proposed outdoor space would be used in the winter.

The applicant explained that the temperature would need to be to be over 50 degrees for the children to go outdoors. The reason they were planning to cover all five parking spaces was to prevent someone from parking alongside the play space, which would pose a safety risk. The applicant added that they were proposing a faux wrought iron fence to match what was used by KinderCare. They could also do a privacy fence if that was preferable.

Commissioner Knieriem asked if the proposed fence would be mounted into the ground.

The applicant said that it would be.

Commissioner Knieriem asked if Action Behavior Centers owned the building.

The applicant said they did not.

Commissioner Knieriem observed that the exterior of the building had quite a bit of damage.

The applicant said they were working with the landlord to resolve that.

Planning Commission / ZBA



October 26, 2023

Project: Meeting Type:	Thrift Home & Restoration (The Bridge Teen Center) Public Hearing
Requests:	 (1) Special Use Permit for a Planned Unit Development with certain Village ordinance modifications/exceptions; (2) Special Use Permit for indoor retail sales of goods, between 5,000 and 10,000 square feet in the B-4 Office District; (3) Preliminary/Final PUD Development Plan; and (4) Preliminary and Final Plat of Resubdivision
Location:	21420 S. Harlem Avenue
Applicants:	Rob and Priscilla Steinmetz, representing The Bridge Teen Center, a 501c3 non-profit corp.
Prop. Owner:	Bridge Thrift Center Not-for-Profit
Consultants:	Patrick McCarty, Jr., PWM Architecture, LLC
Report By:	Michael J. Schwarz, AICP

Site Details

Parcel/Lot Size:	5.3 acres
PIN(s):	19-09-24-401-021-0000
	19-09-24-401-022-0000
	19-09-24-401-019-0000
	19-09-24-401-020-0000
Existing Zoning:	B-4 Office District
Prop. Zoning:	B-4 Office District with a Special Use Permit for a PUD,
	and a Special Use Permit for indoor retail sales of goods,
	between 5,000 and 10,000 square feet
Building(s) / Lot(s):	1 proposed building / 2 proposed lots

Adjacent Land Use Summary:

	Land Use	Comp. Plan	Zoning
Subject Property	Office (Vacant)	General Commercial	B-4
North	Undeveloped	General Commercial	B-2
South	SF Detached Residential	SF Detached Residential	R-2
East	Agriculture	General Commercial	Cook County
West	SF Detached Residential	SF Detached Residential	R-2



Project Summary -

The applicants, Rob and Priscilla Steinmetz, representing The Bridge Teen Center, a 501c3 non-profit corporation, have filed an application requesting a Special Use Permit for a Planned Unit Development and a Special Use Permit for indoor retail sales of goods, between 5,000 and 10,000 square feet in the B-4 Office District for the 5.3-acre property located on the west side of Harlem Avenue, south of Route 30/Lincoln Highway, commonly known as 21420 S. Harlem Avenue.

According to the Fact Sheet provided by the applicants, the proposed "Thrift Home & Restoration" would sell used furniture, home goods, antiques and collectibles, crafts and creations from local artisans, small potted plants,

salvaged architectural elements, repurposed and "upcycled" items, jewelry, and accessories and select designer apparel. The profits from the business would be used to support the mission of The Bridge Teen Center which is located at 15555 71st Court in Orland Park. The retail operation which is proposed within the existing vacant building (proposed Lot 1) would also provide employment and retail training opportunities for area students as well as provide volunteer opportunities for teen and adult individuals and groups. Future development proposals for the use of the undeveloped portion of the property (proposed Lot 2) would require an application for a Major Change to the Planned Unit Development, which would require a future public hearing and review by the Plan Commission and Village Board.

The overall subject property includes Lots 5 and 6 in the Georgetown Square Subdivision (recorded in 1987) and Lots 97 and 98 in the Georgetown Subdivision 1st Addition (recorded in 1989). In conjunction with the Special Use, the applicants will also need to request approval of a Final Plat of Resubdivision to adjust the existing lot lines so that the existing parking lot is located entirely on the same lot as the existing building. Currently, portions of the unfinished parking lot encroach onto the adjacent lots.

Project Background

The Plan Commission/Zoning Board of Appeals held an initial workshop on this project on July 14, 2022 (refer to attached meeting minutes). At that time, the discussion primarily focused on the proposed changes to the existing building elevations. The Plan Commission subsequently held a second workshop on September 7, 2023, where various aspects of the project were discussed (refer to attached meeting minutes).

Property Background _____

The Georgetown professional building located at 21420 Harlem Avenue is a 9,196 square-foot office building that was constructed in 1992 and never occupied. The interior space was never completed. The building has a gravel floor, and the interior wall framing remains unfinished. The roofing shingles are in poor condition. It is currently not known when the property was annexed into the Village of Frankfort. The property was rezoned to the B-4 Office District in 2002.

Attachments –

- 1. 2020 Aerial Photograph from Will County GIS
- 2. Site Photographs taken 7.8.22
- 3. Profile and Prospectus for The Bridge, received 3.22.22
- 4. Fact Sheet for Thrift Home & Restoration, received 5.24.22
- 5. Plats of Survey of four individual lots dated 4.29.08, received 5.24.22
- 6. Plat of Survey of overall property dated 4.19.23, received 7.18.23
- 7. Topographic Survey of overall property dated 4.19.23, received 7.18.23
- 8. Preliminary and Final Plat of The Bridge Re-Subdivision dated 7.12.23, revised 9.5.23, received 9.20.23
- 9. Master Site Plan dated 5.27.22, revised 9.22.23, received 10.18.23
- 10. Architectural Site Plan dated 5.27.22, revised 9.22.23, received 10.18.23
- 11. AutoTURN[®] Exhibit for Fire and Garbage Truck Circulation dated 9.18.23, received 9.20.23
- 12. Floor Plan / Building Elevations dated 4.10.22, revised 9.22.23, received 10.18.23
- 13. 3D Rendering view from North from overhead angle, file dated 9.22.23, received 10.18.23
- 14. 3D Rendering view from Northeast from overhead angle, file dated 9.22.23, received 10.18.23
- 15. 3D Rendering view from Southeast from overhead angle, file dated 9.22.23, received 10.18.23
- 16. 3D Rendering view from West from overhead angle, file dated 9.22.23, received 10.18.23
- 17. 3D Rendering view from South from overhead angle, file dated 9.22.23, received 10.18.23
- 18. Steeple Cupola Specifications, received 10.18.23
- 19. Keim® Mineral Masonry Paint Information, received 7.18.23
- 20. Timberline[®] UHD Shingles Information, received 7.18.23

- 21. Wall Sign Specifications, dated 3.22.23, received 7.18.23
- 22. Monument Sign Specifications, dated 3.22.23, received 7.18.23
- 23. Directional Sign Specifications, dated 3.22.23, received 7.18.23
- 24. Tree Preservation Plan dated 6.2.23, received 10.18.23
- 25. Landscape Plan last revised 6.29.23, received 10.18.23
- 26. Landscape Notes last revised 6.29.23, received 10.18.23
- 27. Lighting/Photometric Plan dated 4.16.23, received 7.18.23
- 28. Parking Lot Light Fixture Specifications, received 7.18.23
- 29. Building Light Fixture Specifications, received 7.18.23
- 30. Final Engineering Plans dated 9.18.23, received 9.20.23
- 31. PC/ZBA Meeting Minutes of 7.14.22
- 32. PC/ZBA Meeting Minutes of 9.7.23
- 33. Applicant Responses to Findings of Fact for PUD Standards
- 34. PC/ZBA Commissioner Evaluation Form for Special Use Permit Standards
- 35. PC/ZBA Commissioner Evaluation Form for Planned Unit Development Standards

Analysis

In consideration of the request, staff offers the following points of discussion:

Summary of Plan Revisions Since the Workshop on September 7th, 2023

- 1. The potential future accessory retail building and greenhouse building which were depicted on the previous Master Site Plan are not being proposed at this time and have been removed from the Master Site Plan.
- 2. One handicap accessible parking space that was located near the northeast corner of the building has been relocated across the drive-aisle to the east end of the row of parking spaces opposite the trash enclosure.
- 3. At the request of the Frankfort Fire Protection District, an existing curbed landscape island at the northeast corner of the building has been removed from the Site Plan, and has been replaced with asphalt, to improve fire truck circulation through the north parking lot.
- 4. Three prefabricated ornamental "steeple" cupolas have been added along the ridgeline of the roof. The existing six dormers (three on each side of the roof) would be removed. The existing three chimneys would be removed.
- 5. Two wood awnings have been added on the east elevation just above the existing windows.

Land Use/Comprehensive Plan

The applicant has desires to establish and operate a retail thrift store within an existing unfinished office building. The applicant proposes to rehabilitate and renovate the existing 9,196 square-foot, brick, one-story unfinished office building and to re-pave and expand the associated unfinished parking lots. The applicant has provided a Fact Sheet which describes the proposed business (see attached). The Future Land Use Map within the 2040 Comprehensive Plan designates the subject property as "General Commercial". The proposed retail use is consistent with the Future Land Use Map.

Hours of Operation

The applicant has indicated that the proposed business hours of operation are:

- 10:00 a.m. to 7:00 p.m. Tuesday through Thursday
- 10:00 a.m. to 5:00 p.m. Monday, Wednesday, Friday, Saturday
- Closed Sunday and Monday

The proposed hours are within the Village's normal hours of operation, which are 7:00 a.m. to 11:00 p.m. per Article 6, Part 2(q) of the Zoning Ordinance.

Employees

The applicant previously indicated that on a given day, he would estimate a rotating schedule of 2-3 employees and 4-5 volunteers.

Zoning and Special Uses

- 1. The subject property is zoned B-4 Office District.
- 2. The Zoning Ordinance does not contain specific use standards for the B-4 Office District.
- 3. The applicant is requesting a Special Use Permit for a Planned Unit Development (PUD), which is an allowable Special Use in the B-4 Office District. The purpose of the PUD is to allow a phased approach to the planned improvements to the building and property, as well as regulate the potential future development of a vacant lot to the south of the existing building. A PUD would allow some flexibility in the phasing of certain improvements such as landscaping, as well as allow for certain Village ordinance modifications/exceptions as may be necessary because the existing partial development of the property predates the current Zoning Ordinance.
- 4. A Special Use Permit for indoor retail sales of goods, between 5,000 and 10,000 square feet, is required in the B-4 Office District. The Table of Permitted and Special Uses in the Zoning Ordinance limits retail sales area in the B-4 Office District to a total of 10,000 square feet. The existing building is 9,196 square feet, and therefore complies with this requirement.

Planned Unit Development

Article 3, Section F of the Zoning Ordinance is the chapter pertaining to Planned Unit Developments. Part 10 of this section outlines the requirements for the "Preliminary Development Plan". Part 11 of this section outlines the requirements for the "Final Development Plan." In this case, it is staff's understanding that due to the relatively small land area (5.3 acres) that would comprise the proposed Planned Unit Development, as well as the limited scope of the near-term and proposed future development activity, the applicant desires to seek concurrent approval of both the Preliminary Development Plan and Final Development Plan.

The application submittal requirements for the Preliminary Development Plan are summarized as follows (with the status as noted):

Preliminary Development Plan – Application Submittal		Submittal Status
Requirement		
Ownership (entire site under single ownership)		Compliant
Boundary Survey and Legal Description		Compliant
Site Location Map		Compliant
Topographical Survey		Compliant
Existing Zoning and Land Use Map		Compliant (available via Village GIS)
Concept Plan		Compliant
Statement of Character		Compliant via the uses labeled on the Master Site Plan and the Fact Sheet submitted by the applicant
Drawings		Compliant
a) b) c) d) e) f)	Existing and proposed roads (NA) Existing and proposed easements Gross and Net Density of residential uses (NA) Schematic street lighting and public area lighting (NA) Landscape Plan per Village ordinances Engineering plans for stormwater and floodplain	
,	management per Village ordinances	
Traffic Study		A Traffic Study has not been requested at this time. The Plan
a)	General description of existing roads on and adjacent to the development with proposed road improvements	Commission may recommend waiving this requirement.
b)	Circulation diagram indicating movement of vehicles, goods and pedestrians	
c)	Any special engineering features and traffic control devices needed to facility traffic safety	
Village Ordinance Report		Staff has noted various modifications, exceptions and variations from the Zoning Ordinance as found in this report.
Market Study (if deemed necessary by the Code Official)		A Market Study has not been requested by Village staff for the proposed project.
Environmental Study		An Environmental Study has not been requested at this time given that the property is already partially developed for commercial use.

Construction Schedule	The applicant has not yet stated the anticipated construction date, the stages in which the project will be built, or the approximate date that each stage will be completed.
Covenants	Not applicable. At this time, there are no proposed agreements, provisions or covenants and by-laws which will govern the use, maintenance, and continued protection of the Planned Unit Development.
Titles and Certificates	Compliant
Open Space and Recreation Areas and Facilities	Not applicable
Architectural Renderings	Compliant
Notices (Names and addresses of persons to whom public hearing notices will be sent)	Village staff will provide this prior to the public hearing.

The application submittal requirements for the Final Development Plan are summarized as follows (with the status as noted):

Final Development Plan – Application Submittal Requirement	Submittal Status
Final Plat of Subdivision	Compliant
Final Site Plan	Compliant via the submitted Master Site Plan and all other related
	plans
Final Covenants (if any)	Not applicable
Deeds or Easement Agreement (if any) conveying ownership	Not applicable
interest in any parcel subject to public ownership	
Article of Incorporation (if any) for homeowners, merchants or	Not applicable
business or property owners' association	
Engineering drawings and specifications for:	Compliant
a) Sanitary and storm sewer systems	
b) Water supply system	
 c) Street lighting and public area lighting systems 	
 d) Sidewalks, trails, and paths 	
e) Storm water management	
f) Floodplain management	
g) Erosion control plan	
 Other such engineering drawings as may be required 	
Estimate of the cost of installation of all proposed public	Required as part of the engineering review process
improvements	
Plan or report regarding the impact of the proposed development	Not applicable
on the natural environment	
Final architectural renderings and facades	Compliant
Certificate from the County Collector that no taxes or special	Not yet submitted
assessments are owed	
Certificates and signature blocks as required by Illinois Statutes and	Required as part of the plat review process
the Plat Act (and the Village Land Subdivision Ordinance)	

Existing Site-Related Non-Conformities

Given that the subject property was partially developed prior to the current Zoning Ordinance, there are various existing site related non-conformities which are summarized as follows:

- Minimum front yard setback from the centerline of the right-of-way a major highway (excluding Route 30 and Laraway Road)
 - Article 6, Section C, Part 1 of the Zoning Ordinance requires a 125-foot minimum setback.
 - The existing building is approximately 113 feet from the centerline of Harlem Avenue.
- Minimum front yard setback
 - Article 6, Section C, Part 1 of the Zoning Ordinance requires a minimum 50-foot front setback.
 - The existing building is 49 feet from the east property line per the civil engineering plans.
- Minimum rear yard setback
 - Article 6, Section C, Part 1 of the Zoning Ordinance requires a minimum 30-foot rear yard setback.
 - The existing building is 29.9 feet from the west property line per the civil engineering plans.
- Sidewalk width adjacent to the south side of the building

- Village Design Standards require 7 feet minimum sidewalk width when a row of parking is located adjacent to the sidewalk to allow for 2 feet of vehicle overhang, thereby maintaining a minimum 5' wide walkway.
- The existing sidewalk is approximately 3 feet wide; Wheel stops have been requested along this row of parking spaces to prevent vehicles from overhanging the sidewalk, and to maintain compliance with the Americans with Disabilities Act, Illinois Accessibility Code and Village minimum sidewalk width requirements.
- Width of parking lot landscape islands (planting beds)
 - The Village Landscaping Regulations require a minimum dimension of 9 feet (width) for planting beds.
 - The existing north parking lot island is 7.15 feet wide; Existing south parking lot island is 7.10 feet wide.
- Height of parking lot light poles
 - The Zoning Ordinance allows parking lot light poles to be a maximum of 20 feet in the B-4 Office District.
 - The four (4) existing parking lot light poles have a height of 25 feet.

Proposed Ordinance Modifications/Exceptions as part of the PUD

Staff has noted various modifications/exceptions from Village ordinances that the applicant is seeking or may need to seek as part of the proposed Planned Unit Development:

- 1. Continuation of the existing site-related non-conformities as noted in the preceding section.
- Reduction of the required minimum setback of a freestanding sign from 25 feet to 10 feet [Municipal Code Section 151.041(B)(1)(b)].
- 3. Increase of the required maximum area of a freestanding sign for a single-tenant commercial building which has a total building size of 0 to 9,999 square feet, from 15 square feet to 18 square feet [Municipal Code Section 151.041(h)].
- 4. An exception to allow a waiver of the required multi-use bike path along the frontage of the property along Harlem Avenue as generally depicted on Figure 3.2 (Frankfort Trail Inventory Map) in the *Your Frankfort Your Future 2040 Comprehensive Plan* [Article 3, Section F, Part 6(c) of the Zoning Ordinance, and Section 7.2-4 of the Land Subdivision Regulations].
- 5. An exception to allow continuation of the non-conforming parking lot light fixture height (increase from 20 feet to 25 feet).
- 6. A modification to waive or delay installation of the required transition yard landscaping along the west and south property lines adjacent to those residential lots that have extensive rear yard landscaping that serves as an effective visual screen.

Site Plan

- 1. The Architectural Site Plan depicts the existing building and proposed expanded parking lots.
- 2. The Master Site Plan (PUD Development Plan) depicts the existing building and the proposed parking lots. The Master Site Plan no longer reflects the future one-story, 5,400 square-foot (60' x 90') accessory retail building, and a proposed future 1,800 square-foot (30' x 60') glass greenhouse, which were previously shown on the same lot as the existing building, immediately to the south of the yet-to-be-completed south parking lot.
- 3. The Zoning Ordinance specifies a parking ratio of one (1) space per two hundred fifty (250) square feet of gross floor area plus one (1) space per employee for the work shift with the largest number of Employees. The existing 9,196 square-foot building therefore requires 37 parking spaces (including 2 handicap accessible spaces) for the building square footage, and another 5 spaces for the estimated number of employees and volunteers during any given shift, for a total of 42 parking spaces. A total of 62 spaces, including 3 handicap accessible spaces, are provided on the proposed Site Plan. Of that total, 14 spaces are designated for employees. The proposed 62 total spaces complies with the Zoning Ordinance requirements for off-street parking.
- 4. The Zoning Ordinance requires one off-street loading berth which shall be at least twelve (12) feet in width by at least fifty (50) feet in length, exclusive of aisle and maneuvering space, and shall have vehicle clearance

of at least fourteen (14) feet. The Site Plan reflects a diagonally-striped no parking area along the north side of the building, which effectively serves as the required off-street loading berth area. This loading zone area is approximately 100 feet long and 11.29 feet wide. The negligible difference of 8.52 inches which is required to comply with the width requirement can easily be met with a minor revision to the striping dimension on the Site Plan and Civil Engineering Plans and still will allow the drive aisle between the pavement striping and the trash enclosure to comply with the minimum 26-foot drive-aisle width requirement per the Village's Engineering Design Standards.

- 5. The Architectural Site Plan depicts the required trash enclosure which is located at the west end of the existing row of parking spaces on the north side of the existing building. The Zoning Ordinance requires that trash enclosures be constructed of materials to match the exterior of the building (in this case brick). An elevation detail for the proposed trash enclosure has not been provided at this time. The prosed trash enclosure is 24 feet wide and 22 feet deep, for a total of 528 square feet.
- 6. The Project Architect previously indicated that the existing decorative brick walls on either side of the driveway entrance would likely be removed due to their deteriorating condition. In a recent conversation with staff, the project architect indicated that the applicant would like to try to repair the existing decorative brick walls (refer to attached site photos).
- 7. Neither the Architectural Site Plan nor the Master Site Plan depict the existing stormwater detention basin which is located off-site to the north. The existing basin is depicted on the Final Engineering Plans. The Village Engineer has reviewed the applicant's proposed completion and expansion of the existing parking lots, to confirm that the existing basin has adequate capacity to serve the existing building and paved areas.
- 8. The B-4 Office District requires a maximum impervious surface lot coverage of 70%. According to the Impervious Area Table on Sheet 5 of the Final Engineering Plans (attached) the existing building, expanded parking lots, existing and proposed curb and gutter, and existing and proposed sidewalks add up to 58,703 square feet (1.35 acres), which is approximately 25.44% impervious surface lot coverage. The proposed new Lot 1 would easily remain in compliance with the maximum allowable impervious surface coverage. The proposed new Lot 2 would not be developed at this time. Any future development of Lot 2 would require an application for a Major Change to the Planned Unit Development, which would require future review by the Plan Commission/Zoning Board of Appeals and the Village Board.

Tree Preservation Plan/Landscape Plan

- The applicant has submitted a Tree Preservation Plan which depicts the existing trees to be preserved. A total of 29 existing trees are labeled as being preserved. A total of 27 trees are noted as being in good condition. Two trees are noted as being in poor condition. Except for one existing 8-inch ornamental pear tree located along the west property line, several houses to the south of the existing building, all other trees to be preserved are located along or just inside the east property line.
- 2. The applicant has submitted a Landscape Plan which depicts the proposed new trees and other plantings.
- 3. No new plantings are proposed around the perimeter of the naturalized stormwater detention basin. This area currently is planted with cattails and other water tolerant vegetation.
- 4. Given that the adjacent homes to the west and to the south of the subject property, the Landscape Ordinance requires a "Transition Yard" as a buffer between the proposed commercial and existing residential land uses. Pere the Village's Landscaping Regulations, the required landscaping in transitional yards shall be comprised of a combination of overstory trees, evergreen trees, ornamental trees, and large shrubs. If shrubs are used, they shall be installed at a minimum height of five feet. Additional small shrubs may be used but shall not count towards meeting the landscape requirements. Also, a minimum of a 25-foot-wide landscaped screen consisting of a minimum of 125 plant units per 100 linear feet of frontage measured along the length of a common boundary between two units. Forty percent of the plant material (by unit count) must be evergreen. The landscape plan shall include a landscape berm of no less than 3 feet in height to be located in a landscape easement. The regulations state that exceptions will be considered if the berm is determined to conflict with the natural or proposed drainage ways. In this case, the applicant is seeking to install the required plant material but not provide a berm, which could potentially impede the existing and proposed drainage conditions.
- 5. The Landscape Plan depicts 8 distinct "areas" along the back of each of the adjacent lots that have a full rear lot line shared with the subject property. The Landscape Plan Notes sheet contains a series of data boxes (refer to "West Property Line Screening Areas" boxes) that indicate how closely each of these

individual areas will come to meeting the minimum required plant materials. Some areas indicate more than the required plant units, other areas indicate slightly less.

- It should be noted that the Landscape Plan does not indicate any buffer landscaping along the south property line where two existing homes have significant landscape screening on their property. A modification/exception to the required landscaping is requested.
- 7. The Landscape Plan depicts the "parking lot screening areas". The Landscape Plan Notes sheet contains a series of data boxes (refer to "Parking lot Screening Areas" boxes) that indicate how closely each of these individual areas will come to meeting the minimum required plant materials. Some areas indicate more than the required plant units, other areas indicate slightly less.
- 8. Foundation plantings (shrubs) are proposed around all four sides of the existing building.
- 9. The existing parking lot islands on the north and south sides of the building will be planted with two trees at each end and one tree in the center, as well as numerous small shrubs throughout.
- 10. Staff notes that an additional revision to the Landscape Plan is necessary to add landscaping around the perimeter of the parking lots pursuant to the Landscape Ordinance.

Engineering Plans

- 1. The applicant has submitted Engineering Plans which have been reviewed by the Village's Consulting Engineer. At least two (2) rounds of engineering review have been completed at this time.
- 2. One of the notable comments in the engineering review letter dated August 18, 2023, pertains to the planned bike path along Harlem Avenue at this location. The right-of-way adjacent to this property is identified as a "Priority Gap" in trails in the Village's Comprehensive Plan (Figure 6.10). Village staff is noting the applicant/developer obligation for a 10-foot-wide asphalt shared use path along Harlem Avenue (935.29 feet of frontage), which is considered a public improvement. As part of the proposed Planned Unit Development, the applicant is requesting a waiver of this requirement due to both financial and engineering/topographic constraints.

Architecture

- 1. Building Elevations and color 3D renderings have been provided.
- 2. The applicant intends to paint the existing red brick facades with Keim Mineral Masonry Paint in "Classic White" color.
- 3. The existing roof would be completely reconstructed and covered with GAF Timberline UHD shingles in "Charcoal" color.
- 4. A covered dock enclosure would be added to the northwest corner of the building to provide a screened area for donation drop-offs. The dock enclosure wall material would be brick to match the building. The new gabled roof over the dock enclosure would include asphalt roofing shingles to match the main roof.
- 5. The rear windows on the west elevation and the two westernmost windows on the south elevation would be darkened with spandrel glass. The applicant desires to add this material to retain the current fenestration pattern, yet conceal these window openings, since they will be blocked by shelving on the interior.
- 6. The three (3) small pediments above the doors on the south elevation, two (2) small pediments above the doors on the north elevation, and one (1) large pediment above the drop-off area on the north elevation, would each consist of stained wood siding.
- Three (3) prefabricated ornamental "steeple" cupolas are depicted along the ridgeline of the roof. The existing six (6) dormers (three on each side of the roof) would be removed. The existing three (3) chimneys would be removed.
- 8. Two (2) wood awnings are depicted on the east elevation just above the existing windows.

Photometrics Plan

- 1. The applicant has submitted a Photometrics Plan, along with the proposed building and parking lot light fixtures and light pole specifications. The Photometrics Plan complies with the maximum allowable light level of 0.5 footcandles along all outer property lines.
- Twelve (12) wall-mounted "gooseneck" style light fixtures are proposed around the building three (3) light fixtures per facade. These would be mounted at 12 feet above the ground and would aim light downward and toward the exterior walls. The specified shade diameter is 10 inches.
- 3. The color will be black the goose neck building light fixtures and dark bronze for the parking lot light fixtures to match the existing light poles.
- 4. The maximum light pole height in the B-4 Office District is 20 feet. Given that the applicant is proposing to re-use the four (4) existing parking lot light poles which each have a 25-foot height, and which pre-date the current Zoning Ordinance, a modification of the allowable fixture height (increase from 20 feet to 25 feet) is requested as part of the PUD.
- 5. The Village's Municipal Code requires decorative bases for all parking lot light poles. The four (4) existing parking lot light poles each have a modest metal base which is located atop a small concrete pedestal. These light poles are located within the parking lot islands and would be mostly concealed by landscaping.

Signage

- 1. The submitted building elevations and building renderings reflect a one wall sign on the east elevation facing Harlem Avenue.
- 2. One new freestanding monument sign is proposed. The monument sign complies with the height and area regulations of the Sign Regulations, but the proposed 10-foot setback from the east property line would require a modification from the 25-foot setback requirement. The applicant has indicated that the monument sign will be lit with ground-mounted light fixtures.
- 3. The applicants desire to remove the existing monument sign which includes white text indicating "Georgetown". According to the Project Architect, the existing text would be removed and donated to the adjacent Georgetown Homeowner's Association to be used in the repair/replacement of one of their existing subdivision ground signs.
- 4. A small directional sign is proposed. The directional sign complies with the Sign Ordinance.

Preliminary and Final Plat of Subdivision

In conjunction with the Special Uses, the applicants are also requesting approval of a Preliminary and Final Plat of Resubdivision to adjust the existing lot lines so that the existing parking lot is located entirely on the same lot as the existing building. The proposed Plat of Resubdivision would consolidate the northern two lots – Lots 5 and 6 in Georgetown Square Subdivision – into one new lot and would consolidate the southern two lots – Lots 97 and 98 in Georgetown Subdivision First Addition – into one new lot. As reflected on the plat, new perimeter public utility and drainage easements will be provided. The existing public utility and drainage easement that runs east-west along the south side of the building will remain in place. The plat reflects a 26-foot-wide ingress/egress cross-access easement on the southern portion of Lot 1 for the benefit of Lot 2. This ingress/egress easement will allow any future development on Lot 2 to avoid the need to provide a new driveway access onto Harlem Avenue. The plat has been reviewed by the Village Engineer and some minor technical revisions may be necessary prior to recording.

Standards for Special Uses -

For reference during the public hearing, Article 3, Section B, Part 6 of the Village of Frankfort Zoning Ordinance lists "findings" or "standards" that the Plan Commission must use to evaluate every special use request.

The Plan Commission shall make written findings of fact and shall refer to any exhibits containing plans and specifications for the proposed special use, which shall remain a part of the permanent record of the Plan Commission. The Plan Commission shall submit same, together with its recommendation to the Village Board for final action. No special use shall be recommended by the Plan Commission, unless such Commission shall find:

- a. That the establishment, maintenance or operation of the special use will not be detrimental to, or endanger, the public health, safety, morals, comfort or general welfare.
- b. That the special use will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminish and impair property values within the neighborhood.
- c. That the establishment of the special use will not impede the normal and orderly development and improvement of the surrounding property for uses permitted in the district.
- d. That the exterior architectural appeal and functional plan of any proposed structure will not be so at variance with either the exterior architectural appeal and functional plan of the structures already constructed, or in the course of construction in the immediate neighborhood or the character of the applicable district, as to cause a substantial depreciation in the property values within the neighborhood.
- e. That the adequate utilities, access roads, drainage and/or necessary facilities have been or are being provided.
- f. That adequate measures have been or will be taken to provide ingress and egress so designed as to minimize traffic congestion in the public streets.
- g. That the special use shall, in all other respects, conform to the applicable regulations of the district in which it is located, except as such regulations may, in each instance, be modified by the Village Board, pursuant to the recommendations of the Plan Commission.

Standards for Planned Unit Developments -

For reference during the public hearing, Article 3, Section F of the Village of Frankfort Zoning Ordinance refers to Planned Unit Developments (refer to complete Article 3 attached). Part 4 of said Section F refers to the review standards the must be considered.

In granting or withholding approval of Preliminary PUD Plans and Final PUD Plans (in this case, the applicant is seeking concurrent approval of a Preliminary and Final PUD Plan), the Plan Commission and the Village Board shall consider the extent to which the application fulfills the requirements of this Ordinance and the following standards:

- a. The plan is designed to protect the public health, welfare and safety.
- b. The proposed development does not cause substantial injury to the value of other property in the immediate area.
- c. The plan provides for protection of the aesthetic and function of the natural environment, which shall include, but not be limited to, flood plains, streams, creeks, lakes, ponds, wetlands, soil and geologic characteristics, air quality, vegetation, woodlands, and steep slopes.
- d. The plan provides for and ensures the preservation of adequate recreational amenities and common open spaces.
- e. Residential use areas may provide a variety of housing types to achieve a balanced neighborhood.
- f. The planned unit development provides land area to accommodate cultural, educational, recreational and other public and quasi-public activities to serve the needs of the residents thereof.
- g. The proposed development provide for the orderly and creative arrangement of all land uses with respect to each other and to the entire Village.

Findings for Consideration

The Plan Commission/Zoning Board of Appeals finds:

- 1. That the establishment, maintenance or operation of the special use(s) will not be detrimental to, or endanger, the public health, safety, morals, comfort or general welfare.
- 2. That the special use(s) will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminish and impair property values within the neighborhood.
- 3. That the establishment of the special use(s) will not impede the normal and orderly development and improvement of the surrounding property for uses permitted in the district.
- 4. That the exterior architectural appeal and functional plan of any proposed structure will not be so at variance with either the exterior architectural appeal and functional plan of the structures already constructed, or in the course of construction in the immediate neighborhood or the character of the applicable district, as to cause a substantial depreciation in the property values within the neighborhood.
- 5. That the adequate utilities, access roads, drainage and/or necessary facilities have been or are being provided.
- 6. That adequate measures have been or will be taken to provide ingress and egress so designed as to minimize traffic congestion in the public streets.
- 7. That the special use(s) shall, in all other respects, conform to the applicable regulations of the district in which it is located, except as such regulations may, in each instance, be modified by the Village Board, pursuant to the recommendations of the Plan Commission.

Affirmative Motions-

For the Commission's consideration, staff provides the following potential affirmative motions:

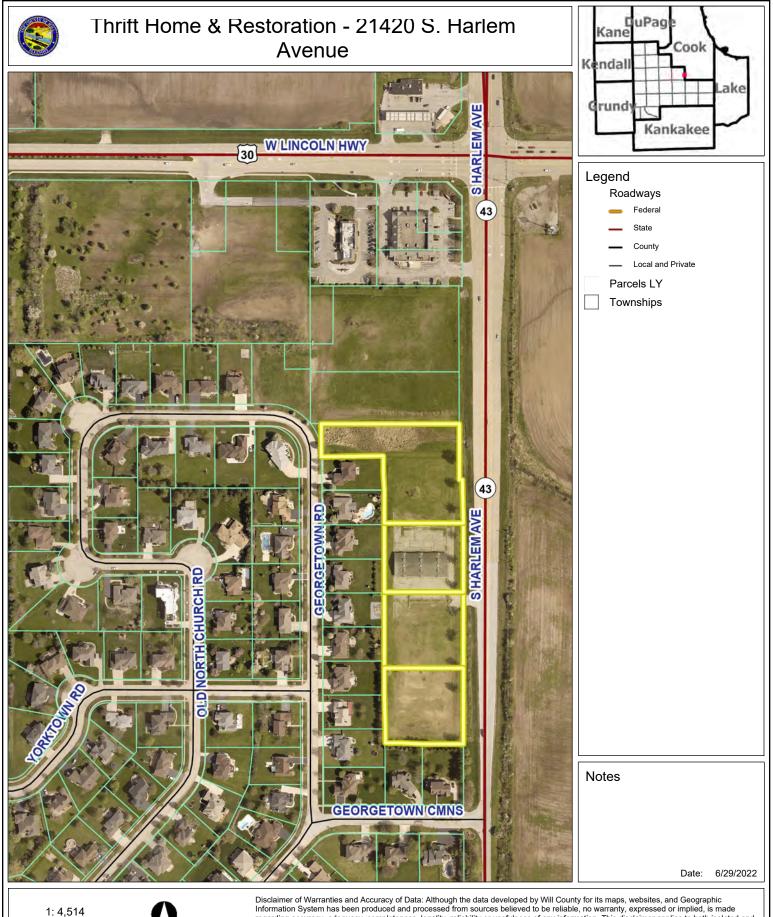
- 1. Recommend to the Village Board approval of a Special Use Permit for indoor retail sales of goods, between 5,000 and 10,000 square feet in the B-4 Office District, for the subject property located at 21420 S. Harlem Avenue, in accordance with the reviewed plans, public testimony, and Findings of Fact, conditioned on final engineering approval, and additionally subject to the following conditions:
 - 1. The donation drop-off area shall be cleaned at the end of business each day so that no items are stored overnight or when the retail store is closed.
 - 2. Parking lot lights shall be connected to a shutoff timer which automatically turns off the lights no later than one hour after the close of business each night.
- 2. Recommend to the Village Board approval of a Special Use Permit for a Planned Unit Development in the B-4 Office District, for the subject property located at 21420 S. Harlem Avenue, with the following Village ordinance modifications/exceptions:
 - 1. Continuation of the existing site-related non-conformities as noted in this staff report.
 - 2. Reduction of the required minimum setback of a freestanding sign from 25 feet to 10 feet [Municipal Code Section 151.041(B)(1)(b)].
 - 3. Increase of the required maximum area of a freestanding sign for a single-tenant commercial building which has a total building size of 0 to 9,999 square feet, from 15 square feet to 18 square feet [Municipal Code Section 151 .041(h)].
 - 4. An exception to allow a waiver of the required multi-use bike path along the frontage of the property along Harlem Avenue as generally depicted on Figure 3.2 (Frankfort Trail Inventory Map) in the *Your Frankfort Your Future 2040 Comprehensive Plan* [Article 3, Section F, Part 6(c) of the Zoning Ordinance, and Section

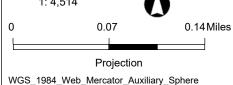
7.2-4 of the Land Subdivision Regulations]. Staff is suggesting a condition that would delay the construction or cash-in-lieu payment for the path until such time that within one year of the adjacent undeveloped property to the north being developed and issued a Certificate of Occupancy, that the path or sidewalk shall be installed along the frontage of the subject property.

- 5. An exception to allow continuation of the non-conforming parking lot light fixture height (increase from 20 feet to 25 feet).
- 6. A modification to allow delayed installation of the required transition yard landscaping along the west and south property lines adjacent to those residential lots which have extensive rear yard landscaping that currently provide a visual screen, said delay would be for a period of three years from the date of Village Board approval of this Special Use Permit or within one year of Village approval of future development on the proposed Lot 2, whichever occurs first;

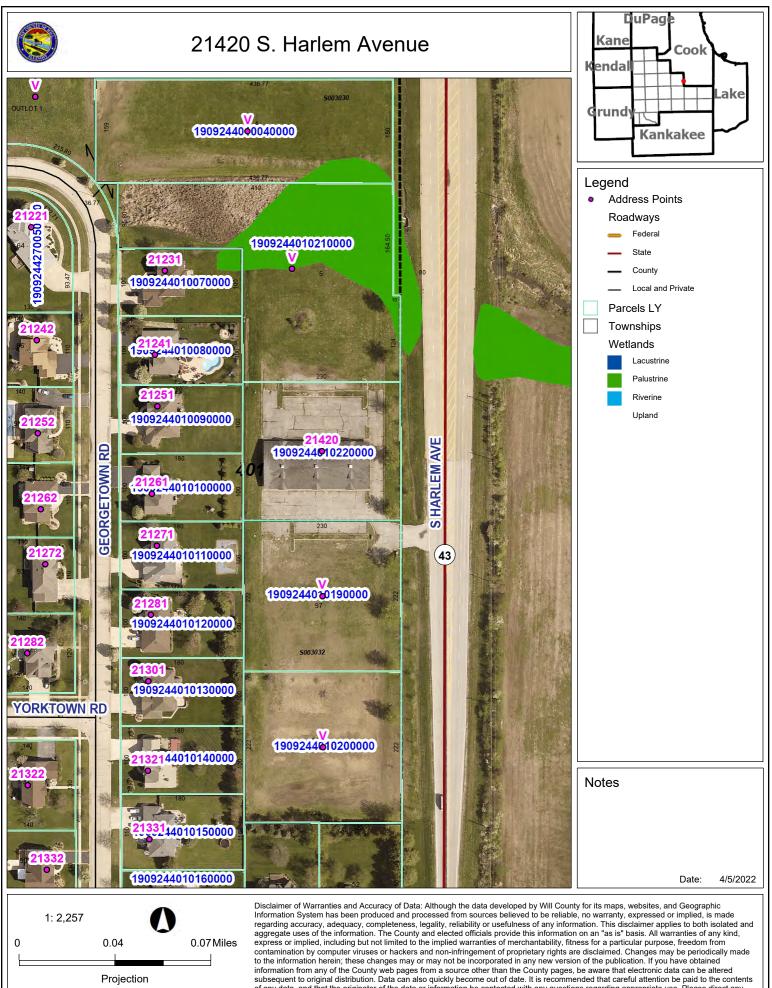
in accordance with the reviewed plans, public testimony, and Findings of Fact, conditioned on final engineering approval, and additionally subject to the following conditions:

- Construction or a cash-in-lieu payment to the Village for the required multi-use bike path along the frontage of the property along Harlem Avenue as generally depicted on Figure 3.2 (Frankfort Trail Inventory Map) in the *Your Frankfort Your Future 2040 Comprehensive Plan*, shall be the responsibility of the property owner at such time that within one year of the adjacent undeveloped property to the north (PINs 19-09-24-401-004-0000 and 19-09-24-401-029-0000) being developed and issued a Certificate of Occupancy, that the path or sidewalk shall be installed along the frontage of the subject property.
- 2. The Landscape Plan shall be revised to comply with the required parking lot screening prior to Village Board consideration of this Special Use Permit.
- 3. An elevation detail for the proposed trash enclosure shall be provided prior to Village Board consideration of this Special Use Permit.
- 3. Recommend to the Village Board approval of the Preliminary and Final PUD Development Plan for the subject property located at 21420 S. Harlem Avenue, in accordance with the reviewed plans, public testimony, and Findings of Fact, conditioned on final engineering approval; and additionally subject to the following conditions:
 - 1. Construction or a cash-in-lieu payment to the Village for the required multi-use bike path along the frontage of the property along Harlem Avenue as generally depicted on Figure 3.2 (Frankfort Trail Inventory Map) in the *Your Frankfort Your Future 2040 Comprehensive Plan*, shall be the responsibility of the property owner at such time that within one year of the adjacent undeveloped property to the north (PINs 19-09-24-401-004-0000 and 19-09-24-401-029-0000) being developed and issued a Certificate of Occupancy, that the path or sidewalk shall be installed along the frontage of the subject property.
 - 2. The Landscape Plan shall be revised to comply with the required parking lot screening prior to Village Board consideration of this Special Use Permit.
 - 3. An elevation detail for the proposed trash enclosure shall be provided prior to Village Board consideration of this Special Use Permit.
- 4. Recommend to the Village Board approval of the Preliminary and Plat of Resubdivision for "The Bridge Re-Subdivision", for the subject property located at 21420 S. Harlem Avenue, subject to any necessary technical revisions prior to recording.





Disclaimer of warranties and Accuracy of Data Aninough the data developed by Will County for its maps, websites, and Geographic Information System has been produced and processed from sources believed to be reliable, no warranty, expressed or implied, is made regarding accuracy, adequacy, completeness, legality, reliability or usefulness of any information. This disclaimer applies to both isolated and aggregate uses of the information. The County and elected officials provide this information on an "as is" basis. All warranties of any kind, express or implied, including but not limited to the implied warranties of merchantability, fitness for a particular purpose, freedom from contamination by computer viruses or hackers and non-infringement of proprietary rights are disclaimed. Changes may be periodically made to the information herein; these changes may or may not be incorporated in any new version of the publication. If you have obtained information from any of the County web pages from a source other than the County pages, be aware that electronic data can be altered subsequent to original distribution. Data can also quickly become out of date. It is recommended that careful attention be paid to the contents of any data, and that the originator of the data or information be contacted with any questions regarding appropriate use. Please direct any questions or issues via email to gis@willcountyillinois.com.



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subsequent to original distribution. Data can also quickly become out of date. It is recommended that careful attention be paid to the conter of any data, and that the originator of the data or information be contacted with any questions regarding appropriate use. Please direct any questions or issues via email to gis@willcountyillinois.com.



Figure 1: 21420 S. Harlem Avenue, viewed looking northwest from the driveway entrance to the site.



Figure 2: Decorative brick wall on south side of driveway entrance from Harlem Avenue.



Figure 3: Back (west) side of decorative brick wall on north side of driveway entrance from Harlem Avenue.



Figure 4: Cross-access drive-aisle on east side of building, viewed looking north.



Figure 5: East and North Building Elevations, viewed looking southwest.



Figure 6: North parking lot, viewed looking west. Homes in Georgetown Subdivision visible in background.



Figure 7: South parking lot, viewed looking west. Homes in Georgetown Subdivision visible in background.



Figure 8: West transitional yard, viewed looking north. Homes in adjacent Georgetown visible at left.



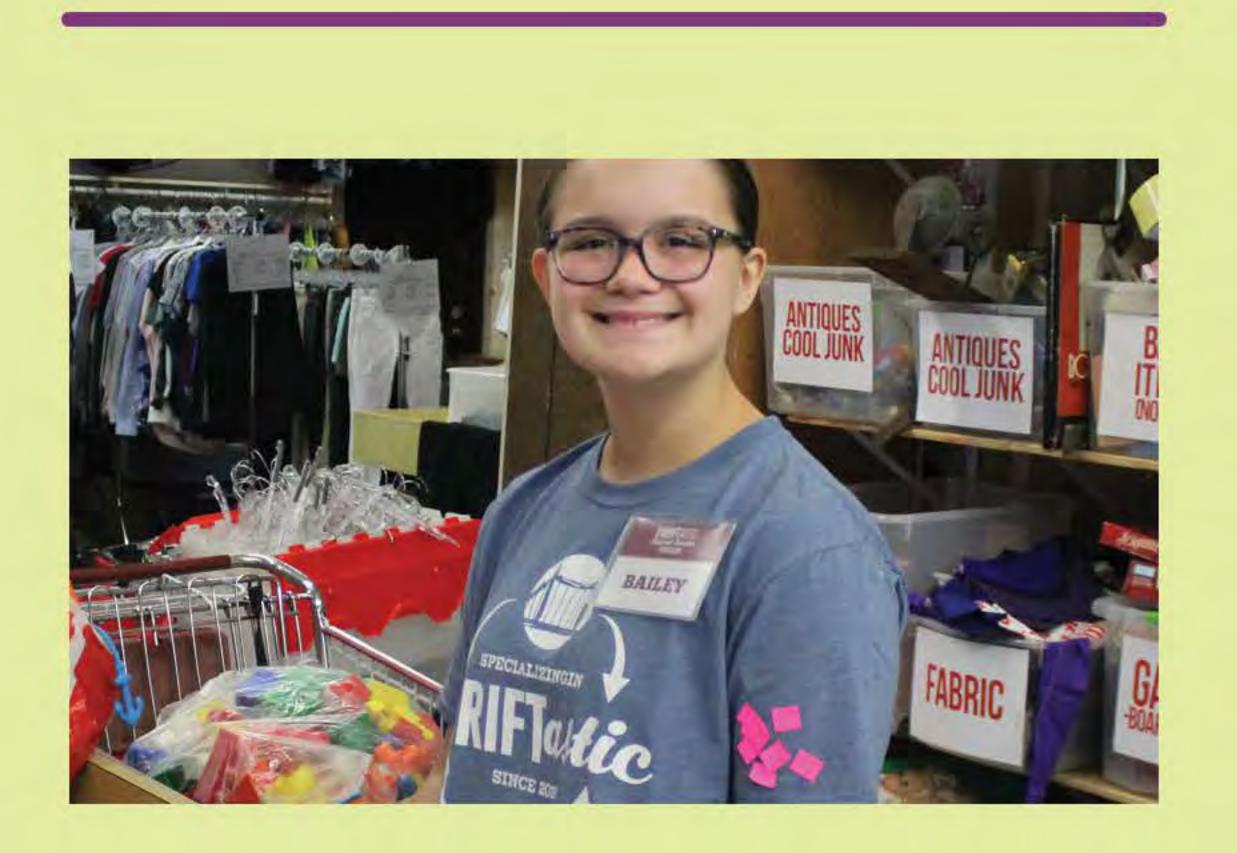
Figure 9: West transitional yard, viewed looking south. Homes in adjacent Georgetown visible at right.



Figure 10: South main entrance to building.



Figure 11: Undeveloped property adjacent to south, viewed looking south from south parking lot.



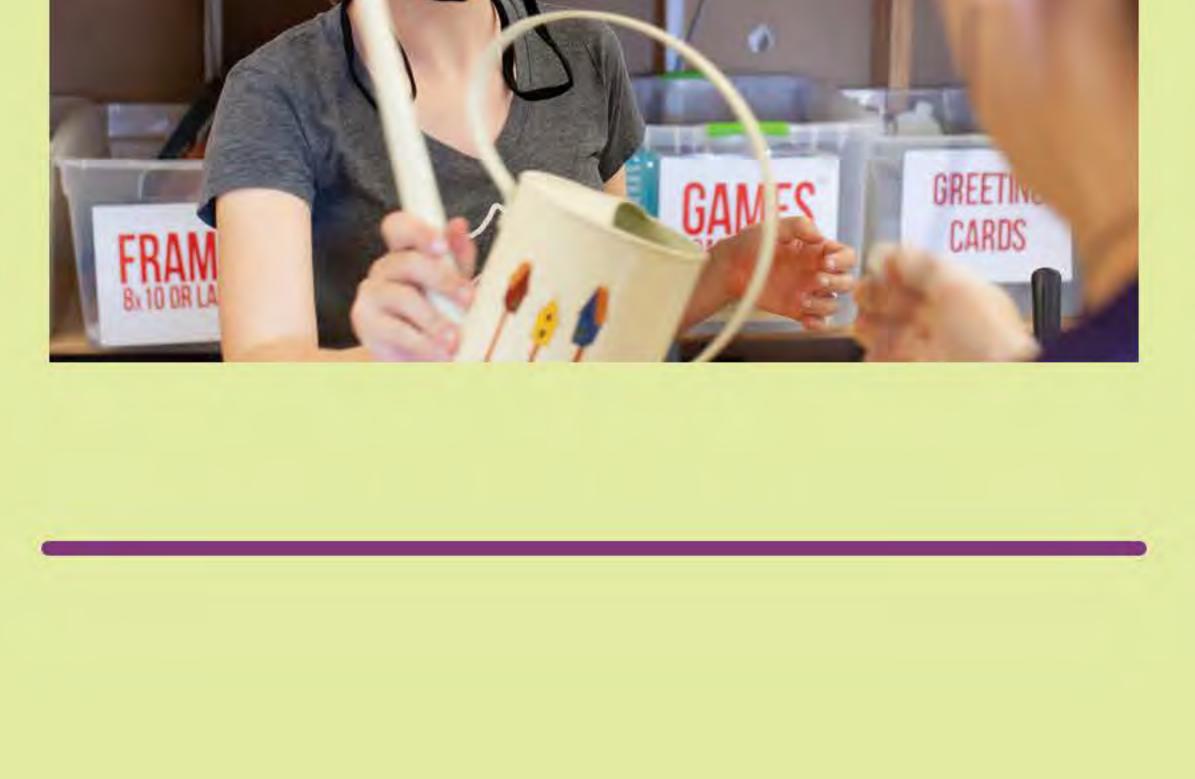
Tour purchases & DONATIONS SUPPORT

PROFILE & **PROSPECTUS**









ABOUT THE BRIDGE



The Bridge Teen Center is an innovative 501(c)(3) nonprofit organization that provides FREE holistically-designed afterschool programs for students in 7th-12th grade. Our programs are unique in that they are offered exclusively for teens, are designed around the interests and needs of teens in the suburbs, are facilitated almost exclusively by adult volunteers from the community, and are offered to students **free of charge**.





Our free programs are divided into five different "buckets" which include: Everyday Life, Educational Support, Mind/Body, Community Connections and Expressive Arts. From trades programs to culinary demos to art programs and job readiness training, 350+ programs are offered annually.

We are a place for students not just to BE, but to BECOME.

In our changed world, teens face many challenges – including mental health, suicidal tendencies, self-deception as a result of social media, anxiety, and more. We proactively address these issues by providing a positive, supportive, and safe environment where teens can **CONNECT** with peers and positive adult mentors, **ENGAGE** in life changing programs and events, and be **EMPOWERED** to challenge themselves to grow in ways they never dreamt possible.



Our programs have been recognized at the local, state, and national level by many well-known organizations over the years, including the Afterschool Alliance, Illinois Afterschool Network, US Conference of Mayors, John Maxwell, and more. Over the last 12 years, The Bridge has emerged as a national trendsetter in teen afterschool programming and is contacted for guidance from groups and organizations all over the country on a regular basis.

TEEN CENTER TINELINE

JUNE 2010

The first 2,400 square foot "temporary" location opens in Orland Park.









The first expansion is completed to double The Bridge's square footage.



JULY 2015

The Bridge's anti-bullying initiatives earn Orland Park a national Livability Award from the U.S. Conference of Mayors.



JANUARY 2016

The Bridge Thrift Store is launched to raise funds and provide new job-readiness programs & service opportunities for students.



MARCH 2018

The Bridge becomes the sole host of the longrunning Chef's Auction fundraiser, and raises a record \$149,310 in the first year.

JULY 2013

The Bridge purchases the entire 24,000 sq. foot building they had been renting since 2010.

DECEMBER 2015

The Bridge completes another expansion project to double their space for a second time.

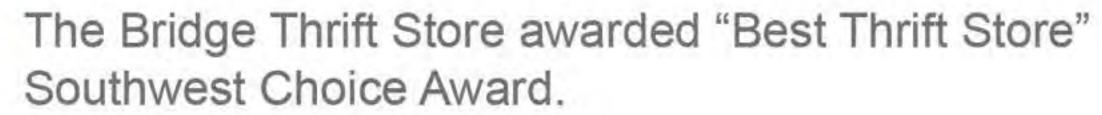


NOVEMBER 2017

The Bridge Teen Center wins Chick-fil-A's True Inspiration Award.



MARCH 2020





JUNE 2020 The Bridge Thrift Store reopens to the public with COVID-19 safety guidelines.



OCTOBER 2020

The Bridge serves their 10,000th unique student since opening in 2010.

AUGUST 2019

A new single-night attendance record is set on Friday, August 23rd with 214 students.

APRIL 2020

Despite the COVID-19 shelter-in mandate, we provided 'Bridge @ Home' kits and 'Bridge @ Zoom' programming to students.

JULY 2020

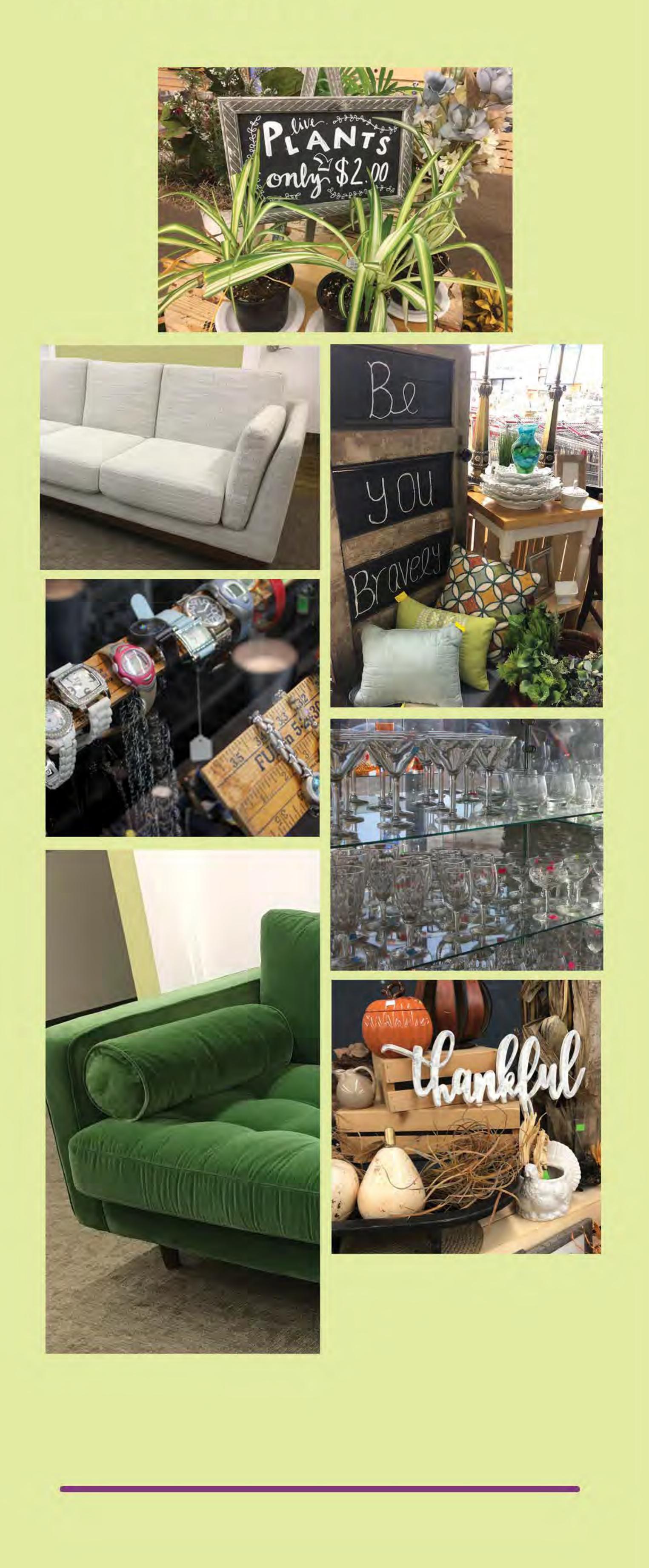
Resumed in-person programs with COVID-19 safety guidelines for students, volunteers and staff.



NOVEMBER 2021 November is officially declared 'Empowering Teens Month' in Illinois by the governor in honor of The Bridge Teen Center's free holistic programs.



REDEFINING THRIFT



The Bridge Thrift Store is not your typical charitable resale shop. Founded in 2016, our brand has been built around quality, cleanliness, organization, and stylish merchandising. Not only is the store known for high quality merchandise at great prices, but as evidenced by the reviews shared here, it is known for exceptional guest services and a commitment to supporting local teens and families.

From the moment you walk in, it is evident that this is not like other stores in its category. Department store style sections feature clean and organized merchandise. Unique and unexpected additions include a 360 degree jewelry counter in the heart of the store, an award-winning "Antiques & Cool Junk" section, and creative signage that rivals the largest national retailers. **It is a store our students are proud to be part of.**

Not only does the store generate signficant revenue and feet on the street, but it provides **meaningful opportunities for suburban teens**. From short-term community service opportunities to group service projects to participating in the innovative "Thriftastic" job readiness program, valuable skills are being shared with young people that will be carried with them throughout life. The store is amazing, but it can be argued that the impact on the community is even more impressive.

The Bridge Thrift Store is seeking a second location in the Frankfort area. The purpose of this expansion is to increase sutainable revenue for The Bridge Teen Center, provide more convenient service and job readiness programming for students in the Lincoln-Way area, and to provide a desintation for individuals looking to give their gently used merchandise to a **LOCAL cause that supports LOCAL families** (instead of national organizations with unknown beneficiaries).

THRIFTASTIC PROGRAM



Encouraging, Affirming and Preparing for the Future...

As the job market continues to rapidly evolve, programs that equip young people for future positions are more crucial than ever before. The Bridge Teen Center and The Bridge Thrift Store are responding to this need in a profound way. Our "Thriftastic" job readiness programming is intentionally designed to challenge students to discover new talents, develop as leaders, and learn to function as part of a thriving team.

The Thriftastic program is designed to help introduce students to the concept of serving others while gaining hard and soft skills, maintaining a committed schedule, and serving as part of a team. There are four progressive program tiers, where students set specific goals and measure their outcomes (with staff). A booklet is used throughout the program to track benchmarks and facilitate meaningful discussions as students build their professional and leadership skills.

Over the last year, this program has

grown exponentially - tripling projections. We also saw major growth in overall volunteerism, with a 140% increase over the prior year (600+ students). Students consistently refer to their roles as their 'jobs' and have a sense of ownership over their specific areas. They have a purpose and are valued for their service. Many are even counting down the days until they can earn paid positions at the store.

This program consistently provides students with an invaluable opportunity to learn and grow in a safe and nurturing (yet challenging) environment. We are privileged to speak into their lives and encourage and affirm them in their daily tasks. We are also building relationships with them and helping them to gain confidence. We are preparing them for more than just a job - we are preparing them to become hard-working, well-rounded young adults that contribute to their community.

BY THE NUMBERS



92% % of Donations Directed to Program

10,800+ Different Students Served Since 2010



128

Local Communities Served Since 2010

350+ Free Programs Offered Per year

\$0 Ongoing Government Funding Received

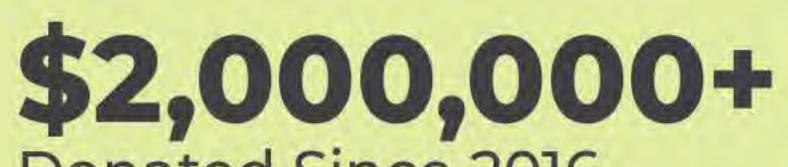
500-800 New Students Welcomed Per Year

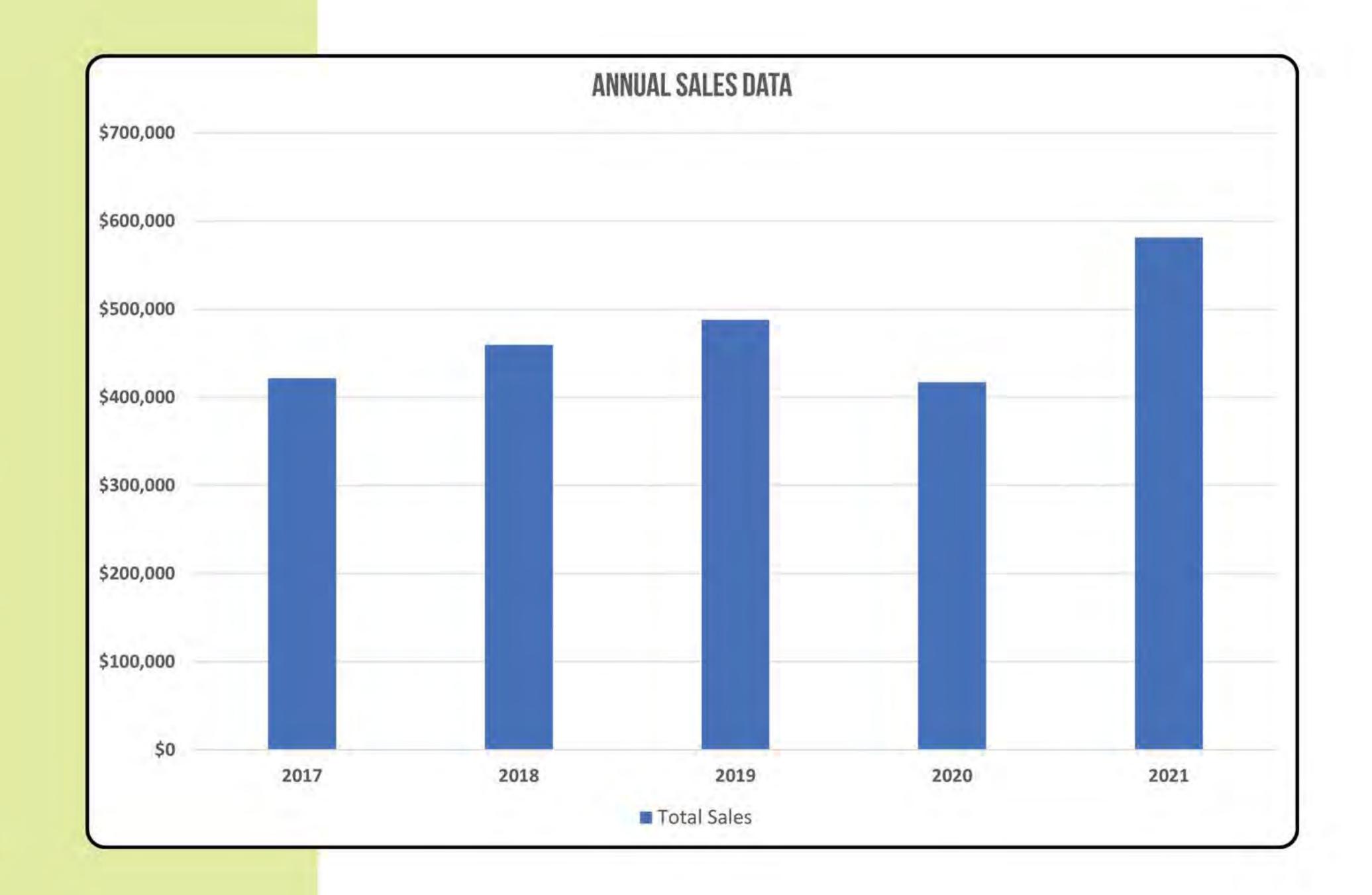


115-170 Transactions Per Day

1,000,000+ Transactions Since 2016

\$45,000+ Average Monthly Revenue





Donated Since 2016

600+ Student Volunteers Per Year

STORE FEEDBACK

Reviews + + + +

"Not your typical Thrift Store..."

"...this place is so clean

AWARDS:



and organized."

"...a treasure of a thrift store..."

"...the store always blows my mind."

"...wonderful nice inviting people work there..."

"Such a cute store!"

"I love this store and everything it stands for."

"...very clean, organized and stylish...."

WHAT'S NEXT: OUR VISION



Showroom style/specialty thrift store, focusing on higher end home goods (includes furniture, decor, antiques and collectibles).

Curated retail space for unique offerings such as house plants, vintage items, and dedicated space for "pop-up" shops that feature the work of local artisans.



Second operation provides more opportunity/closer proximity for current and new Lincoln-Way area students to engage in our job readiness programming.

Outdoor green space with meadow and quiet space to promote emotional and mental health in a welcoming and safe environment for students.





Additional space will be added in time to include:

Extension of The Bridge Teen Center's gardening programming, to include a year-round educational greenhouse and space for additional STEM programs.



Additional retail space for repurposing and architectural salvage inventory - further distinguishing our brand as unique in our sector.



REAL IMPACT



SUSTAINABILITY

Revenue from a second Thrift Store location will provide an additional 20-30% of The Bridge Teen Center's operating budget, making the organization less reliant on unstable donations and event fundraising.





BUILDING FUTURES

The ability to expand our thriving "Thriftastic" job readiness programming means we will have the opportunity to impact many more young lives in communities surrounding Frankfort. This will be especially important as the job market remains competitive for employers who seek qualified, experienced workers.

NEXT GENERATION

Contributing now to building out a second store location will represent a direct investment in our local teens and families - making sure The Bridge is available to them for many years to come in communites we have yet to consistently reach.

LOCAL IMPACT

Additional space that provides amenities our existing facility cannot will open up new opportunities for thousands of local teens - not only through expanded job readiness programming but also through a broader base of outdoor programs that focus on STEM and gardening.

RALLYING COMMUNITY

The Bridge is built on the support of the local community in virtually every way. A second store location will allow us to expand opportunities for community members, local clubs, churches and other groups to serve locally in support of teens and families in their own backyard.

CONTACT INFO





15605 S. Harlem Orland Park, IL 60462



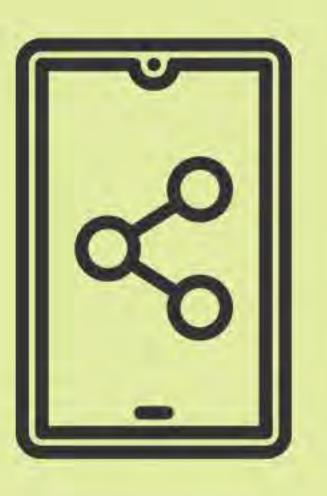
EMAIL: priscilla@thebridgeteencenter.org



MAIN PHONE: 708.532.0500



ORGANIZATION WEBSITE: THEBRIDGETEENCENTER.ORG



SOCIAL MEDIA: FB.COM/BRIDGETHRIFT FB.COM/BRIDGETC **INSTAGRAM: BRIDGETHRIFT** INSTAGRAM: THEBRIDGETC



RECEIVED By Mike Schwarz at 2:55 pm, May 24, 2022



RETAIL SALES OF DONATED GOODS:

- Furniture
- Home Goods
- Antiques & Collectibles
- Crafts & Creations from Local Artisans
- Small Potted Plants
- Salvaged Architectural Elements
- Repurposed & Upcycled Items
- Jewelry
- Accessories & Select Designer Apparel

JOB READINESS TRAINING & VOLUNTEERISM:

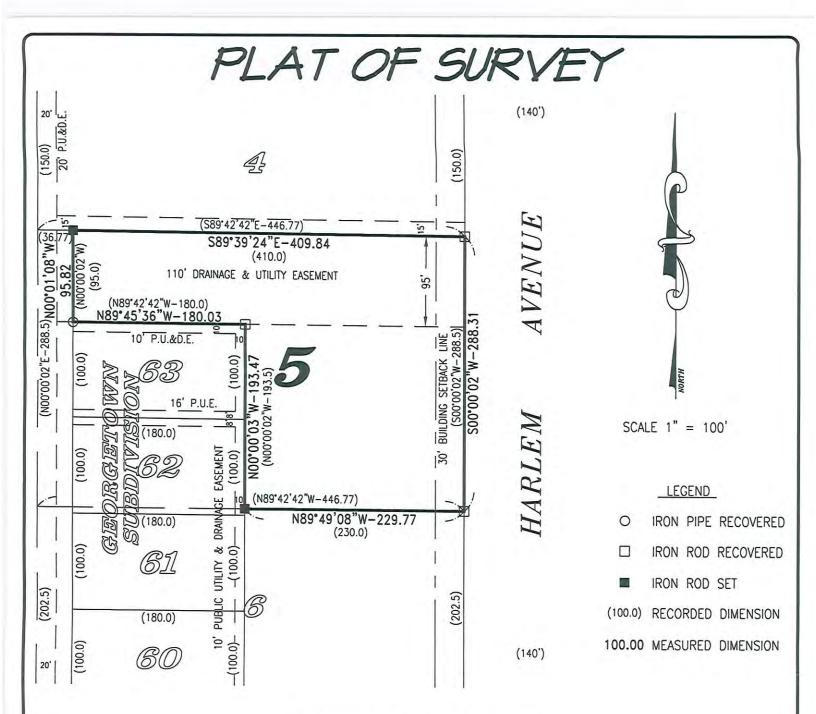
- Retail Training Area for Students
- Ongoing Teen Volunteerism (Individuals & Groups)
- Volunteer Opportunities for Adults (Individuals & Groups)

CONNECTIVITY TO THE BRIDGE TEEN CENTER:

- Although there is a clear affiliation with The Bridge Teen Center, this location is NOT a Teen Center.
- The building is being purchased by The Bridge Thrift Store, NOT The Bridge Teen Center.
- The Bridge Teen Center is simply the beneficiary of proceeds from this establishment.
- Future proposals for use of the adjacent vacant parcels will be brought to the village for consideration.

STORE HOURS:

- Sunday/Monday: CLOSED
- Tuesday/Thursday: 10-7
- Monday/Wednesday/Friday/Saturday: 10-5



SUGGESTED LAND DESCRIPTION

A part of Lot 5, in Georgetown Square, being a Subdivision of part of the Southeast Quarter of Section 24, Township 35 North, Range 12 East of the Third Principal Meridian, according to the plat thereof recorded January 13, 1987 as Document Number R87-1983, in Will County, Illinois described as follows: Beginning at an iron rod at the Northeast corner of said Lot 5; thence South 00°00'02" West a distance of 288.31 feet to an iron rod at the Southeast corner of said Lot 5; thence North 89°49'08" West along the South line of said Lot 5 a distance of 229.77 feet to an iron rod on the East line of Georgetown Subdivision, recorded as Document Number 89-25414; thence North 00°00'03" West a distance of 193.47 feet to an iron rod at the Northeast corner of Lot 63 in said Georgetown Subdivision; thence North 89°45'36" West a distance of 180.03 feet to an iron rod at the Northwest corner of said Lot 63; thence North 00°01'08" West along the East line of said Georgetown Subdivision a distance of 95.82 feet to an iron rod on the North line of said Lot 5; thence South 89°39'24" East a distance of 409.84 feet to the point of beginning, containing 1.918 acres more or less, SUBJECT TO rights of way for road, drainage and easement apparent or of record.

This is to certify that on April 16 and 24, 2008, at the request of <u>GEORGE SARRIS</u>, Agent, I, John C. Barrett, an Illinois Professional Land Surveyor, certify that this survey was made on the ground, that this plat correctly represents the facts found at the time of survey and that this professional service conforms to the current applicable Illinois Professional Land Surveyor Association Standards. This survey does not guarantee title information. Valid only if original Surveyor's Seal is affixed.

Given under my hand and seal this 29th day of April, 2008.

John C. Barrett 367 South Schuyler Avenue Tyson Engineering, Inc. Kankakee, IL 60901 Design Firm License #184-001136

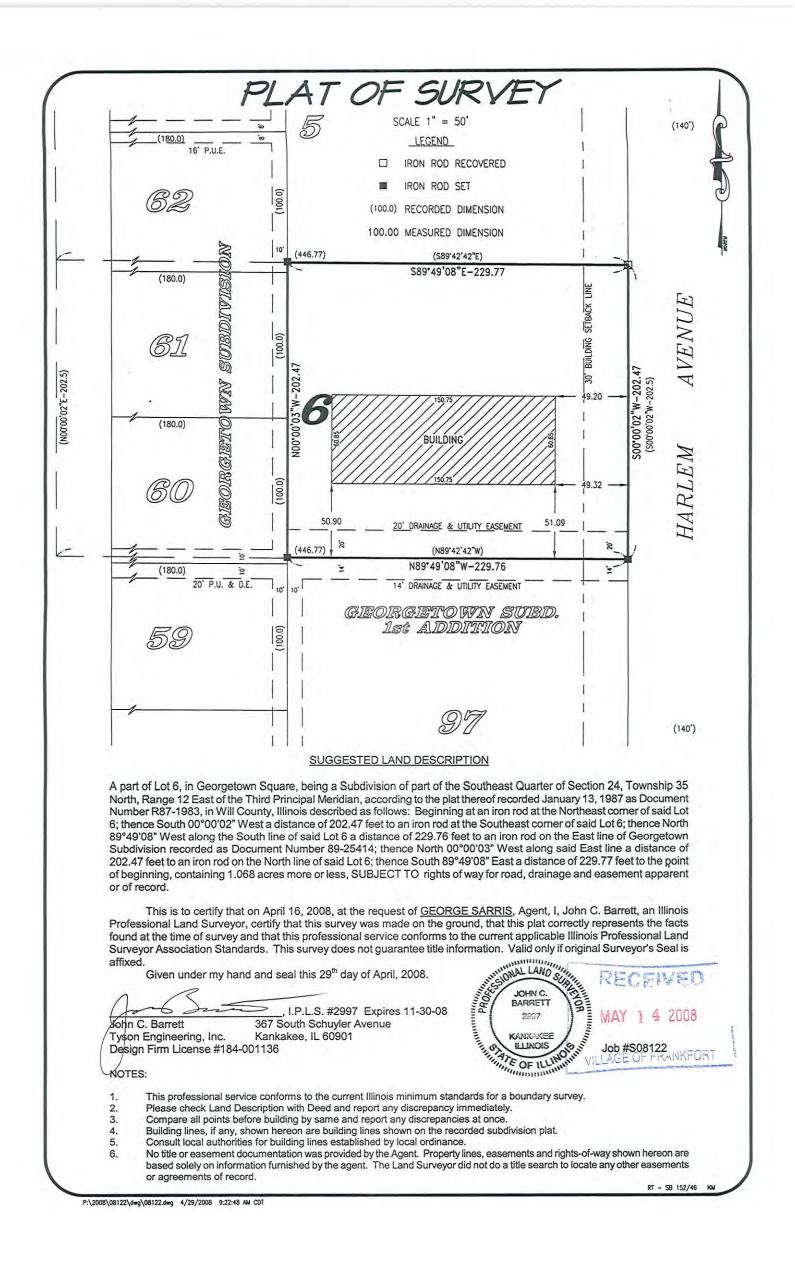


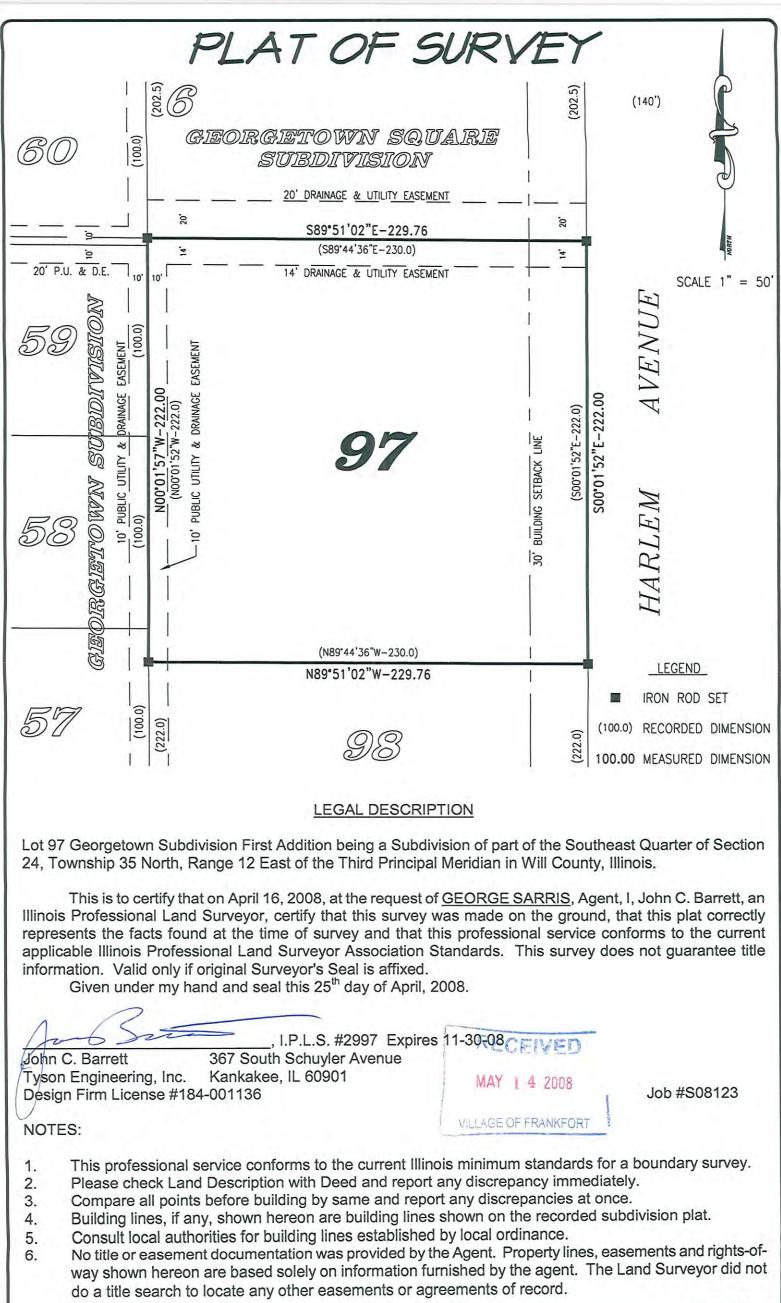
NOTES:

1. This professional service conforms to the current Illinois minimum standards for a boundary survey.

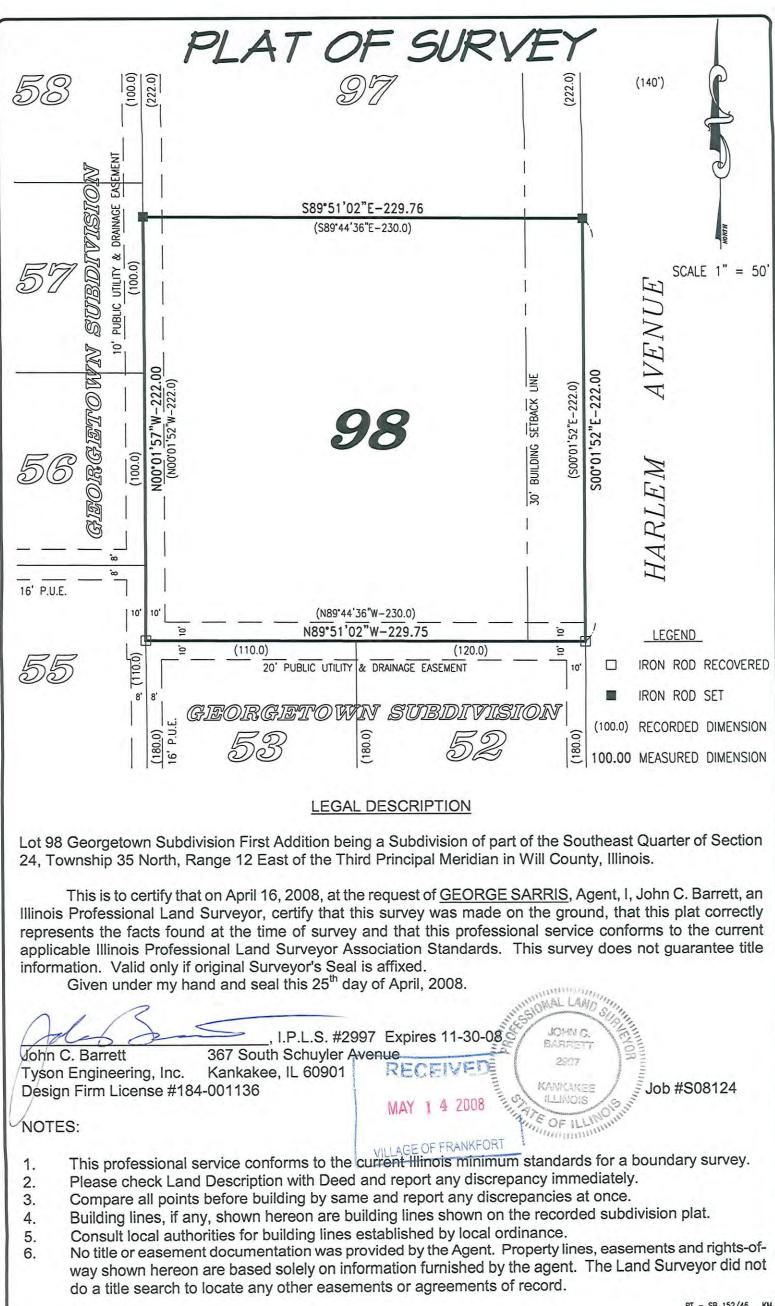
T.P.L.S. #2997 Expires 11-30-08

- Please check Land Description with Deed and report any discrepancy immediately.
 Compare all points before building by same and report any discrepancies at once.
- Building lines, if any, shown hereon are building lines shown on the recorded subdivision plat.
- 5. Consult local authorities for building lines established by local ordinance.
- 6. No title or easement documentation was provided by the Agent. Property lines, easements and rights-of-way shown hereon are based solely on information furnished by the agent. The Land Surveyor did not do a title search to locate any other easements or agreements of record.

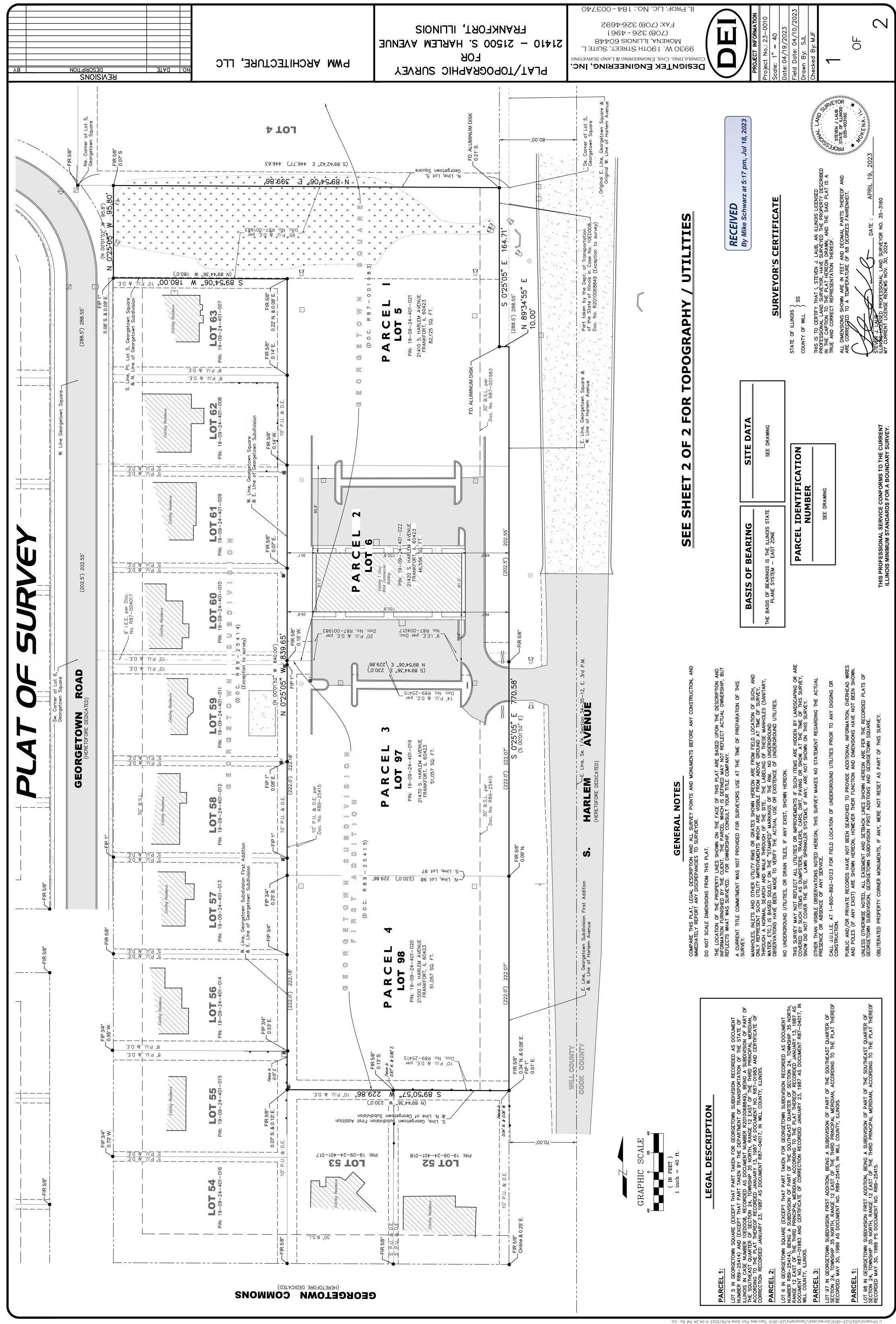




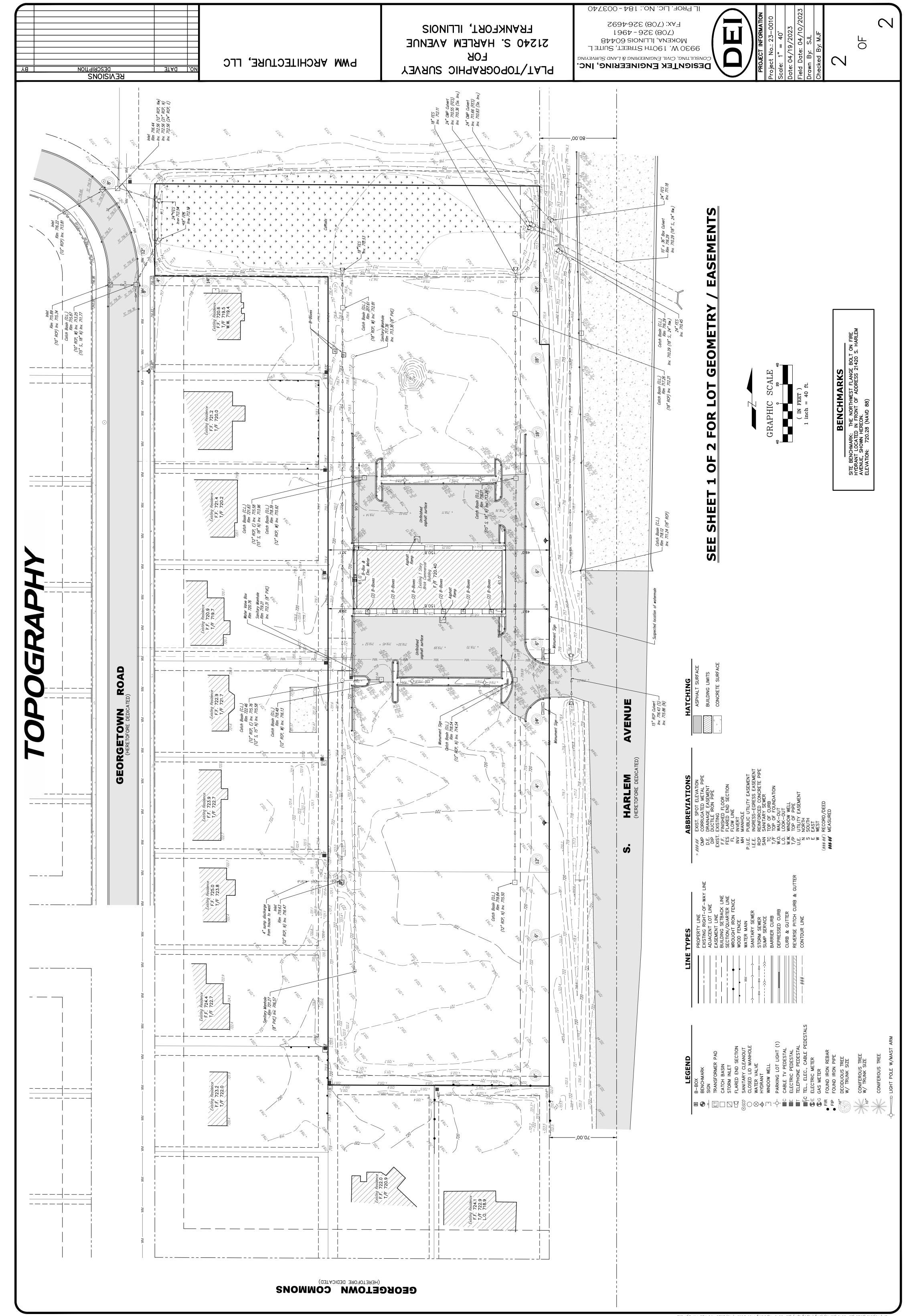
RT - SB 152/46



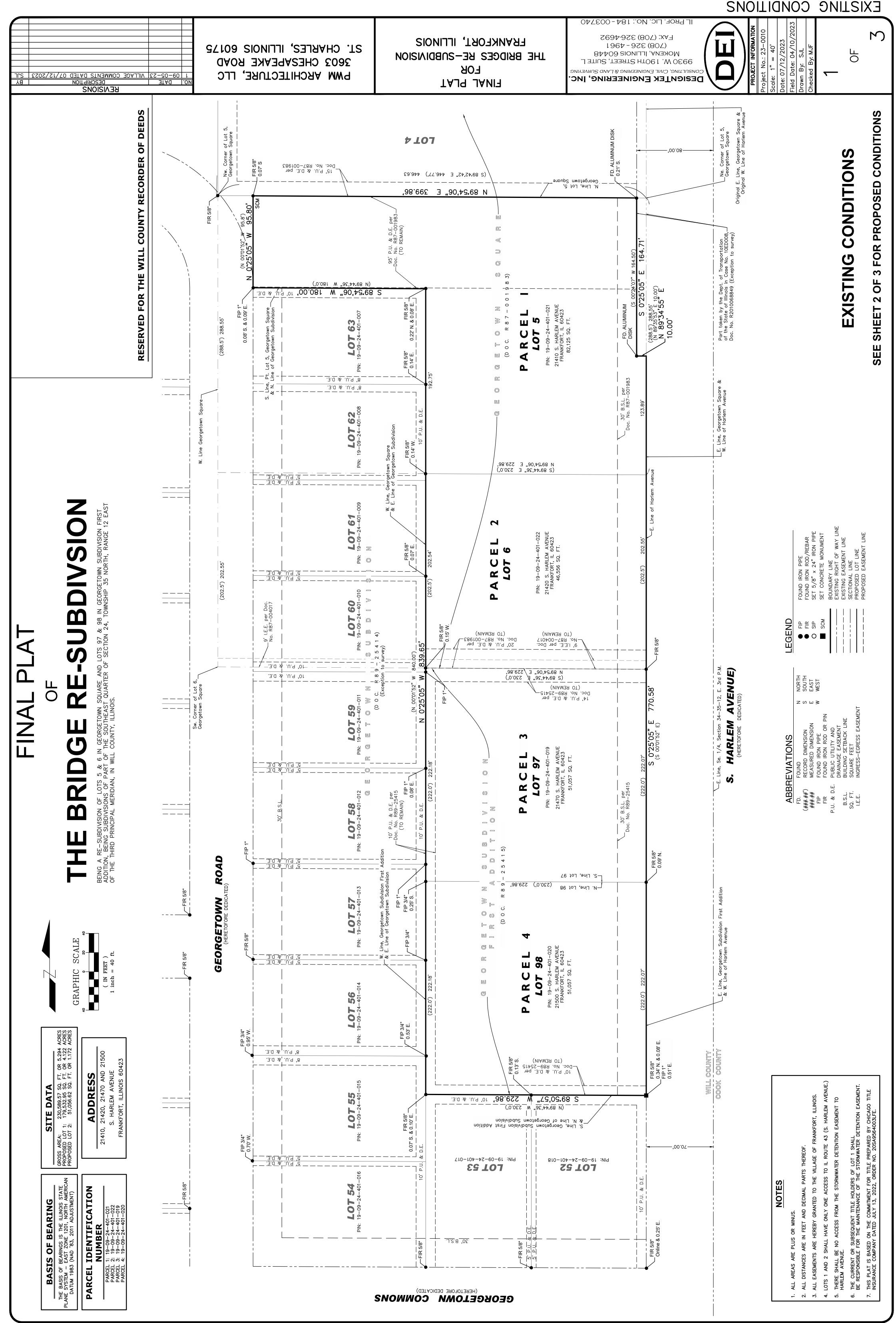
BOUNDARY & EASEMENTS



EXIZING CONDILIONS

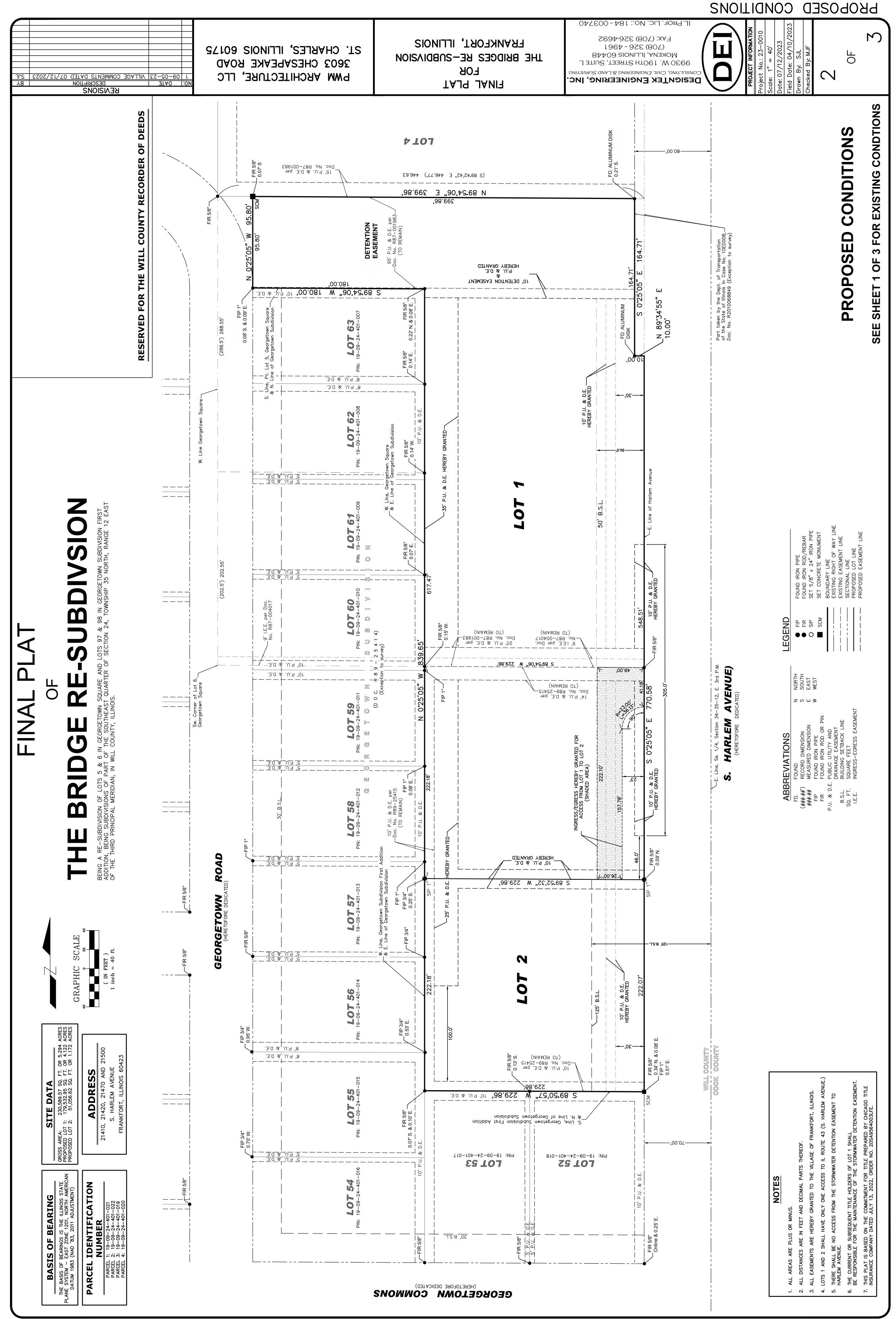


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:/Projects/2023/23-0010/Survey/dwg/Re-Subdivision/23-0010 Re-Sub.dwg Flot Date:9/7/2023 4:35:37 PM By: SJL

CERTIFICATIONS/PROVISIONS

Image: Second state of the second s	PWM ARCHITECTURE, LLC 3603 CHESAPEAKE ROAD 37. CHARLES, ILLINOIS 60175 27.03 2001201	FINAL PLAT FOR THE BRIDGES RE-SUBDIVISION FRANKFORT, ILLINOIS FRANKFORT, ILLINOIS	A Consultance, Civit EngineeRinde, LIC. No.: 184-003740 Consultance, Civit EngineeRinde & Land Suppervision Consultance, Civit EngineeRinde, INC, Carling Date: 04/10/2023 Field Date: 04/10/2023 Field Date: 04/10/2023 Field Date: 04/10/2023 Checked By: MJF Checked By: MJF
RESERVED FOR THE WILL COUNTY RECORDER OF DEEDS	All desting here and service and benote fracting to know the period of a scondard of within desting the work fracting of the subset of the property shown on this plat makes "sasement," where a struct and benote fracting of the subset of the property shown on the property desting the subset of the subset of the property shown on the property desting the subset of the subset of the property shown on the property desting the subset of the property shown on the property desting the subset of the subset of the subset of the property shown on the property desting the subset of the subset of the subset of the subset of the property and the property desting the subset of th	THE RESERVES USES OF AN ONLY AND SCREAL. TO INSTALL OFFER MAINTAIN ON EVOLE FROM THE TO THE, FOLTER USES CONNECTION WITH OVERHERD AND UNDERGROUND TRANSION AND SCREAL OFFER MAINTAIN AND EVOLE FROM THE POPERTY DESCRATED A ME DECLARATION OF COMMUNIA AND SCREAGOND TRANSION AND ELEMENT AND SOUNDS AND SCREAS IN ORFE, UNDER ADDRESS ADDRESS AND FOR FOREFORD DESCRATION THE PAIL AS "COMMON ELEMENT" AND THE PERTANDARY TO THE PLAT AND THE PERTANDARY RECLARATION OF COMMUNIA AND/RG ON THE PLAT AS "COMMON ELEMENT" AND THE PROPERTY DESCRATED ON THE PLAT AS "COMMON ELEMENT RECLARATION OF COMMUNIA AND/RG ON THE PLAT AS "COMMON ELEMENT" AND THE PROPERTY DESCRATED ON THE PLAT AS "COMMON ELEMENT RECLARATION FOR THE RULE OF THE RULE THE RULE TO ELEMENT FOR THE PLAT AS "COMMON ELEMENT FOR THE PLAT AS A "COMMON AREA RECLARATION FOR THE RULE OF THE RULE TO FILTER UNDER TRANSIES AND ADDRESS TO REPORT TO FILE THE RULE TO FILE REVLETED OVER REVAILES OF AN UND THE RULE TO FILTER UNDER TRANSIES TO AND ADDRESS TO AND ADDRESS AND ADDR	

FINAL PLAT	ОF

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BEING A RE-SUBDIVISION OF LOTS 5 & 6 IN GEORGETOWN SQUARE AND LOTS 97 & 98 IN GEORGETOWN SUBDIVISION FIRST ADDITION, BEING SUBDIVISIONS OF PART OF THE SOUTHEAST QUARTER OF SECTION 24, TOWNSHIP 35 NORTH, RANGE 12 EAST OF THE THIRD PRINCIPAL MERIDIAN, IN WILL COUNTY, ILLINOIS.

MORTGAGEE CERTIFICATE

SS STATE OF ILLINOIS COUNTY OF WILL

MORTGAGE DATED NOVEMBER 10, CERTAIN UNDER THE PROVISIONS OF MORTGAGEE, AS THE UNDERSIGNED,

DOCUMENT NUMBER AS 202022, 23RD DAY OF NOVEMBER A.D. ON THE RECORDED IN THE RECORDER'S OFFICE OF WILL COUNTY, ILLINOIS, HEREBY CONSENTS TO THE SUBDIVISION STATED HEREIN. DATE:

R2022083244,

AND

2022

PRINTED NAME AND TITLE:

PRINTED NAME AND TITLE:

ATTEST:

MORTGAGEE NOTARY CERTIFICATE

STATE OF ILLINOIS

ss COUNTY OF

, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE, DO HEREBY CERTIFY THAT

(SEAL) OF A.D. 20_ DAΥ GIVEN UNDER MY HAND AND NOTARIAL SEAL THIS

NOTARY PUBLIC

COOK COUNTY SUPERINTENDANT OF HIGHWAYS APPROVAL

THIS PLAT HAS BEEN APPROVED BY THE COOK COUNTY HIGHWAY DEPARTMENT WITH RESPECT TO ROADWAY ACCESS PURSUANT TO 765 ILCS 205/2. HOWEVER, A HIGHWAY PERMIT, CONFORMING TO THE STANDARDS OF THE COOK COUNTY HIGHWAY DEPARTMENT IS REQUIRED BY THE OWNER OF THE PROPERTY FOR THIS ACCESS.

DATE: COUNTY, ILLINOIS SUPERINTENDENT OF HIGHWAYS COOK

SURFACE WATER STATEMENT

TO THE BEST OF OUR KNOWLEDGE AND BELIEF, THE DRAINAGE OF SURFACE WATERS WILL NOT BE CHANGED BY THE CONSTRUCTION OF THIS SUBDIVISION OR ANY PART THEREOF, OR, IF SUCH SURFACE WATER DRAINAGE WILL BE CHANGED, REASONABLE PROVISION HAS BEEN MADE FOR COLLECTION AND DIVERSION OF SUCH SUCH SURFACE WATERS INTO PUBLIC AREAS, OR DRAINS WHICH THE OWNER HAS A RIGHT TO USE, AND THAT SUCH SURFACE WATERS WILL BE PLANNED FOR IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES SO AS TO REDUCE THE LIKELIHOOD OF DAMAGE TO THE ADJOINING PROPERTY BECAUSE OF THE CONSTRUCTION OF THIS SUBDIVISION. LICE MICHAFI

UNITER STREEP

PROFESSIONAL ENGINEER OWNER

PRINTED NAME

PRINTED NAME

PUBLIC UTILITY AND DRAINAGE EASEMENTS

ALL EASEMENTS INDICATED AS PUBLIC UTILITY AND DRAINAGE EASEMENTS (P.U. & D.E.) ON THE PLAT ARE RESERVED FOR AND GRANTED TO THE VILLAGE OF FRANKFORT AND TO THOSE PUBLIC UTILITY COMPANIES OPERATING UNDER FRANCHISE FROM THE VILLAGE OF FRANKFORT, INCLUDING, BUT NOT LIMITED TO, AMERITECH TELEPHONE COMPANY, NICOR GAS COMPANY, COMMONWEALTH EDISON ELECTRIC COMPANY, COMCAST TELEVISION COMPANY AND THER SUCCESSORS AND ASSIGNS, FOR PERPETUAL RIGHT, PRIVILEGE AND AUTHORITY TO CONSIRUCT, RECONSTRUCT, REPAIR, INSPECT, MAINTAIN AND OPERATE VARIOUS UTILITIES, TRANSMISSION AND DISTRIBUTION SYSTEMS INCLUDING STORM AND/OR SANITARY SEWERS, WATER MAINS, VALVE VAULTS, AND HYDRANTS TOGETHER WITH ANY AND ALL NECESSARY MANHOLES, CATCH BASINS, CONNECTIONS, APPLIANCES AND OTHER STRUCTURES AND APPURTENANCES AS MAY BE DEEMED NECESSARY BY SAID VILLAGE OF FRANKFORT, OVER, UPON, ALONG, UNDER, THROUGH SAID INDICATED EASEMENT, TOGETHER WITH RIGHT OF ACCESS ARCOSS PROPERTY FOR NEALONS, CONNECTIONS, APPLIANCES AND OTHER STRUCTURES AND APPURTENANCES AS MAY BE DEEMED NECESSARY BY SAID VILLAGE OF FRANKFORT, OVER, UPON, ALONG, UNDER, THROUGH SAID INDICATED EASEMENT, TOGETHER WITH RIGHT OF ACCESS ARCOSS PROPERTY FOR NEALS. MEN AND FOR, UPON, ALONG, UNDER, THROUGH SAID INDICATED EASEMENT, TOGETHER WITH RIGHT OF ACCESS ARCOSS PROPERTY FOR NECESSARY MEN AND EQUIPMENT TO DO ANY OF THE ABOVE WORK; THE RIGHT IS ALSO GRANTED TO CUT DOWN, TRIM, OR REMOVE TREES, SHRUBS, OR OTHER PLANTS ON THE EASEMENT THAT INTERFERE WITH THE AFORESAID USES OR RIGHTS. WHERE AN AND OTHER UTILITIES. NO PERMANENT BUILDINGS, TREES OR OTHER PLANTS ON THE EASEMENT THAT INTERFERE WITH THE OPERATION OF THE SEWERS AND OTHER UTILITIES. NO PERMANENT BUILDINGS, TREES OR OTHER PLANTS ON THE RATEMENT THAT INTERFERE WITH THE OPERATION OF THE SEWERS AND OTHER UTILITIES. NO PERMANENT BUILDINGS, TREES OR OTHER PLANTS ON THE RATEMENT THAT INTERFERE WITH THE AFORESAID USES OR RIGHTS. WHERE AN EASEMENT IS USED FOR BOTH SEWER AND/OR WAIRS AND OTHER UTILITIES, THE OTHER UTILITY INSTALLATIONS ARE SUBJE

THE PLACEMENT OF ANY LANDSCAPING NOT IN WITH THE APPROVED LANDSCAPE PLAN OR GRADING PLAN FOR A GIVEN PROPERTY, OR ANY ACCESSORY BUILDING OR STRUCTURE, SWIMMING POOL, FENCE OR OTHER IMPROVEMENT WHICH IN ANY WAY COULD CAUSE AN IMPEDIMENT TO THE OVERLAND FLOW OF STORM WATER WITHIN SAID DRAINAGE EASEMENT IS HEREBY PROHIBITED.

DETENTION EASEMENT

AND All easements indicated as stornwater detention easements on this plat are reserved for and granted to the village of Frankfort an to their successors and assigns. No buildings or structures shall be placed on said easement, but the easement may be used for others purposes that do not adversely affect the storage/free flow of storm water. Each owner or subsequent purchaser shall be equally responsible for maintaining the detention easement and shall not destroy or modify grades, slopes or approved landscaping without having first received prior written approval from the village of frankfort.

-

IN THE EVENT ANY OWNER OR SUBSEQUENT PURCHASER FAILS TO PROPERLY MAINTAIN THE DETENTION EASEMENTS, THE VILLAGE OF FRANKFORT SHALL HAVE THE RIGHT, BUT NOT THE OBLIGATION, TO PERFORM, OR HAVE PERFORMED ON ITS BEHALF, ANY MAINTENANCE WORK TO OR UPON THE WATER DETENTION AREA REASONABLY NECESSARY TO INSURE ADEQUATE STORMWATER STORAGE AND FREE FLOW OF STORMWATER THROUGH THE DETENTION EASEMENT AREA. IN THE EVENT THE VILLAGE OF FRANKFORT SHALL BE REQUIRED TO PERFORM, OR HAVE PERFORMED ON ITS BEHALF, ANY MAINTENANCE WORK TO OR UPON THE WATER DETENTION AREA EASEMENT, THE COST TOGETHER WITH AN ADDITIONAL SUM OF TEN PERCENT (10%) OF SAID COST COMPLETION OF THE WORK CONSTITUTES A LIEN AGAINST ANY LOT OR LOTS CREATED BY THIS PLAT WHICH MAY REQUIRE MAINTENANCE. THE LIEN MAY BE FORECLOSED BY AN ACTION BROUGHT BY OR ON BEHALF OF THE VILLAGE OF FRANKFORT.

INGRESS-EGRESS EASEMENT PROVISIONS

AN EASEMENT IS HEREBY RESERVED FOR AND GRANTED TO SUBSEQUENT OWNERS, THEIR RESPECTIVE INVITES, AND TO ALL PERSONS REQUIRING ACCESS TO THE BUILDINGS AND PARKING AREAS CONSTRUCTED HEREWTH OVER, UPON AND ACROSS ALL OF THE AREA OF LOT 1 AS OUTLINED, DIMENSIONED, LABELED AND HATCHED HEREWTH FOR THE PURPOSE OF INGRESS AND EGRESS, INCLUDING THE PERPETUAL RICHT, PRIVILEGE AND AUTHORITY TO TRAVERSE SAID AREAS AS PEDESTRIANS AND AS OPERATORS OF MOTORIZED VEHICLES. ALL ACCESS DRIVEWAYS WTH SAID OUTLINED AREAS SHALL NOT BE CLOSED FOR ANY REASON EXCEPT EMERGENCY REPAIRS. THE CURRENT AND SUBSEQUENT OWNERS OF SAID LOT AND LOT 2 CREATED BY THIS RE-SUBDIVISION SHALL BE RESPONSIBLE FOR THE SNOW REMOVAL, MAINTENANCE AND REPAIR OF THE PAVEMENT, SIDEWALKS, STREET LIGHTS AND APPURTENANCES THERE WITH LOTS.

Submitted by:

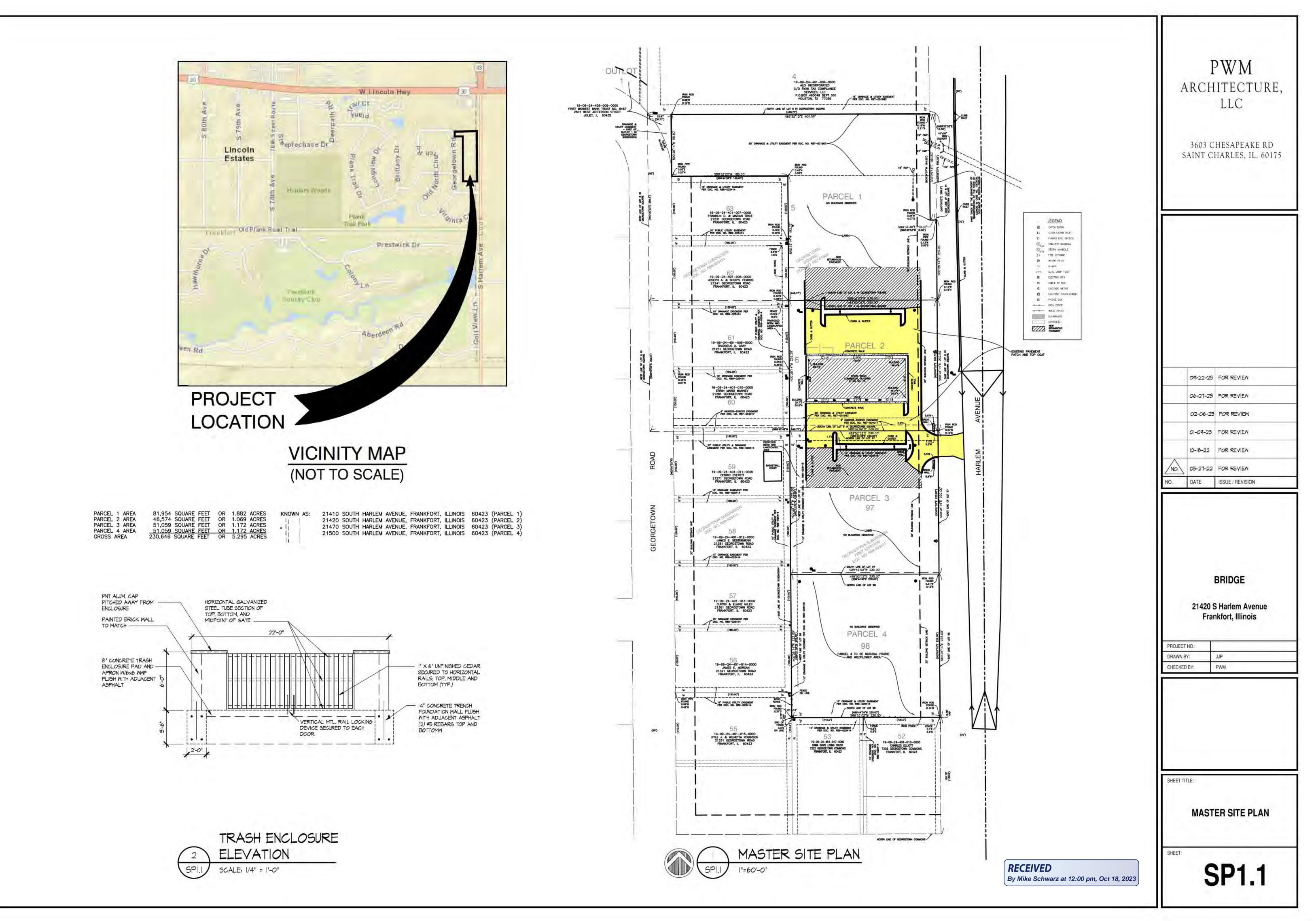
ROB STEINMETZ BRIDGE THRIFT CENTER 15605 S. 71ST COURT ORLAND PARK, ILLINOIS 60462

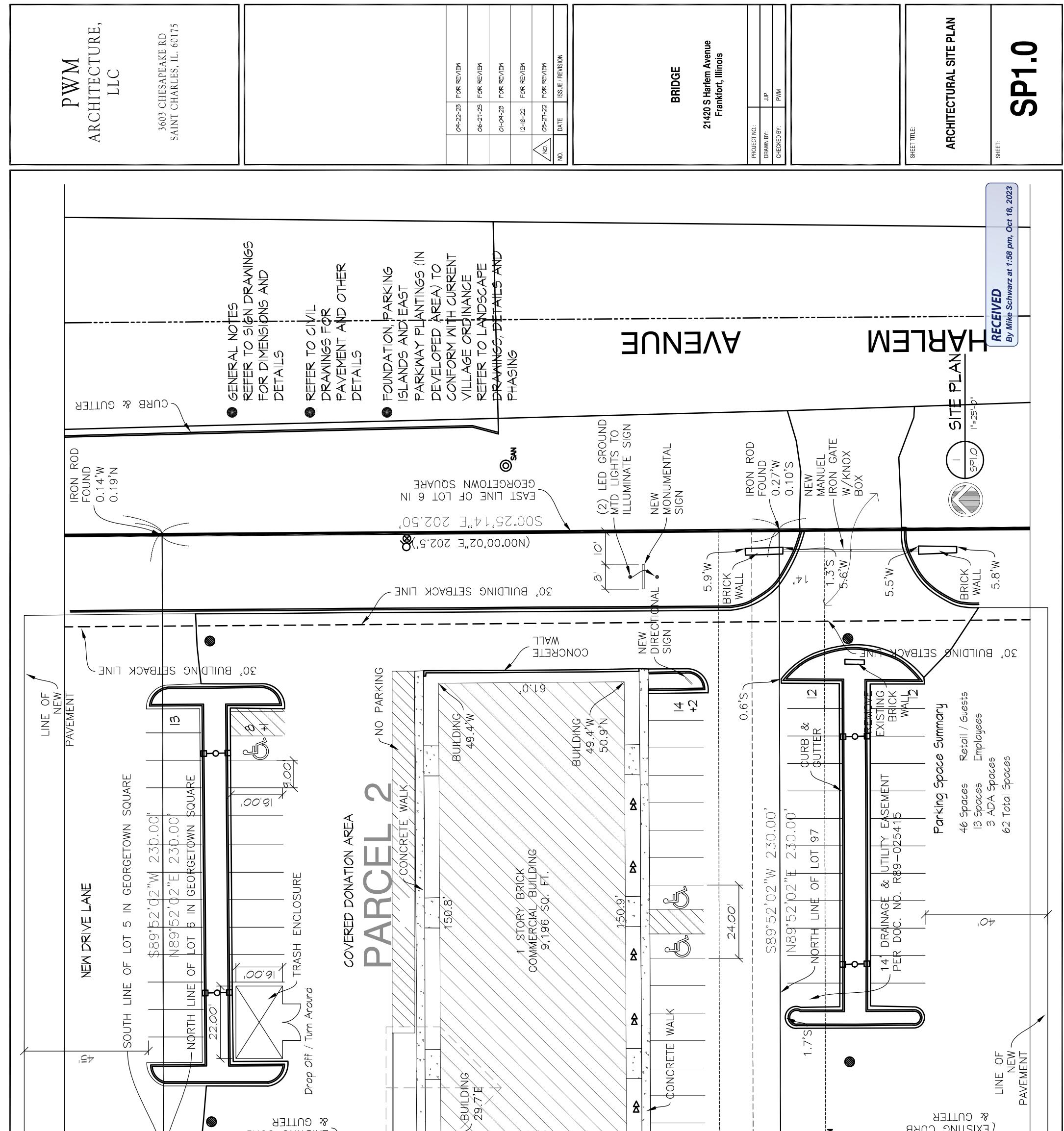
Return the original Mylar to:

DESIGNTEK ENGINEERING, INC. 9930 W. 191ST STREET, SUITE L MOKENA, ILLINOIS 60448

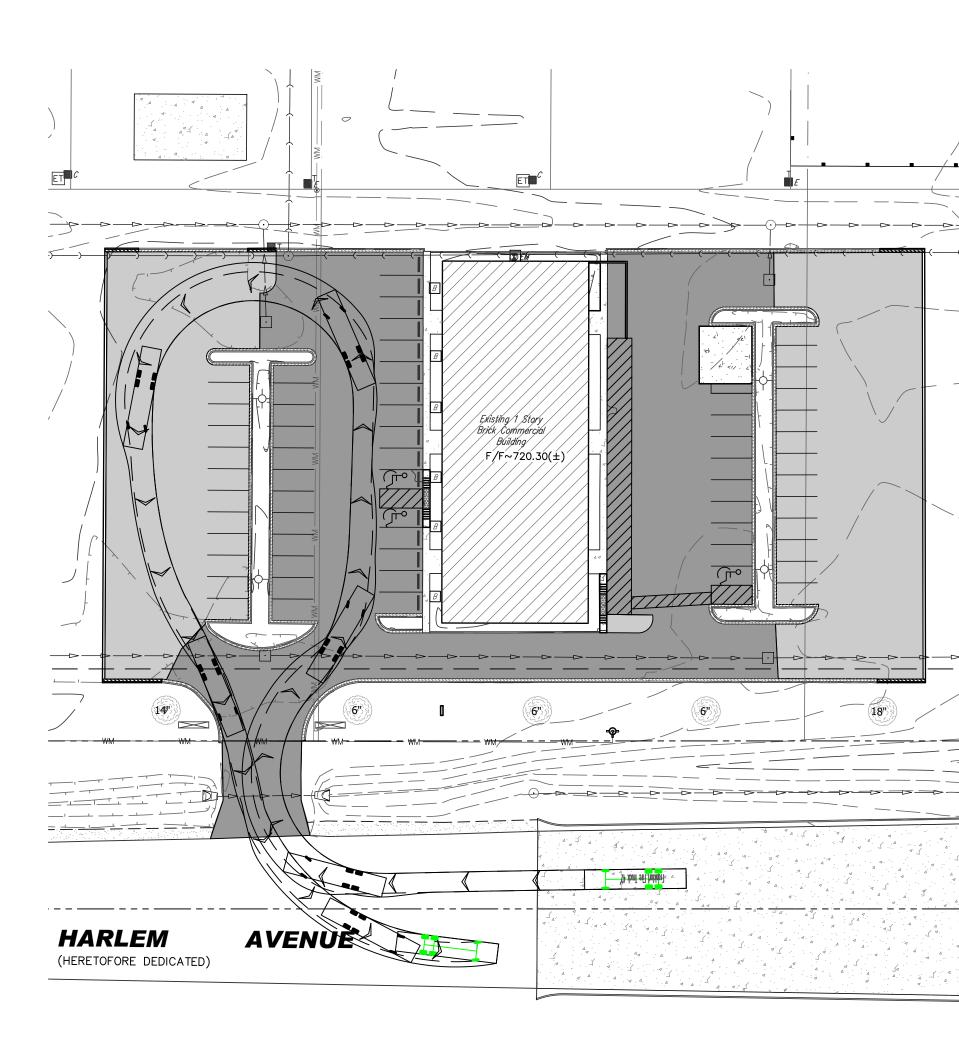
Send all future tax bills to: BRIDGE THRIFT CENTER 15605 S. 71ST COURT ORLAND PARK, ILLINOIS 60462

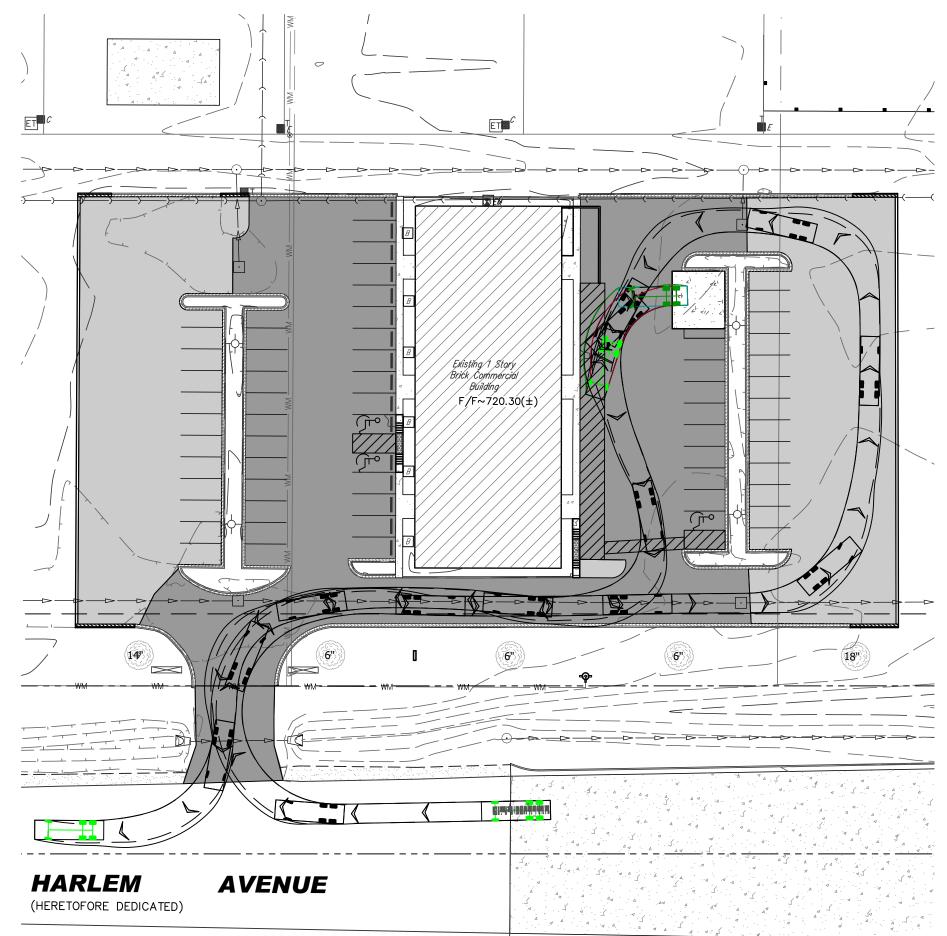
PARCEL IDENTIFICATION NUMBER PARCEL 1: 19-09-24-401-021 PARCEL 2: 19-09-24-401-022 PARCEL 4: 19-09-24-401-020	
CERTIFICATE OF OWNERSHIP STATE OF ILLINOIS) COUNTY OF WILL) SS COUNTY OF WILL)	
OF THE LAND DESCRIBED IN THE FOREGOING CERTIFICATE AND HAVE CAUSED , FOR THE USES AND PURPOSES THEREIN SET FORTH, AND THAT THE SAME A	sed the E Above
COMMUNITY COLLEGE: COMMUNITY COLLEGE DISTRICT 525 AND THAT I HEREBY ACKNOWLEDGE AND ADOPT THE SAME UNDER THE STYLE AND TITLE THEREON INDICATED, AS OUR OWN FREE AND VOLUNTARY AND DEED.	RY ACT
(OWNER)	
OWNERSHIP OF NOTARY	
STATE OF ILLINOIS)) SS COUNTY OF WILL)	
I,	
- DAY OF A.D.	
NOTARY PUBLIC	
PLANNING AND ZONING COMMISSION APPROVAL	
STATE OF ILLINOIS) SS	
A.D. THIS PLA	
ATTEST:BY:	
BOAR	
STATE OF ILLINOIS)) SS COUNTY OF WILL)	
APPROVED BY THE PRESIDENT AND THE BOARD OF TRUSTEES OF THE VILLAGE OF FRANKFORT, COUNTY, ILLINOIS, THIS DAY OF, 20, 20, A.D.	
ATTEST:(SEAL) BY:BY:BY:	
STATE OF ILLINOIS)) SS COUNTY OF WILL)	
I,, county clerk of will county, illinois, do hereby certify that village of frankfort There are no delinquent general taxes, or unpaid current general taxes against any of the estate described In the foregoing certificates.	
GIVEN UNDER MY HAND AND SEAL AT, ILLINOIS, THIS DAY OF, 20, A.D.	
COUNTY CLERK (SEAL)	
NTY RECO	
STATE OF ILLINOIS)) SS COUNTY OF WILL)	
THIS INSTRUMENT NO WAS FILED FOR RECORD IN THE RECORDER'S OFFICE OF WILL COUNTY, ILLINOIS, AFORESAID ON THE DAY OF, 20, A.D. ATO'CLOCKM.	
RECORDEF	
TAX MAPPING AND PLATTING CERTIFICATION	
OF ILLINOIS) SS	
IY OF WILL) DIRECTOR OF THE TAXING MAPPING AND PLATTI (ED THE PROPERTY DESCRIBED ON THIS PLAT AGAINST AVAILABLE (
TRUE AND CORRECT. THE PROPERTY HEREIN DESCRIBED IS LOCATED ON TAX MAP NO AND IDENTIFIED AS PERMANENT REAL ESTATE TAX INDEX NUMBER (PIN)	
DATED THIS DAY OF 20 A.D.	
DIRECTOR	



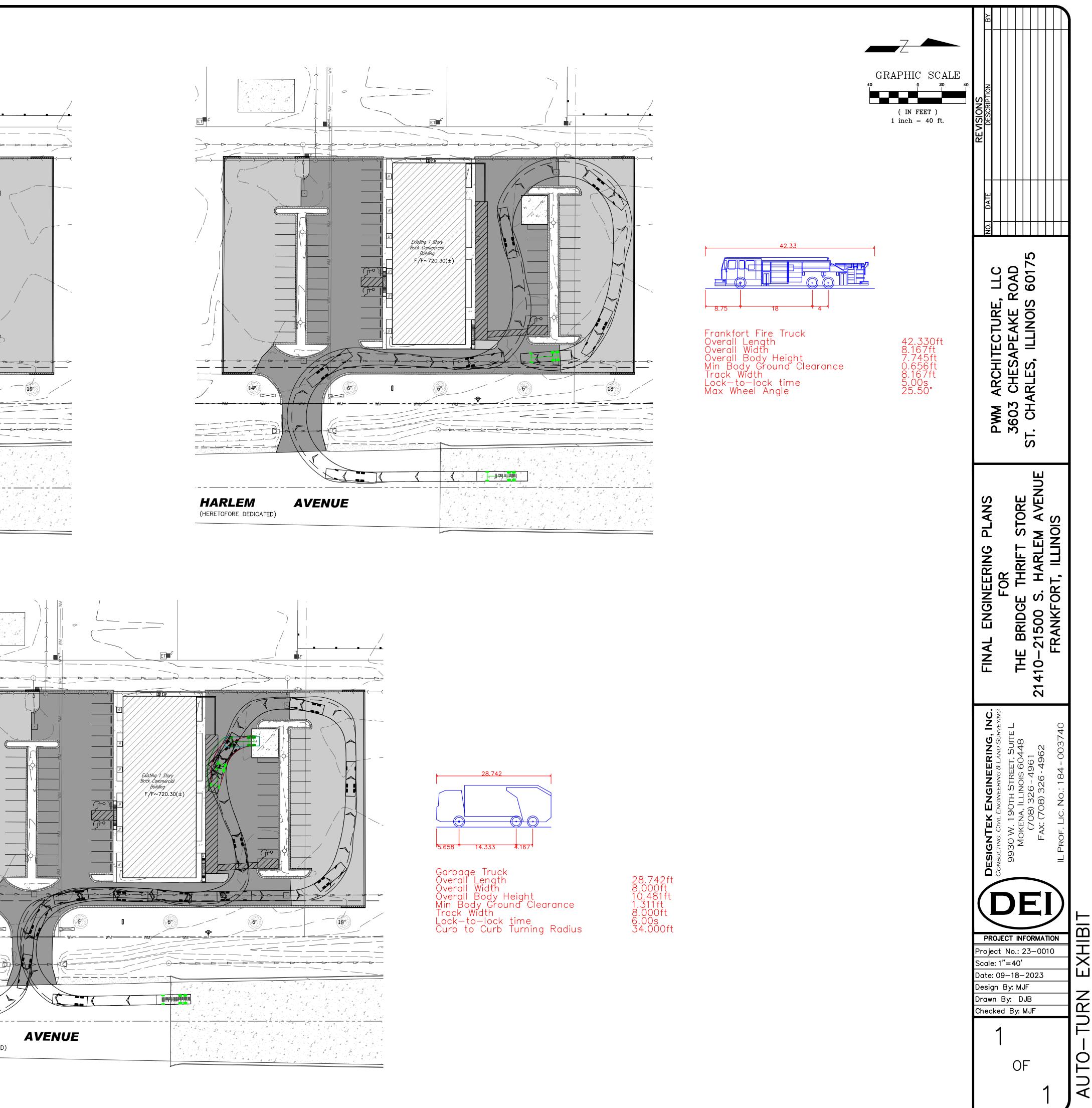


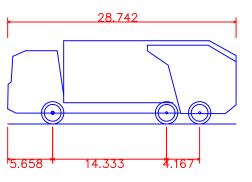
(446.77')	LANDSCAPED AREA PROPOSED 0	G.202 W"41'	CONCRETE	BUILDING 29.7'E 50.5'N		٥ ٠ ´´
	(100.001)			('00.001) <u>-</u>	1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1	(,00.001)
FENCE	10° PUBLIC UTILITY & → DRAINAGE EASEMENT PER 0 → DC. NO. R89-025414 Z	IRON ROD FOUND 0.05'E 0.36'N			(N89°42	

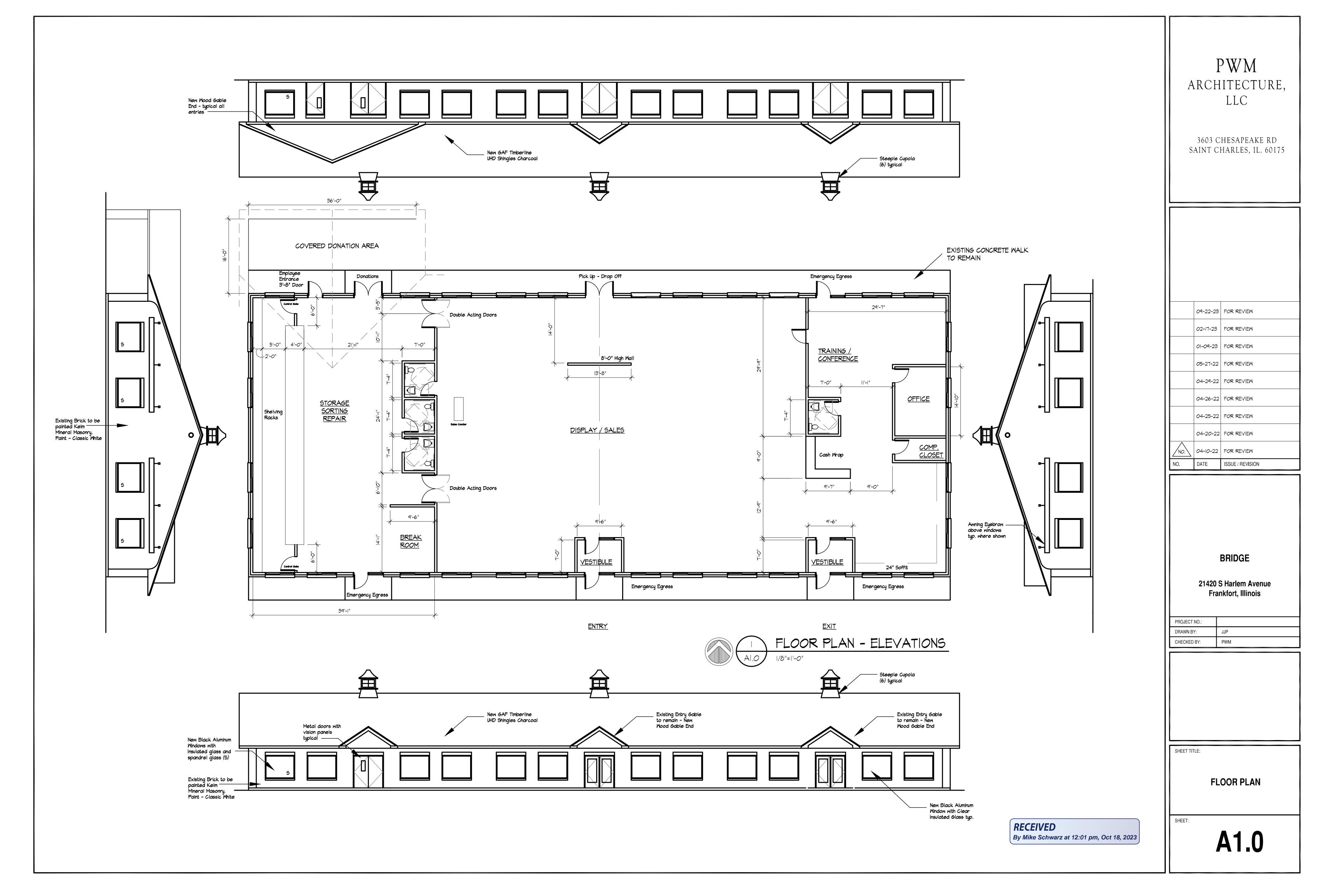




AUTO-TURN EXHIBIT

















Steeple Cupolas (MCC4CW-TP) | Cupolas Direct

HOME (HTTPS://CUPOLASDIRECT.COM/) » STEEPLE CUPOLAS (MCC4CW-TP)



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Don't settle for a mass-produced, low quality cupola. Let our professional amish craftsmen hand-make your perfect, **HIGH-QUALITY**, **LOW-COST**, **MAINTENANCE-FREE CUPOLA**. Call now and let our 20 plus years of experience help you pick the perfect cupola for your project! <u>Price Match (/customer-</u> > <u>service-guarantees-</u> returns-more/)

> <u>Sizing Guidelines</u> > (/sizing-chart/)

> > (717) 808-5711 > (tel:11/8085711)

PRICE MATCH GUARANTEE	STEEPLE CUPOLAS (MCC4CW-TP) Be the first to review this product (https://cupolgsdirect.com/steeple-cupolgs-mcc4cw- tp.html#review_form)
	Item Code: MCC4CW-TP
Married Woman	Availability: Built to order and ships within 3-5 weeks
	\$894.00 Have a more urgent need? Check out our
	Size Quick Ship Steeple
	Base: 26" Height: 39" 🔹 Cuppla
	Inttps://cupolasdirect.co m/steepie-cupolas_ mcc4cw-tp-quick_
AND DESCRIPTION OF TAXABLE PARTY.	Base Extension ship.html), which ships
	Additional +\$45.00 💊 Within 3-5 days
	4 ×
	Cupola Sizing Info
	Eight Mount • Available in 8 sizes from 18" to 48" (measured at
	Light Mount +\$38.00 the base) - see detailed
	measurements available
	under the size selector
	QTY: 1 C standard
	Base extension(s)
A STREET, P.	available to fit steeper
AZEK	Pror - roof pitches (please
	contact us with your roof
	Compatible with most
	D -OR - sheds, barns and
	ProyPar CREDIT buildings with a roofline
	(https://www.soc * Check out.our.sizing
	(https://www.sec Check out our Sizing urecheckout.bill Chart
RECEIVED	melater.com/poy (https://cupolasdirect.co
By Mike Schwarz at 12:01 pm, Oct 18, 2023	capture- m/sizing:
	content/fetch2 chart/) & Customer Photo
And the state of t	hosh=AUB26TU8

Chieck Out Our Cupolo & Woathervane Combo Speciale Here (amishtcupold)/Cupolo & Woathervanes.html)

information

https://cupolasdirect.com/steeple-cupolas-mcc4cw-tp.html?gclid=Cj0KCQiAnsqdBhCGARIsAAyjYJSZIKGXU7QkeMP3_T7zqCd0zhRC9xgR6bMS3Gei... 1/5



MINERAL MASONRY PAINT

BREATHABLE AND EXTREMELY DURABLE MINERAL PAINT FROM EUROPE

FOR BRICK, STONE, STUCCO AND FIBER CEMENT SIDING

> **RECEIVED** By Mike Schwarz at 5:26 pm, Jul 18, 2023

Mineral White

KEIM® MINERAL MASONRY PAINT

THE PERFECT PAINT for all MASONRY

Today, Keim gives you a choice to paint the exterior of your brick, stone or stucco home without having to worry about future maintenance or peeling paint problems. Many home remodel experts have shied away from painting brick exteriors because water and moisture can cause problems and damage for ordinary acrylic and latex house paints. These paints are not breathable, and seal masonry so it can no longer breathe naturally. Mineral Masonry Paint never seals the brick and allows moisture to release without any damage to your beautiful paint finish and it keeps wind-driven rain out too!



Mineral Masonry Paint is made from naturally occurring materials including mineral silicate binder for a highly durable, long-lasting paint that won't peel or flake off. And because Granital uses only UV resistant pigments, colors are permanent and won't fade or change, no matter how harsh the environment. This mineral paint is also naturally hygienic due to its high pH and is resistant to mold and mildew growth, without the addition of pesticides or biocides. Your new paint finish will look cleaner and fresher for decades.



Mineral paint will never peel from brick. Here, ordinary acrylic latex paint is peeling due to moisture escaping from the masonry surface.

A VERY LOW MAINTENANCE PAINT for BRICK, STONE and MASONRY SURFACES

Granital is quite different from ordinary latex or acrylic house paints. The mineral molecular structure of Granital is very similar to brick and masonry, giving it a natural affinity. Granital literally penetrates and fuses with the masonry forming permanent chemical bonds. And this mineral silicate structure is highly vapor permeable with perm ratings of 77+ to ensure a breathable paint. This means moisture that can accumulate in your home's walls will diffuse outward without resistance, keeping walls dryer. Trapped moisture can cause structural damage over time and can contribute to mold growth.

COLOR and BEAUTY THAT LASTS DECADES

Mineral Masonry Paint is extremely resistant to harsh UV, which also extends the weather resistance of your home's finish. Both the paint's mineral silicate binder and the earthen mineral oxide colors are not affected by UV. These pigments, that occur in Nature, never fade and the entire paint finish is completely "inert" and cannot be degraded.

And mineral colors have a depth of beauty and radiance only found in Nature. Ordinary house paints cannot match the brilliance and true colors of Granital, nor can they match the extraordinary mineral matte finish, which some describe as "velvety".

Mineral Masonry Paint's penetration into the masonry, the chemical fusion that takes place and the UV stability of both silicate binder and mineral pigments are the fundamental reasons for the extraordinarily high lifetime of silicate paints. In Europe, some of Keim's first paint projects date back to 1881 and still look gorgeous today!



DURABLE and EASY TO RENEW

While the look and feel of Mineral Masonry Paint is stunning, it is easier to maintain and renew than ordinary house paints. It will never peel, bubble or blister, so you will never need to scrape surfaces of loose paint to ready it for another fresh coat. Simply wash aged surfaces to remove dirt, dust or bio-growth, then refresh with another coat. It's that simple. And adding layers of new paint never changes the breathability of the finish. Additional layers simply add more character to the finish and never locks in moisture.

RECEIVED By Mike Schwarz at 5:25 pm, Jul 18, 2023

Timberline® UHD Shingles

Your best choice for an ultra-dimensional wood-shake look.

青黄黄黄 48 (453) WEITE A BEVIEW



ABOUT (HTTPs://WWW.GAF.COM/EN-US/ROOHING-54 REODUCTS/RESIDENTIAL-ROOFING-PRODUCTS/BHINGLES/TIMBERLINE/ARCHITEOTURAL/TIMBERLINE-FRODUC

UHD)

FIND & CONTRACTOR (/LN-US/RODEING-CONTRACTORS/RESIDENTIAL)

SPECS (NTTPS://WWW.GAF.COM/EN-US/ROOFING-PRODUCTS/JESIDENTIAL-ROOFING-PRODUCTS/SEINGES/TIMBERLINE-UHD/SPC0FICATIONS) DOCS (HTTPS://WWW.GAE.COM/ PRODUCTS/RESIDENTIALA DUCTS/SHINGLES/TIMBERLINE/ARCH UKD/DOCUMENTS

Why Timberline® UHD?

Tanbertine® UHDShingles will cast you just pannias a day more from standard architectural shingles. In return, you will enjay a thicket, utra dimensional wood shake look for your roof—and can increase your home's resale value, tao.

utto-hd-shingles).

See how this product can help you meet your environmental goals. View systemability information here. (https://gatecomedes.com/products/gat/timberine-utiva-tatshingles)

(34) BEST INVESTMENT

May increase the resate value of your home ULTRA-Tin DIMENSIONALies feature GAPs proprietary color blends and enfranced shadow effect for an ultradimensional woodshates look

(8)

ADVANCED STAIN ProBESISTANGERE Release Algoe-Fighting Technology tights ugly blue-green stolns

1

- Ultra-Dimensional Look: Up to 53% thicker them standard architectural shingles? Tratestine® UPD Shingles teature GAP propriationy color blands and enhanced shadow sheet for an utractimensional wood shake took on your col.
- Highest Rapfing Fee Rating: UL Class A Listed to ANBI/UL 790
 High Performance: Designed with <u>Advanced</u>
- Balaciton[®] Schools Technology (<u>Jen-</u> ustantistantist-cooling (<u>Javanasa</u>) endedisor-<u>technology</u>), witch tacknes the use of natural al <u>Cooline: 46th splichtsploganology</u> in protection for your home

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https://www.oaf.com/en-us/roofing-products/residential-roofing-products/shingles/timberline/architectural/timberline-und

We use contrast to operate our vectors, emissions also navegative, and you also usage, and the state of the s

Timberline® UHD Shingles | GAF Roofing

- Slays in Place: Dura Grip¹⁴ Adhesiya seria each shingle lightly and recupes the risk of single blow off. Shingles wareneed to withstand winds up to 130 mph (239 km/h).³
- Peace of Mind: Hieline Id Ironviewbye warranty with Smart Choke® Fieldsfron (nonpresented material and Innatiation labor coverage) for the first tion years³
- Perfect Rniching Rouch: Use Briberter Permum Ridge Cap Shingles or Ridglass^a Remium Ridge Cap Shingles,⁴
- 25-year Stain@uard Plus[™] Algale Protection Limited Warranty against bloegreen algale discolaration.Poprietary GAF ThreeRelates Ngoe Righing Technology (<u>https://lan.</u> us/renkientiatos/rog/stainguards/ug)na/pa protect your shingles ham unighty stain.⁴

"Contrainisch refers to Timberline HD* Stilligkes. Tricknesses varias by about new actual shingles for comparison

What whipps will be created up to the maximum which yourd where OM Y (included using 5 rails per shingle and GAF Sinter Ship Producti Issued at the access and news. Meanmar What Speed Cherrage & tablication with Speedul Issuelation or thinging which (speedul issued access and news). Secondary (included Weinery for comprised databa

Sime GAF Shingle & Acceptory Linkled Wayson's for comparis converge and restrictors. The word "Uncline" values in the length of converge provided by the GAF Shingle & Accessory Linkled Warnahy and means as any as the neglical hishfold normality of as ingle Eurity describe resolutions (prime second converties) in tertain describences over the property when the chirgles are invalided. For conversible converging the above retrained, Lifetime coverage is not assistants.

"Timese products are not next thin in oil arboy. Visit Ridge Cap Stringle Product Availability for details

125-year SteinGrant Flox ** Algoe Fratection Limited Warrardy Ageiran Inter-grown algoe desceleration is available only an students and in proceedings for the State Gaurd Phys** lago. Size GAP Stringto & Accessory Limited Warrardy for complete consume, methodiser, and sur Firing prioducts.

Note: It is difficult to reproduce the color cleftly and actual color disula of these products. Babre arrivality your units, please ask to see coveral luft-size silvingine.)

GAF factory-certified roofing companies near you

Please enter your sip code below to see recommended contractor in your area. ENTIR SIP CHANGE)

Related products for Timberline® UHD





TIMBERLINE HDZ*

LEADN NO

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GRAND SEQUOLA

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Reviews

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Rawing Scoutchest	
Relection low below to	if their revolutions
5*	413
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1*	15
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Over *****	

1-8 of 463 Reviews

Buillin, Most Huganii + 🗧

 おかかえ Debro Decen スペッシュの Beculiful New GAF timberline Ultra NDZ Litetime Roof System

The back/MUNAW/ buriched GAF Timbatine Ultra H12 - Dual Shadawi Llettre Shagas Bachin Rowles: Gwy completely handbarred the aging appearance at our home II to a timeless color with a distribution that informatione the death and right adultly of this back system. We academirecommend it mant algority.

Select a solice Fourier City Recommends this product of yes

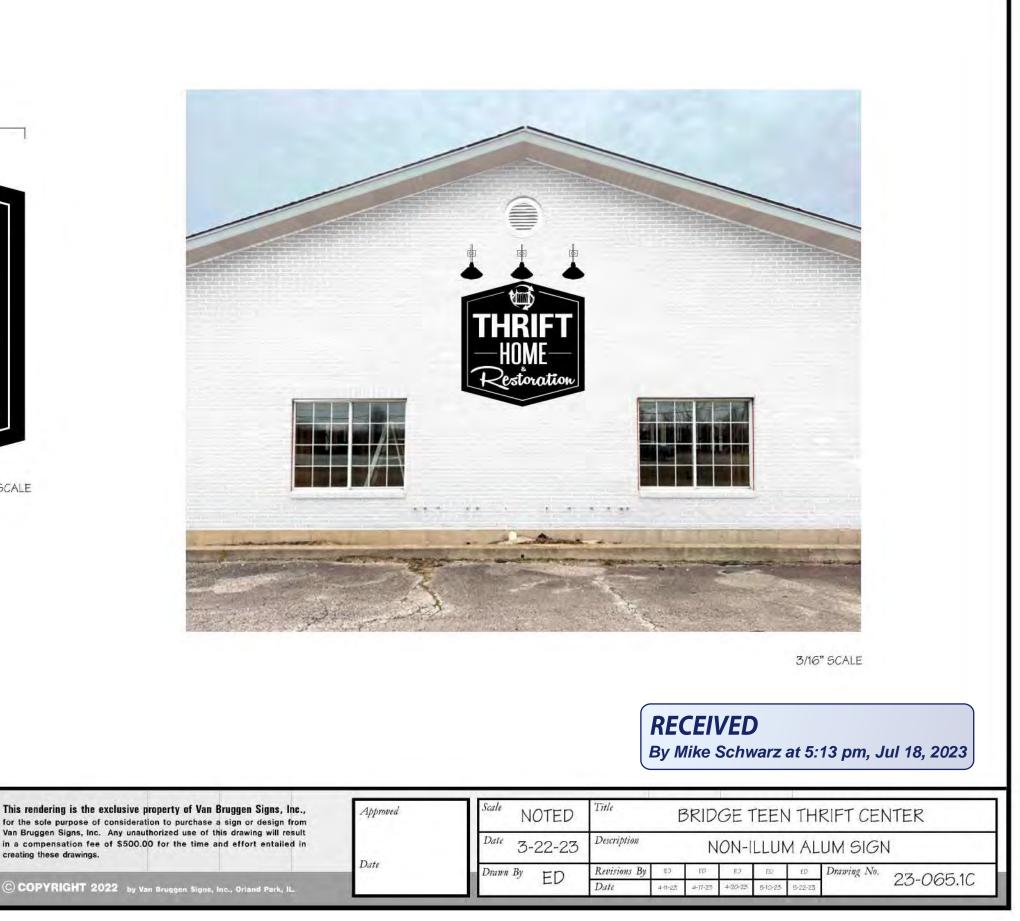
Whit is a concluse to operate our woboint enforces elle nongation, and you bit usage, and asset in our mationing charts. By discing "Accept Cashies "you agree to the use, Formere information please version cashie Moliou (https://www.gat.com/anest/specificity/inf/P "Yex" 0 No - 0 KEPORT



1/2" SCALE

NON-ILLUMINATED WALL SIGN 84" x 82" = 48 SQ. FT.

> · FABRICATED ALUMINUM PAN SIGN - 2" RETURNS · PVC DIMENSIONAL COPY · WHITE VINYL LOGO AND LINES · CONCEALED MOUNTING FRAME





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	Date 3-22-23	De
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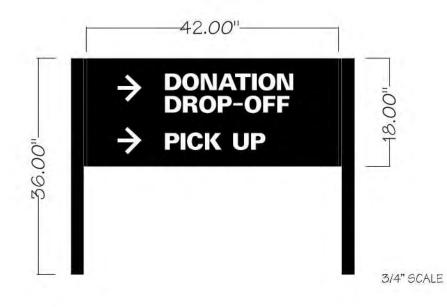


- · WHITE VINYL LOGO AND LINES
- · MOUNTED TO BRICK



RECEIVED By Mike Schwarz at 5:13 pm, Jul 18, 2023 BRIDGE TEEN THRIFT CENTER

BRIDGE TEEN THRIFT CENTER NON-ILLUM MONUMENT SIGN

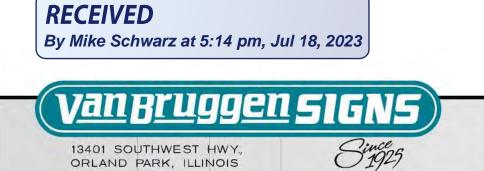


S/F NON-ILLUMINATED DIRECTIONAL SIGN 18" X 42" = 5.25 SQ. FT.

• FABRICATED ALUMINUM POST AND PAN SIGN - 2" POSTS

· DECORATED WITH WHITE VINYL COPY



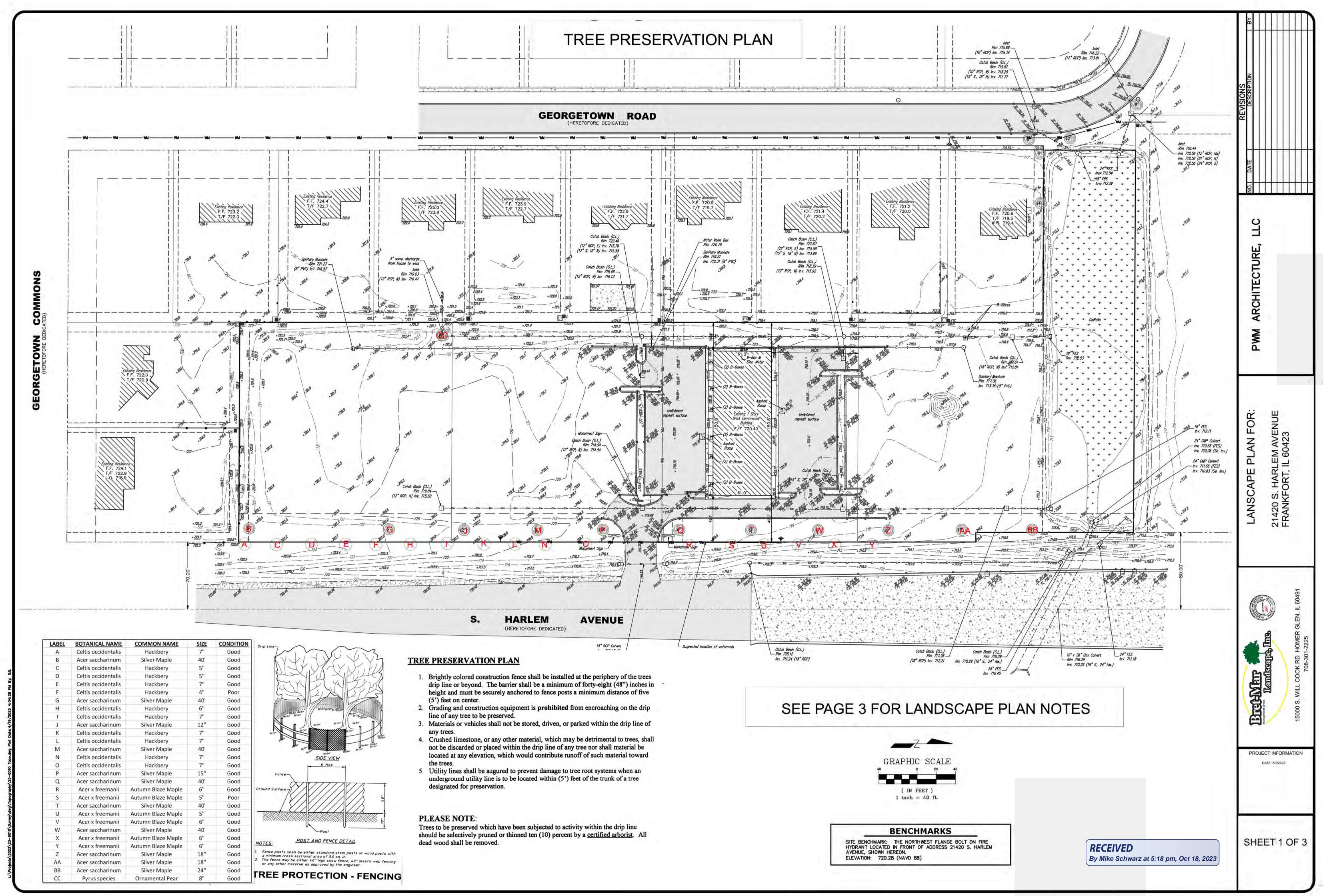


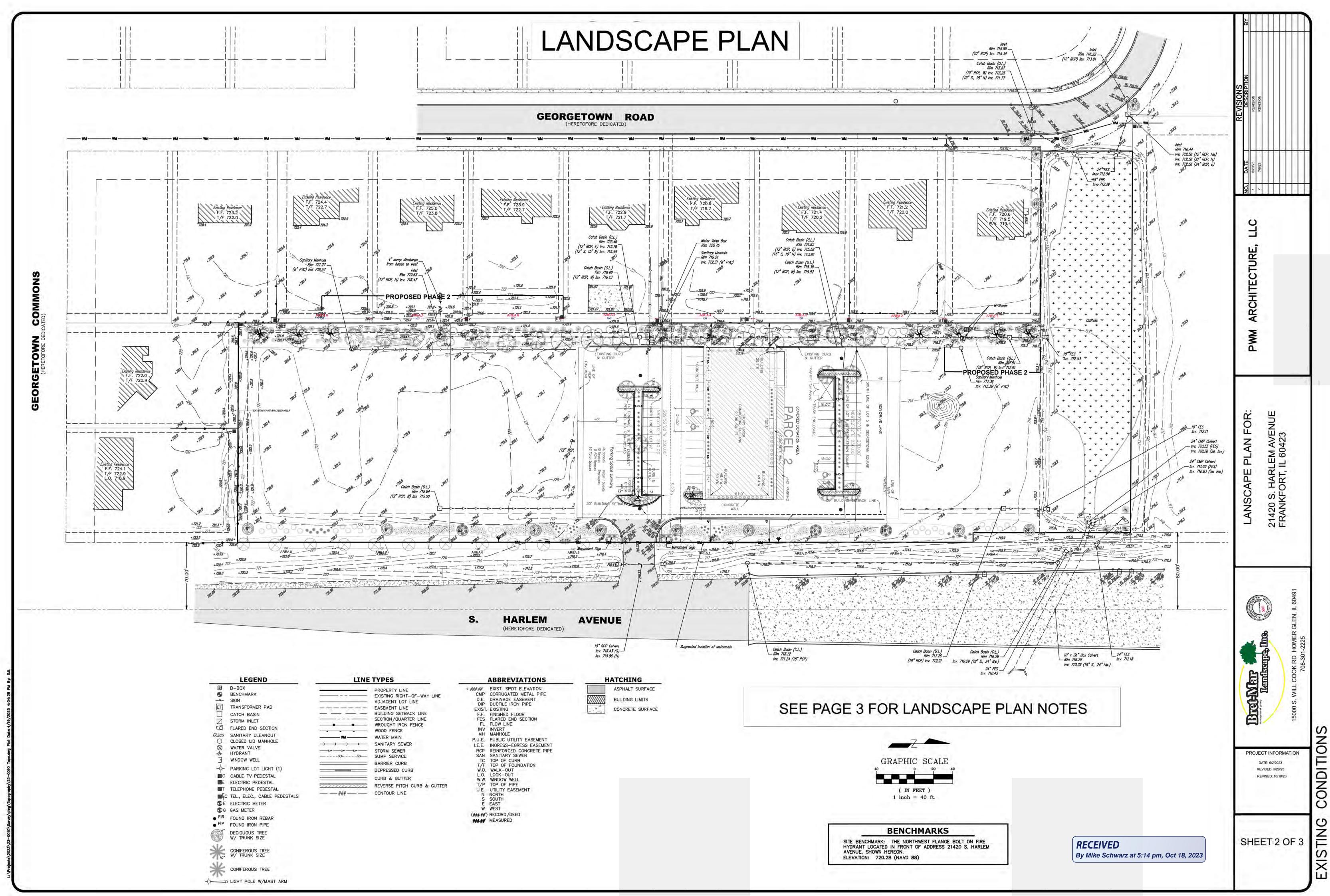
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Scale NOTEI	D Title
Date 3-22-2	23 Description
Drawn By FD	Revisions By
ΕV	Date





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SAMPO		PARKING LOT SCREENING AREA 1	6175	OLIANTITY	LINUTS		
<u>SYMBOL</u>	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	<u>UNITS</u> 40	SYMPOL	
Existing	Acer saccharinum	Silver Maple	various	4	40	<u>SYMBOL</u> Existing	
*	Picea glauca	Black Hills Spruce	10'	3	24		
	Juniperus chinensis 'Sea Green'	Seagreen Juniper	36"	31	62	Existing	
\bigcirc	Juniperus chinensis sargentii 'Viridis'	Green Sargent Juniper	#3	5	5	2 2	Th
	Spiraea x bumalda 'Goldmound'	Goldmound Spirea	#3	10	10		Juni
	Euonymus alatus compacta	Compact Burning Bush	3'	3	6		
	Hydrangea paniculata 'Limelight'	Limelight Hydrangea	#5	3	6		
6	Allium 'Millenium'	Allium	#1	38	0		
	Pennisetum alopecuroides	Fountain Grass	#1	8	0	<u>SYMBOL</u>	
Note: Pi	cea glauca to be planted near north deter	ntion basin TOTAL UNITS			153	Existing	
		EVERGREEN UNITS			91	Existing	
		REQUIRED UNITS			150	E My	Th
CYMDOL		PARKING LOT SCREENING AREA 2	6175	QUANTITY	LINUTS		Hydro
<u>SYMBOL</u> Existing	BOTANICAL NAME Acer saccharinum	<u>COMMON NAME</u> Silver Maple	<u>SIZE</u> various	QUANTITY 4	<u>UNITS</u> 40		,
5Mg							
2 mg	Thuja plicata 'Green Giant'	Green Giant Arborvitae	10'	3	24		
	Juniperus chinensis 'Sea Green'	Seagreen Juniper	36"	40	80		
	Hydrangea poniculata 'Limelight'	Limelight Hydrangea	#5	6	12	SYMBOL	
\bigcirc	Allium 'Millenium'	Allium	#1	2	0	and the second se	7
- Napoliti					450		Spi
		TOTAL UNITS EVERGREEN UNITS			156 104	10000 1000 1000 1000 1000 1000 1000 10	
		REQUIRED UNITS	-		150	- 20,025	
		PARKING LOT SCREENING AREA 3					
SYMBOL	BOTANICAL NAME		SIZE	QUANTITY		SYMBOL	
Existing	Acer saccharinum	Silver Maple	various	2	20	The second se	
	Thuja plicata 'Green Giant'	Green Giant Arborvitae	10'	7	56	the second s	
	Juniperus chinensis 'Sea Green'	Seagreen Juniper	36"	12	24	Same and the second sec	
	Hydrangea paniculata 'Limelight'	Limelight Hydrangea	#5	6	12		Ju
- California - Cal							
		TOTAL UNITS EVERGREEN UNITS			112 80	STALL	
		REQUIRED UNITS			150	- The second	
		PARKING LOT SCREENING AREA 4					
SYMBOL	BOTANICAL NAME	COMMON NAME	<u>SIZE</u>	QUANTITY	<u>UNITS</u>		
Existing	Acer saccharinum	Silver Maple	various	2	20	SYMBOL	
2 min	Thuja plicata 'Green Giant'	Green Giant Arborvitae	10'	7	56		
	Hydrangea paniculata 'Limelight'	Limelight Hydrangea	#5	5	10		5
		TOTAL UNITS			86	Stoom State	
		EVERGREEN UNITS			56		
		REQUIRED UNITS	-		150		
	NO	PARKING LOT SCREENING AREA 5					Calar
SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	UNITS		
Existing	Acer species	Maple	various	2	20	L	
Existing	Celtis occidentalis	Hackberry	various	2	20		
Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z	Thuja plicata 'Green Giant'	Green Giant Arborvitae	10'	3	24	<u>SYMBOL</u>	BC
	Juniperus chinensis 'Sea Green'	Seagreen Juniper	36"	31	62		Thuja
	Juniperus chinensis sargentii 'Viridis'	Green Sargent Juniper	#3	5	5		Forsy
	Spiraea x bumalda 'Goldmound'						
Ser		Goldmound Spirea	#3	10	10		
E . B	Euonymus alatus compacta	Compact Burning Bush	3'	3	6		
	Hydrangea paniculata 'Limelight'	Limelight Hydrangea	#5	3	6		
\bigcirc	Allium 'Millenium'	Allium	#1	38	0		
	Pennisetum alopecuroides	Fountain Grass	#1	8	0	SYMBOL	B
							Thuja
		TOTAL UNITS EVERGREEN UNITS			153 91		maja
		REQUIRED UNITS			150		Pla
		PARKING LOT SCREENING AREA 6					Fors
SYMBOL	BOTANICAL NAME	COMMON NAME	<u>SIZE</u>	QUANTITY	<u>UNITS</u>	\odot	Viburnum
Existing	Acer species	Maple	various	1	10		
Existing	Celtis occidentalis	Hackberry	various	3	30		
2ms	Thuja plicata 'Green Giant'	Green Giant Arborvitae	10'	3	24		
	Juniperus chinensis 'Sea Green'	Seagreen Juniper	36"	40	80		
	Hydrangea paniculata 'Limelight'	Limelight Hydrangea	#5	6	10		
\bigcirc	Allium 'Millenium'	Allium	#1	2	0		
-1997							
		TOTAL UNITS EVERGREEN UNITS			154 104		

PARKING LOT BOTANICAL NAME CO Acer species Celtis occidentalis Thuja plicata 'Green Giant' niperus chinensis 'Sea Green' EVE RE

		PARKING LOT SCREENING AREA 8			
SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	UNITS
Existing	Acer species	Maple	various	1	10
Existing	Celtis occidentalis	Hackberry	various	3	30
Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z	Thujo plicata 'Green Giant'	Green Giant Arborvitae	10'	7	56
	Hydrangea paniculata 'Limelight'	Limelight Hydrangea	#5	7	14
		TOTAL UNITS			110
		EVERGREEN UNITS			56
		REQUIRED UNITS			150

		NORTH PARKING LOT			
SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	UNITS
	Tilia americana 'Redmond'	Redmond Linden	2.5"	5	50
	Spiraea x bumalda 'Goldmound'	Goldmound Spirea	#3	21	21
	Hemerocallis Stella D'Oro	Stella D'Oro Daylily	#1	62	
		TOTAL UNITS			71

		SOUTH PARKING LOT			
SYMBOL	BOTANICAL NAME	COMMON NAME	<u>SIZE</u>	QUANTITY	<u>UNITS</u>
A CONTRACT OF A	Tilia americana 'Redmond'	Redmond Liden	2.5"	3	30
Č.	Syringa reticulata 'Ivory Silk'	Ivory Silk Lilac Tree	2.5"	2	20
A CONTRACTOR OF THE OWNER OWNER OF THE OWNER	Juniperus chinensis sargentii 'Viridis'	Green Sargent Juniper	#3	18	18
	Spiraea x bumalda 'Goldmound'	Goldmound Spirea	#3	20	20
	Hemerocallis Stella D'Oro	Stella D'Oro Daylily	#1	44	
- ¥ ·		TOTAL			88

	BU	ILDING FOUNDATION LANDSC	APE		
YMBOL	BOTANICAL NAME	COMMON NAME	<u>SIZE</u>	QUANTITY	UNITS
S	Aronia melanocarpa 'Morton'	Iroquis Beauty Chokeberry	#5	10	20
	Spiraea x bumalda 'Goldmound'	Goldmound Spirea	#3	22	22
SUCCESSION OF STREET	Hydrangea paniculata 'ILVOBO'	Bobo Hydrangea	#5	19	38
	Hemerocallis Stella D'Oro	Stella D'Oro Daylily	#1	18	
	Calamagrostis x acutiflora 'Karl Foerster'	Karl Foerster Grass	#1	6	
		TOTAL			80

		WEST PROPERTY LINE SCREENING	AREA 1			
SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	UNITS	
X	Betula nigra	River Birch	12'	3	30	
	Thuja occidentalis 'Techny'	Techny Arborvitae	61	12	60	
	Forsythic 'Meadowlark'	Meadowlark Forsythia	5'	17	34	
		TOTAL UNITS		_	124	
		EVERGREEN UNITS			60	REQUIRES 40%/50 UNITS
		REQUIRED UNITS			125	

	W	EST PROPERTY LINE SCREENING AREA 2				
SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	UNITS	
\bigcirc	Picea glauca	Black Hills Spruce	7'	5	25	
	Thuja occidentalis 'Techny'	Techny Arborvitae	6'	6	30	
¥	Betula nigra	River Birch	12'	3	30	
ÊÌ	Platanus x acerifolia	Exclamation London Planetree	2,5"	1	10	
	Forsythia 'Meadowlark'	Meadowlark Forsythia	5	17	34	
\odot	Viburnum dentatum 'Chicago Lustre'	Chicago Lustre Viburnum	5'	6	12	
		TOTAL UNITS			141	
		EVERGREEN UNITS			55	REQUIRES 40%/50 UNITS
		REQUIRED UNITS			125	

LANDSCAPE NOTES

TSCREENING AREA 7			
MMON NAME	SIZE	QUANTITY	UNITS
Maple	various	1	10
Hackberry	various	3	30
Giant Arborvitae	10'	7	56
agreen Juniper	36"	20	40
			120
TOTAL UNITS			136
RGREEN UNITS			96
OUIRED UNITS			150

	W	EST PROPERTY LINE SCREENING AREA 3				
MBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	UNITS	
.)	Picea glauca	Black Hills Spruce	7'	3	15	
	Thuja occidentalis 'Techny'	Techny Arborvitae	6'	7	35	
3	Plotonus x acerifolia	Exclamation London Planetree	2.5"	2	20	
D	Quercus bicolor	Swamp White Oak	2.5"	1	10	
)	Amelanchier grandiflora 'Autumn Brilliance'	Autumn Brilliance Serviceberry	7'	2	10	
	Viburnum dentatum 'Chicago Lustre'	Chicago Lustre Viburnum	5'	19	38	
		TOTAL UNITS.			128	
		EVERGREEN UNITS			50	REQUIRES 40%/50 UNITS
		REQUIRED UNITS			125	

	W	EST PROPERTY LINE SCREENING AREA 4				
BOL	BOTANICALNAME	COMMON NAME	SIZE	QUANTITY	UNITS	
)	Picea glauca	Black Hills Spruce	7	2	10	
i.	Thuja occidentalis 'Techny'	Techny Arborvitae	6'	11	55	
	Plațanus x acerifolia	Exclamation London Planetree	2.5"	3	30	
	Quercus bicolor	Swamp White Oak	2.5"	1	10	
	Amelanchier grandiflora 'Autumn Brilliance'	Autumn Brilliance Serviceberry	7'	5	15	
	Viburnum dentatum 'Chicago Lustre'	Chicago Lustre Viburnum	S'	5	10	
		TOTAL UNITS			130	
		EVERGREEN UNITS			65	REQUIRES 40%/50 UNITS
		REQUIRED UNITS			125	

	W	EST PROPERTY LINE SCREENING AREA 5				
YMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	UNITS	
\odot	Picea glauca	Black Hills Spruce	7'	5	15	
	Thuja occidentalis 'Techny'	Techny Arbörvitae	6'	5	15	
3	Plotanus s acerifolia	Exclamation London Planetree	2.5"	1	10	
Ð	Quercus bicolor	Swamp White Oak	2:5"	3	30	
	Amelanchier grandiflora 'Autumn Brilliance'	Autumn Brilliance Serviceberry	7'	4	20	
•	Viburnum dentatum 'Chicago Lustre'	Chicago Lustre Viburnum	5'	15	30	
		TOTAL UNITS			120	
		EVERGREEN UNITS			30	REQUIRES 40%/50 UNITS
		REQUIRED UNITS			125	

		WEST PROPERTY LINE SCREENING AREA 6		a la companya	_	
MBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	UNITS	
)	Picea glaŭca	Black Hills Spruce	7'	1	5	
Ð	Thuja occidentalis Techny	Techny Arborvitae	6'	10	50	
3	Tilia americana 'Redmond'	Redmond Linden	2.5"	3	30	
2	Forsythia 'Meadowlark'	Meadowlark Forsythia	5'	16	32	
		TOTAL UNITS			117	
		EVERGREEN UNITS			55	REQUIRES 40%/50 UNITS
		REQUIRED UNITS			125	

	w	EST PROPERTY LINE SCREENING AREA 7				
1BOL	BOTANICALNAME	COMMON NAME	SIZE	QUANTITY	UNITS	
	Picea glauča	Black Hills Spruce	7'	2	10	
<u>x</u> 2	Thuja occidentalis 'Techny'	Techny Arborvitae	6'	10	50	
)	Tilia americana 'Redmond'	Redmond Linden	2.5"	2	20	
	Amelanchier grandiflora 'Autumn Brilliance'	Autumn Brilliance Serviceberry	7'	3	15	
	Forsythia 'Meadawlark'	Meadowlark Forsythia	5'	17	34	
		TOTAL UNITS			129	
		EVERGREEN UNITS			60	REQUIRES 40%/50 UNITS
		SALTHER LOTAL			4.75	

		WEST PROPERTY LINE SCREENING AREA	8			
MBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	UNITS	
	Thuja occidentalis 'Techny'	Techny Arborvitae	6'	15	75	
	Tilia americana 'Redmond'	Redmond Linden	2.5"	1	10	
*	Betula nigra	River Birch	12'	3	30	
	Forsythia 'Meadowlark'	Meadowlark Forsythia	5'	23	46	
		TOTAL UNITS			161	
		EVERGREEN UNITS			75	REQUIRES 40%/50 UNITS
		DECULIDED LINUTE			125	

AVOID PLACING SOIL OVER ROOT CROWN. SET ROOT BALL 3-6" HIGHER THAN FINISHED GRADE.

2" SHREDDED HARDWOOD BARK MULCH. FORM SAUCER AROUND OUTSIDE.

FINISHED GRADE

-EXISTING SUBGRADE

DECIDUOUS AND EVERGREEN SHRUBS NOT TO SCALE

PLAN NOTES:

1. The contractor shall provide and install all plant materials in quantities sufficient to complete the planting shown on the drawing, unless noted. All plants shall comply to the requirements of the current American Standard for Nursery Stock, published by the American Association of Nurseyman. Plants should meet size, genus, species, and variety, and be in good health; free of disease, insects, and defects. No "Park Grade" material shall be accepted. Plants can be substituted by the approval of the Landscape Architect or the Village.

2. All plants shall be watered during the first 24 hour period after installation. Contractor is responsible for watering sod once. A schedule must be agreed upon with the owner, before sod is installed, of who, when, and how sod is being properly watered. The contractor is responsible for the site visits to ensure that proper watering is being done, in order for sod to be established and healthy.

3. Plants shall be balled and burlapped or container grown specified. No root bound material shall be accepted and all wrapping material made of synthetics or plastics shall be removed at the time of plantings. It is the contractors option to roll back burlap from the top of the ball.

4. All shrub beds and tree rings shall receive 4" depth of shredded hardwood mulch. All new tree rings shall be 5' in diameter. All perennials shall receive 2" depth of shredded hardwood mulch.

5. All plants shall be set plumb. It is the contractors options to stake decidnous trees, but it is also his responsibility to assure plants remain plumb until the guarantee period.

6. Prune, thin out, and shape new plants in accordance with standard horticultural practices to retain their natural character. Don't cut tree leader. Remove any injured, damaged, dead, or crossed branches from the plant at the time of insallation. All plant material shall be at the same relationship to finish grade as the plants original grade before digging.

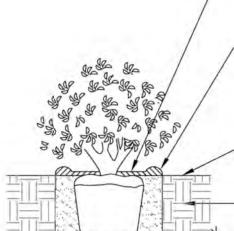
8. The contractor shall locate the existence of all underground utilities prior to starting. The contractor must also keep the pavement and work area in a neat and orderly condition throughout the construction process.

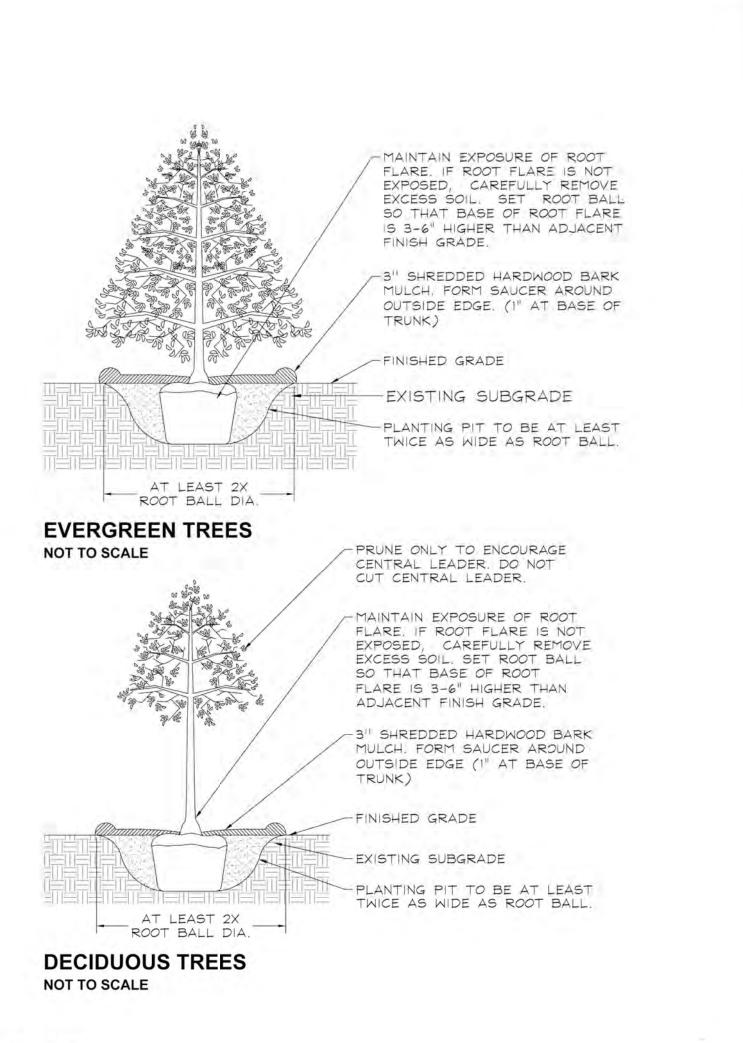
9. Owner shall provide contractor with finish grade from the approved grading plan to a tenth of an inch, with sufficient quality topsoil. If imported topsoil or spreading existing topsoil is required it shall be done at the owners expense. All construction debris should be removed by the general contractor.

10. Sod shall extend to all property lines, unless otherwise noted.

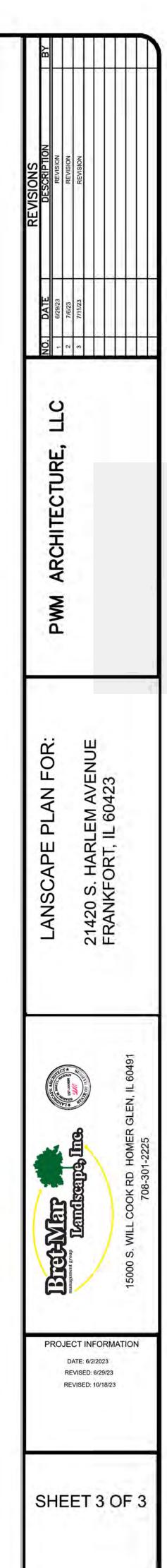
11. All edging to be a spaded natural edging. No steel or plastic edging shall be used unless noted.

12. Information contained in "Plan Notes" take precedence over other information.



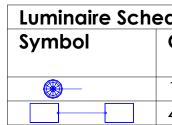


7. All ground cover and flower beds are to receive 5" depth organic compost and sand mix, which shall be rototilled into the existing topsoil. Trees and shrubs shall be backfilled with good existing topsoil.



0.1													
0.1													
	0.3	0.6	0.9	1.2	1.5	1.0	1.5	1.4	1.2	1.2	1.3	1.5	1.7
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	0.7	1.6	3.0	4.4	5.6	6.0	5.5	4.4	3.5	3.2	3.9	5.1	6.0
0.1	0.9	2.0	4.0	6.2	7.4	7.6	7.3	6.1	4.5	4.0	5.1	6.7	7.5
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	0.7	1.6	2.8	4.1	5.2	5.6	5.0	4.1	3.2	2.9	3.4	4.2	5.1
0.1	0.6	1.2	1.9	2.4	2.9	1.9	2.8	2.4	2.0	1.8	2.0	2.4	2.8
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0.1 0.0 10' 0.0 0.0 0.0 0.0 0.1 10' 0.1 10' 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	W1 MH: 1.0 0.2 0.2 0.2 0.2 0.2 0.3 0.3 0.3 0.3 0.3 0.3 0.3	0.2 0.2 0.2 0.4 0.6 0.8 0.9 0.9 0.9 0.9 0.9	0.4 0.4 0.7 1.2 1.7 2.1 2.3	MH: 0.6 0.5 1.1 2.0 3.2 4.2 4.2 4.7 4.6 3.8	12 0.5 0.6 1.4 2.8 4.7 6.4 7.0 6.9 5.8	0.4 0.7 1.7 3.5 5.9 7.5 7.8 7.8 7.8 7.0	0.3 0.5 1.8 3.8 6.2 7.7 8.4 3 8.4 3 8.4 3 81 81 1.2	4.5 0.6 0.7 1.7 3.5 5.8 7.5 7.8 7.8 7.8 6.9	11 11 5.3 MH: 12 0.6 0.7 1.6 3.0 4.7 6.4 7.1 6.9 5.8	0.6 0.5 0.7 1.4 2.6 3.9 5.0 5.5 5.5 5.4 4.6	0.4 0.7 1.4 2.5 3.8 4.8 5.4 5.2	0.5 0.7 1.5 2.9 4.6 6.1 6.8 6.7 5.5	MH: 0.6 0.7 1.7 3.4 5.7 7.3 7.7 7.7 6.7
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0.1 0.0 10' 0.0 0.0 0.0 0.0 0.1 10' 0.1 10' 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	W1 MH: 1.0 0.2 0.2 0.2 0.2 0.2 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3	0.2 0.2 0.2 0.4 0.6 0.8 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9	0.4 0.4 0.7 1.2 1.7 2.1 2.3 2.3 2.0 1.5 0.9	MH: 0.6 0.5 1.1 2.0 3.2 4.2 4.7 4.6 3.8 2.7 1.6	12 0.5 0.6 1.4 2.8 4.7 6.4 7.0 6.4 7.0 6.9 5.8 3.9 2.1	0.4 0.7 1.7 3.5 5.9 7.5 7.8 7.8 7.8 7.8 7.0 4.9 2.6	0.3 0.5 1.8 3.8 6.2 7.7 8.4 3 8.4 3 8.4 3 7.7 7.3 5.3 5.3 2.8	4.5 0.6 0.7 1.7 3.5 5.8 7.5 7.8 7.8 6.9 4.8 2.6	11 5.3 MH: 12 0.6 0.7 1.6 3.0 4.7 6.4 7.1 6.9 5.8 4.0 2.3	0.6 0.5 0.7 1.4 2.6 3.9 5.0 5.5 5.5 5.4 4.6 3.4 2.0	0.4 0.7 1.4 2.5 3.8 4.8 5.4 5.4 5.4 5.2 4.5 3.3 2.0	0.5 0.7 1.5 2.9 4.6 6.1 6.8 6.7 5.5 3.8 2.2	 MH: 0.6 0.7 1.7 3.4 5.7 7.3 7.7 7.7 6.7 4.7 2.6
0.1 0.0 10' 0.0 0.0 0.0 0.1 0.1 10' 10' 0.1 10' 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	W1 MH: 1.0 0.2 0.2 0.2 0.2 0.2 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3	0.2 0.2 0.2 0.4 0.6 0.8 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9	0.4 0.4 0.7 1.2 1.7 2.1 2.3 2.3 2.0 1.5 0.9	MH: 0.6 0.5 1.1 2.0 3.2 4.2 4.7 4.6 3.8 2.7 1.6	12 0.5 0.6 1.4 2.8 4.7 6.4 7.0 6.4 7.0 6.9 5.8 3.9 2.1	0.4 0.7 1.7 3.5 5.9 7.5 7.8 7.8 7.8 7.8 7.0 4.9 2.6	0.3 0.5 1.8 3.8 6.2 7.7 8.4 3 8.4 3 8.4 3 8.4 3 7.3 7.3 5.3	4.5 0.6 0.7 1.7 3.5 5.8 7.5 7.8 7.8 6.9 4.8 2.6	11 5.3 MH: 12 0.6 0.7 1.6 3.0 4.7 6.4 7.1 6.9 5.8 4.0 2.3	0.6 0.5 0.7 1.4 2.6 3.9 5.0 5.5 5.5 5.4 4.6 3.4 2.0	0.4 0.7 1.4 2.5 3.8 4.8 5.4 5.4 5.4 5.2 4.5 3.3 2.0	0.5 0.7 1.5 2.9 4.6 6.1 6.8 6.7 5.5 3.8 2.2	 MH: 0.6 0.7 1.7 3.4 5.7 7.3 7.7 7.7 6.7 4.7 2.6
0.1 0.0 10' 0.0 0.0 0.0 0.0 0.1 10' 0.1 10' 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	W1 MH: 1.0 0.2 0.2 0.2 0.2 0.2 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3	0.2 0.2 0.2 0.4 0.6 0.8 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9	0.4 0.4 0.7 1.2 1.7 2.1 2.3 2.3 2.0 1.5 0.9	MH: 0.6 0.5 1.1 2.0 3.2 4.2 4.7 4.6 3.8 2.7 1.6	12 0.5 0.6 1.4 2.8 4.7 6.4 7.0 6.4 7.0 6.9 5.8 3.9 2.1	0.4 0.7 1.7 3.5 5.9 7.5 7.8 7.8 7.8 7.8 7.0 4.9 2.6	0.3 0.5 1.8 3.8 6.2 7.7 8.4 3 8.4 3 8.4 3 7.7 7.3 5.3 5.3 2.8	4.5 0.6 0.7 1.7 3.5 5.8 7.5 7.8 7.8 6.9 4.8 2.6	11 5.3 MH: 12 0.6 0.7 1.6 3.0 4.7 6.4 7.1 6.9 5.8 4.0 2.3	0.6 0.5 0.7 1.4 2.6 3.9 5.0 5.5 5.5 5.4 4.6 3.4 2.0	0.4 0.7 1.4 2.5 3.8 4.8 5.4 5.4 5.4 5.2 4.5 3.3 2.0	0.5 0.7 1.5 2.9 4.6 6.1 6.8 6.7 5.5 3.8 2.2	 MH: 0.6 0.7 1.7 3.4 5.7 7.3 7.7 7.7 6.7 4.7 2.6







APPLICATION AND TASKAVERAGE (FC)RANGE (FC)AVERAGE (FC)RANGE (FC)RANGE (FC)RANGE (FC)AVG:///PARKING (UNCOVERED) ZONE 3 (URBAN)1.50.75 - 30.80.4 - 1.64:1PARKING (UNCOVERED) ZONE 2 (SUBURBAN)10.5 - 20.60.3 - 1.24:1	15:1
PARKING (UNCOVERED) ZONE 2 (SUBURBAN) 1 0.5 - 2 0.6 0.3 - 1.2 4:1	15:1
FOR SE	15:1
	CURITY ISSUES
SIMPLIFIED RECOMMENDATIONS BASED ON IES 'THE LIGHTING HANDBOOK' 10TH EDITION AND IES RP-20-14.	
INDIVIDUAL APPLICATIONS WILL DETERMINE SPECIFIC RECOMMENDATIONS. PLEASE REFER TO THE MOST RECENT HANDBOC	(FOR A
MORE DETAILED EVALUATION AND ADDITIONAL APPLICATIONS. THESE RECOMMENDATIONS DO NOT SUPERCEDE ANY APPL	CABLE COD

Luminair	e Location S	Summary						
LumNo	Label				Mtg H	łt	Orient	Tilt
1	RZR-PLED-	VSQ-N-80	LED-525mA-40		25		270	0
2	RZR-PLED-	VSQ-N-80	LED-525mA-40		25		270	0
3	RZR-PLED-	VSQ-N-80	LED-525mA-40		25		270	0
4	RZR-PLED-	VSQ-N-80	LED-525mA-40		25		270	0
5	VCSLSA10)LDD3030k	(FM-G2112060	6	12		180.426	0
6	VCSLSA10)LDD3030k	(FM-G2112060	6	12		180.426	0
7	VCSLSA10)LDD3030k	(FM-G2112060	6	12		180.426	0
8	VCSLSA10)LDD3030k	(FM-G2112060	6	12		359.737	0
9	VCSLSA10)LDD3030k	(FM-G2112060	6	12		359.737	0
10	VCSLSA10)LDD3030k	(FM-G2112060	6	12		359.737	0
11	VCSLSA10)LDD3030k	(FM-G2112060	6	12		90.573	0
12	VCSLSA10)LDD3030k	(FM-G2112060	6	12		270	0
14	VCSLSA10)LDD3030k	(FM-G2112060	6	12		90.573	0
15	VCSLSA10)LDD3030k	(FM-G2112060	6	12		90.573	0
16	VCSLSA10)LDD3030k	(FM-G2112060	6	12		270	0
17	VCSLSA10)LDD3030k	(FM-G2112060	6	12		270	0
Avg	Max	Min	Max/Min	Avg	/Min	Des	cription	
0.11	0.2	0.0	N.A.	N.A.		CAL		AT GRADE
						LEV	EL	
3.07	8.4	0.2	42.00	15.3	5	Cal	culations At	Grade
						Lev	el	
0.08	0.1	0.0	N.A.	N.A.				

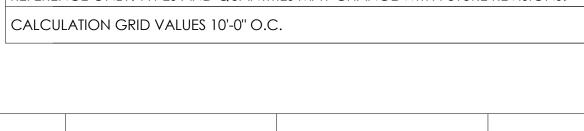
		0		10 G I I OOL		20	2,0	U
		4	RZR-PLED-	VSQ-N-80L	ED-525mA-40	25	270	0
		5	VCSLSA10)LDD3030K	M-G21120606	6 12	180.426	0
		6	VCSLSA10)LDD3030K	M-G21120606	6 12	180.426	0
		7	VCSLSA10)LDD3030K	M-G21120606	6 12	180.426	0
		8	VCSLSA10)LDD3030K	M-G21120606	6 12	359.737	0
		9	VCSLSA10)LDD3030K	-M-G21120606	6 12	359.737	0
		10	VCSLSA10)LDD3030K	-M-G21120606	6 12	359.737	0
		11	VCSLSA10)LDD3030K	M-G21120606	6 12	90.573	0
		12	VCSLSA10)LDD3030K	M-G21120606	6 12	270	0
		14	VCSLSA10)LDD3030K	-M-G21120606	6 12	90.573	0
		15	VCSLSA10)LDD3030K	-M-G21120606	6 12	90.573	0
		16	VCSLSA10)LDD3030K	-M-G21120606	6 12	270	0
		17	VCSLSA10)LDD3030K	-M-G21120606	6 12	270	0
CalcType	Units	Avg	Max	Min	Max/Min	Avg/Min	Description	·
Illuminance	Fc	0.11	0.2	0.0	N.A.	N.A.	CALCULATIONS	AT GRADE
							· · · · · · · · · · · · · · · · · · ·	
							LEVEL	
Illuminance	Fc	3.07	8.4	0.2	42.00	15.35	Calculations At	Grade
Illuminance	Fc	3.07	8.4	0.2	42.00	15.35		Grade
			6 7 8 9 10 11 11 12 14 15 16 15 16 17 CalcType Units Avg	5 VCSLSA10 6 VCSLSA10 7 VCSLSA10 8 VCSLSA10 9 VCSLSA10 10 VCSLSA10 11 VCSLSA10 12 VCSLSA10 14 VCSLSA10 15 VCSLSA10 16 VCSLSA10 17 VCSLSA10	5 VCSLSA10LDD3030KI 6 VCSLSA10LDD3030KI 7 VCSLSA10LDD3030KI 8 VCSLSA10LDD3030KI 9 VCSLSA10LDD3030KI 10 VCSLSA10LDD3030KI 11 VCSLSA10LDD3030KI 12 VCSLSA10LDD3030KI 14 VCSLSA10LDD3030KI 15 VCSLSA10LDD3030KI 16 VCSLSA10LDD3030KI 17 VCSLSA10LDD3030KI	6 VCSLSA10LDD3030KFM-G21120606 7 VCSLSA10LDD3030KFM-G21120606 8 VCSLSA10LDD3030KFM-G21120606 9 VCSLSA10LDD3030KFM-G21120606 10 VCSLSA10LDD3030KFM-G21120606 11 VCSLSA10LDD3030KFM-G21120606 12 VCSLSA10LDD3030KFM-G21120606 14 VCSLSA10LDD3030KFM-G21120606 15 VCSLSA10LDD3030KFM-G21120606 16 VCSLSA10LDD3030KFM-G21120606 17 VCSLSA10LDD3030KFM-G21120606 17 VCSLSA10LDD3030KFM-G21120606	4 RZR-PLED-VSQ-N-80LED-525mA-40 25 5 VCSLSA10LDD3030KFM-G21120606 12 6 VCSLSA10LDD3030KFM-G21120606 12 7 VCSLSA10LDD3030KFM-G21120606 12 8 VCSLSA10LDD3030KFM-G21120606 12 9 VCSLSA10LDD3030KFM-G21120606 12 10 VCSLSA10LDD3030KFM-G21120606 12 11 VCSLSA10LDD3030KFM-G21120606 12 12 VCSLSA10LDD3030KFM-G21120606 12 12 VCSLSA10LDD3030KFM-G21120606 12 12 VCSLSA10LDD3030KFM-G21120606 12 14 VCSLSA10LDD3030KFM-G21120606 12 15 VCSLSA10LDD3030KFM-G21120606 12 16 VCSLSA10LDD3030KFM-G21120606 12 17 VCSLSA10LDD3030KFM-G21120606 12 17 VCSLSA10LDD3030KFM-G21120606 12	4 RZR-PLED-VSQ-N-80LED-525mA-40 25 270 5 VCSLSA10LDD3030KFM-G21120606 12 180.426 6 VCSLSA10LDD3030KFM-G21120606 12 180.426 7 VCSLSA10LDD3030KFM-G21120606 12 180.426 8 VCSLSA10LDD3030KFM-G21120606 12 359.737 9 VCSLSA10LDD3030KFM-G21120606 12 359.737 10 VCSLSA10LDD3030KFM-G21120606 12 359.737 10 VCSLSA10LDD3030KFM-G21120606 12 359.737 10 VCSLSA10LDD3030KFM-G21120606 12 90.573 12 VCSLSA10LDD3030KFM-G21120606 12 90.573 12 VCSLSA10LDD3030KFM-G21120606 12 90.573 15 VCSLSA10LDD3030KFM-G21120606 12 90.573 15 VCSLSA10LDD3030KFM-G21120606 12 90.573 16 VCSLSA10LDD3030KFM-G21120606 12 270 17 VCSLSA10LDD3030KFM-G21120606 12 270 17 VCSLSA10LDD3030KFM-G21120606 12 270 17 VCSLSA10LDD3030KFM-G21120606 12 270

e	edule - Part numbers are provided by the manufacturer and are only intended to be used as a reference to output and optics used.											
	Qty	Tag	Arrangement	Luminaire	Arr. Lum.	Luminaire Watts	Arr. Watts	LLF	Manufacturer	Description		
				Lumens	Lumens							
	12	W1	Single	2972	2972	35.9	35.9	0.900	СТ	VCSLSA10LDD3030KFM		
	4	R1	Back-Back	19477	38954	129.4	258.8	0.900	U.S. ARCHITECTURAL LIGHTING	RZR-PLED-VSQ-N-80LED-525mA-40K		

NOTES

PG-ENLIGHTEN IS NEITHER LICENSED NOR INSURED TO DETERMINE CODE COMPLIANCE. CODE COMPLIANCE REVIEW BY OTHERS.

ANY VARIANCE FROM REFLECTANCE VALUES, OBSTRUCTIONS, LIGHT LOSS FACTORS OR DIMENSIONAL DATA WILL AFFECT THE ACTUAL LIGHT LEVELS OBTAINED. THIS ANALYSIS IS A MATHEMATICAL MODEL AND CAN BE ONLY AS ACCURATE AS IS PERMITTED BY THE THIRD-PARTY SOFTWARE AND THE IES STANDARDS USED. FIXTURE TYPES AND QUANTITIES MAY CHANGE BASED ON UNKNOWN OBSTRUCTIONS OR FIELD CONDITIONS. THESE CHANGES MAY RESULT IN AN INCREASED QUANTITY OF FIXTURES. FIXTURE TYPES AND QUANTITIES BASED ON PROVIDED LAYOUT AND DRAWINGS ARE FOR REFERENCE ONLY. TYPES AND QUANTITIES MAY CHANGE WITH FUTURE REVISIONS.



Luminair	e Location Summary	
LumNo	Label	Mtg Ht
1	RZR-PLED-VSQ-N-80LED-525mA-40	25
2	RZR-PLED-VSQ-N-80LED-525mA-40	25
3	RZR-PLED-VSQ-N-80LED-525mA-40	25
4	RZR-PLED-VSQ-N-80LED-525mA-40	25
5	VCSLSA10LDD3030KFM-G21120606	12
6	VCSLSA10LDD3030KFM-G21120606	12
7	VCSLSA10LDD3030KFM-G21120606	12



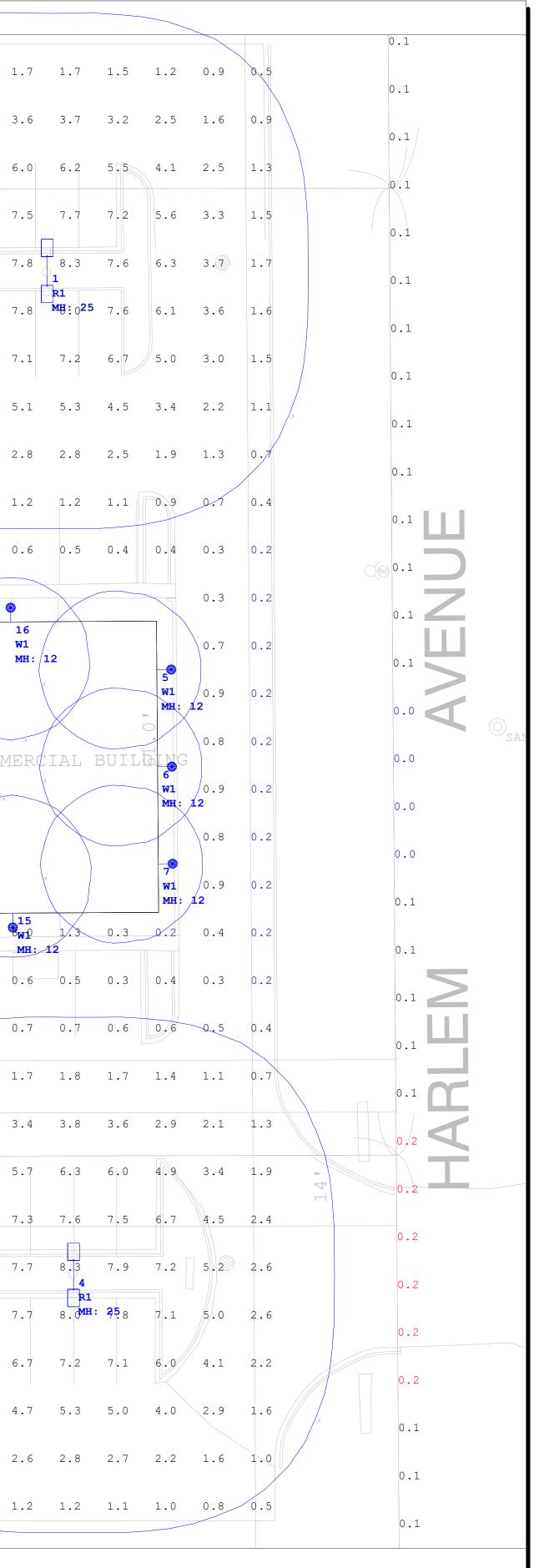
PROJECT NAME:		
BRIDGE - 21420 S HARLEM FRANKFORT, IL		
CLIENT NAME:	PG CONTACT:	DRAWN BY:
	Jim Sychta	Josh Burge
Patrick W. McCartv. Jr - PWM ARCHITECTURE II C.	jim.sychta@pg-enlighten.com	Josh.burge@pg-enlighten.com
)	708.826.3600	847.228.1199

Date:4/6/2023

Page 1 of 2

0.1						_			
		.5					.5		
0.1	0.3 0.	6 0.9	1.2 1.5	1.0	1.5 1.4	1.2	1.2 1.3	1.5	1.7
0.1	0.5 1.	1 1.8	2.6 3.2	2.1	3.2 2.7	2.3 2	2.1 2.5	3.1	3.6
0.1	0.7 1.	6 3.0	4.4 5.6	6.0 5	5.5 4.4	3.5	3.2 3.9	5.1	6.0
	0.9 2.	0 4.0	6.2 7.4	7.6	7.3 6.1	4.5	4.0 5.1	6.7	7.5
TT 0.1 0.1	0.9 2.	2 4.6	6.9 7.8	8.3	7.8 6.9	5.1 4	4.4 5.7	7.3	7.8
0.1 SAN	.5	2 4.5		2	.5				
0.1							4.3 5.6		
0.1	0.9 2.	0 3.8	5.9 7.2	7.4	.1 5.8	4.3	3.8 4.6	6.2	7.1
0.1	0.7 1.	6 2.8	4.1 5.2	5.6 5	5.0 4.1	3.2 2	2.9 8.4	4.2	5.1
0.1	0,6 1.	2 1.9	2.4 2.9	1.9 2	2.8 2.4	2.0 1	1.8 2.0	2.4	2.8
	0.5	4 2.2	1.6 1.4	0.9		1.1	1.0 1.0	1.2	1.2
0.1		© 12 W1	0.5	0.3 ().6 0.6	0.6 (0.6 0.5	0.6	0.6
0.1		WI MH: 12							
0.1						1750.8' w1			16
0.1	8	.5				W1 MH: 12			W1 MH :
0.1	W1 MH: 12						/		
C ET 0.1	6.00	5				1 STOR	Y BRIC	k comm	IER
0.1	9 W1 MH: 12	.5			.5	9,196			
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0.1	W1 MH: 12				5 4 5	150.9'			15
0.1	W1 MH: 12 1.0 00.		14 W1 1.5 MH: 12			MH: 12	0.6 0.4		15 w1 MH
0.1	W1 MH: 12					MH: 12	0.6 0.4 0.5 0.4		
0.1	W1 MH: 12 1.0 00.	2 0.4	MH: 12	0.4 (11 W1 5.3 MH: 12 0.6	0.5 0.4	0.5	MH
0.1 0.0 10"	W1 MH: 12 1.0 0.2 0.2 0.	2 0.4 2 0.4	MH: 12 0.6 0.5	0.4 (0.3 0.6 0.5 0.7	11 W1 5.3 MH: 12 0.6 0.7	0.5 0.4	0.5	MH 0.6
0.1 0.0 10" 0.0 0.0	W1 MH: 12 1.0 0.2 0.2 0.2	2 0.4 2 0.4 4 0.7	MH: 12 06 05 05 06	0.4 (0.7 (1.7 (0.3 0.6 0.5 0.7	11 W1 5.3 MH: 12 0.6 0.7 1.6	0.5 0.4	0.5	мн 0.6 0.7
	W1 MH: 12 1.0 0.2 0.2 0.2 0.2 0.2 0.2	2 0.4 2 0.4 4 0.7 6 1.2	MH: 12 0.6 0.5 0.5 0.6 1.1 1.4	0.4 (0.7 (1.7 ; 3.5 ;	0.3 0.5 0.7 8 1.7	11 w1 5.3 MH: 0.6 0.7 1.6 3.0	0.5 0.7 1.4 1.4	0.5 0.7 1.5 2.9	мн 0.6 0.7 1.7
0.1 0.0 10' 0.0 0.0 0.0	W1 MH: 12 1.0 0. 0.2 0. 0.2 0. 0.2 0. 0.3 0.	2 0.4 2 0.4 4 0.7 6 1.2 8 1.7	MH: 12 0.6 0.5 0.5 0.6 1.1 1.4 2.0 2.8	0.4 (0.7 (1.7 : 3.5 : 5.9 (0.3 0.6 0.5 0.7 8 1.7 3.8 3.5	11 w1 5.3 MH: 0.6 0.7 1.6 3.0 4.7	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0.5 0.7 1.5 2.9 4.6	мн 0.6 0.7 1.7 3.4
	W1 MH: 12 1.0 0. 0.2 0. 0.2 0. 0.2 0. 0.3 0. 0.3 0. STM STM	2 0.4 2 0.4 4 0.7 6 1.2 8 1.7 9 2.1	MH: 12 0.6 0.5 0.5 0.6 1.1 1.4 2.0 2.8 3.2 4.7 4.2 6.4	0.4 0.7 1.7 3.5 5.9 7.5	0.3 0.6 0.5 0.7 0.8 1.7 3.8 3.5 5.2 5.8 7.7 7.5	11 w1 0.6 0.6 0.7 1.6 3.0 4.7 6.4	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0.5 0.7 1.5 2.9 4.6 6.1	 MH 0.6 0.7 1.7 3.4 5.7 7.3
0.1 0.0 10" 0.0 0.0 0.0 0.0 0.1 TTO.1 TT	W1 MH: 12 1.0 0.2 0.2 0.2 0.2 0.2 0.3 0.3 0.3 0.3 0.3 0.3	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	MH: 12 06 05 0.5 0.6 1.1 1.4 2.0 2.8 3.2 4.7 4.2 6.4 4.7 7.0	0.4 (0.7 (1.7 : 3.5 : 5.9 (7.5 : 7.8 3	0.3 0.6 0.5 0.7 0.8 1.7 3.8 3.5 5.2 5.8 7.7 7.5 3.4 7.8 1 1	11	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0.5 0.7 1.5 2.9 4.6 6.1 6.8	 MH 0.6 0.7 1.7 3.4 5.7 7.3 7.7
	W1 MH: 12 1.0 0. 0.2 0. 0.2 0. 0.2 0. 0.3 0. 0.3 0. STM STM	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	MH: 12 0.6 0.5 0.5 0.6 1.1 1.4 2.0 2.8 3.2 4.7 4.2 6.4	0.4 (0.7 (1.7 : 3.5 : 5.9 (7.5 : 7.8 3	0.3 0.6 0.5 0.7 1.7 3.8 3.5 5.2 5.8 7.7 7.5 3.4 7.8	11	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0.5 0.7 1.5 2.9 4.6 6.1 6.8	 MH 0.6 0.7 1.7 3.4 5.7 7.3
0.1 0.0 10' 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	W1 MH: 12 1.0 0.2 0.2 0.2 0.2 0.2 0.3 0.3 0.3 0.3 0.3 0.3	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	MH: 12 06 05 0.5 0.6 1.1 1.4 2.0 2.8 3.2 4.7 4.2 6.4 4.7 7.0	0.4 0.7 1.7 3.5 5.9 7.5 7.8 7.8	0.3 0.6 0.5 0.7 0.8 1.7 3.8 3.5 5.2 5.8 7.7 7.5 3.4 7.8 1 1	11 0.3 MH: 12 0.6 0 0.6 0 1.6 0 3.0 2 4.7 3 6.4 5 7.1 5 6.9 5	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0.5 0.7 1.5 2.9 4.6 6.1 6.8 6.7	 MH 0.6 0.7 1.7 3.4 5.7 7.3 7.7
0.1 0.0 10" 0.0 0.0 0.0 0.0 0.0 0.0 0.1 10" 0.1 10" 0.1 0.1 0.1 0.1 0.1 0.1 0.0 0.0	W1 MH: 12 1.0 0.2 0.2 0.2 0.2 0.3	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	MH: 12 06 05 0.5 0.6 1.1 1.4 2.0 2.8 3.2 4.7 4.2 6.4 4.7 7.0 4.6 6.9	0.4 0.7 1.7 3.5 5.9 7.5 7.8 7.8 7.8 7.0	0.3 0.6 0.5 0.7 0.8 1.7 3.8 3.5 5.2 5.8 7.7 7.5 3.4 7.8 1 7.8 1 25 7.8	11 5.3 MH: 12 0.6 0 0.6 0 1.6 0 3.0 2 4.7 3 6.4 2 7.1 5 6.9 5 5.8 4	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0.5 0.7 1.5 2.9 4.6 6.1 6.8 6.7 5.5	 MH 0.6 0.7 1.7 3.4 5.7 7.3 7.7 7.7 7.7 6.7
0.1 0.0 10' 0.0 0.0 0.0 0.0 0.1 0.1 10' 0.1 10' 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	W1 MH: 12 1.0 0.2 0.2 0.2 0.2 0.3	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	MH: 12 0.6 0.5 0.7 0.6 1.1 1.4 2.0 2.8 3.2 4.7 4.2 6.4 4.7 7.0 4.6 6.9 3.8 5.8	0.4 0.7 1.7 3.5 5.9 7.5 7.8 7.8 7.8 7.0 4.9	0.3 0.6 0.5 0.7 0.8 1.7 3.8 3.5 5.2 5.8 7.7 7.5 3.4 7.8 1 7 9.3 6.9	11 5.3 W1 5.3 MH: 12 0.6 0 0.6 0 1.6 0 1.6 0 4.7 0 6.4 0 7.1 0 5.8 4 4.0 0	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0.5 0.7 1.5 2.9 4.6 6.1 6.8 6.7 5.5 5.5 3.8	 MH 0.6 0.7 1.7 3.4 5.7 7.3 7.7 7.7 7.7
0.1 0.0 10' 0.0 0.0 0.0 0.0 0.1 0.1 10' 0.1 10' 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.0 0.0	W1 MH: 12 1.0 0. 0.2 0. 0.2 0. 0.2 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.2 0.	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	MH: 12 0.6 0.5 0.7 0.6 1.1 1.4 2.0 2.8 3.2 4.7 4.2 6.4 4.7 7.0 4.6 6.9 3.8 5.8 2.7 3.9 1.6 2.1	0.4 0.7 1.7 3.5 5.9 7.5 7.8 7.8 7.8 7.8 7.8 7.0 4.9 5.2 7.0 4.9 5.2 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0	2.3 0.6 2.5 0.7 2.8 1.7 3.8 3.5 5.2 5.8 7.7 7.5 3.4 7.8 7.7 7.5 3.4 7.8 7.3 6.9 5.3 4.8 2.8 2.6	11 5.3 W1 5.3 MH: 12 0.6 0 0.6 0 1.6 0 3.0 2 4.7 3 6.4 2 7.1 5 6.9 5 5.8 4 4.0 3 2.3 2	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0.5 0.7 1.5 2.9 4.6 6.1 6.8 6.7 5.5 5.5 3.8 2.2	 MH 0.6 0.7 1.7 3.4 5.7 7.3 7.7 7.7 7.7 6.7 4.7 2.6
0.1 0.0 10' 0.0 0.0 0.0 0.0 0.1 0.1 10' 0.1 10' 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	W1 MH: 12 1.0 0. 0.2 0. 0.2 0. 0.2 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.3 0. 0.2 0.	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	MH: 12 0.6 0.5 0.7 0.6 1.1 1.4 2.0 2.8 3.2 4.7 4.2 6.4 4.7 7.0 4.6 6.9 3.8 5.8 2.7 3.9 1.6 2.1	0.4 0.7 1.7 3.5 5.9 7.5 7.8 7.8 7.8 7.8 7.8 7.0 4.9 5.2 7.0 4.9 5.2 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0	2.3 0.6 2.5 0.7 2.8 1.7 3.8 3.5 5.2 5.8 7.7 7.5 3.4 7.8 7.7 7.5 3.4 7.8 7.3 6.9 5.3 4.8 2.8 2.6	11 5.3 W1 5.3 MH: 12 0.6 0 0.6 0 1.6 0 3.0 2 4.7 3 6.4 2 7.1 5 6.9 5 5.8 4 4.0 3 2.3 2	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0.5 0.7 1.5 2.9 4.6 6.1 6.8 6.7 5.5 5.5 3.8 2.2	 MH 0.6 0.7 1.7 3.4 5.7 7.3 7.7 7.7 7.7 6.7 4.7 2.6

Luminaire Scho	Luminaire Schedule - Part numbers are provided by the manufacturer and are only intended to be used as a reference to output and optics used.											
Symbol	Qty	Tag	Arrangement	Luminaire	Arr. Lum.	Luminaire Watts	Arr. Watts	LLF	Manufacturer	Description		
				Lumens	Lumens							
—	12	W1	Single	2972	2972	35.9	35.9	0.900	СТ	VCSLSA10LDD3030KFM		
	4	R1	Back-Back	19477	38954	129.4	258.8	0.900	U.S. ARCHITECTURAL LIGHTING	RZR-PLED-VSQ-N-80LED-525mA-40K		

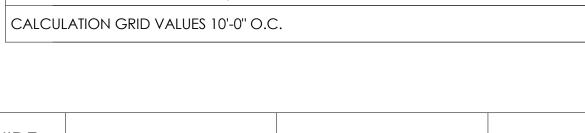


	PARKING	g lot design guide		D HORIZONTAL	MAINTAIN	ED VERTICAL	MAXI	IMUM
	Δ	PPLICATION AND TASK	AVERAGE (FC)	RANGE (FC)	AVERAGE (FC)	RANGE (FC) AVG:MIN	ναχινικ
		INCOVERED) ZONE 3 (URBAN		0.75 - 3	0.8	0.4 - 1.6	4:1	15:1
	PARKING (II	NCOVERED) ZONE 2 (SUBUR		0.5 - 2	0.6	0.3 - 1.2	4:1	15:1
					0.0	0.0 - 1.2	FOR SECUR	
		LDING EXTERIOR) ECOMMENDATIONS BASED ON		0.5 - 2	- DITION AND IFS I	- P-20-14	RAISE AVG.	. TO 3
		APPLICATIONS WILL DETERMINE	SPECIFIC RECOMMEN	NDATIONS. PLEASI	E REFER TO THE I	MOST RECENT H		
	MORE DETAIL	LED EVALUATION AND ADDITIO	INAL APPLICATIONS. I	HESE RECOMMEN	IDATIONS DO N		ANY APPLICA	BLE CODES
		LumNo L	ocation Summa abel	-	Α-40	Mtg Ht 25	Orient 270	Till
		LumNo L 1 R 2 R	. abel RZR-PLED-VSQ-N RZR-PLED-VSQ-N	-80LED-525m, -80LED-525m,	A-40	25 25	270 270	0
		LumNo L 1 R 2 R 3 R	. abel RZR-PLED-VSQ-N RZR-PLED-VSQ-N RZR-PLED-VSQ-N	-80LED-525m, -80LED-525m, -80LED-525m,	A-40 A-40	25 25 25	270 270 270	0 0 0
		LumNo L 1 R 2 R 3 R 4 R 5 V	. abel RZR-PLED-VSQ-N RZR-PLED-VSQ-N RZR-PLED-VSQ-N RZR-PLED-VSQ-N /CSLSA10LDD30	-80LED-525m, -80LED-525m, -80LED-525m, -80LED-525m, 30KFM-G2112	A-40 A-40 A-40 20606	25 25 25 25 12	270 270 270 270 270 180.426	0 0 0 0 0
		LumNo L 1 R 2 R 3 R 4 R 5 V 6 V	. abel RZR-PLED-VSQ-N RZR-PLED-VSQ-N RZR-PLED-VSQ-N RZR-PLED-VSQ-N /CSLSA10LDD30 /CSLSA10LDD30	-80LED-525m, -80LED-525m, -80LED-525m, -80LED-525m, 30KFM-G2112	A-40 A-40 A-40 20606 20606	25 25 25 25 12 12	270 270 270 270 180.426 180.426	0 0 0 0 0 0
		LumNo L 1 R 2 R 3 R 4 R 5 V 6 V 7 V	. abel RZR-PLED-VSQ-N RZR-PLED-VSQ-N RZR-PLED-VSQ-N RZR-PLED-VSQ-N /CSLSA10LDD30	-80LED-525m, -80LED-525m, -80LED-525m, -80LED-525m, 30KFM-G2112 30KFM-G2112	A-40 A-40 A-40 20606 20606 20606	25 25 25 25 12	270 270 270 270 270 180.426	0 0 0 0 0
		LumNo L 1 R 2 R 3 R 4 R 5 V 6 V 7 V 8 V 9 V	abel RZR-PLED-VSQ-N RZR-PLED-VSQ-N RZR-PLED-VSQ-N RZR-PLED-VSQ-N /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30	-80LED-525m, -80LED-525m, -80LED-525m, -80LED-525m, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112,	A-40 A-40 20606 20606 20606 20606 20606	25 25 25 12 12 12 12 12 12 12 12	270 270 270 270 180.426 180.426 180.426 359.737 359.737	0 0 0 0 0 0 0 0 0 0 0
		LumNo L 1 R 2 R 3 R 4 R 5 V 6 V 7 V 8 V 9 V 10 V	abel RZR-PLED-VSQ-N RZR-PLED-VSQ-N RZR-PLED-VSQ-N CSLSA10LDD30 CSLSA10LDD30 CSLSA10LDD30 CSLSA10LDD30 CSLSA10LDD30 CSLSA10LDD30	-80LED-525m, -80LED-525m, -80LED-525m, -80LED-525m, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112,	A-40 A-40 20606 20606 20606 20606 20606 20606 20606	25 25 25 12 12 12 12 12 12 12 12 12	270 270 270 270 180.426 180.426 180.426 359.737 359.737 359.737	0 0 0 0 0 0 0 0 0 0 0
		LumNo L 1 R 2 R 3 R 4 R 5 V 6 V 7 V 8 V 9 V 10 V 11 V	abel RZR-PLED-VSQ-N RZR-PLED-VSQ-N RZR-PLED-VSQ-N RZR-PLED-VSQ-N /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30	-80LED-525m, -80LED-525m, -80LED-525m, -80LED-525m, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112,	A-40 A-40 20606 20606 20606 20606 20606 20606 20606 20606	25 25 25 12 12 12 12 12 12 12 12	270 270 270 270 180.426 180.426 180.426 359.737 359.737	0 0 0 0 0 0 0 0 0 0
		LumNo L 1 R 2 R 3 R 4 R 5 V 6 V 7 V 8 V 9 V 10 V 12 V 14 V	abel RZR-PLED-VSQ-N RZR-PLED-VSQ-N RZR-PLED-VSQ-N CSLSA10LDD30 CSLSA10LDD30 CSLSA10LDD30 CSLSA10LDD30 CSLSA10LDD30 CSLSA10LDD30 CSLSA10LDD30 CSLSA10LDD30 CSLSA10LDD30	-80LED-525m, -80LED-525m, -80LED-525m, -80LED-525m, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112,	A-40 A-40 20606 20606 20606 20606 20606 20606 20606 20606 20606 20606	25 25 25 12 12 12 12 12 12 12 12 12 12 12 12 12	270 270 270 270 180.426 180.426 180.426 359.737 359.737 359.737 90.573 270 90.573	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
		LumNo L 1 R 2 R 3 R 4 R 5 V 6 V 7 V 8 V 9 V 10 V 11 V 12 V 14 V	abel RZR-PLED-VSQ-N RZR-PLED-VSQ-N RZR-PLED-VSQ-N RZR-PLED-VSQ-N /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30	-80LED-525m, -80LED-525m, -80LED-525m, -80LED-525m, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112,	A-40 A-40 A-40 20606 20606 20606 20606 20606 20606 20606 20606 20606 20606	25 25 25 12 12 12 12 12 12 12 12 12 12 12 12 12	270 270 270 270 180.426 180.426 180.426 359.737 359.737 359.737 359.737 90.573 270 90.573 90.573	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
ulation Summary		LumNo L 1 R 2 R 3 R 4 R 5 V 6 V 7 V 8 V 9 V 10 V 11 V 12 V 14 V 15 V	abel RZR-PLED-VSQ-N RZR-PLED-VSQ-N RZR-PLED-VSQ-N CSLSA10LDD30 CSLSA10LDD30 CSLSA10LDD30 CSLSA10LDD30 CSLSA10LDD30 CSLSA10LDD30 CSLSA10LDD30 CSLSA10LDD30 CSLSA10LDD30	-80LED-525m, -80LED-525m, -80LED-525m, -80LED-525m, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112,	A-40 A-40 20606 20606 20606 20606 20606 20606 20606 20606 20606 20606 20606 20606	25 25 25 12 12 12 12 12 12 12 12 12 12 12 12 12	270 270 270 270 180.426 180.426 180.426 359.737 359.737 359.737 90.573 270 90.573	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
		LumNo L 1 R 2 R 3 R 4 R 5 V 6 V 7 V 8 V 9 V 10 V 11 V 12 V 14 V 15 V 16 V 17 V	abel ZR-PLED-VSQ-N ZR-PLED-VSQ-N ZR-PLED-VSQ-N /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30	-80LED-525m, -80LED-525m, -80LED-525m, -80LED-525m, -30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112,	A-40 A-40 A-40 20606 20606 20606 20606 20606 20606 20606 20606 20606 20606 20606 20606 20606 20606 20606 Ain Avg /	25 25 25 25 12 12 12 12 12 12 12 12 12 12	270 270 270 270 180.426 180.426 180.426 359.737 359.737 359.737 359.737 90.573 270 90.573 90.573 270 270 270 270	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	CalcType	LumNo L 1 R 2 R 3 R 4 R 5 V 6 V 7 V 8 V 9 V 10 V 11 V 12 V 14 V 15 V 16 V	abel RZR-PLED-VSQ-N RZR-PLED-VSQ-N RZR-PLED-VSQ-N CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30	-80LED-525m, -80LED-525m, -80LED-525m, -80LED-525m, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112,	A-40 A-40 20606 20606 20606 20606 20606 20606 20606 20606 20606 20606 20606 20606 20606 20606	25 25 25 12 12 12 12 12 12 12 12 12 12	270 270 270 270 180.426 180.426 180.426 359.737 359.737 359.737 90.573 270 90.573 270 90.573 270 270 270 270 270	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
		LumNo L 1 R 2 R 3 R 4 R 5 V 6 V 7 V 8 V 9 V 10 V 11 V 12 V 14 V 15 V 16 V 17 V	abel ZR-PLED-VSQ-N ZR-PLED-VSQ-N ZR-PLED-VSQ-N /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30 /CSLSA10LDD30	-80LED-525m, -80LED-525m, -80LED-525m, -80LED-525m, -30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112, 30KFM-G2112,	A-40 A-40 A-40 20606 20606 20606 20606 20606 20606 20606 20606 20606 20606 20606 20606 20606 20606 20606 Ain Avg /	25 25 25 25 12 12 12 12 12 12 12 12 12 12	270 270 270 270 180.426 180.426 180.426 359.737 359.737 359.737 90.573 270 90.573 270 90.573 270 270 270 270 270	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

NOTES

PG-ENLIGHTEN IS NEITHER LICENSED NOR INSURED TO DETERMINE CODE COMPLIANCE. CODE COMPLIANCE REVIEW BY OTHERS.

ANY VARIANCE FROM REFLECTANCE VALUES, OBSTRUCTIONS, LIGHT LOSS FACTORS OR DIMENSIONAL DATA WILL AFFECT THE ACTUAL LIGHT LEVELS OBTAINED. THIS ANALYSIS IS A MATHEMATICAL MODEL AND CAN BE ONLY AS ACCURATE AS IS PERMITTED BY THE THIRD-PARTY SOFTWARE AND THE IES STANDARDS USED. FIXTURE TYPES AND QUANTITIES MAY CHANGE BASED ON UNKNOWN OBSTRUCTIONS OR FIELD CONDITIONS. THESE CHANGES MAY RESULT IN AN INCREASED QUANTITY OF FIXTURES. FIXTURE TYPES AND QUANTITIES BASED ON PROVIDED LAYOUT AND DRAWINGS ARE FOR REFERENCE ONLY. TYPES AND QUANTITIES MAY CHANGE WITH FUTURE REVISIONS.





BRIDGE - 21420 S HARLEM FRAN	KFORT, IL		
	RE	PG CONTACT:	DRAWN BY:
	- C	Jim Sychta	Josh Burge
	V IC	jim.sychta@pg-enlighten.com	Josh.burge@pg-enlighten.com
		708.826.3600	847.228.1199

Date:4/6/2023

PROJECT NAME:

Page 2 of 2

EXPEDITED AVAILABILITY QSR-PLED SPECIFICATIONS

OPTICAL HOUSING

Heavy cast low copper aluminum (A356 alloy; <0.2% copper) assembly with integral cooling fins. The Optical Panel mounting surface is milled flat (surface variance <± .003") to facilitate thermal transfer of heat to housing and cooling fins. Solid barrier wall separates optical and electrical compartments. The optical and electrical compartments are integrated to create one assembly. Minimum wall thickness is .188".

ELECTRICAL HOUSING w/ INTEGRATED ARM

Heavy cast low copper aluminum (A356 alloy; <0.2% copper) assembly with integral cooling ribs surrounding the electrical compartment and a flat surface on the top of the arm to accommodate a photocell receptacle. Solid barrier wall separates optical and electrical compartments. The optical compartment and electrical compartment with the integrated support arm combine to create one assembly. Minimum wall thickness is .188". Cast and hinged driver assembly cover is integrated with wiring compartment cover.

PLED" OPTICS

Emitters (LED's) are arrayed on a metal core PCB panel with each emitter located on a copper thermal transfer pad and enclosed by an LED refractor. LED optics completely seal each individual emitter to meet an IP66 rating. In asymmetric distributions, a micro-reflector inside the refractor re-directs the house side emitter output towards the street side and functions as a house side shielding element. Refractors are injection molded H12 acrylic. Each LED refractor is sealed to the PCB over an emitter and all refractors are retained by an aluminum frame. Any one Panel, or group of Panels in a luminaire, have the same optical pattern. LED refractors produce standard site/area distributions. Panels are field replaceable and field rotatable in 90° increments. LED's are 3000K or 4000K CCT.

LED DRIVER(S)

Constant current electronic with a power factor of >.90 and a minimum operating temperature of -40°F/-40°C. Driver(s) is/are UL and cUL recognized and mounted directly against the Electrical Housing to facilitate thermal transfer, held down by universal clamps to facilitate easy removal. In-line terminal blocks facilitate wiring between the driver and optical arrays. Drivers accept an input of 120-277V, 50/60Hz or 347V-480V, 50,60Hz. (0 - 10V dimmable driver is standard. Driver has a minimum of 3KV internal surge protection. Luminaire supplied with 20KV surge protector for field accessible installation.)

FINISH

Electrostatically applied TGIC Polyester Powder Coat on substrate prepared with 20 PSI power wash at 140°F. Four step media blast and iron phosphate pretreatment for protection and paint adhesion. 400°F bake for maximum hardness and durability. PROJECT NAME:

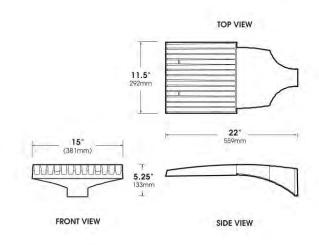
PROJECT TYPE:



QSR-LED

(UL)us

PATENT PENDING





2021006

LIGHTING

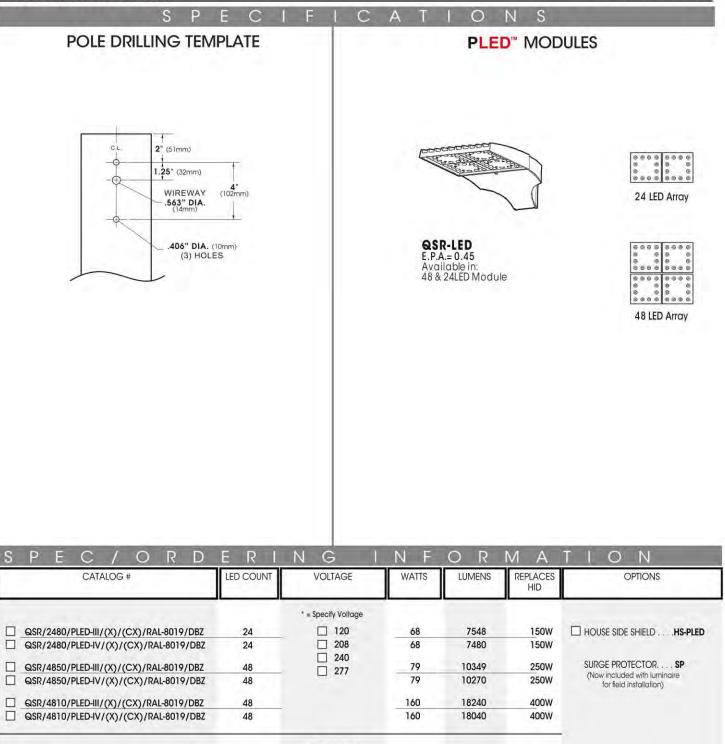
U.S. ARCHITECTURAL



660 West Avenue O, Palmdale, CA 93551 Phone (661) 233-2000 Fax (661) 233-2001 www.usaltg.com

QSR - PLED

PROMOTION



		* = Specify Voltage			
QSR/2480/PLED-III/(X)/(CX)/RAL-8019/DBZ	24	347	68	7548	150W
QSR/2480/PLED-IV/(X)/(CX)/RAL-8019/DBZ	24	480	68	7480	150W
QSR/4850/PLED-III/(X)/(CX)/RAL-8019/DBZ	48		79	10349	250W
QSR/4850/PLED-IV/(X)/(CX)/RAL-8019/DBZ	48		79	10270	250W
QSR/4810/PLED-III/(X)/(CX)/RAL-8019/DBZ	48		160	18240	400W
QSR/4810/PLED-IV/(X)/(CX)/RAL-8019/DBZ	48	-	160	18040	400W

NOTE:

(X) = indicate voltage (CX) = WW (3000K) or NW (4000K)

U.S. Architectural Lighting 660 West Avenue O. Palmdole, CA 93551 Phone (661) 233-2000 Fax (661) 233-2001 www.usaltg.com 9



EXPEDITED AVAILABILITY Q S R - P L E D W/ POLE RATED* FOR 100MPH (*AASHTO 2000)

SPECIFICATIONS

FIXTURE

HOUSING

Heavy cast low copper aluminum (A356 allay: <0.2% copper) assembly with integral cooling fins. The Optical Panel mounting surface is milled flat (surface variance <± .003") to facilitate thermal transfer of heat to housing and cooling fins. Solid barrier wall separates optical and electrical compartments. The optical and electrical compartments are integrated to create one assembly. Minimum wall thickness is. 188"

ARM MOUNTING

Heavy cast low copper aluminum (A356 alloy: <0.2% copper) assembly with integral cooling ribs surrounding the electrical compartment and a flat surface on the top of the arm to accommodate a photocell receptacte. Solid barrier wall separates optical and electrical compartments The optical compartment and electrical compartments in the integrated support arm combine to create one assembly. Minimum wall thickness is 188°. Cast and hinged driver assembly cover is integrated with wring compartment cover.

PLED" OPTICS

Emlitters (LED's) are arrayed on a metal core PCB panel with each emlitter located on a copper thermal transfer pad and enclosed by an LED refractor. LED optics completely seal each individual emitter to meet an IP66 rating. A micro-reflector inside the refractor re-directs the house side emlitter output towards the street side and functions as a house side shielding element. Refractors are injection molded H12 acrylic. Each LED refractor is sealed to the PCB over an emlitter and all refractors are retained by an aluminum frame. Any one Panel, or group of Panels in a luminaire, have the same optical patiern. LED refractors produce Type III and Type IV site/area distributions. Panels are field replaceable and field rotatoble in 90° increments. LED's are 3000K or 4000K CCT.

LED DRIVERS

Constant current electronic with a power factor of >.90 and a minimum operating temperature of -40°F. Driver(s) Is/are UL and cUL recognized and mounted directly against the Electrical Housing to facilitate thermal transfer, held down by universal clamps to facilitate easy removal. In-line terminal blocks facilitate wiring between the driver and optical arrays. Drivers accept an input of 120-277V, 50/60Hz or 347V-480V, 50.60Hz. (0 - 10V dimmable driver is standard Driver has a minimum of 3KV internal surge protection. Luminaire supplied with 20KV surge protector for field accessible installation.)

POLE

SHAFT

4" square, fabricated from high grade structural steel tube. Shaft contarms to ASTM-A-501 - 58 specifications, Meets or exceeds minimum yield strength of 46,000 p.s.. Wall thickness 11 Ga. (.120 wall), Reinforced hand hole is furnished, with cover, shaft is turnished with ground lug located inside pole on wall opposite hand hole.

BASE PLATE

Fabricated from structural quality hot rolled steel. Meets or exceeds minimum yield strength of 36,000 p.s. i base telescopes and is circumferentially welded to pole shaft. Slotted bolt hales provide 1 * flexibility on either side of bolt circle centerline.

ANCHORAGE

(4) anchor bolts fabricated from hol rolled sleet bar, minimum yield strength of 50,000 p.s.t. bolts have "L" bend on one end and are threaded on the other end. Bolts are fully galvanized and are furnished with two nuts and two washers.

BASE COVER

Fabricated from heavy gauge quality carbon steel. Two piece cover conceats base.

HMISH (Applies to Luminaire and Pole)

Electrostatically applied TGIC Polyester Powder Coat on substrate prepared with 20 PSI power wash at 140°F Four step sand blast and iron phosphate pretreatment for protection and paint adhesion. 400°F bake for maximum hardness and durability. Smooth linish is standard.

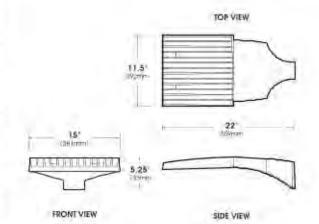
U.S. Architectural Lighting

A60'Wmst Wentuer CL Parimitalei CA 93571 Phone (abl | 2382060 Fax (de1) 2343851 www.intelg.com PROJECT NAME:

FIXTURE TYPE:









QSR - PLED	~ ^		-	-	PRO	MOTION
S P E C I F I O POLE	- A		D N PLED	S MODI	JLES	
Hand Height Heig	"Dia.	OSR- E.F.A.= Availa 48 & 24	LED B.45 ble in LED Moduli			24 LED Array 48 LED Array
SPEC/ORDERING Maximum SPEC/ORDERING Maximum POLE CATALOG * 15'0'- 4" Sq - 11Ga SNTS-154-11/QSR/2480/PLED-HI/(X)/(CX)/RAL-8019/DBZ 15'0'- 4" Sq - 11Ga SNTS-154-11/QSR/2480/PLED-HI/(X)/(CX)/RAL-8019/DBZ 20'0'- 4" Sq - 11Ga SNTS-154-11/QSR/2480/PLED-HI/(X)/(CX)/RAL-8019/DBZ 20'0'- 4" Sq - 11Ga SNTS-204-11/QSR/4850/PLED-HI/(X)/(CX)/RAL-8019/DBZ	VOLTAGE	E O WATTS 68 68 79	R M LUMENS 7548 7480 10349	A T REPLACES HID 150W 150W 250W	LED COUNT 24 24 48	
200°-4° Sq - 11Ga SNTS-204-11/QSR/4850/PLED-IV/(X)/(CX)/RAL-8019/DBZ 25'0°-4° Sq - 11Ga SNTS-204-11/QSR/4850/PLED-IV/(X)/(CX)/RAL-8019/DBZ 25'0°-4° Sq - 11Ga SNTS-254-11/QSR/4810/PLED-IV/(X)/(CX)/RAL-8019/DBZ 25'0°-4° Sq - 11Ga SNTS-254-11/QSR/4810/PLED-IV/(X)/(CX)/RAL-8019/DBZ	277	79 160 160	10270 18240 18040	250W 400W 400W	48 48 48 48	SP (New included with continent for their instaliation)
15'0'- 4" Sq - 11Ga SNTS-154-11/QSR/2480/PLED-III/(X)/(CX)/RAL-8019/DBZ 15'0'- 4" Sq - 11Ga SNTS-154-11/QSR/2480/PLED-IV/(X)/(CX)/RAL-8019/DBZ 20'0'- 4" Sq - 11Ga SNTS-204-11/QSR/4850/PLED-III/(X)/(CX)/RAL-8019/DBZ 20'0'- 4" Sq - 11Ga SNTS-204-11/QSR/4850/PLED-III/(X)/(CX)/RAL-8019/DBZ	* = Specity Willage 347 480	68 68 79	7548 7480 10349 10270	150W 150W 250W	24 24 48 48	

25'0"- 4" Sq - 11Ga SNTS-254-11/QSR/4810/PLED-III/(X)/(CX)/RAL-8019/DBZ 25'0"- 4" Sq - 11Ga SNTS-254-11/QSR/4810/PLED-IV/(X)/(CX)/RAL-8019/DBZ

NOTE:

(X) = indicate voltage (CX) = WW (3090K) or NW (4000K)

U.S. Architectural Lighting

ced West Agence D, Parmane, CA 93551 Fridre (c61), 237 2000 Fock651), 233 2011 www.au310.com



18240

18040

400W

400W

48

48

160

160



EXPEDITED AVAILABILITY QSR-PLED TWIN ASSEMBLY w/ POLE RATED* FOR 100MPH ('AASHTO 2000) PEC

C

F. 1

LIXTURE

HOUSING

S

Heavy cast low copper aluminum (A356 alloy; <0.2% copper) assembly with integral cooling fins. The Optical Panel mounting surface is milled that (surface variance <= .003") to facilitate thermal transfer of heat to housing and cooling fins. Solid barrier wall separates optical and electrical compartments The optical and electrical compartments are integrated to create one assembly. Minimum wall thickness is 188"

A

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N

S

ARM MOUNTING

Heavy cast low copper aluminum (A356 alloy; <0.2% copper) assembly with integral cooling ribs surrounding the electrical compartment and a bat surface on the top of the arm to accommodate a photocell receptable. Solid barrier wall separates optical and electrical compartments. The optical compartment and electrical compartment with the integrated support arm combine to create one assembly. Minimum wall thickness is .188". Cast and hinged driver assembly cover is integrated with wiring compartment cover.

PLED" OPTICS

Emitters (LED's) are arrayed on a metal care PCB panel with each emitter located on a copper thermal transfer pad and enclosed by an LED retractor. LED optics completely seal each individual emitter to meet an IP66 rating. A micro-reflector inside the refractor re-directs the house side emliter autput towards the street side and functions as a house side shielding element. Refractors are injection molded H12 acrylic. Each LED refractor is sealed to the PCB over an emitter and all retractors are retained by an aluminum frame. Any one Panel, or group of Panels in a luminaire, have the same optical pattern. LED refractors produce Type III and Type IV site/area distributions. Panels are field replaceable and field rotatable in 90° increments. LED's are 3000K or 4000K CCT.

LED DRIVERS

Constant current electronic with a power factor of > 90 and a minimum operating temperature of -40°F Driver(s) is/are UL and cUL recognized and mounted directly against the Electrical Housing to facilitate thermal transfer, held down by universal clamps to facilitate easy removal. In-line terminal blocks facilitate wiring between the driver and optical arrays. Drivers accept an input of 120-277V, 50/60Hz or 347V-480V, 50,60Hz, (0 - 10V dimmable driver is standard. Driver has a minimum of 3KV internal surge protection. Luminaire supplied with 20KV surge protector for field accessible installation.)

POLE

SHAFT

4" square, tabricated from high grade structural steel tube. Shaft conforms to ASTM-A-501 - 68 specifications. Meets or exceeds minimum yield strength of 46,000 p.s.i. Wall thickness 11 Ga. (120 wall), Reinforced hand hole is lurnished with cover, shall is lurnished with ground lug located inside pole on wall opposite hand hole.

BASE PLATE

Fabricated from structural quality hot rolled steel. Meets or exceeds minimum yield strength of 36,000 p.s.i. base telescopes and is circumferentially welded to pole shaft. Slotted bolt holes provide 1.* flexibility. on either side of bolt circle centerline.

ANCHORAGE

(4) anchor bolts fabricated from hot rolled steel bar minimum yield strength of 50,000 p.s.i. bolts have 'L' bend on one end and are threaded on the other end. Bolts are fully galvanized and are furnished with two nuts and two washers.

BASE COVER

Fabricated from heavy gauge quality carbon steel. Two piece cover conceals base.

HTMISH (Applies to Luminative and Pole)

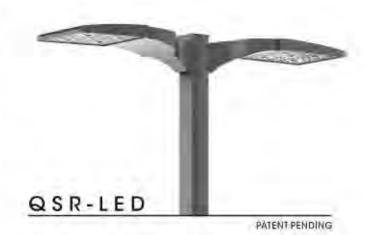
Electrostatically applied TGIC Polyester Powder Coal on substrate prepared with 20 PSI power wash at 140°F. Four step sand blast and iron phosphate pretreatment for protection and paint adhesion. 400°F bake for maximum hardness and durability Smooth finish is standard.

U.S. Architectural Lighting

Add West Wenter C. Parmage C.# 93051 Promit (Add) 233/2007 Fox (Add) 733/2007 main.

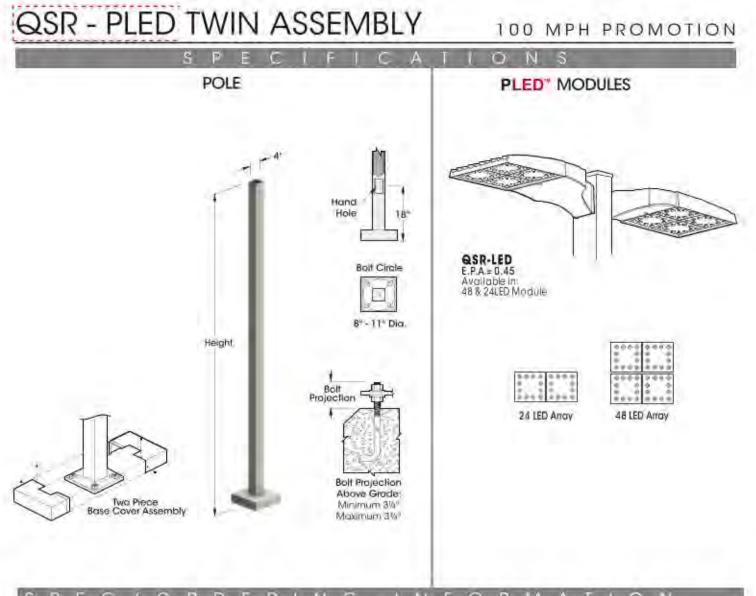
PROJECT NAME:

FIXTURE TYPE:



TOP VIEW 11.5 22 15 509mm CHLIMM 5.25 A. FRONT VIEW SIDE VIEW





POLE	CATALOG #	VOLTAGE	WATIS	LUMENS	REPLACES	LED	OPTION5
		-Specify Valinge		Lamons Pér faitan			
5'0'- 4" Sq - 11Ga	SNTS-154-11-2180/QSR/2480/PLED-III/(X)/(CX)/RAL-8019/DBZ	120	68	7548	150W	.24	HOUSE SIDE SHIELD
5'0"- 4" Sq - 11Ga	SNTS-154-11-2180/QSR/2480/PLED-IV/(X)/(CX)/RAL-8019/DBZ	208	68	7480	150W	24	HS-PLE
0'0'- 4' Sq - 11Ga	SNTS-204-11-2180/QSR/4850/PLED-III/(X)/(CX)/RAL-8019/DBZ	240	79	10349	250W	48	SURGE PROTECTOR
10'0'- 4' Sq - 11Ga	SNTS-204-11-2180/QSR/4850/PLED-IV/(X)/(CX)/RAL-8019/DBZ	L 2/1	79	10270	250W	48	(New included with k resince
15'0'- 4' Sq - 11Ga	SNTS-254-T1-2180/QSR/4810/PLED-III/(X)/(CX)/RAL-8019/DBZ		160	18240	400W	48	lar field (natakalian)
25'0'- 4" Sq - 11Ga	SNTS-254-11-2180/QSR/4810/PLED4V/(X)/(CX)/RAL-8019/DBZ		160	18040	400W	48	
		* ± Specify Vinlage					
5'0'- 4' Sq - 11Go	SNTS-154-11-2180/QSR/2480/PLED-III/(X)/(CX)/RAL-8019/D8Z	347	68	7548	150W	24	
5'0"- 4" Sg - 11Ga	SNTS-154-11-2180/QSR/2480/PLED-IV/(X)/(CX)/RAL-8019/DBZ	480	68	7480	150W	24	
0'0'- 4' Sg - 11Ga	SNTS-204-11-2180/@SR/4850/PLED4#/(X)/(CX)/RAL-8019/DBZ		79	10349	250W	48	
20'0"- 4" Sq - 11Ga	SNTS-204-11-2180/QSR/4850/PLED-IV/(X)/(CX)/RAL-8019/DBZ		79	10270	250W	48	
15'0'- 4" Sq - 11Ga	SNTS-254-11-2180/QSR/4810/PLED-III/(X)/(CX)/RAL-8019/DBZ		160	18240	400W	48	
25'0"- 4" Sq - 11Ga	SNTS-254-11-2180/QSR/4810/PLED-W/(X)/(CX)/RAL-8019/D8Z		160	18040	400W	48	
	NOTE						
	(X) = indicate voltage (CX) = WW (3000K) or NW (4000K)						

U.S. Architectural Lighting

(cd0 Week Aurona ID, Panintatio, 23, 9365) Fhome(cd.), 239/2000 Econol(cd.), 239/2011 www.wasta.com

2

U.S. ARCHITECTURAL

LIGHTING

EXPEDITED AVAILABILITY R W/ POLE RATED* FOR 140MPH (*AASHTO 2000)

ECIFICATIONS S

FIXTURE

HOUSING

Heavy cast law capper aluminum (A356 alloy: <0 2% capper) assembly with integral cooling fins. The Optical Panel mounting surface is milled flat (surface variance <± 003") to facilitate thermal transfer of heat to housing and cooling. fins. Solid barrier wall separates optical and electrical compartments. The optical and electrical compartments are integrated to create one assembly. Minimum wall thickness is .188".

ARM MOUNTING

Heavy cast low copper aluminum (A356 alloy: <0.2% copper) assembly with integral cooling ribs surrounding the electrical comportment and a flat surface on the top of the arm to accommodate a photocell receptacle. Solid barrier wall separates optical and electrical compartments. The optical compartment and electrical compartment with the integrated support arm combine to create one assembly Minimum wall thickness is ,188". Cast and hinged driver assembly cover is integrated with wiring compartment cover

PLED" OPTICS

Emitters (LED's) are arrayed on a metal core PCB panel with each emitter located on a copper thermal transfer pad and enclosed by an LED refractor. LED optics completely seal each individual emitter to meet an IP66 rating. A micro-reflector inside the refractor re-directs the house side emilter autput towards the street side and functions as a house side shielding element. Refractors are injection molded H12 acrylic. Each LED retractor is sealed to the PCB over an emitter and all retractors are retained by an aluminum frame. Any one Panel, or group of Panels in a luminaire, have the same optical pattern LED refractors produce Type III and Type IV site/area distributions. Panels are field replaceable and field rotatable in 90° increments LED's are 3000K or 4000K CCT.

LED DRIVERS

Constant current electronic with a power factor of >.90 and a minimum operating temperature of -40°F. Driver(s) is/are UL and cUL recognized and mounted directly against the Electrical Housing to facilitate thermal transfer. held down by universal clamps to facilitate easy removal. In-line terminal blocks facilitate wiring between the driver and optical arrays. Drivers accept an input of 120-277V 50/60Hz or 347V-480V, 50,60Hz. (0 - 10V dimmable driver is standard. Driver has a minimum of 3KV internal surge protection. Luminaire supplied with 20KV surge protector for field accessible installation.)

POLE

SHAFT

4° square, labricated from high grade structural steel tube. Shaft conforms to ASTM-A-501 - 68 specifications. Meets or exceeds minimum yield strength of 46,000 p.s., Wall thickness for 15'0° is 11Ga. (,120°). Wall thickness for 20'0° and 25'0' is 7Ga. (180°). Reinforced hand hole is furnished with cover, shaft is furnished with ground lug located inside pole on wall opposite hand hole.

BASE PLATE

Fabricated from structural quality hot rolled steel. Meets or exceeds minimum yield strength of 36,000 p.s.l. base telescopes and is circumferentially welded to pole shaft. Slotted bolt holes provide 1. "flexibility on either side of bolt circle centerline.

ANCHORAGE

(4) anchor bolts fabricated from hot rolled steel bar, minimum yield strength of 50,000 p.s.i bolts have "L" bend on one end and are threaded on the other end, Bolts are fully galvanized and are turnished with two nuts and two washers.

BASE COVER

Fabricated from heavy gauge quality carbon steel Two piece cover conceals base

FINISH (Applies to Luminaire and Pole).

Electrostatically applied TGIC Polyester Powder Coat on substrate prepared with 20 PSI power wash at 140°F. Four step sand blast and iron phosphate pretreatment for protection and paint adhesion. 400"F bake for maximum hardness and durability. Smooth finish is standard

U.S. Architectural Lighting

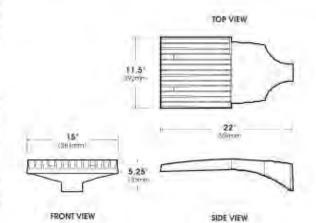
Additional Internae: C. Porimatale: C.M. 93051 Process: (Add.): 235/2007. Fox. (Add.): 233-2007 main.

PROJECT NAME:

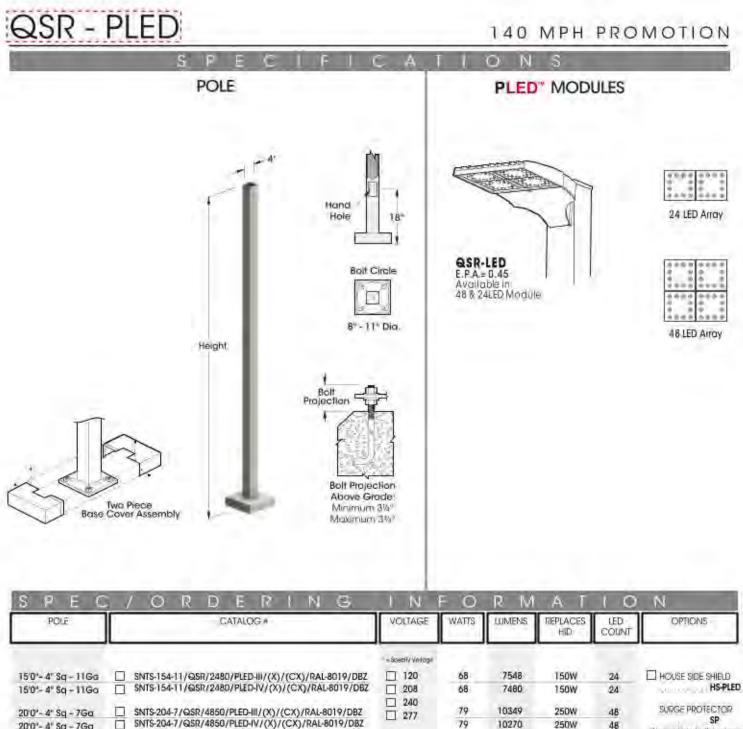
FIXTURE TYPE:



PATENT PENDING







Waw maked with kerningan

SP 48 tor belo (whakahan) 48 48

250W

400W

400W

160

160

18240

18040

Arendech	unit	And West Assessed D. Permitten (24, 9355)			į			U.S. ARCH	ITECTURAL
		NOTE: (X) = indicate valiage (CX) = WW (3000K) or NW (4000K)							
- 4" Sq - 7Ga		SNTS-254-7/QSR/4810/PLED-IV/(X)/(CX)/RAL-8019/DBZ			160	18040	400W	48	
- 4" Sq - 7Ga		SNTS-254-7/QSR/4810/PLED-III/(X)/(CX)/RAL-8019/DBZ			160	18240	400W	48	
- 4" Sq - 7Ga		SNTS-204-7/QSR/4850/PLED-IV/(X)/(CX)/RAL-8019/DBZ			79	10270	250W	48	
- 4" Sq - 7Ga		SNTS-204-7/QSR/4850/PLED-III/(X)/(CX)/RAL-8019/DBZ			79	10349	250W	48	
- 4" Sq - 11Ga		SNTS-154-11/QSR/2480/PLED-IV/(X)/(CX)/RAL-8019/DBZ	48	D	68	7480	150W	24	
- 4" Sq - 11Ga		SNTS-154-11/QSR/2480/PLED-III/(X)/(CX)/RAL-8019/DBZ	34	7	68	7548	150W	24	
			"=Shorty)	ndage					

U.S. Architectural Lighting

20'0'- 4' Sq - 7Ga

25'0"-4" Sq - 7Ga

25'0"- 4" Sq - 7Ga

15'0'-15'0"-20'0'-20'0"-25'0'-25'0"-

Phone (661) 2317/2000 Fox (451) 233/2001 www.imafta.com

SNTS-254-7/QSR/4810/PLED-III/(X)/(CX)/RAL-8019/DBZ

SNTS-254-7/QSR/4810/PLED-IV/(X)/(CX)/RAL-8019/DBZ

LIGHTING -----4----

EXPEDITED AVAILABILITY QSR-PLED TWIN ASSEMBLY w/ POLE RATED* FOR 140MPH (*AASHTO 2000)

SPECIFICATIONS

FIXTURE

HOUSING

Heavy cast low copper aluminum (A356 allay, <0.2% copper) assembly with integral cooling fins. The Optical Panel mounting surface is milled flat (surface variance <± .003*) to facilitate thermal transfer of heat to housing and cooling fins. Solid barrier wall separates optical and electrical compartments. The optical and electrical compartments are integrated to create one assembly. Minimum wall thickness is .188*

ARM MOUNTING

Heavy cast low copper aluminum (A356 alloy: <0.2% copper) assembly with integral cooling ribs surrounding the electrical compartment and a flat surface on the top of the arm to accommodate a photocell receptacle. Solid barrier wall separates optical and electrical compartments. The optical compartment and electrical compartment with the integrated support arm combine to create one assembly. Minimum wall thickness is .188°. Cast and hinged driver assembly cover is integrated with wiring compartment cover.

PLED OPTICS

Emillers (LED's) are arrayed on a metal care PCB panel with each emilter located on a copper thermal transfer pad and enclosed by an LED refractor. LED optics completely seal each individual emilter to meet an IP66 rating. A micro-reflector inside the refractor re-directs the house side emilter output towards the street side and functions as a house side shielding element. Refractors are injection molded H12 acrylic. Each LED refractor is sealed to the PCB over an emitter and all refractors are retained by an aluminum frame. Any one Panel, or group of Panels in a luminaire, have the same optical pattern LED refractors produce Type III and Type IV site/area distributions. Panels are field replaceable and field rotatable in 90° increments. LED's are 3000K or 4000K CCT.

LED DRIVERS

Constant current electronic with a power factor of > 90 and a minimum operating temperature of -40°F Driver(s) is/are UL and cUL recognized and mounted directly against the Electrical Housing to facilitate thermal transfer, held down by universal clamps to facilitate easy removal. In-line terminal blocks facilitate wiring between the driver and optical arrays. Drivers accept an input of 120-277V, 50/60Hz or 347V-480V, 50,60Hz. (0 - 10V dimmable driver is standard Driver has a minimum of 3KV internal surge protection. Luminaire supplied with 20KV surge protector for field accessible installation.)

POLE

SHAFT

4° squate, tobricated from high grade structural steel tube. Shaft conforms to ASTM-A-501 - 68 specifications. Meets or exceeds minimum yield strength of 46,000 p.s.l. Wall thickness for 15'0' is 11Ga. (120''). Wall thickness for 20'0' and 25'0' is 7Ga. (180'). Reinforced hand hole is furnished with cover, shaft is furnished with ground lug located inside pole on wall opposite hand hole.

BASE PLATE

Fabricated from structural quality hat rolled steel. Meets or exceeds minimum yield strength of 36,000 p.s i base telescopes and is circumferentially welded to pole shaft. Slotted bolt holes provide 1.1 flexibility on either side of bolt circle centerline.

ANCHORAGE

(4) anchor bolts tabricated from hot rolled steel bar, minimum yield strength of 50,000 p.s.i bolts have 'L' bend on one end and are threaded on the other end. Bolts are fully galvanized and are furnished with two nuts and two washers.

BASE COVER

Fabricated from heavy gauge quality carbon steel. Two piece cover conceals base

FINISH (Applies to Luminaire and Pole)

Electrostatically opplied TGIC Polyester Powder Coal on substrate prepared with 20 PSI power wash at 140°F. Four step sand blast and iron phosphate pretreatment for protection and paint adhesion. 400°F bake for maximum hardness and durability. Smooth finish is standard.

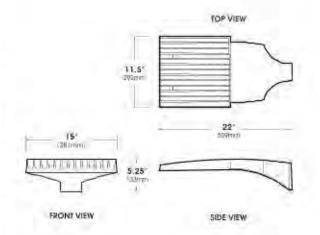
U.S. Architectural Lighting

Add Minist Wenter CL Parmissed C # 93511 Prisone (Add | 235/2060 Fox (Add) 233/2081 www.cristla.com PROJECT NAME:

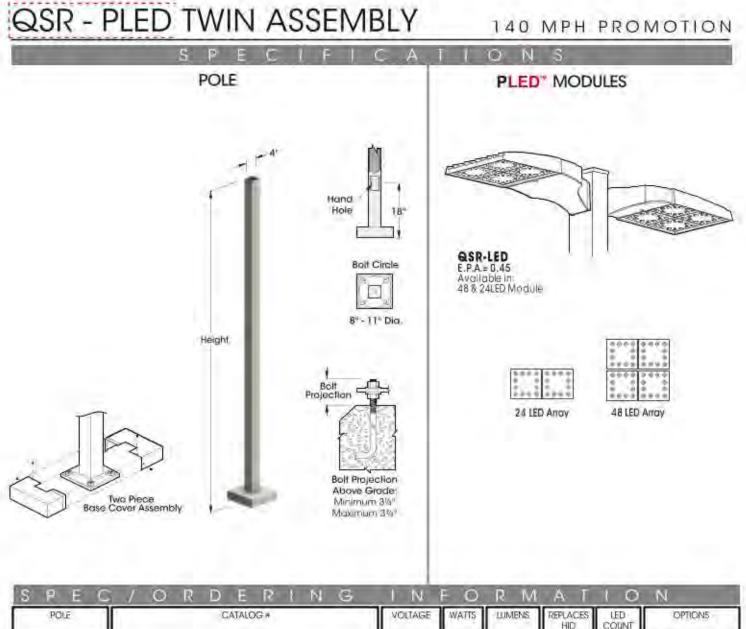
FIXTURE TYPE:



PATENT PENDING







					HID	COUNT	2.0500
		· - Specify Verlogi	1	Lumma Per Tishari			1.
15'0'- 4' Sq - 11Ga	SNTS-154-11-2180/QSR/2480/PLED-III/(X)/(CX)/RAL-8019/DBZ	□ 120	68	7548	150W	24	HOUSE SIDE SHIELD
15'0'- 4" Sq - 11Ga	SNTS-154-11-2180/QSR/2480/PLED4V/(X)/(CX)/RAL-8019/DBZ		68	7480	150W	24	HS-PLE
20'0'- 4' Sa - 7Ga	SNTS-204-7-2180/QSR/4850/PLED-III/(X)/(CX)/RAL-8019/DBZ	240	79	10349	250W	48	SURGE PROTECTOR
20'0'- 4' Sq - 7Ga	SNTS-204-7-2180/QSR/4850/PLED-IV/(X)/(CX)/RAL-8019/DBZ	LI 2//	79	10270	250W	48	(Now inclusion with a mices
25'0'- 4' Sq - 7Ga	SNTS-254-7-2180/QSR/4810/PLED-III/(X)/(CX)/RAL-8019/DBZ		160	18240	400W	48	lar biza instaliation)
25'0'- 4' Sq - 7Ga	SNTS-254-7-2180/QSR/4810/PLED-IV/(X)/(CX)/RAL-8019/D82		1.60	18040	400W	48	
		" = Stendy Vintage					
15'0'-4' Sq - 11Ga	SNTS-154-11-2180/QSR/2480/PLED-III/(X)/(CX)/RAL-8019/DBZ	347	68	7548	150W	24	
15'0'- 4' Sq - 11Ga	SNTS-154-11-2180/@SR/2480/PLED-IV/(X)/(CX)/RAL-8019/DBZ	480	68	7480	1.50W	24	
20'0'- 4' Sg - 7Ga	SNTS-204-7-2180/@SR/4850/PLED-III/(X)/(CX)/RAL-8019/DBZ		79	10349	250W	48	
20'0"- 4" Sq - 7Ga	SNTS-204-7-2180/QSR/4850/PLED-IV/(X)/(CX)/RAL-8019/DBZ		79	10270	250W	48	
25'0'- 4" Sq - 7Ga	SNTS-254-7-2180/QSR/4810/PLED-III/(X)/(CX)/RAL-8019/DBZ		160	18240	400W	48	
25'0'- 4' Sq - 7Ga	SNTS-254-7-2180/QSR/4810/PLED-IV/(X)/(CX)/RAL-8019/DBZ		160	18040	400W	48	

U.S. Architectural Lighting

rad Weel Agence D, Parmatel, CA 93551 Friorie (col.), 237/2000 Freekolt), 233/2011 www.kadtb.com 2

U.S. ARCHITECTURAL

LIGHTING



RECEIVED By Mike Schwarz at 5:25 pm, Jul 18, 2023

CATALOG NO.

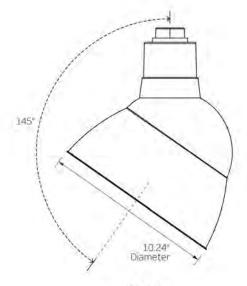
DATE

PROJECT

TYPE

VC SERIES | LED Vintage RLM: Angled Sign Lighter

- Classic style RLM Luminaires inspired by vintage fixtures and redesigned with the latest technology and materials
- Multiple Mounting Options for a wide range of applications
- Durable weather resistant Polyester Powder Coat Finishes, Electrostatically applied and Thermo-Cured



SA10 10 Inch Angled Sign Lighter

WATTAGE	10W	14W	18W	22W	36W				
LUMEN OUTPUT (3000K)1	950 Lm	1300 Lm	1650 Lm	2000 Lm	3000 Lm				
COLOR TEMPERATURE	2700K / 3000K / 3500K / 4000K								
CRI	90+								
COLOR CONSISTENCY	3-Step MacAdam Ellipse Tolerance, 3 SDCM								
INPUT POWER	120-277VAC 60Hz								
DIMMING TYPE	PE 0-10V Dimming								
AMBIENT OPERATING TEMP	-30°C (-22°F) to 4	5°C (113°F)							
E IISTINGS	cCSAus Listed to UL and CSA Standards; Suitable for Dry, Damp or Wet locations ² Can be used to comply with the 2019 Title 24 Part 6 JA8 High Efficacy LED Light Source Requireme Wet Location Pendants and Flush Mount Luminaires must be mounted under covered ceilings ²								
WARRANTY									
SYSTEM RATING	50,000 Hours @ 70% Lumen Maintenance								

1. Androumate Lumen would based on 3000K performance: see photometric lest results for additional information Sloped Feiling Pendants (HSM) only suitable for Dry of Damp Locations

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DATE

PROJECT

TYPE

VC SERIES | LED Vintage RLM: Angled Sign Lighter

ORDERING INFORMATION

Example Order: VCSLSA10LDD1630KLGN1 - S

VCSLSA10

1. Shade Size VCSLSA10 - 10 In.	2. LED Series LDD8 - 10W LDD12 - 14W LDD16 - 18W LDD20 - 22W LDD30 - 36W	Color Temp 27K - 2700K 30K - 3000K 35K - 3500K 40K - 4000K	3. Mounting FM - Flush Mount LSM6 ³ - 6 In. Stem Mount Pendant LSM12 ³ - 12 In. Stem Mount Pendant LSM24 ³ - 24 In. Stem Mount Pendant LSM36 ³ - 36 In. Stem Mount Pendant HSM6 ³ - 6 In. Stem Mount Pendant, Sloped Ceiling Canopy HSM12 ³ - 12 In. Stem Mount Pendant, Sloped Ceiling Canopy HSM24 ³ - 24 In. Stem Mount Pendant, Sloped Ceiling Canopy HSM36 ³ - 36 In. Stem Mount Pendant, Sloped Ceiling Canopy HSM36 ³ - 36 In. Stem Mount Pendant, Sloped Ceiling Canopy HSM36 ³ - 36 In. Stem Mount Pendant, Sloped Ceiling Canopy LGN1 ⁴ - Gooseneck Design 1 LGN2 ⁴ - Gooseneck Design 2 LGN3 ⁴ - Gooseneck Design 3 LGN4 ⁴ - Gooseneck Design 4 LGN5 ⁴ - Gooseneck Design 5	 4. Finish⁵ B - Jet Black G - Evergreen P - Sky White S - Vintage Steel CXXXX⁶ - Custom Finish Specify RAL Number

3. All Stems have 3/4-Inch NPT (National Pipe Taper) Threaded Ends-

4. See Page 4 for Gooseneck Design Options

5. Finish Selection determines Shade and Mounting Hardware colors; Interior of all Shades is Sky White, except Vintage Steel. Vintage Steel Shade will have the same finish on interior and exterior of Shade

6. Custom Finish will require additional lead time and exterior of

The following pages will walk through ordering details



DATE

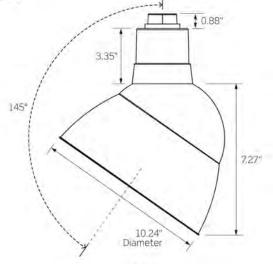
PROJECT

TYPE

VC SERIES | LED Vintage RLM: Angled Sign Lighter

ORDERING INFORMATION

STEP 1 | Select Shade



SA10 10 Inch Angled Sign Lighter

Frosted Domed Lens

STEP 2 | Select LED Option

- 120 277 VAC Input
- 0 10V Dimming
- 2700K, 3000K, 3500K, 4000K
- 90 +CRI
 - LED

		A COMPANY AND A COMPANY AND A COMPANY	
LED	LED Series	Color Temp	
LDD - LED with	8 - 10W	27K - 2700K	
Domed	12 - 14W	30K - 3000K	
Frosted Lens	16 - 18W	35K - 3500K	
	20 - 22W	40K - 4000K	
	30 - 36W		

DELIVERED OUTPUT

3000K, 90CRI, Frosted Domed Lens, Sky White Interior Shade Finish

Color Consistency within a 3-Step MacAdam Ellipse Tolerance; 3 SDCM

Leviton IP710, Lutron Diva DVSTV-WH, Lutron Nova NTSTV-DV

• The following dimmers are compatible and provide dimming down to 1.1%:

WATTAGE	WATTAGE 10W		14W		18W		22W		36W	
	LUMENS*	LM/W	LUMENS*	LM/W	LUMENS*	LM/W	LUMENS*	LM/W	LUMENS*	LM/W
SL10	967	96	1326	96	1667	94	1988	91	2971	83

*For Vintage Steel shade finish, multiply delivered lumens by 0:62

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DATE

PROJECT

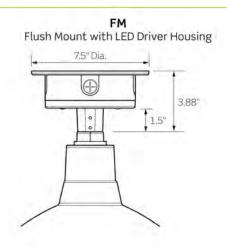
TYPE

VC SERIES | LED Vintage RLM: Angled Sign Lighter

ORDERING INFORMATION

STEP 3 | Select Mounting Style

CANOPY OPTIONS



LSM HSM Stem Mount Sloped Ceiling Canopy with Stem Mount 7.5" Dia. 28 Max Angle æ 4.63" 3.88" Max Height 1.5" Standard Stem Lengths: 6, 12, 24 and 36 Inch 7.5" 0.75" Dia. VISIBLE STEM LENGTHS Mount LSM (S1) HSM (S2) **S1** 3.88 4.25 6 In. Nominal **S2** 12 In. Nominal 9.88 10.25" 21.88" 22.25 24 In. Nominal 36 In. Nominal 33.88" 34.25" 0.88" 0.88"

Gooseneck Options follow

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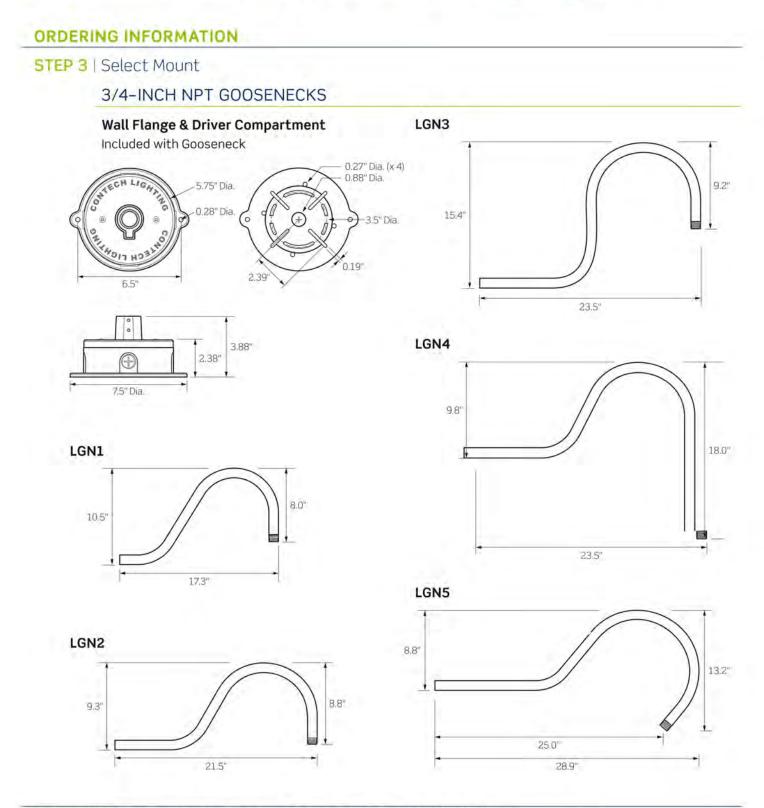


DATE

PROJECT

TYPE

VC SERIES | LED Vintage RLM: Angled Sign Lighter



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DATE

PROJECT

TYPE

VC SERIES | LED Vintage RLM: Angled Sign Lighter

ORDERING INFORMATION

STEP 4 | Select Finish

- · Standard finishes are high gloss polyester powder coat with excellent corrosion resistance properties
- Finish selection determines Shade and Mounting Hardware colors
- Interior of all Shades is Sky White, except Vintage Steel. Vintage Steel Shade will have the same finish on interior and exterior of Shade
- Custom Finish will require additional lead time and extra charge



For a list of 177 Custom Finish RAL numbers, see Vintage RLM RAL Colors data sheet

PRODUCT CONSTRUCTION

- SHADES: Powder Coated Spun Aluminum
- ENCLOSURE and CONDUIT PLUGS: Powder Coated Cast Aluminum
- DOMED LENS: Polycarbonate
- WALL FLANGES, CANOPIES and SHADE NUTS: Powder Coated Cast Aluminum
- GOOSENECKS: Powder Coated Schedule 40 Aluminum Pipe
- STEMS: Powder Coated Schedule 40 Carbon Steel Pipe
- EXPOSED HARDWARE: Stainless Steel



DATE

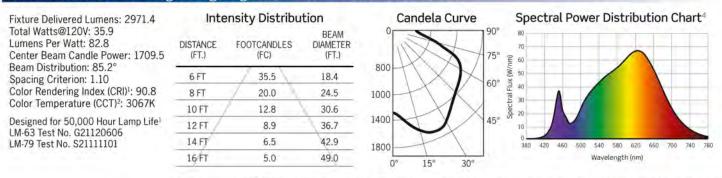
PROJECT

TYPE

VC SERIES | LED Vintage RLM: Angled Sign Lighter

PHOTOMETRICS

VCSLDSA10: 10-Inch Angled Sign Lighter, White Interior, 3000Lm, 3000K



L Accuracy of Rendering Colors 2. Color Appearance of Light Source 3. Dependent on Surrounding Temperatures 4. Colors Present within the Light Source

PHOTOMETRIC MULTIPLICATION FACTORS

Lumen output values fluctuate based on Color Temperature, Luminaire Wattage/Output and Shade Finish. To estimate lumen output of these various options, multiply 3000K results by the following:

CCT MULTIPLIERS						
CCT	STD CRI	CCT	STD CR			
2700K	0.96	3500K	1.05			
3000K	N/A	4000K	1.08			

VINTAGE STEEL FINISH MULTIPLIER 0.62



DATE

PROJECT

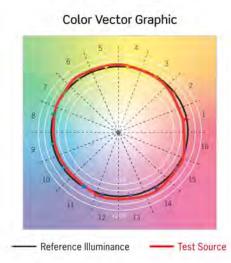
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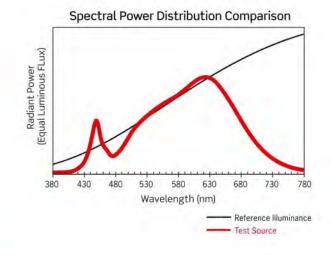
VC SERIES | LED Vintage RLM: Angled Sign Lighter

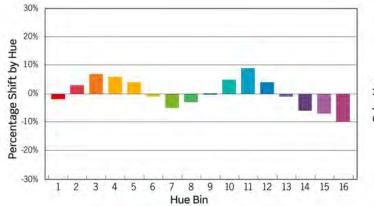
TM-30 DATA: VCSLSA10LDD3030K

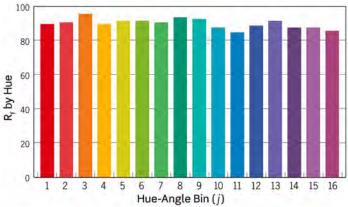
10-Inch Angled Sign Lighter, White Interior, 3000Lm, 3000K

R _f	91
R _g	101
CCT(K)	3067K
D _{uv}	0.0015
u ¹	0.2477
VI	0.5221









HUE BIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
HUE SHIFT	-2%	3%	7%	6%	4%	-1%	-5%	-3%	0%	5%	9%	4%	-1%	-6%	-7%	-10%
R f VALUE	91	92	87	91	93	93	92	95	94	89	86	90	93	89	89	87

ANSI/IES TM-30-18 Color Rendition Report Test No. S21111101 Colors are for visual orientation purposes only

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CLIENT:

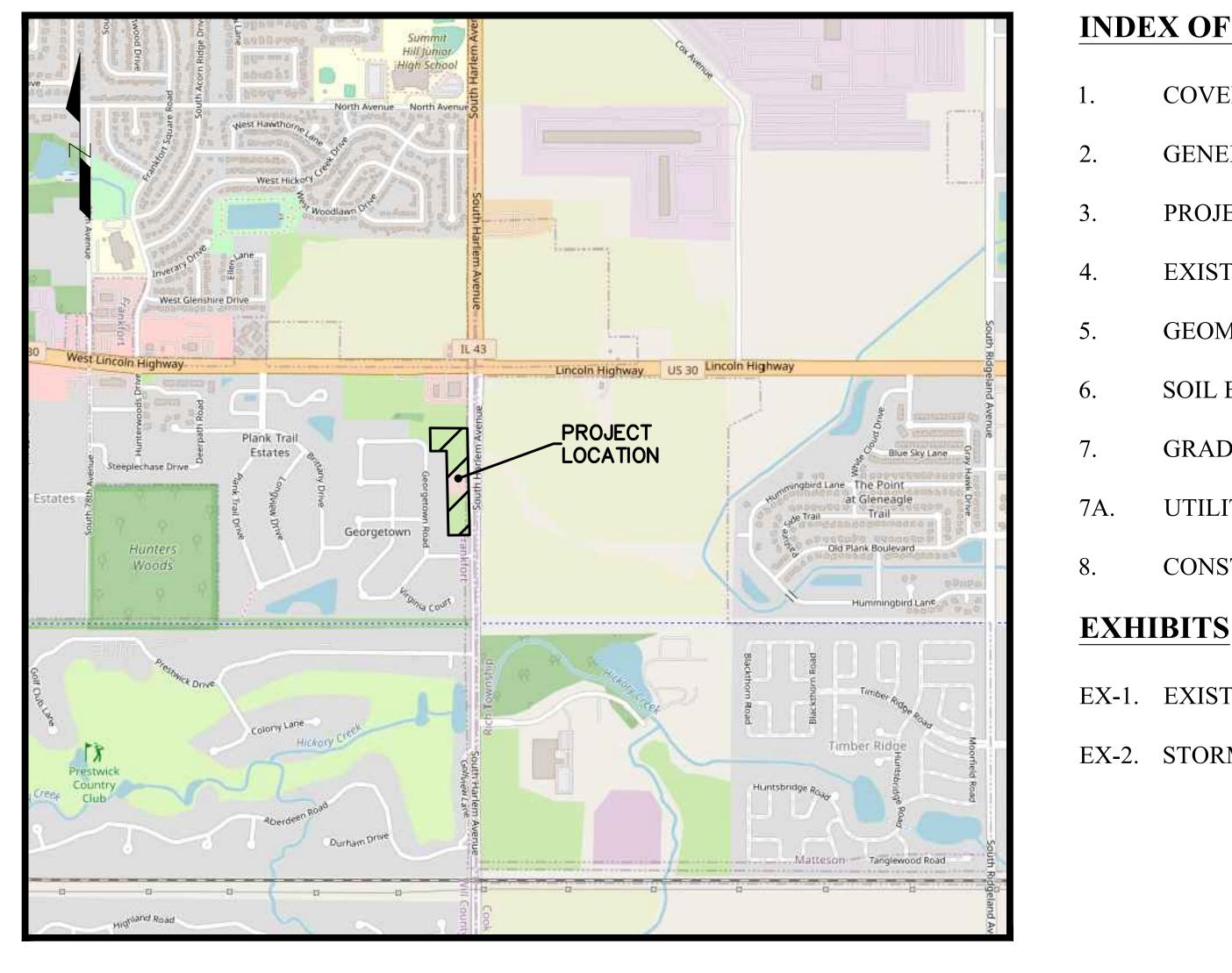
PWM ARCHITECTURE, LLC 3603 CHESAPEAKE ROAD ST. CHARLES, ILLINOIS 60175

ENGINEER:

DESIGNTEK ENGINEERING, INC. 9930 W. 190TH STREET, SUITE L MOKENA, ILLINOIS 60448 (708) 326-4961

SURVEYOR:

DESIGNTEK ENGINEERING, INC. 9930 W. 190TH STREET, SUITE L MOKENA, ILLINOIS 60448 (708) 326-4961



NOTES:

- THE EXACT LOCATION OF UNDERGROUND UTILITIES SUCH AS GAS. TELEPHONE, FIBER OPTIC, ELECTRIC, CABLE TV AND PIPE LINES ARE UNKNOWN. THE CONTRACTOR SHALL CONTACT JULIE (1-800-892-0123 OR 811) AND ALL OTHER UTILITY OWNERS WHICH ARE IN THE PROJECT LIMITS BEFORE COMMENCING EXCAVATION.
- THE SUBSURFACE UTILITY QUALITY INFORMATION IN THIS PLAN IS LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI / ASCE 38-02 ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILTIY DATA."

SURFACE WATER **DRAINAGE CERTIFICATE**

STATE OF ILLINOIS) COUNTY OF WILL)

TO THE BEST OF OUR KNOWLEDGE AND BELIEF THE DRAINAGE OF SURFACE WATERS WILL NOT BE CHANGED BY THE CONSTRUCTION OF THESE LOT IMPROVEMENTS OR ANY PART THEREOF, OR THAT IF SUCH SURFACE WATER DRAINAGE WILL BE CHANGED, REASONABLE PROVISIONS HAVE BEEN MADE FOR THE COLLECTION AND DIVERSION OF SUCH WATERS INTO PUBLIC AREAS OR DRAINS WHICH THE OWNER HAS A RIGHT TO USE, AND THAT SUCH SURFACE WATERS WILL BE PLANNED FOR IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES SO AS TO REDUCE THE LIKELIHOOD OF DAMAGE TO THE ADJOINING PROPERTIES BECAUSE OF THE CONSTRUCTION OF THESE LOT IMPROVEMENTS.

DATED 18th DAY OF SEPTEMBER, 2023



Muchael Jaco Expires 11/30/23

PARCEL 1:

PARCEL 2:

WILL COUNTY, ILLINOIS.

PARCEL 3:

PARCEL 1

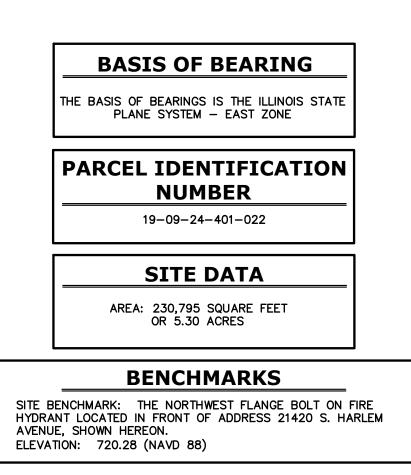
RECORDED MAY 30, 1989 PS DOCUMENT NO. R89-25415.

FINAL ENGINEERING PLANS FOR THE BRIDGE THRIFT STOP

FRANKFORT, ILLINOIS

LOCATION MAP NOT TO SCALE

LEGAL DESCRIPTION OT 5 IN GEORGETOWN SQUARE (EXCEPT THAT PART TAKEN FOR GEORGETOWN SUBDIVISION RECORDED AS DOCUMENT. NUMBER R89–25414) AND (EXCEPT THAT PART TAKEN BY THE DEPARTMENT OF TRANSPORTATION OF THE STATE OF LLINOIS IN CASE NUMBER 10ED008, RECORDED AS DOCUMENT NUMBER R2010068849), BEING A SUBDIVISION OF PART OF HE SOUTHEAST QUARTER OF SECTION 24, TOWNSHIP 35 NORTH, RANGE 12 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED JANUARY 13, 1987 AS DOCUMENT NO. R87-01983 AND CERTIFICATE OF ORRECTION RECORDED JANUARY 23, 1987 AS DOCUMENT R87-04017, IN WILL COUNTY, ILLINOIS. OT 6 IN GEORGETOWN SQUARE (EXCEPT THAT PART TAKEN FOR GEORGETOWN SUBDIVISION RECORDED AS DOCUMENT NUMBER R89-25414), BEING A SUBDIVISION OF PART OF THE SOUTHEAST QUARTER OF SECTION 24, TOWNSHIP 35 NORTH, RANGE 12 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED JANUARY 13, 1987 AS DOCUMENT NO. R87-01983 AND CERTIFICATE OF CORRECTION RECORDED JANUARY 23, 1987 AS DOCUMENT R87-04017, IN DT 97 IN GEORGETOWN SUBDIVISION FIRST ADDITION, BEING A SUBDIVISION OF PART OF THE SOUTHEAST QUARTER OF SECTION 24, TOWNSHIP 35 NORTH, RANGE 12 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED MAY 30, 1989 AS DOCUMENT NO. R89-25415, IN WILL COUNTY, ILLINOIS. OT 98 IN GEORGETOWN SUBDIVISION FIRST ADDITION, BEING A SUBDIVISION OF PART OF THE SOUTHEAST QUARTER OF SECTION 24, TOWNSHIP 35 NORTH, RANGE 12 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF



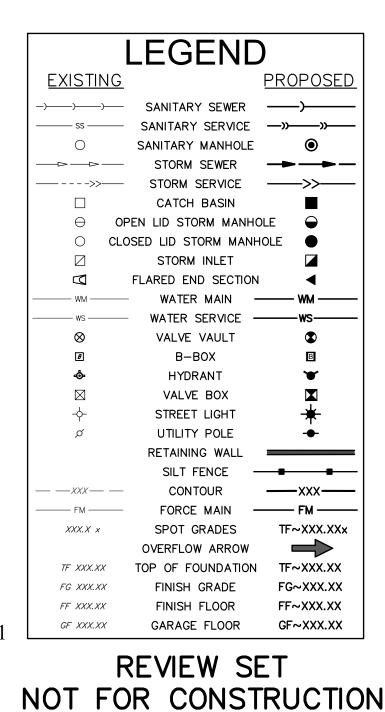
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INDEX OF PLAN SHEETS

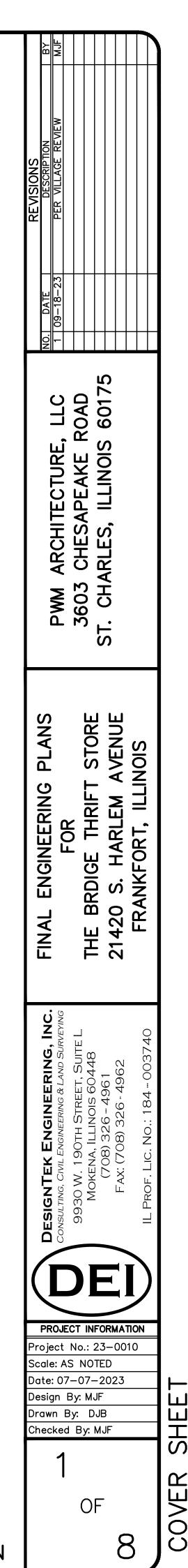
COVER SHEET

GENERAL NOTES AND CONSTRUCTION DETAILS

- **PROJECT SPECIFICATIONS**
- **EXISTING CONDITIONS & REMOVAL PLAN**
- GEOMETRIC & PAVEMENT PLAN
- SOIL EROSION & SEDIMENT CONTROL
- **GRADING PLAN**
- UTILITY PLAN WITH EASEMENTS
- CONSTRUCTION DETAILS
- EX-1. EXISTING PLAT OF SURVEY
- EX-2. STORMWATER / DRAINAGE EXHIBIT

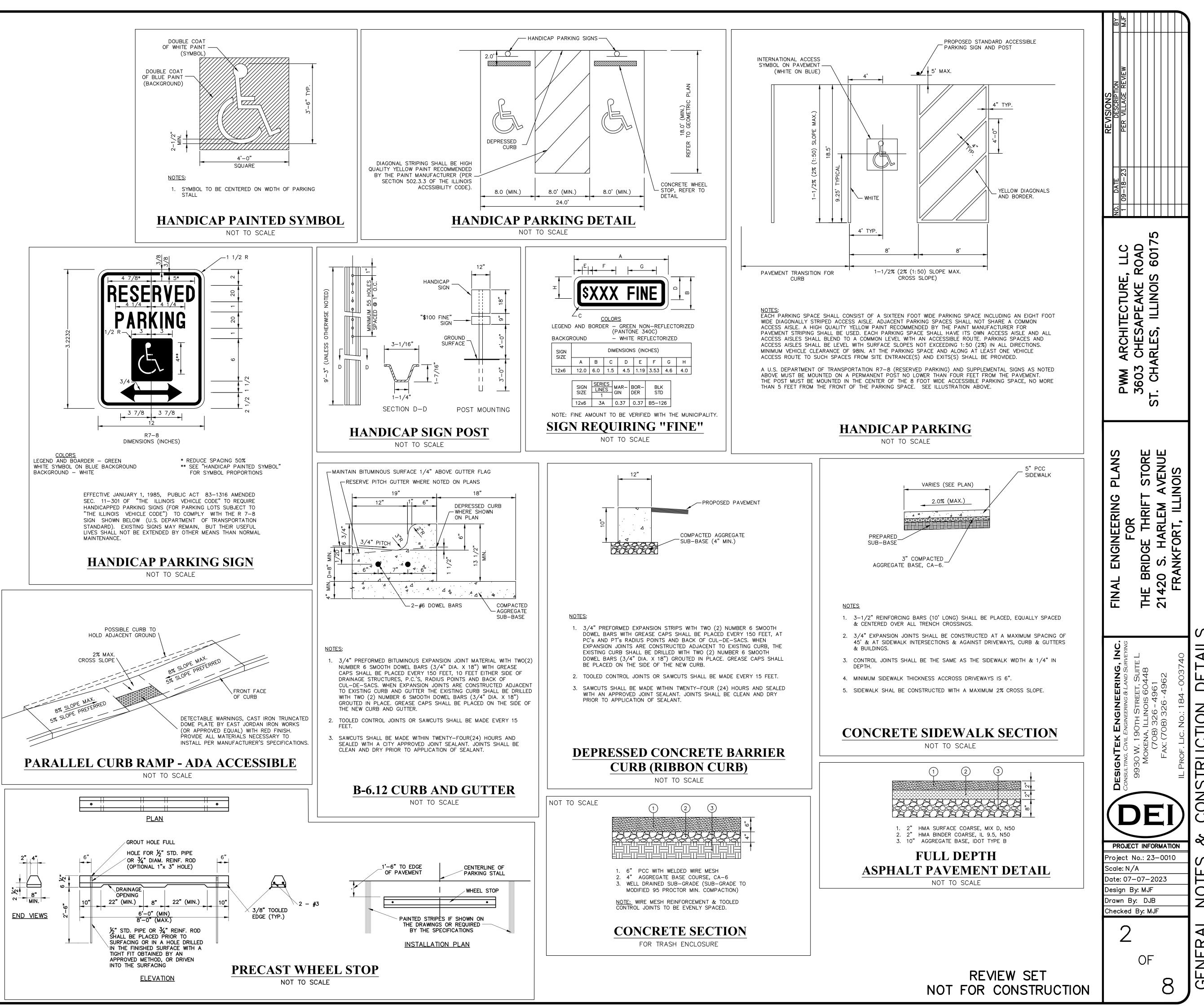






GENERAL NOTES

- 1. Definition of Terms
- a. The CONTRACTOR is the individual, firm, partnership or corporation contracting with the OWNER for performance of the prescribed work.
- b. The OWNER is the individual, firm, partnership or corporation having the authority to award the contract for the prescribed work.
- c. The ENGINEER where specifically referred to in the Specifications shall be the OWNER'S representative.
- 2. All CONTRACTORS shall be responsible for the following, which shall also be incidental to the cost of construction:
- a. Examination of the Engineering Plans and Specifications and the existing site conditions prior to submitting a bid, and notifying the ENGINEER at once of any discrepancies
- b. The obtaining of any necessary permits not previously applied for by the OWNER, and posting of the necessary bonds.
- c. The notification of the start of construction to the Village of Frankfort Public Services Dept. at (815) 469-2177, utility companies, and the ENGINEER at least two (2) working days prior to said start. All existing utilities must be staked prior to construction. All construction, including equipment startup, shall be between the hours of 7:00 a.m. to 8:00 p.m. weekdays, and 8:00 a.m. to 7:00 p.m. weekends and holidavs.
- d. Calling attention to the OWNER of any errors or discrepancies, which may be suspected in lines and grades, which are established by the OWNER. The CONTRACTOR shall not proceed with the work until the lines and grades which are believed to be in error have been verified or corrected by the OWNER. Additional staking that may be required due to CONTRACTOR negligence shall be paid for by the CONTRACTOR.
- e. The providing of safe and healthful working conditions throughout the prosecution of the construction work. This shall include, but not be limited to: the removal of debris, the protecting of construction hazards with barricades and the keeping of public street pavements clean of construction dirt and debris.
- f. The restoration to the original condition or better of any areas that are damaged by the CONTRACTOR during construction.
- g. The testing of materials, if required by the OWNER and/or the jurisdictional agencies.
- h. The guarantee of all materials and workmanship for a period of one (1) year upon final acceptance by the OWNER and other jurisdictional agencies.
- i. Trees shall be installed a minimum of five (5) feet horizontally from sanitary sewers, sanitary services, watermains, and water services. Trees and light poles shall be installed a minimum of ten (10) feet horizontally from utility structures and appurtenances, including but not limited to manholes, valve vaults, valve boxes and fire hydrants.
- j. The contractor shall be responsible for implementation & maintenance of all soil erosion & sedimentation control measures throughout the entire project.
- k. Contractors are required to obtain applicable permits from the Municipality.
- 3. The OWNER shall be responsible for the following:
- a. Scheduling the necessary preconstruction meeting(s) with the jurisdictional agencies
- at least two (2) working days prior to the commencement of work. b. Insurance certificates from all contractors, naming the Village of Frankfort as additional insured, prior to preconstruction meeting being set.
- c. Providing the CONTRACTOR with one (1) set of control line and grade stakes (at
- offsets mutually agreed upon) for the proper prosecution and control of the work.
- Applying for IEPA, IDOT, and all applicable County, Municipal and Sanitary District Permits. Other necessary permits shall be the responsibility of the CONTRACTOR.
- 4. The ENGINEER shall be responsible for the following:
- a. To periodically visit the construction site in order to better carry out the duties and responsibilities assigned by the OWNER and undertaken by the ENGINEER.
- b. The ENGINEER shall not, during such visits or as a result of such observations of the CONTRACTOR(s)' work in progress, supervise, direct or have control over the CONTRACTOR(s)' work nor shall the ENGINEER have authority over or responsibility for the means, methods, techniques, sequences or procedures of construction selected by the CONTRACTOR(s)', for safety precautions and programs incident to the work of the CONTRACTOR(s) or for any failure of the CONTRACTOR(s) to comply with laws, rules, regulations, ordinances, codes or orders applicable to the CONTRACTOR(s) furnishing and performing their work. Accordingly, the ENGINEER can neither guarantee the performance of the construction contracts by the CONTRACTOR(s) nor assume responsibility for the CONTRACTOR(s)' failure to furnish and perform their work in accordance with the Contract Documents.
- 5. Except where modified by the contract documents, all work proposed herein shall be in accordance with the following specifications, which are hereby made a part hereof:
- a. "Standard Specifications for Road and Bridge Construction", and "Supplemental Specifications and Recurring Special Provisions", latest edition, prepared by the Illinois Department of Transportation (IDOT Standard Specifications).
- b. Standard Specifications for Water and Sewer Main Construction in Illinois, latest edition, as adopted by the Illinois Society of Professional Engineers, etal.
- c. Illinois Urban Manual, latest edition.
- d. Village of Frankfort Codes and Ordinances, current edition when these plans were approved.
- e. American With Disabilities Act, Standards for Accessible Design, latest ed.
- 6. In the event of a conflict between statements, which apply to the construction work, the OWNER should contact the Public Works Director for direction.



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EARTHWORK

1. Topsoil Excavation Includes:

- a. Excavation of topsoil and other structurally unsuitable materials within those areas that will require earth excavation or compacted earth fill material, in order to achieve the plan subgrade elevations. The amount of topsoil to be stripped shall be verified in the field by a soils engineer.
- b. Placement of the excavated material in OWNER designated areas for future use within areas to be landscaped, and those areas not requiring structural fill material.
- c. Compaction of the excavated material where placed in areas not requiring structural fill material, shall be moderate
- d. Excess materials, if not utilized as fill or if not stockpiled for future landscaping, shall be completely removed from the construction site and disposed of by the CONTRACTOR.
- 2. Earth Excavation Includes:
- a. Excavation of earth and other materials which are suitable for use as structural fill. The excavation shall be to within a tolerance of 0.3 feet (+) of the plan subgrade elevations. The (+) tolerance within pavement areas shall be such that the earth material shall "balance" as part of the fine arading operation.
- b. Placement of the earth and other suitable materials shall be within those areas requiring structural fill in order to achieve the plan subgrade elevations to within a tolerance of 0.3 feet (+). The fill material shall be placed in loose lifts that shall not exceed eight (8) inches in thickness, and the water content shall be adjusted in order to achieve the required compaction. Earth material may be placed within those portions of the building site not requiring structural fill, to within four (4) inches of the plan finished arade elevation. In areas requiring structural fill, however, the earth material shall not be placed over topsoil or other unsuitable materials unless specifically directed by a Soils Engineer with the concurrence of the OWNER.
- c. Compaction of the earth and other suitable materials, shall be to at least 95% of the maximum dry density as determined by the Modified Proctor Test, ASTM D1557 laboratory procedure within proposed pavement areas and building areas, an rear yards abutting to the proposed lakes. Moderate compaction is required elsewhere. All fill shall be placed in 8" lifts, loose measure
- d. Excess materials, if not utilized as fill, shall be completely removed from the construction site and disposed of by the CONTRACTOR.
- 3. Unsuitable Material
- a. Unsuitable material shall be considered as material which is not suitable for the support of pavement and building construction, and is encountered below normal topsoil depths and the proposed subarade elevation. The decision to remove said material, and to what extent, shall be made by a Soils Engineer with the concurrence of the OWNER in writing.

4. General

- The Grading CONTRACTOR shall:
- a. Maintain proper site drainage at all times during the course of construction, and prevent storm water from running into or standing in excavated areas.
- b. Spread and compact uniformly to the degree specified all excess trench spoil after completion of the underground improvements.
- c. Scarify and compact to the degree specified the upper twelve (12) inches of the suitable subgrade material, in all areas that may be soft due to excess
- moisture content. This applies to cut areas as well as fill areas. d. Provide water to add to dry material in order to adjust the moisture
- content for the purpose of achieving the specified compaction.
- 5. Testing and Final Acceptance
- a. The CONTRACTOR shall provide as a minimum, a fully loaded tri-axle dumptruck or similar equipment for proof rolling the pavement subarade prior to the placement of the curb and gutter and the base material. In addition, the pavement aggregate base course shall also be proof rolled. The Village Engineer shall be notified 48 hours in advance of any proof roll.
- b. Specific compaction testing may be required by the OWNER in selected fill areas. The CONTRACTOR shall bear the cost of any compaction testing which does not meet specification as well as the responsibility and cost for the necessary correction(s).
- c. Approval of the pavement subgrade by the OWNER shall be required prior to the placement of the pavement materials.
- d. The subgrade soil shall be tested by a professional geotechnical engineer at the developer's expense and shall have a minimum designated Illinois Bearing Ratio (IBR eaual to three (3).
- e. A soil investigation report shall be provided to the Village to verify the in situ IBR value. Pavement structures with subgrade soil having an IBR value less than three (3) shall have an increased pavement structure as necessary to carry the design traffic loading.
- 6. Method of Measurement
- a. As-built measurements of earthwork for the purpose of payment shall not apply. the quantities shown in the engineer's "quantity estimate" shall be utilized unless said quantities are adjusted by mutual consent of the owner and contractor prior to the signing and acceptance of a contract.
- b. The quantities as shown in the engineer's "quantity estimate" are those estimated by the engineer and are provided solely for the convenience of the contractor. the contractor by choosing to utilize these quantities in the preparation of his "lump sum" bid, also accepts their accuracy. the contractor is therefore encouraged to make his own independent earthwork calculation, and to visit the site prior to the preparation of his bid.
- c. Prior to the removal of unsuitable material, the contractor shall notify the owner for authorization to remove said material. upon authorization and removal, the contractor shall request that the unsuitable material shall be field measured by the engineer in place.

7. Basis of payment

- a. Payment for all earthwork shall be "lump sum". the contractor shall provide unit prices for earthwork for the purpose of contract adjustment, if required.
- b. Payment for the removal of unsuitable material shall be based on the quantities as field measured by the engineer. the contractor shall provide as part of his bid a unit price per cubic vard for the removal of unsuitable material, said unit price shall include the complete removal of the material. replacement with a suitable material obtained by the contractor from a borrow source, and compaction to the required specification.

UNDERGROUND UTILITIES - GENERAL

- 1. The Underground CONTRACTOR Shall:
 - Adhere to the criteria for the separation between water mains and sanitary sewers, storm sewers, combined sewers, sewer services and septic fields according to the requirements stated in the IEPA Rules for Public Water Supplies (the formal citation is Title 35, Subtitle F, Chapter II, Parts 651-654). All sewer water main separations shall be constructed per the "Standard Specifications for Water and Sewer Main Construction in Illinois"
- b. Be responsible to place on grade, and coordinate with other CONTRACTORS, all underground utility structure frames such as manholes, catch basins, and inlets.
- Be aware of potential conflicts with existing utilities. The CONTRACTOR shall excavate around the existing utilities to determine their exact location and elevation prior to the construction of the proposed utility improvements. Should unforeseen conflicts be found, the CONTRACTOR shall contact the ENGINEER prior to constructing the proposed improvements.
- d. Adjust or reconstruct any existing utility structure to the satisfaction of the utility owner. Adjustments and/or reconstructions not called for on the plans shall be considered incidental to the contract. No more than two adjusting rings within a min. of four inches (4") and a max. of twelve inches (12") of adiustina rinas.
- e. Provide poured concrete fillets conforming to the shape of the pipe in all sanitary and storm manholes, and inlets.
- Be responsible for maintaining the top of any utility trench at least three (3) eet away from any existing or proposed curb or pavement, in those instances where the trench runs parallel to said curb or pavement.
- g. Be responsible for the dewatering of utility trenches during construction and providing the necessary trench bracing that may be required to assure safe working conditions.
- h. Remove soft material that may be encountered at the pipe invert elevation to a depth of at least one (1) ft. below the bottom of the pipe, and backfill with compacted bedding material.
- No damage to the road subgrade with excessive water saturation from hydrant flushing or from leaks in the water distribution system. The cost of repair for such damage shall be borne by the CONTRACTOR. Hoses should be used to direct the water from hydrant flushing into the storm sewer system (if available).
- Repair any existing field drainage tile damaged during construction, and properly reroute and/or connect said tile to the nearest storm sewer outlet. All locations of encountered field drainage tile shall be properly indicated on the CONTRACTOR'S record drawing.
- k. Furnish one (1) set of Record drawings to the ENGINEER upon completion of the sanitary sewers and water mains. Drawings (or table of locations) shall indicate the location of all sanitary sewer wyes (measured from the nearest downstream manhole), sewer stubs, water service along main and b-boxes. The CONTRACTOR shall also furnish linear distance along water main from appurtenances to appurtenance (valve vault to tee, tee to bend, etc.).
- I. Be responsible for implementation of the "Soil Erosion and Sedimentation Control Measures" as applicable
- m. Maintain erosion control measures (straw bales and filter fabric) until grass is established.
- 2. Method of Measurement
- All sanitary sewer, storm sewer, and water main pipe shall be measured in the field after its installation. Payment shall be based on these field measurements.
- All appurtenances such as manholes, catchbasins, inlets, valves and valve vaults, valve boxes, and fire hydrants, shall be paid for on the basis of in-place quantities.
- Trench backfill material shall be measured by multiplying the as-constructed length of pipe (where applicable) by the average depth of the pipe by the "Payment Quantities per foot of Conduit" listed in Table 1, pg. 138 and "Typical Detail of Conduit Installation", pg. 137 of the Standard Specification for Sewer and Water in Illinois. If requested, the CONTRACTOR shall provide load tickets to the ENGINEER for verification of the trench backfill material delivered to the construction site. Load tickets for bedding material shall be submitted separately.
- 3. Basis of Payment
- a. All sanitary sewer, water main, and storm sewer pipe shall be paid for at the contract unit price per LINEAL FOOT. The price shall include the necessary labor and material for a complete in-place installation, as well as all incidental construction, testing, bedding material, and connections to existing utilities.
- b. All appurtenances for the underground improvements shall be paid for at the contract unit price EACH, said price to include the necessary labor and material for a complete in-place installation. The price for manholes inlets and catchbasins shall also include the frame and arate and all incidental construction. The price for fire hydrants shall also include a six (6) inch valve and box, and all incidental construction.
- Trench backfill material shall be paid for at the contract unit price per CUBIC YARD. Compaction must be made by mechanical methods.
- 4. As-Built Water & Sanitary Services a. As-built locations shall be provided for all water and sanitary sewer stubs. They
- shall also be stamped on the curb. 5. Structure Castinas
- Frames and lids (or grates) for sanitary, watermain and storm sewer structures shall be as indicated on the plans, and the cost of same shall be integrated into the representative structure costs.
- Manhole castings shall be adjusted to finished grade using precast adjusting rings set on bitumastic material. All structures shall have no more than two adjusting rings w/a min. of four inches (4") and a max. of twelve inches (12") of adjusting rings.
- c. All frames shall be set on a mastic bed with all gaps tuck pointed.
- d. All castings shall be made in the U.S.A. with U.S.A. materials.
- 6. Trench Backfill
- Bedding, haunching and the initial backfill shall consist of IDOT CA-7, CA-11 OR CA-19 aggregate. The initial backfill shall be placed to at least 12" above the
- b. Final backfill of the trench shall be accomplished by careful replacement of the excavated material. Any pipe installed under or within a 45 degree angle of repose (1:1) from the top of pipe to the edge of pavement, driveway (when driveway location is known) or curb and gutter shall be backfilled to the top of the trench with compacted IDOT CA-7, CA-11 or CA-19 material.
- Compaction shall be in achieved using 8" lifts (uncompacted) and mechanical compaction to 95% density. All costs for compaction and testing shall be paid for by the Developer or Contractor. Results shall be copied to the Village

SANITARY SEWER

- 1. Material shall be: a. polyvinyl chloride pipe (PVC) SDR 26.
- b. PVC SDR 26 or D.I.P. CL 52 for service laterals less than 3' in depth, otherwise PVC SDR 35.
- c. sewer pipe and fittings shall be in accordance with ASTM D-3034 for sizes 4"-15" (100-375 mm).
- 2. Joints shall be:
- a. for PVC; flexible elastomeric seal joints, ASTM D-3139, pressure joint. b. for DIP; rubber gasket joints, ANSI A21.11
- 3. Bedding shall be as detailed on the Engineering Plan.
- 4. Minimum size for mains shall be eight inches (8") and the minimum size for services shall be 6".

- SANITARY SEWER
- 5. Wyes or Tees shall be provided on the new sanitary sewers for proposed building services. All connections to existing sanitary sewers not having wyes shall be made with a "sewer tap" for building services and with a manhole for sewer extensions. All taps shall include a properly installed hub wye saddle.
- 6. "Band Seal" or similar couplings shall be used when joining pipes of dissimilar materials.
- 7. All sanitary structures shall have an external wrap, MAC or approved equal.
- 8. Polyethylene encasement shall be provided for all DIP sanitary sewer in accordance vith AWWA latest standards.
- 9. Prior to pipe laying and jointing, the trench shall be sufficiently dewatered to maintain the water level in the trench at or below the base of the bedding. State / Federal permits, license agreements or other required approvals shall be obtained prior to dewatering.
- 10. Where separation from water main cannot be maintained as required per Illinois specifications, the sanitary sewer shall be mechanical joint PVC pressure pipe meeting C-900 or C-905.
- 11. Sewers shall be laid straight in both horizontal and vertical planes between manholes with a minimum cover of 4 feet.
- 12. Sanitary sewers shall be located a minimum of 10 feeet from any building and meet separation requirements of the Standard Specifications for Water and Sewer Main Construction in Illinois.
- 13. Services shall be a minimum 6 inches and extend to the property line or beyond any utility located in the front yard of a lot being served (single-family development), or to within five (5) feet from the face of a proposed building being served (multi-family and commercial development). The termination points shall be clearly located with a green-topped 4 inch x 4 inch stake extending a minimum 3 feet above final grade. The service lines shall be connected to the sewer using a wye at the 10:00 and 2:00 positions. Service lines not immediately connected to the building to be served shall be tightly plugged, using a plug provided by the pipe manufacturer for such use.
- 14. Testing and Final Acceptance
 - a. Sanitary sewer mains and services shall be tested for exfiltration of air under pressure and deflection for flexible thermoplastic pipe in accordance with the Standard Specifications for Water and Sewer Construction in Illinois prior to their final acceptance. Allowable testing limits shall be as described in the "Standard Specifications" unless the local requirements are more restrictive. Service stubs must be properly plugged and sealed and clearly located at their termination points prior to testing. All sewer mains, service lines and manholes shall be clean and free of debris prior to their final acceptance. Sanitary Sewer shall be inspected and tested in accordance with the local jurisdictional requirements for television inspection and reviewed by the Village Engineer. Two copies of all test results shall be provided to the Municipality.
- b. Sanitary Manhole structures shall be tested, prior to acceptance, for watertightness by either of the following methods in conformance with the requirements specified: ASTM C 969: "Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines." OR ASTM C 1244: "Standard Test Method for Concrete Sewer Manholes by the Negative Pressure (Vacuum) Test.
- c. All public sanitary sewer extensions shall be internally video taped by remote camera. Tapes shall be in color using VHS or CD-ROM format and submitted with written reports to the Village Engineer for review and approval priot to acceptance of the sewer improvements by the Village.

WATER MAIN

- 1. All installations shall conform to the requirements of the Standard Specifications for Water and Sewer Main Construction in Illinois.
- 2. Material for main pipe and fittings shall be C900 PVC DR-18, rated at 235 psi, and comply with ASTM D2837, with joints complying with ASTM D3139 and electrometric seals (gaskets) complying with ASTM F477.
- 3. Material for the services shall be soft temper, Type K, copper water tubing, conforming to ASTM latest standard w/ compression fittings, unless otherwise noted on the plans.
- 4. Sizes for main & service lines shall be as indicated on the Engineering Plan. Joints shall incorporate a formed bell complete with a single rubber gasket
- conforming to ASTM F477 and shall be designed to meet the zero leakage test requirements of ASTM D3139.
- 6. Connections to Village water system shall be made under full water service pressure.
 - a. Tapping sleeves shall include two piece bolted sleeve type with mechanical joints, Mueller-H615, or equal with joint accessories.
 - b. Tapping valves shall include fully ported gate valves complying with AWWA C500 and mechanical joints type, Mueller-H667 or equal. Tapping valves shall be placed in precast concrete vaults.
- 7. The shut-off valve or curb stop for services shall be located as shown on the plans and shall be installed with a valve box of design approved by the Municipality. The termination point shall be clearly located with a blue-topped 4 inch x 4 inch stake extending a minimum of 3 feet above and below final grade.
- 8. Valves: Mueller, Clow or equal mechanical joint, resilient wedge seat, cast iron, bronze-mounted, O-ring seal, bronze non-rising stems, gate valves. Valvesshall open left and be tested to 500 psi with a 250 psi working pressure.
- Water services, where indicated on the "Quantity Estimate" as "long" or "short", shall include the necessary length of Type "K": copper water tube of the size shown on the plans, corporation stop, curb stop, and service box, and all necessary labor, tools, equipment, excavation & backfill, for a complete installation as shown on the Engineering plans. Trench backfill will be paid for separately, when reauired.
- 10. Valve Boxes a. Valve boxes shall be adjustable, 3-piece cast iron, 5-1/4 inch shaft roadway-type and no-tilit drop cover with "WATER" cast into it.
 - b. Valve box stabilizer of PVC manufactured by Valve Box Stabilizer, Inc. for six—inch (6") and eight—inch (8") valve boxes shall be provided.
 - c. Valve box must have additional upward or downward travel when adjusted to finished grade.
- 11. Valve Vaults
 - a. All valve vaults shall be precast reinforced concrete only.
 - b. All valve vaults shall have no more than two adjusting rings with a minimum of four inches (4") and a maximum of twelve inches (12") of adjusting rings.
 - c. All lifting holes, joints between precast reinforced concrete sections, gaps between pipes and structures shall be tuckpointed with hydraulic cement.
 - d. All castings shall be set on bitumastic material.
 - e. Bitumastic material shall be placed between precast reinforced concrete
 - f. All valve vaults shall have neoprene coated or fiberglass steps.
 - g. Vaults and boxes shall not be allowed under streets, sidewalks or driveways.

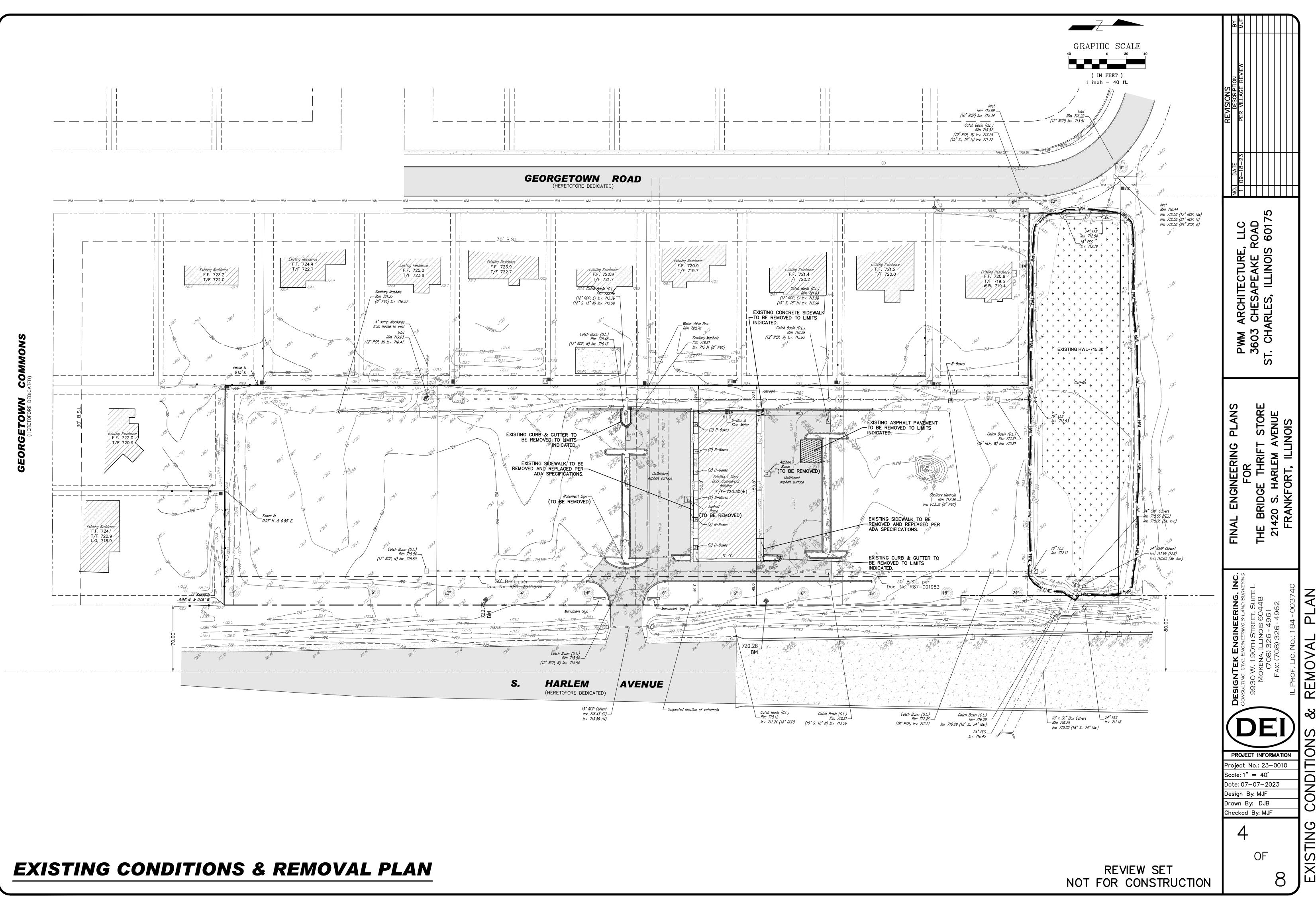
12. Fire Hydrants

- a. Fire Hydrants shall be EJIW 5CD250 with 5-1/4 inch valve shall be painted red.
- b. The hydrant shall be for a five foot (5') bury with mechani and have two 2-1/2 inch hose connections and one four inch (4-1/2") male pumper connection. Thread shall be Na
- c. The hydrant shall have a break-away traffic flange and cor
- d. All fire hydrants not in service shall be bagged.
- e. Hydrants leads shall be six-inch (6") swivel anchoring coup tees shall be used in lieu of swivel anchoring coupling pipe to meet plan locations.
- f. The maximum distance between fire hydrants shall be 350 a. All fire hydrants shall be kept clear of obstructions within
- all directions. This shall include posts, fences, vehicles, grow storage, and any other material or objects. h. All fire hydrants to have a 10 pound anode bag attached
- 13. Pipe Cover and Separation
- a. Cover over water pipes shall be a minimum of 5.5 feet.
- b. Horizontal and vertical separation shall meet requirements Specifications for Water and Sewer Main Construction in Illin requiring alternative materials are noted on the plans.
- 14. Pipe Laying
- a. The contractor shall keep the trench free from water while is being placed and until the pipe joint has been sealed to of the Village Engineer.
- b. Adequate provisions shall be made for the safety, storage, protection of all water pipe prior to installation in the tren taken to prevent damage to the pipe castings both inside out. Provisions shall be made to keep the inside of the pir throughout its storage period and to keep mud and/or oth being deposited therein. All pipe shall be thoroughly cle inside before laying of the pipe. Proper equipment shall be safe handling, conveying, and laying of the pipe so as to p to water main materials and protective coatings and linings circumstances shall water main materials be dropped or du trench.
- c. In making joints, all portions of the jointing materials and spigot ends of the joining pipe shall be wiped clean of all The actual assembly of the jointing shall be in accordance manufacturer's installation instructions. During construction, operations are complete, the open ends of all pipes shall protected and sealed with temporary watertight plugs.
- d. During water main installation, to make a closure between or between pipe end fittings, or between pipe end and valve shall be used with proper connections or couplings. Repair be used to make closures during new construction.
- e. All pipe and trenching shall be viewed and approved by the prior to cover and backfill.
- f. All bends of 22-1/2 degrees or greater, and all tees and thrust protected to prevent movement of the line under proprotection may also be attained by the use of a combinati glands and threaded rods.
- 15. Testing and Disinfection
- a. Water main shall be tested in accordance with AWWA C-60 jurisdictional requirements prior to it final acceptance. A 24 pressure test needs to be performed as per the Standard (The pressure and leakage tests and disinfection of the main described in the "Standard Specifications" unless the local more restrictive. All valve vaults shall be clean and free of water, and individual service boxes shall be visible and clear to their final acceptance.
- b. The preferred point of application of the chlorinating agent beginning of the pipeline extension or any valved section of a corporation stop in the top of the newly laid pipe. The delivering the chlorine gas into the pipe should be supplied the pressure side of the gate valve controlling the flow into extension.
- c. Water from the existing distribution system or any other so shall be controlled so as to flow slowly into the newly laid the application of chlorine-gas. The rate of chlorine mixture in such proportion to the rate of water entering the pipe dose applied to the water entering the newly laid pipe shall fifty parts-per-million (50ppm), or enough to meet the re during the retention period.
- d. Valves shall be manipulated so that the strong chlorine solu being treated shall not flow back into the line supplying the pipe section being chlorinated shall be kept at a lower pre water system pressure.
- e. Treated water shall be retained in the pipe long enough to spore-forming bacteria. This retention period shall be at lea (24) hours. After the chlorine-treated water has been retain required time the chlorine residual at the pipe extremities representative points shall be at least twenty five parts-pe (25ppm).
- f. In the process of chlorinating newly laid pipe, all valves or appurtenances shall be operated while the pipeline is filled chlorinating agent.
- g. After all mains have been pressure tested, they shall be dis tested according to the requirements of the Standards for Water Mains, AWWA C-601 and C-651, and as required by disinfection, as required by this Section, shall be performed independent firm exhibiting experience in the methods and this operation, and shall be approved by the Village Public Department. The contractor shall obtain two samples of w main for bacteriological testing. A second series of sample collected no less than 24 hours after the first set of same collected. The contractor and the Village will be furnished the bacteriological report for their records.

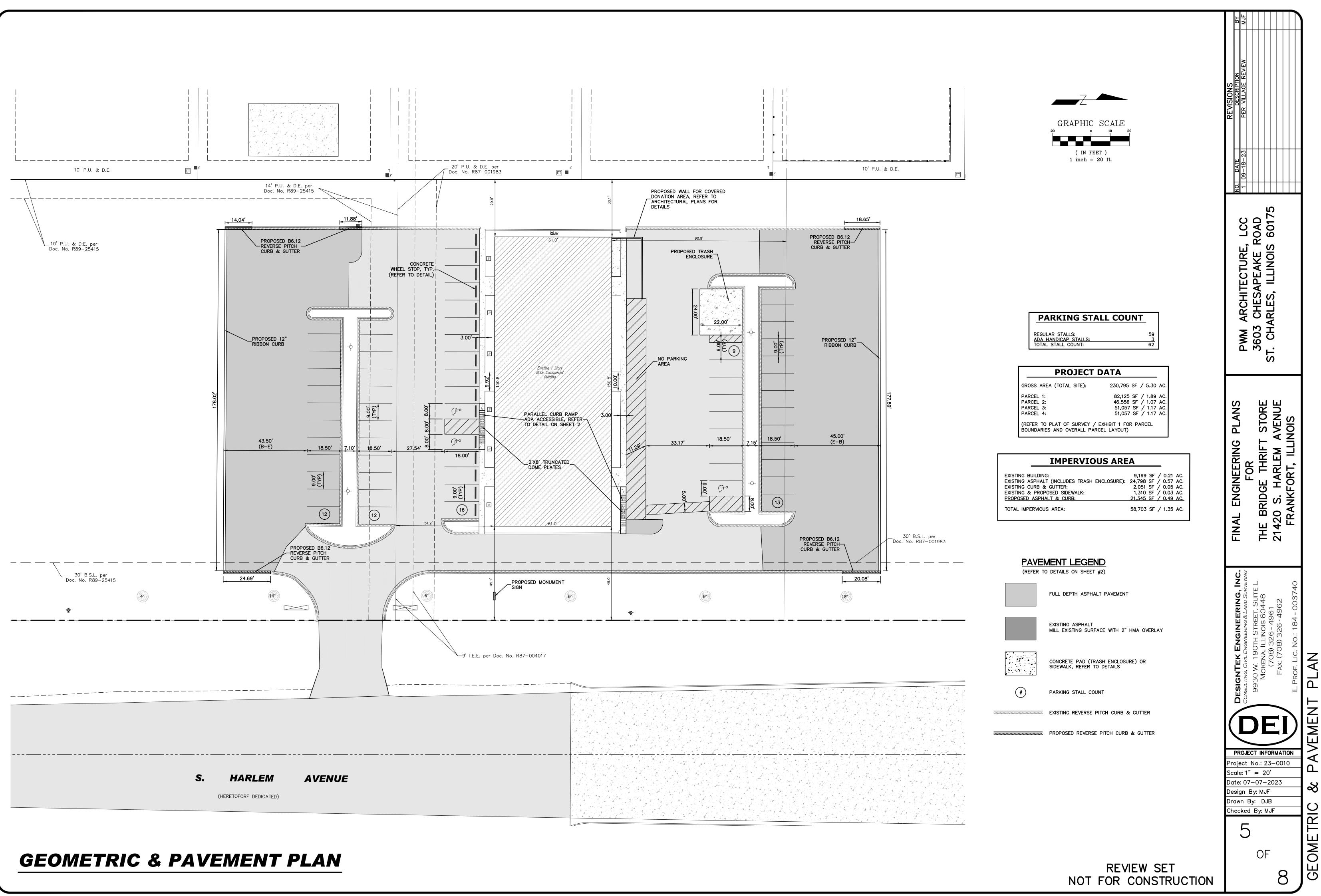
WATER MAIN

	STORM SEWER	<u>B</u> √ MJF
opening and ical joint shoe and one-half ational Standard. nnections. bling. Hydrant where required feet. three (3) feet in wth, trash, to the hydrant. of the "Standard nois." Locations the water main o the satisfaction and ich. Care shall be and be clean	 All storm sewer shall conform to the requirements of The Standard Specifications for Water and Sewer Main Construction in Illinois Storm sewers shall be reinforced concrete pipe conforming to ASTM C76 minimum Class III with O-ring joints conforming to ASTM C443. Bedding shall be minimum of 6" of CA-7. Minimum size shall be twelve inches (12"). Storm Structures Rear yard catch basins are not allowed. All storm structures shall be precast reinforced concrete only. All storm structures shall be set on a six-inch (6") CA-7 cushion. All storm structures shall have no more than two adjusting rings within a minimum of four inches (4") and a maximum of twelve inches (12") of adjusting rings. All lifting holes, joints between precast reinforced concrete sections, gaps between pipes and structures shall be placed between precast reinforced concrete sections. Bitumastic material shall be placed between precast reinforced concrete sections. All steps shall be fiberglass or neoprene coated. All structure connections shall be concrete sever pipe, ASTM C14 for extra strength pipe Storm sewer and all storm structures shall be inspected and free of debris prior to their final acceptance. Storm Sewer shall be inspected and free of debris prior to their final acceptance. Storm Sewer shall be 4" PVC SDR 26 unless otherwise noted. All flored end sections less than 48" (effective diameter) require grates in accordance with IDOT specifications. All flored end sections less than 48" (effective diameter) require grates in accordance with IDOT specifications. 	, LLC REVISIONS No. DATE REVISIONS No. DATE DESCRIPTION 1 09–18–23 PER VILLAGE REVIEW 1 09–18–23 PER VILLAGE REVIEW 1 09–18–23 PER VILLAGE REVIEW
the debris from eaned on the used for the prevent damage s. Under no umped into the the socket and foreign materials. with the , until jointing at all times be two pipe ends, re, short lengths sleeves shall not e Municipality	 stamped per Exhibit 2B. Open covers shall have the grates as specified in the plans. PAVING CURBS AND SIDEWALK 1. Fine Grading a. Prior to the construction of the curb and gutter and the placement of the base material, the streets shall be fine graded to within 0.1 feet + of final subgrade elevation, to a point two (2) feet beyond the back of the proposed curb. 2. Curb and Gutter a. The curb and gutter shall be the type as detailed on the Engineering Plans. b. The curbs shall be backfilled after their construction and prior to the 	PWM ARCHITECTURE 3603 CHESAPEAKE ST. CHARLES, ILLINOIS
plugs shall be ressure. Thrust ion or retaining 00 & the local 4 hour system Specifications. ins shall be as requirements are debris and inly located prior shall be at the f it and through njector for from a tap on o the pipeline ource of supply pipeline during re flow shall be that the chlorine I be at least requirements lution in the line e water. The ssure than the	 a. The pavement of the base course. 3. Pavement a. The pavement materials shall be as detailed on the Engineering Plans. Thickness specified shall be considered to be the minimum compacted thickness. 4. General. The Paving Contractor shall: a. Repair any base course and binder course failures prior to the installation of the final bituminous concrete surface course. b. Sweep clean the binder course prior to the installation of the final bituminous concrete surface course. b. Sweep clean the binder course prior to the installation of the final bituminous concrete surface course. Excessive cleaning of the binder course that may be required, and is not the fault of the Paving CONTRACTOR, shall be paid for on a time and material basis by prior agreement with the OWNER. c. Permit the bituminous concrete binder course to weather one (1) winter season prior to the installation of the bituminous concrete surface course. d. Street signs & Traffic signs. 5. Testing and Final Acceptance a. Prior to the placement of the base course, the subgrade must pass a proof roll test to be approved by the local jurisdictional authority. The Village shall be contacted at least 2 business days in advance of the proof roll. (See "Testing and Final Acceptance for Earthwork") b. Prior to placement of the bituminous concrete surface course, the CONTRACTOR if requested by the OWNER, shall obtain specimens of the binder course with a core drill where directed by the ENGINEER, for the purpose of thickness verification. Coring shall be in accordance with the applicable provisions of ART.406.15 of the Standard Specification entitled "Standard Specifications for Rod and Bridge Construction". The cost for obtaining cores, 	FINAL ENGINEERING PLANS FOR THE BRIDGE THRIFT STORE 21420 S. HARLEM AVENUE FRANKFORT, ILLINOIS
e destroy all east twenty-four ined for the and at other er-million other with the isinfected and Disinfecting this Section. All d by an techniques of Works vater from the es shall be ples has been with copies of	 which meet or exceed the specification, shall be borne by the OWNER. c. Deficiencies in the bituminous concrete binder course shall be adjusted for by increasing the plan thickness of the surface course with no additional cost to the OWNER. d. A nuclear density test must be conducted on asphalt pavement in accordance with IDOT standards. e. Final acceptance of the total pavement installation shall be subject to the testing and checking requirements cited above. 6. Method of Measurement a. Curb and Gutter, and base course shall be measured in the field by the CONTRACTOR. The quantities shall be submitted to the OWNER for verification. b. When requested by the OWNER, documentation for the installed base course, bituminous concrete binder, and surface, shall be submitted to the ENGINEER for verification a Deficiencies in total bituminous concrete pavement thickness shall be adjusted for in accordance with the requirements of the jurisdictional authority. 7. Basis of Payment a. Curb and Gutter will be paid for at the contract unit price per LINEAL FOOT. b. Prime Coat material will be paid for at the contract unit price per SQUARE YARD. d. Bituminous Concrete will be paid for at the contract unit price per SQUARE YARD. 	DESIGNTER ENGINEERING INC. DESIGNTING, CIVIL ENGINEERING, INC. CONSULTING, CIVIL ENGINEERING & LAND SURVEYING 0930 W. 190TH STREET, SUITE L MOKENA, ILLINOIS 60448 (708) 326 - 4961 FAX: (708) 326 - 4962 IL PROF. LIC. NO.: 184 - 003740
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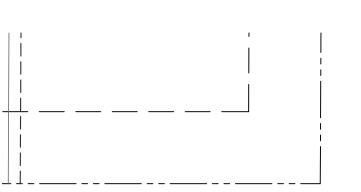


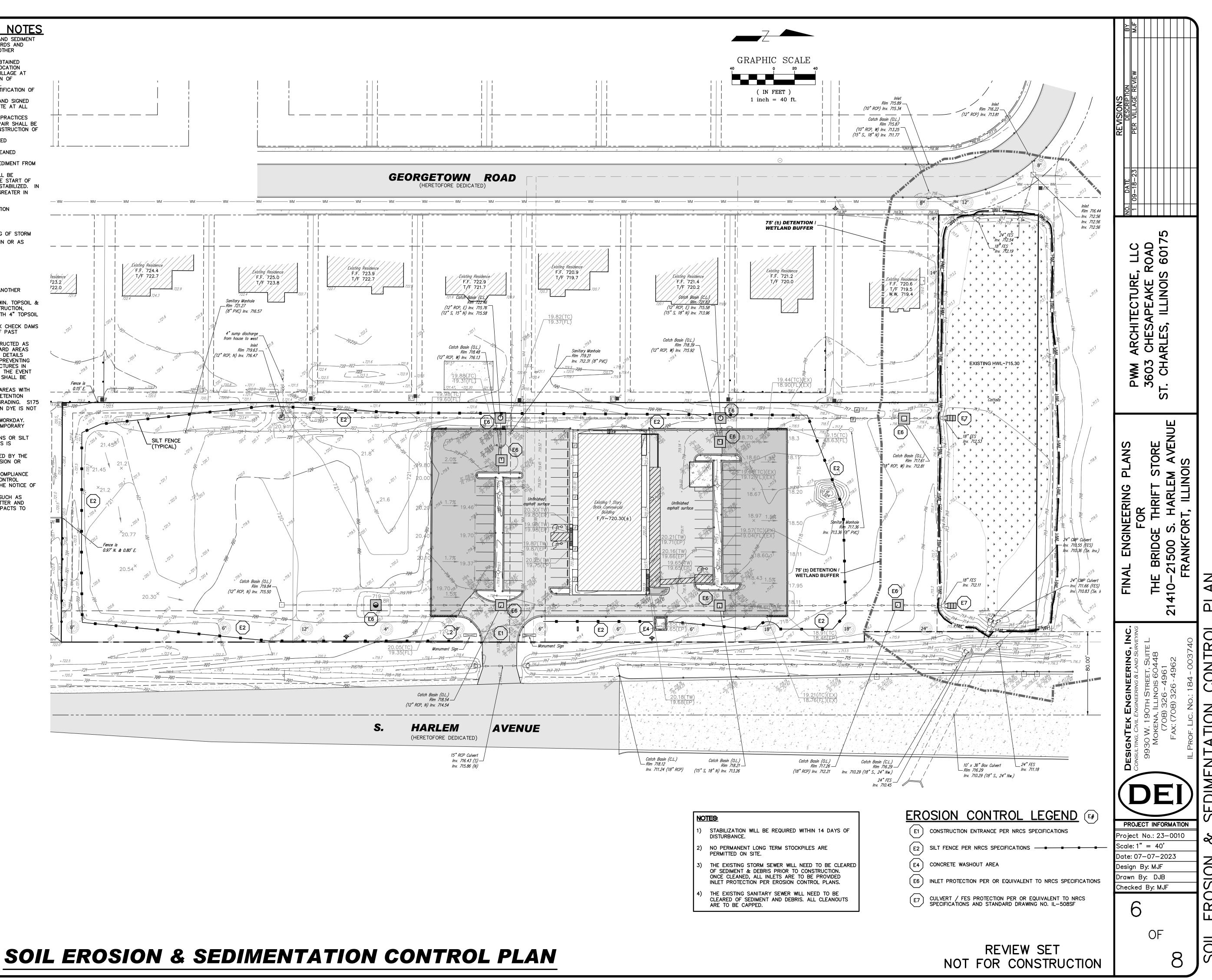
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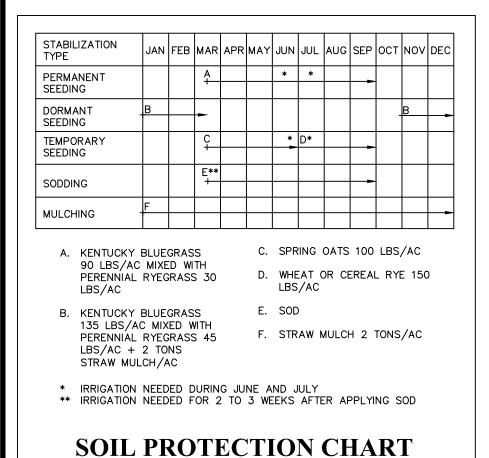


EROSION CONTROL & SEDIMENTATION NOTES

- UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS IN THE ILLINOIS URBAN MANUAL, LATEST EDITION, AND ALL OTHER AUTHORITIES HAVING JURISDICTION.
- THE APPLICANT AND/OR CONTRACTOR IS RESPONSIBLE FOR INSURING THE OBTAINED PERMIT WITH THE COMPLETED SWPPP IS POSTED ON SITE IN A PROMINENT LOCATION BEFORE COMMENCEMENT OF ANY WORK ON SITE AND SHALL CONTACT THE VILLAGE AT LEAST 2 WORKING DAYS BEFORE THE START OF CONSTRUCTION, INSTALLATION OF SEDIMENT AND EROSION MEASURES AND COMPLETION OF FINAL LANDSCAPING.
- THE VILLAGE SHALL BE PROVIDED WITH A COPY OF THE IEPA LETTER OF NOTIFICATION OF COVERAGE PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- THE DEVELOPER IS RESPONSIBLE FOR HAVING THE SWPPP AND A STAMPED AND SIGNED COPY OF THE APPROVED SOIL EROSION AND SEDIMENT CONTROL PLAN ON SITE AT ALL TIMES AND BE PRESENTED WHEN REQUESTED BY ANY AUTHORIZED AGENCY.
- THE DEVELOPER SHALL INSPECT THE SOIL EROSION AND SEDIMENT CONTROL PRACTICES EVERY SEVEN (7) DAYS AND AFTER 0.5" OR MORE RAINFALL. IMMEDIATE REPAIR SHALL BE MADE OF ANY DAMAGED EROSION CONTROL ELEMENTS THROUGHOUT THE CONSTRUCTION OF THE PROJECT.
- ALL CONSTRUCTION TRAFFIC SHALL ENTER SITE ONLY AT PROPOSED STABILIZED CONSTRUCTION ENTRANCE(S) AS SHOWN ON PLANS.
- ALL DIRT, MUD, OR DEBRIS THAT REACHES THE PUBLIC ROADS SHALL BE CLEANED IMMEDIATELY BY THE CONTRACTOR.
- TECHNIQUES SHALL BE EMPLOYED TO PREVENT THE BLOWING OF DUST OR SEDIMENT FROM THE SITE.
- SILT FENCE, SILT BASINS, AND STABILIZED CONSTRUCTION ENTRANCE(S) SHALL BE CONSTRUCTED AS DETAILED ON THE FINAL ENGINEERING PLANS PRIOR TO THE START OF CONSTRUCTION AND SHALL REMAIN IN PLAN UNTIL THE DISTURBED AREA IS STABILIZED. IN ADDITION, SILT FENCE SHALL BE PROVIDED FOR AREAS DRAINING 200' AND GREATER IN ACCORDANCE WITH NRCS CODE 920. . SCHEDULE OF CONTROL MEASURE IMPLEMENTATION:
- A. CONSTRUCT THE APPLICABLE PORTIONS OF THE EROSION AND SEDIMENTATION CONTROLS PRIOR TO SITE CLEARING.
- B. CONTROL SITE DEVELOPMENT IN ACCORDANCE WITH THE SPECIFICATIONS. C. MAINTAIN INLET PROTECTION, CONSTRUCTION TRAFFIC SURFACES, CLEANING OF STORM STRUCTURES AND THE LIKE ON A REGULAR BASIS AFTER EACH HEAVY RAIN OR AS OTHERWISE REQUIRED.
- THE ESTIMATED CONSTRUCTION SCHEDULE IS AS FOLLOWS: ROADWAY (CURB & PAVEMENT) FALL 2023 BUILDING CONSTRUCTION FALL 2023 FINAL GRADING FALL 2023 FINAL LANDSCAPING SPRING 2024
- THE ENTIRE SITE MUST BE STABILIZED, USING A HEAVY MULCH LAYER OR ANOTHER METHOD AT THE CLOSE OF THE CONSTRUCTION SEASON. . DISTURBED AREAS WITHIN ALL PUBLIC R.O.W.'S SHALL BE RESTORED W/ 6" MIN. TOPSOIL &
- SOD. RESTORATION SHALL OCCUR IMMEDIATELY AFTER COMPLETION OF CONSTRUCTION, WEATHER PERMITTING. ALL OTHER DISTURBED AREAS SHALL BE RESTORED WITH 4" TOPSOIL & SEED.
- 13. STRAW BALES ARE NOT PERMITTED IN AREAS OF CONCENTRATED FLOW. ROCK CHECK DAMS SHALL BE USED IN THESE AREAS. TECHNIQUES THAT DIVERT UPLAND RUNOFF PAST DISTURBED SLOPES SHALL BE EMPLOYED.
- . THE PROTECTION OF THE OPEN LID DRAINAGE STRUCTURES SHALL BE CONSTRUCTED AS SPECIFIED IN DETAILS. ALL OPEN LID DRAINAGE STRUCTURES LOCATED IN YARD AREAS AND THE SEDIMENTATION BASIN MUST BE PROTECTED PER INLET PROTECTION DETAILS UNTIL SUCH A TIME THAT THE LANDSCAPING IS IN PLACE AND EFFECTIVELY PREVENTING POTENTIAL SILTATION OF THESE STRUCTURES. ALL OPEN LID DRAINAGE STRUCTURES IN PAVED AREAS SHALL HAVE FILTER BASKETS INSTALLED UNDER THE LIDS. IN THE EVENT THE GRAVEL BASE IS NOT IN PLACE UPON INSTALLATION, INLET PROTECTION SHALL BE PROVIDED AS INDICATED PER INLET PROTECTION DETAIL.
- . EROSION CONTROL BLANKET (ECB) SHALL BE INSTALLED TO ALL DISTURBED AREAS WITH SLOPES EQUAL TO OR STEEPER THAN 5H:1V AND IN CRITICAL AREAS (EX: DETENTION BASIN PERIMETERS, STREAMBANKS, BERMS, ETC.) IMMEDIATELY UPON FINAL GRADING. S175 NORTH AMERICAN GREEN (OR SIMILAR) ECB SHALL BE USED. ECB WITH GREEN DYE IS NOT ACCEPTABLE
- . SOIL STOCKPILES SHALL BE STABILIZED OR COVERED AT THE END OF EACH WORKDAY. STOCKPILES TO REMAIN IN PLACE FOR 14 DAYS OR MORE SHALL RECEIVE TEMPORARY SEEDING
- 7. DURING DEWATER OPERATIONS, WATER WILL BE PUMPED INTO SEDIMENT BASINS OR SILT TRAPS. DEWATERING DIRECTLY INTO FIELD TILES OR STORMWATER STRUCTURES IS PROHIBITED
- . AN INCIDENT OF NON-COMPLIANCE (ION) MUST BE COMPLETED AND SUBMITTED BY THE OWNER TO THE IEPA AND COPIED TO THE VILLAGE IF, AT ANY TIME, AN EROSION OR SEDIMENT CONTROL DEVICE FAILS.
- 19. A NOTICE OF TERMINATION (NOT) SHALL BE COMPLETED BY THE OWNER IN COMPLIANCE WITH THE NPDES PHASE II REQUIREMENTS WHEN ALL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE WITH A 70% ESTABLISHED RATE OF VEGETATION. THE NOTICE OF TERMINATION SHALL BE SENT TO THE IEPA AND THE VILLAGE. THE CONTRACTOR SHALL TAKE THE NECESSARY STEPS TO CONTROL WASTE SUCH AS
- DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LITTER AND SANITARY WASTE AT THE CONSTRUCTION SITE THAT MAY CAUSE ADVERSE IMPACTS TO WATER QUALITY.

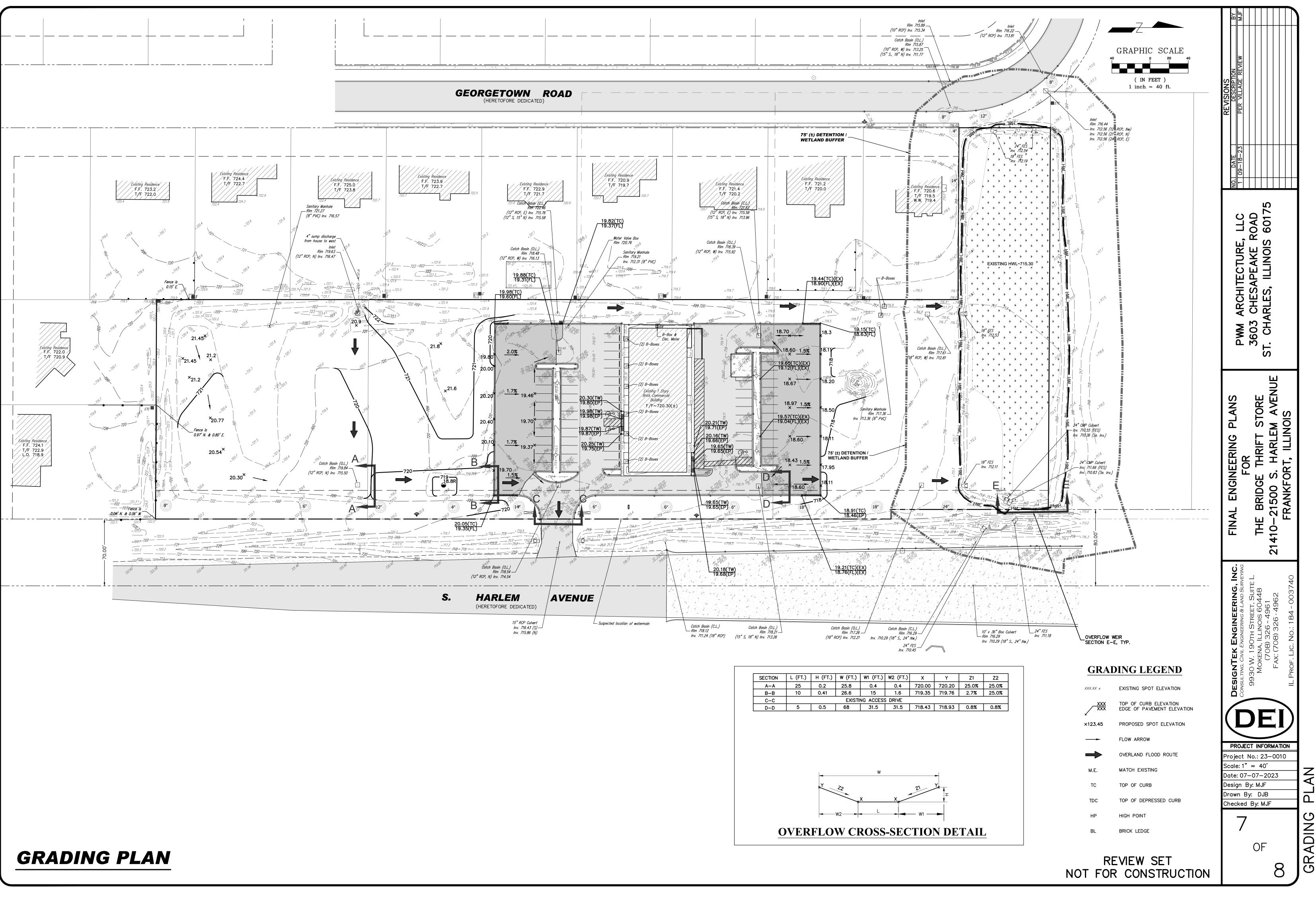






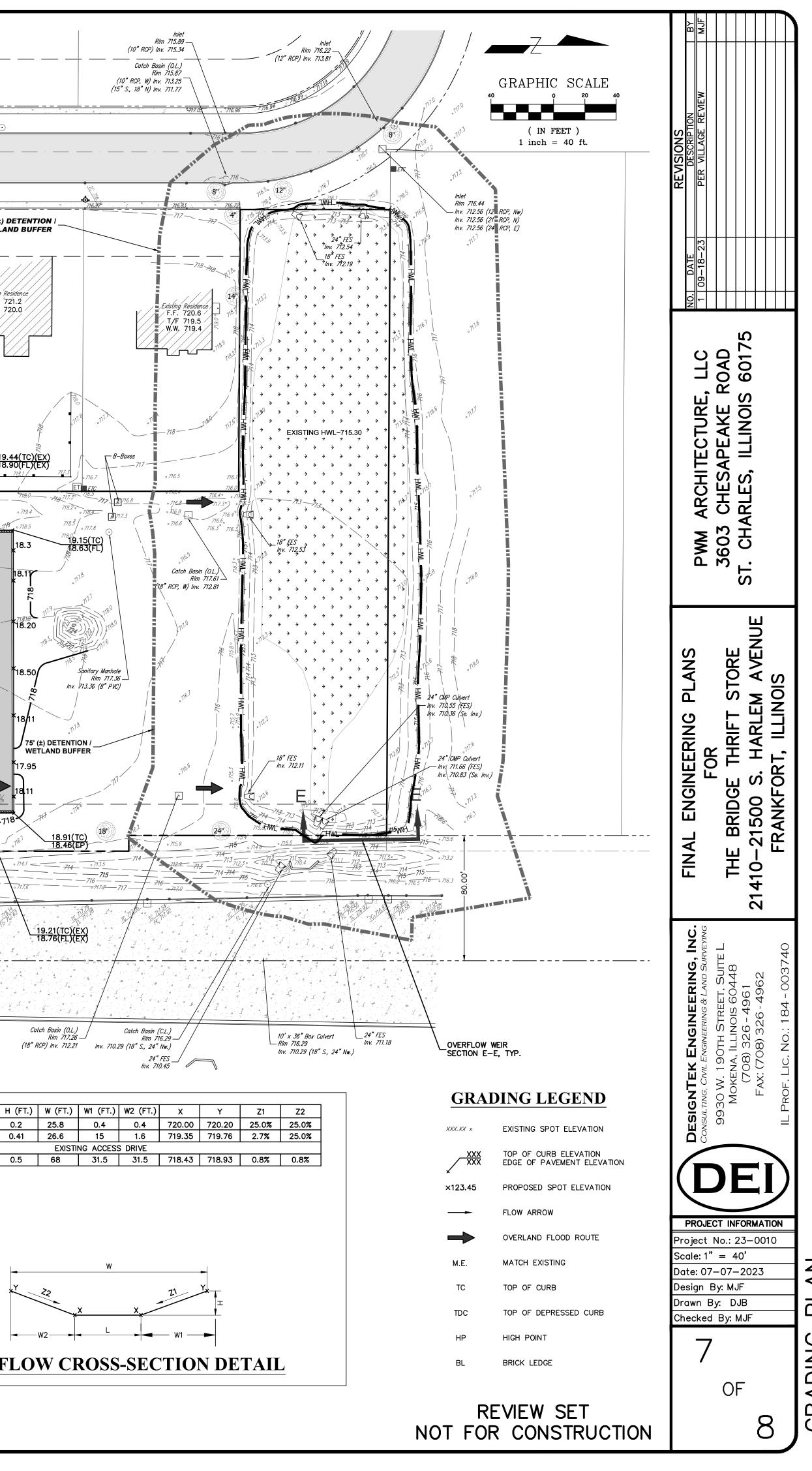
NOT	<u>E9:</u>
1)	STABILIZATION WILL BE REQ DISTURBANCE.
2)	NO PERMANENT LONG TERM PERMITTED ON SITE.
3)	THE EXISTING STORM SEWER OF SEDIMENT & DEBRIS PRI ONCE CLEANED, ALL INLETS INLET PROTECTION PER ERC
4)	THE EXISTING SANITARY SEA CLEARED OF SEDIMENT AND ARE TO BE CAPPED.

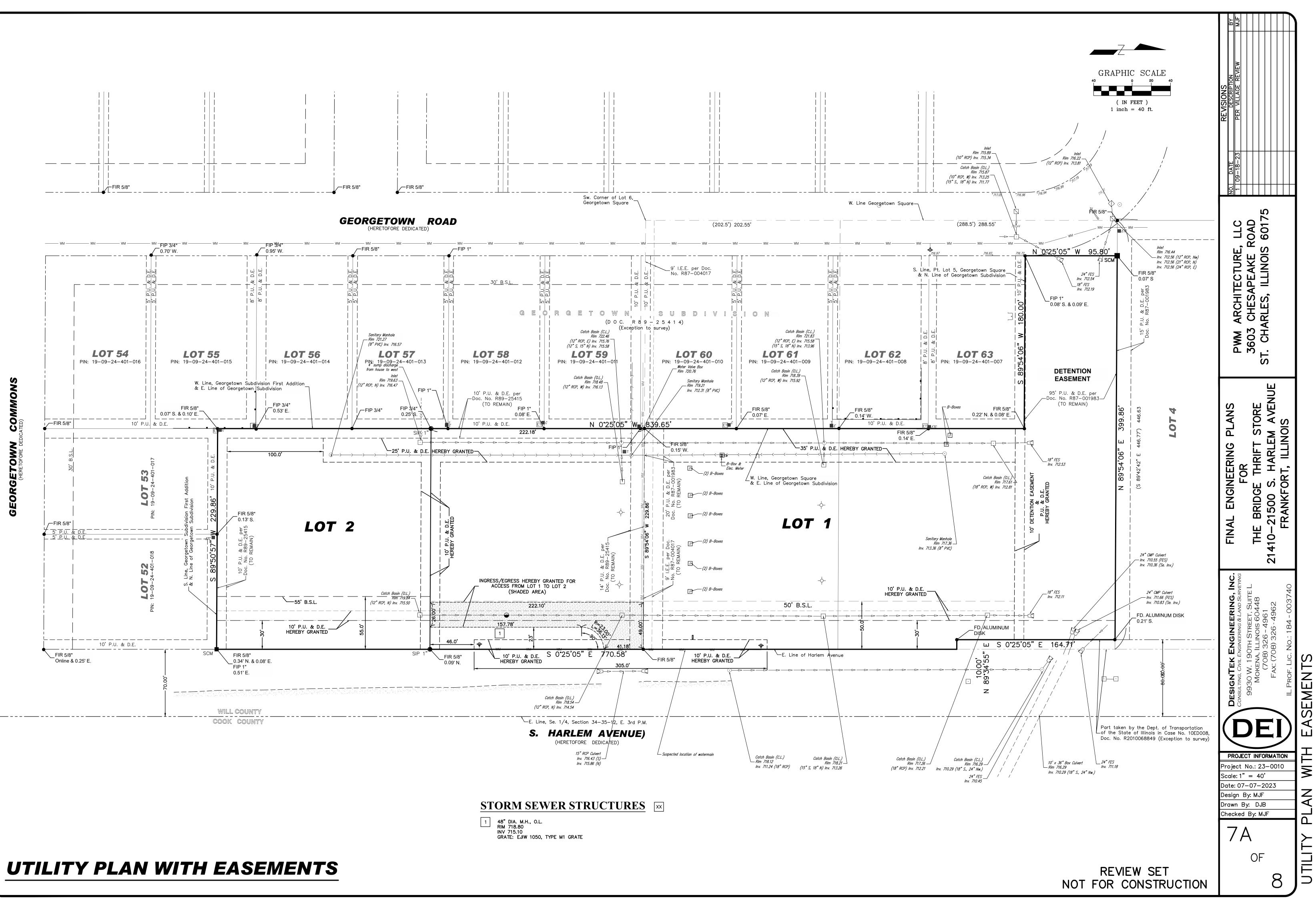
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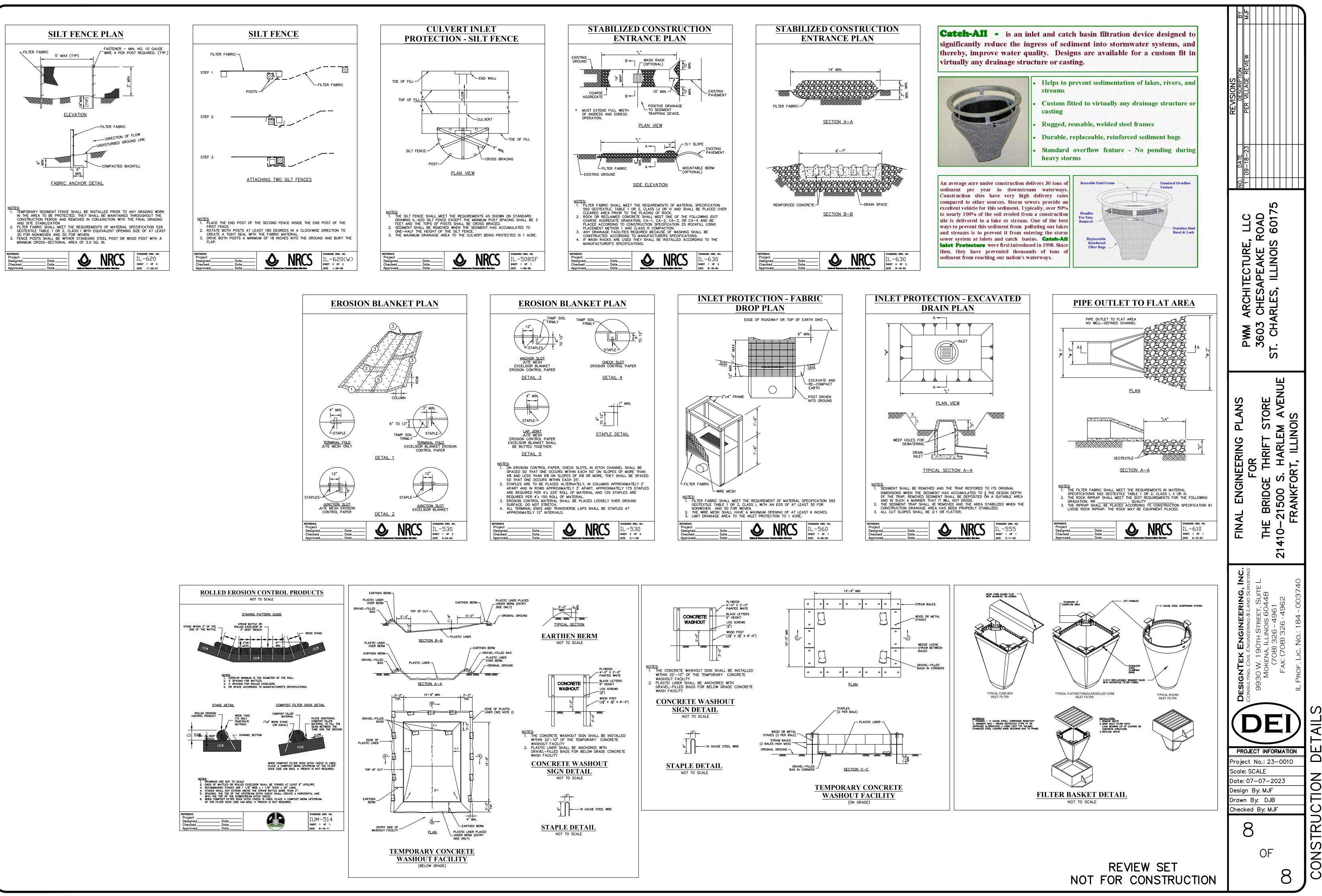
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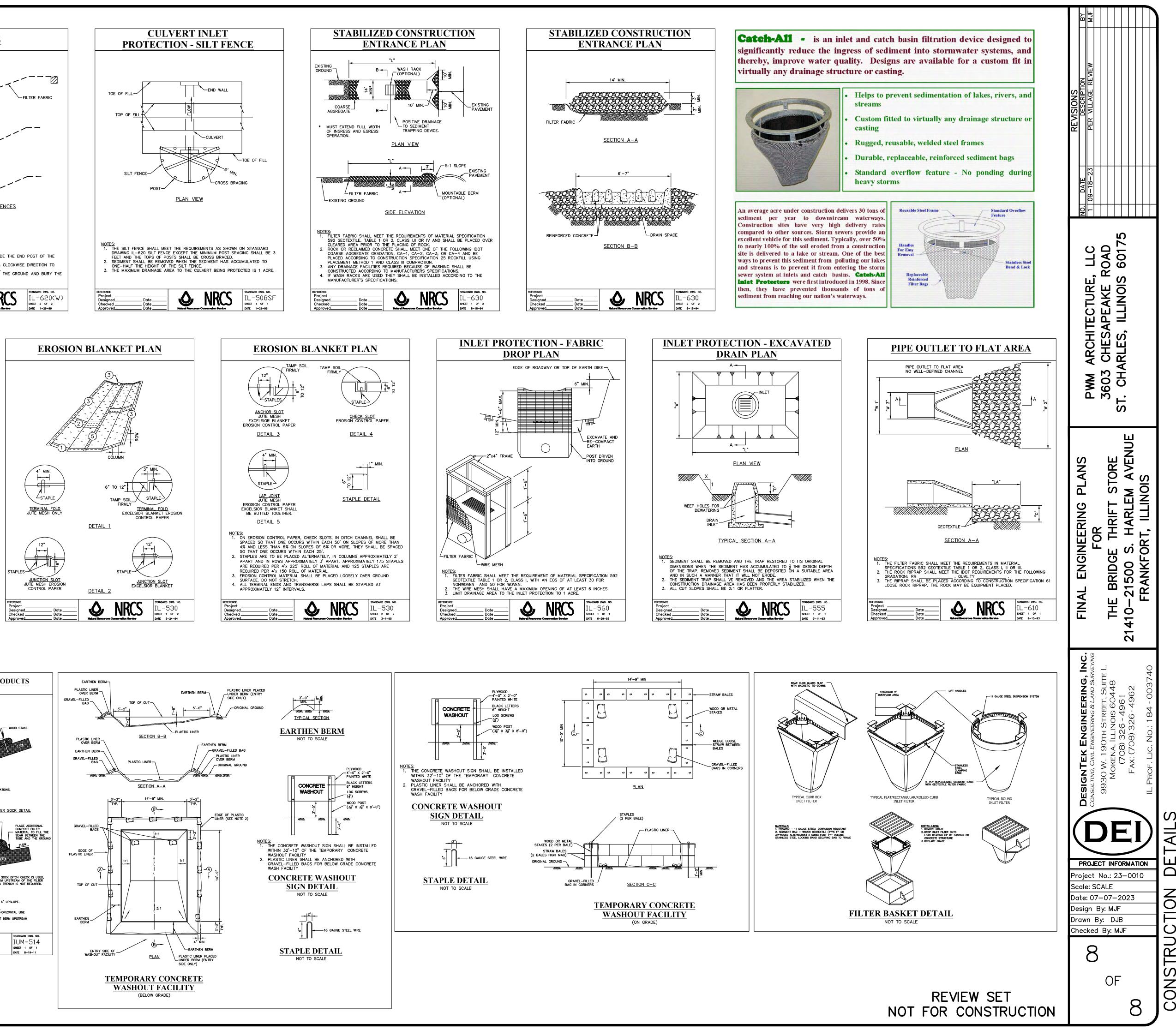
SECTION	L (FT.)	H (FT.)	W (FT.)	W1 (FT.)	W2 (FT.)	
A-A	25	0.2	25.8	0.4	0.4	
B-B	10	0.41	26.6	15	1.6	
C-C			EXISTI	NG ACCESS	S DRIVE	
D-D	5	0.5	68	31.5	31.5	

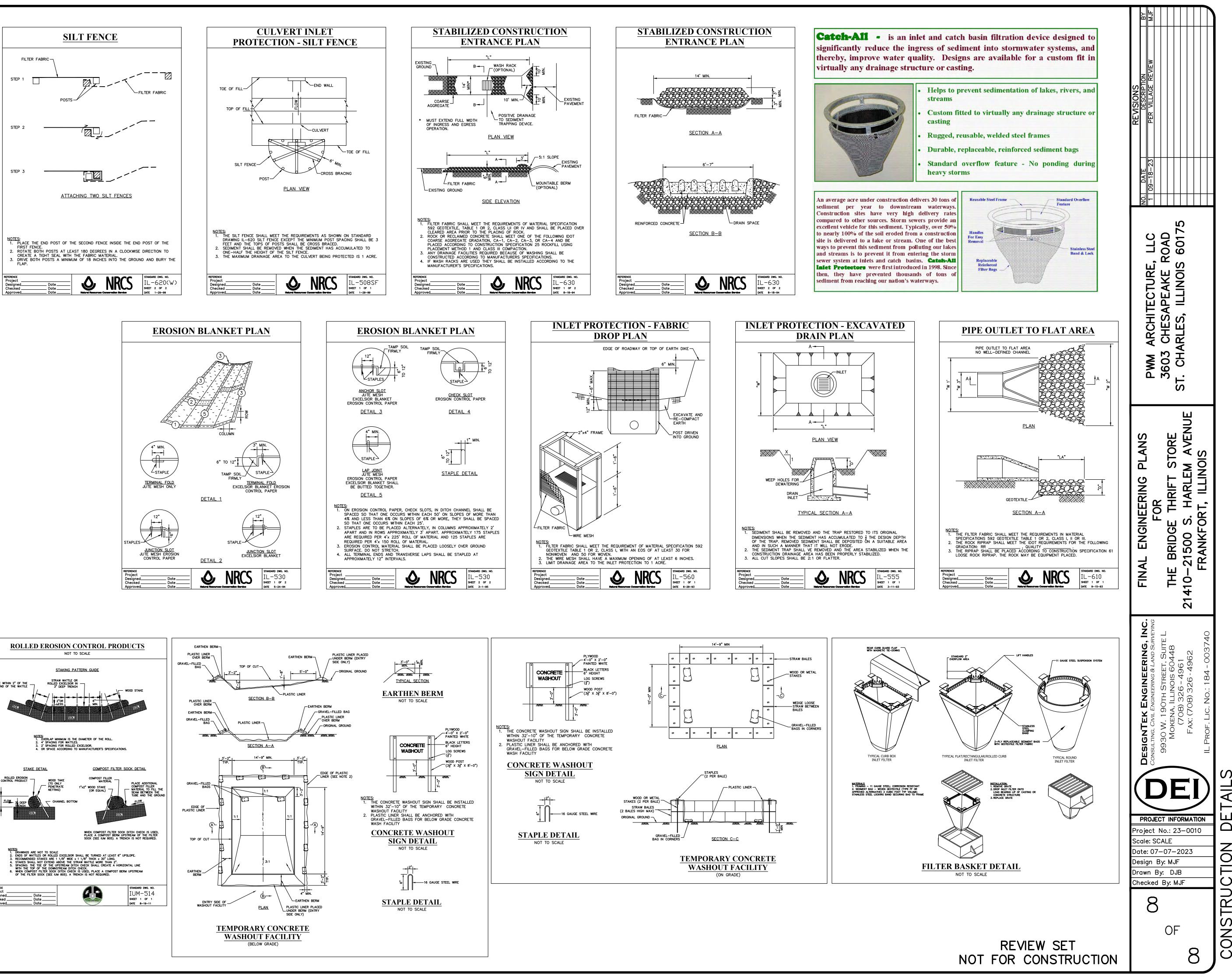


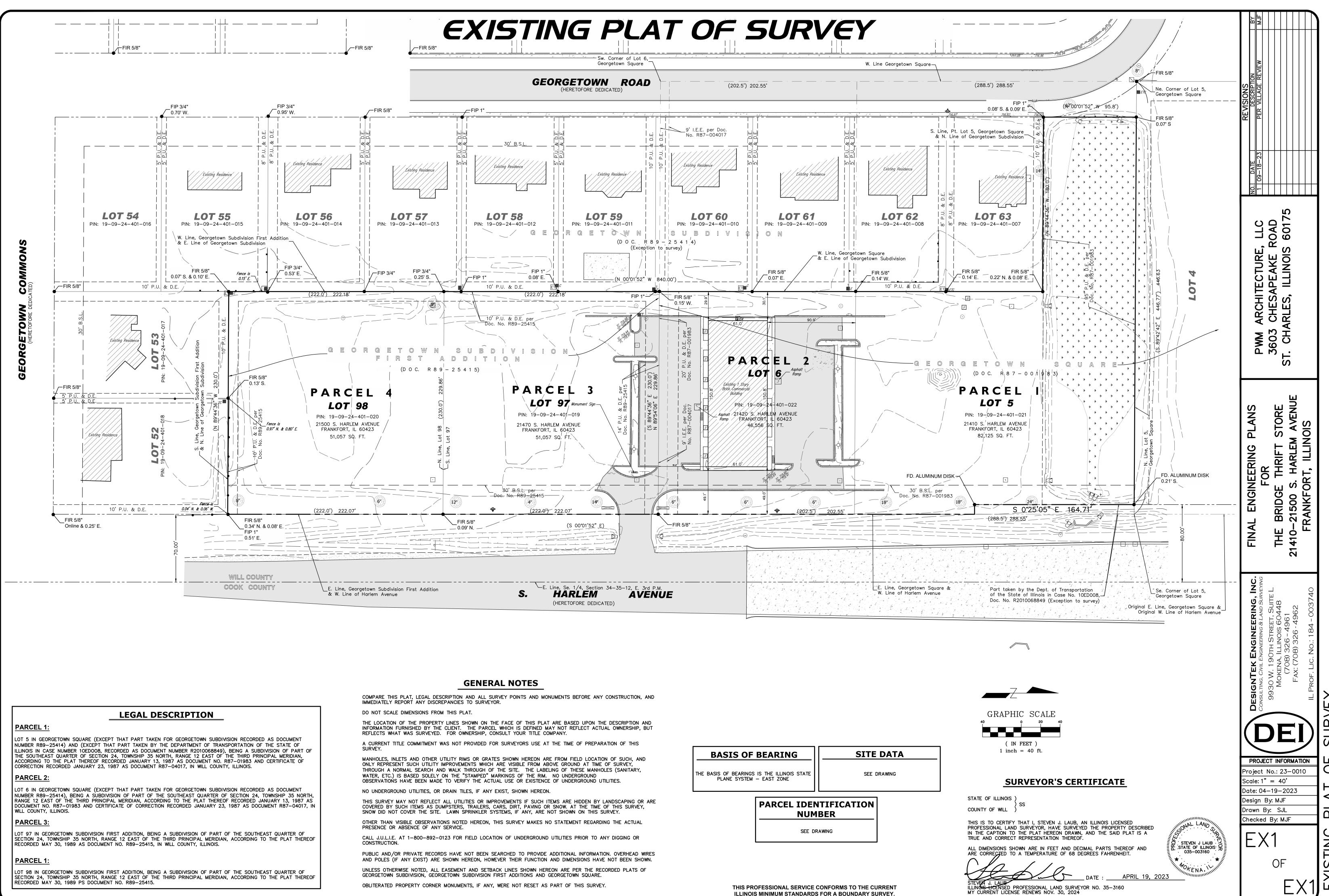


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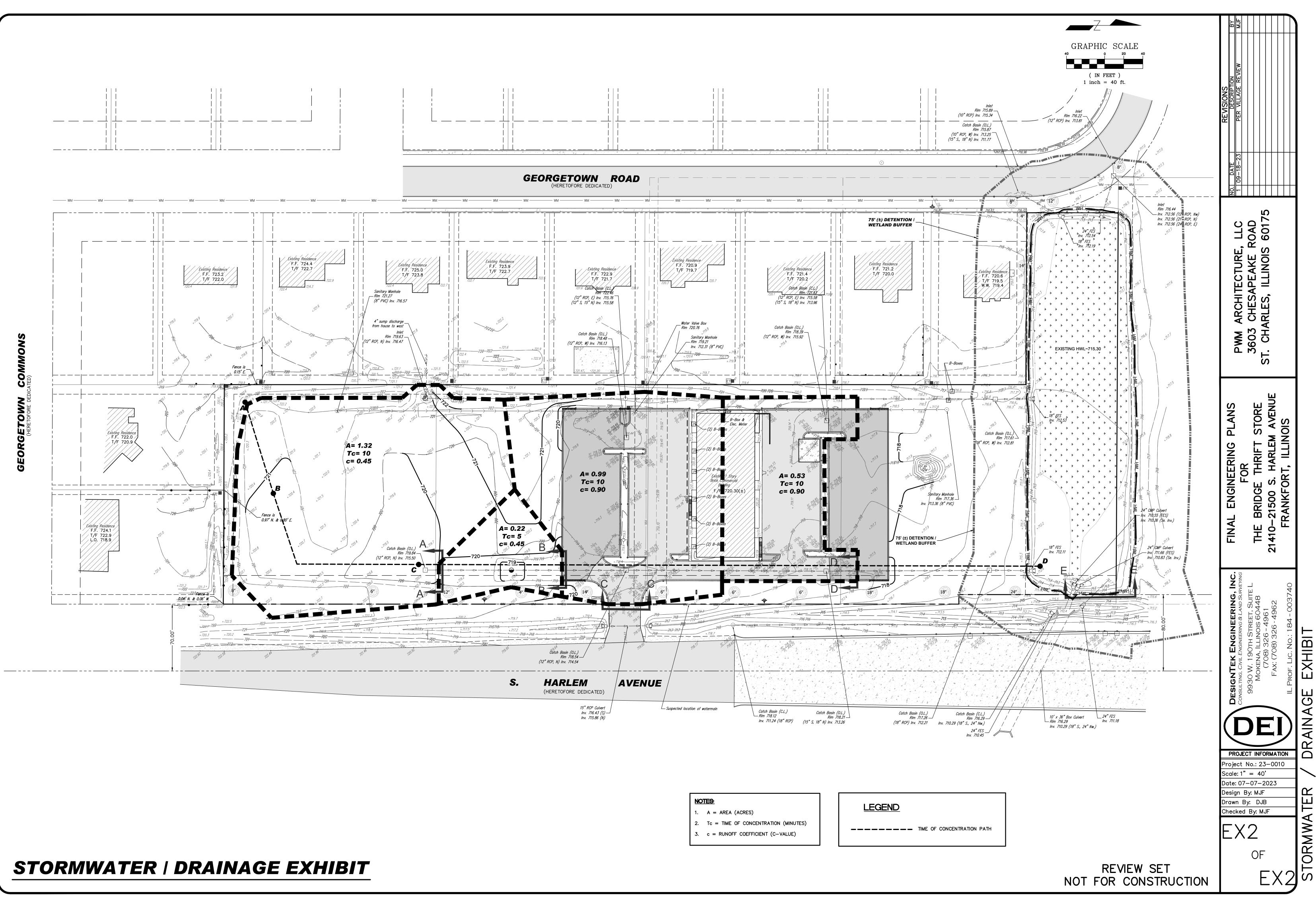








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Approved Meeting Minutes Excerpt - 7/14/22 PC/ZBA Meeting There were none.

Motion (#2): Motion to close the public hearing.

Motion by: Hogan Seconded by: Jakubowski

Approved: (4-0)

Chair Rigoni asked if the Commission had any other comments or questions.

There were none.

Motion (#3): Recommend that the Village Board approve the request for a variation from Article 6, Section B, Part 2(g)(2) of the Village of Frankfort Zoning Ordinance to permit the use of non-masonry siding on the first floor of an existing home in conjunction with proposed first floor addition and exterior remodeling in the R-2 Single-Family Residential District located at 324 Center Road, in accordance with the submitted plans, public testimony, and Findings of Fact.

Motion by: Jakubowski

Seconded by: Hogan

Approved: (4-0)

Motion (#4): Recommend that the Village Board approve the request for a variation from Article 6, Section B, Part 2(l) of the Village of Frankfort Zoning Ordinance to reduce the requirement that a basement be equal to 80% of the ground floor area of the first story to 60.55% in the R-2 Single-Family Residential District located at 324 Center Road, in accordance with the submitted plans, public testimony, and Findings of Fact.

Motion by: James Seconded by: Hogan

Approved: (4-0)

Chair Rigoni asked the applicant to contact staff with questions about the next steps for the project.

C. Workshop: 21420 S. Harlem Avenue – Thrift Home and Restoration (The Bridge Teen Center)

Schwarz summarized the staff report.

Chair Rigoni asked the applicant to step forward, and asked if she had anything to add.

Priscilla Steinmetz, the applicant, and Patrick McCarty, the architect, approached the podium.

The architect thanked staff for their help compiling information on the subject property. He explained that he had an engineer out to assess the integrity of the building, who reported that the "shell" was intact. Work would need to be done on the roof, which need

replacing. Additionally, the applicant wants to remove the existing dormers on the building to achieve a more modern-looking building. The applicant also desires to change the windows to be more modern, in particular the windows toward the back of the building, which would have shelving and storage covering them on the interior. The proposal would update the shell of the building and then create interior office, storage, and retail space. The interior would have an open concept on the sales floor. The east side would have the point-of-sale machine, while the west side would be left for offices and storage space, with the sales floor in between. For the exterior layout, the south side of the building would be considered the front. This would leave the north side for drop-off donations, logistics, and employee parking. He stated that the applicant and he were looking to comply with all relevant zoning regulations and to avoid the need for any variations. The applicant wanted to join the center two of the four lots in question into one lot, which would address parking needs for the building. It would also leave the northernmost and southernmost lots for other uses and future development. Finally, the architect stated that he was waiting for information on the status of existing utilities, namely water and sewer, to be sure that they had no issues. He was happy to answer any questions in relation to engineering or architecture, and that the applicant could speak more to the operations and use of the property.

The applicant stated she was grateful for the guidance of staff and the Plan Commission while they strive to make a difference in the community. She explained that the Bridge Teen Center operates out of Orland Park and that the organization has helped over 11,000 Lincoln-Way students over the years. The current location operates a thrift store, and the applicant is now looking to open a second location. The teen center has a job readiness program and the second location would help expand that as well. The center has served many families in Frankfort, so moving to the Village seemed like a logical next step. The job readiness program has helped students from 7th to 12th grade develop job, leadership, and professional skills. Since starting the program, current membership tripled the initial size. Emphasis with the program was placed on helping students who did not feel they had a place they belonged, and giving them a space to be themselves, while growing and learning. The teen center also offers jobs to certain teens, currently 15 teens are employed. The applicant stated that the teen center also has ongoing community service work, which is especially helpful for local high school students who struggle to find places to earn service hours which also promoted individual growth opportunities. The teen center serves 128 communities across the Chicagoland area, and the National Honor Society often connects students with the center for volunteer opportunities. Families also volunteer, not just individual teens. Needless to say, The Bridge Teen Center is flourishing at its current location, and it even serves as a model for teen programming nationwide.

The applicant continued by explaining how they wanted the proposed thrift store to not just feel like a thrift store, but instead to be an aspirational place where students could learn in an environment which felt modern. She stated they were looking to emulate Chip and Joanna Gaines, and Crate and Barrel in the design of the thrift shop. The applicant expressed her intention to promote a clean space that did not feel like a thrift store inside or out. Cameras would be installed to monitor donations. The existing thrift store uses a trailer to store and organize incoming donations and workers regularly organize the donations received and keep the space looking clean. The new location would also serve as a place to run job readiness training events, since the current location was too small.

All profits from the thrift store would be to support The Bridge. The existing store provides the center with approximately 30% of its operating budget, and a second store would allow the non-profit to become more self-sufficient, especially given the state of the economy. The proposed thrift store would store and sell donated items such as furniture and other home goods, to supplement the sale of clothing and antiques at the first location. Plants would also be sold from the thrift store.

Chair Rigoni asked the Commissioners to focus on the big picture of the proposal since the current item was a workshop.

Commissioner Jakubowski asked how donation drop-off would work, and whether it would be open to the public.

The applicant responded that donations would be accepted during retail hours.

Commissioner Jakubowski asked what intake would look like from an operational point of view.

The architect responded that there was only one entrance to the site off of Harlem Avenue. The parking lot to the north of the building would be dedicated to employee parking and donation drop-off. Donations would enter the building from the area on the plans marked as a dock enclosure and from there enter straight into the building. All logistical work would be done on the north side of the building, and the public-facing operations, including parking and entrances, would be on the south side.

Commissioner Jakubowski asked if donations would be accepted during all open hours.

The applicant responded that they would, and that someone would be on duty to bring them inside, to prevent any donations from being damaged. Customers were not supposed to see the back-of-house work being done.

Commissioner Jakubowski asked if sales and donations would happen simultaneously.

The applicant said that they would, but that weather would be a factor in whether donations would be accepted or not. The current location accepts roughly 30 donations per day, but traffic varies depending on the time of day, different seasons, weather conditions. Some donations would be turned away, if they were deemed not sellable, such as unsold items from garage sales. Information on the items the thrift store would not accept is clearly posted and publicly available, and most people abide by those rules. This proposed new location would have twice the space for donations as the current one.

The architect added that the drop-off space could be closed and locked.

The applicant explained that donations would not be accepted in bad weather.

Chair Rigoni asked if there were any comments regarding the retail component of the Special Use.

Commissioner James stated that given what was shown by the Future Land Use Map from the Frankfort Comprehensive Plan, as well as what development exists in the area currently, opening the property to a commercial use is reasonable. Ideally the building's

main entrance would face to the east towards Harlem Avenue, rather than south, but that was not feasible. He wondered if future buildings would be built to match the orientation of the existing building or to face towards Harlem Avenue.

The architect agreed that the orientation of the building was not ideal, and that if the building did not already exist they would build a structure which faced Harlem Avenue, but the applicant had no intention to demolish what was there and rebuild.

Commissioner James noted that the existing shell was originally intended for an office use, which would explain the orientation of the building. He expressed that an important consideration for the future should be whether later developments were built to look consistent with the existing building or in a way appropriate for their use, which would make the existing building stand out.

Chair Rigoni asked whether the site was developed as a Planned Unit Development.

Staff responded it was not.

The architect noted that there were originally plans for four buildings, all oriented the same way. The applicant intended to combine the middle two lots for their thrift store.

Commissioner Hogan asked if the applicant planned to purchase all four lots.

The architect stated that all four lots were being sold together. The applicant wanted to hold on to the other lots for later use or to sell to others in the future.

Staff noted that much of the northernmost lot was a mapped floodplain, which could not be built on.

The architect asked if an unfinished drive aisle at the Walgreens to the north of the property was intended to connect to the proposed thrift store.

Staff responded it was not.

Commissioner Hogan stated that the use was appropriate for the space. It did not seem like there was going to be much development nearby anytime soon, and he was glad that someone was taking an interest in the site. He noted that there were some complexities from a use perspective, but he had no real issue with the proposed use.

Chair Rigoni wondered whether other commercial developments would go that far south along Harlem Avenue. Perhaps the office use should remain across all lots, or blend the retail use with the existing zoning around it. She noted that vehicle access was challenging for the location, and that retail may not be as successful as a result. Therefore, a blend of retail with office uses may be an ideal mix. She noted it was important that there was a clear understanding of the whole development. The proposed thrift store was not like traditional commercial uses, but she wanted to keep the integrity of the office use for the other lots. She stated that she struggled with the proposal since there were still many unanswered questions in regard to the site plan. She wanted to meet the needs of the applicant while also blending with the potential future fabric of the surrounding spaces.

Commissioner Jakubowski noted that the area around the development was largely residential. Turning on or off this road anywhere but an intersection was often a challenge for drivers due to the amount of traffic at peak hours.

The applicant agreed that traffic there was rough.

Chair Rigoni stated that there was not much concern with what was there at the moment, and that she understood the applicant would improve the existing property. She wanted to know how allowing retail in that location would impact the local fabric of the community. She did not know what the intention was behind the initial B-4 Office zoning was, but was happy to see interest in the property regardless.

The architect asked if there was any support for allowing the special use on only the middle lots.

Chair Rigoni asked in response if the applicant wanted the Special Use permit for all four properties.

Staff clarified that per the application, all four parcels were under consideration for the Special Use Permit. However, that could be changed and the lot or lots granted the permit could be made clearer after a resubdivision.

Chair Rigoni stated that her understanding was that the Special Use Permit was for the lot with the existing building, not all four lots. She did not want a Special Use Permit granted for undeveloped land without knowing what would go there in the future. She then asked about how much activity was anticipated at the loading dock marked on the plans.

The architect clarified that it was a three-sided enclosure, not a loading dock, which would provide protection from the elements for items entering and leaving the store.

Commissioner Hogan asked if the proposed dock was similar to one at another location in Orland Park.

The applicant responded she was unsure. There would not be any large trucks entering the site; the space was intended for cars to pull up and load or unload items.

Commissioner James asked what kind of truck would deliver larger items such as furniture.

The architect said a box truck would deliver those items, no large vehicles.

Chair Rigoni asked if the drop-off space was intended for any sort of outdoor storage.

The architect responded it was not.

Chair Rigoni explained she did not want anything to be left outside after being dropped off.

Commissioner Hogan asked if there had been any traffic studies conducted for the site.

Chair Rigoni noted that Cook County has jurisdiction over Harlem Avenue.

The architect responded that no traffic study had been done.

Commissioner Hogan encouraged the applicant to have a traffic study done to get a sense of what kind of infrastructure would be needed and what was there already. He reiterated that granting a Special Use Permit to fewer lots was more agreeable than for all four lots. It is possible that another party may come along and look to also have a non-traditional retail space, but the main concern is with how operations would work, how traffic would flow, whether the use and design match the character of the neighborhood, and whether the space would benefit the operation of a thrift store. He also stated she would like to see landscaping in the area where the screening fence was proposed.

Chair Rigoni added that the Plan Commission typically looks for landscaping in areas like the one under consideration, and that fences were usually reserved for areas with more intense uses.

The architect responded that he had not put much work into the landscaping just yet. The limiting factor for landscape screening was the utility easement located near the rear property line.

Chair Rigoni stated that there was space for landscaping.

The architect agreed that there was space for landscaping and clarified he was just trying to manage expectations.

Commissioner Jakubowski suggested a wrought iron-style aluminum fencing in lieu of the proposed white, opaque PVC fencing.

Commissioner Hogan asked if the applicant had spoken with the neighbors about the proposal.

The architect responded that the sale of the property was not finalized yet.

The applicant added that The Bridge was trying to be fiscally smart, and would not buy the property if they would not be granted the Special Use Permit they applied for.

Chair Rigoni asked about the intention behind installing the fence along the rear property line.

The architect responded that the main intention for the fence was for screening to give the neighbors more privacy.

Chair Rigoni expressed that she would like to see more passive screening, such as landscaping, rather than just a fence.

The applicant asked whether the Plan Commission was seeking old trees and mature landscaping to screen the property.

Chair Rigoni responded that the Village had experience using landscaping to screen properties effectively, and that landscaping was preferable to a fence.

The applicant asked whether other properties incorporated both fencing and landscaping.

Chair Rigoni responded that other properties had installed both landscaping and fencing, and stated that the fencing was commonly faux wrought iron.

Commissioner Jakubowski stated that the Homeowner's Association of the nearby neighborhood may have some concerns.

Chair Rigoni asked whether the width of drive aisle on the west side of the building was currently 15 feet or would be reduced to 15 feet.

The architect stated that the drive aisle was currently 15 feet, but it would not be used to allow traffic to flow from the south to the north side of the building, or vice versa.

Chair Rigoni asked about the width of the drive aisles on the south side of the building.

The architect responded that the drive aisles were 20 feet.

Chair Rigoni remarked that typically 24 feet were required for the Fire Department.

Staff clarified that 24 feet is required for drive-aisles with parking on both sides, but 20 feet is sufficient for access and movement.

Chair Rigoni asked whether the pavement for the parking lot would just stop without a curb at its end.

The architect said that it would and that the decision to design it that way was largely a cost consideration. He noted there was enough space for vehicles to turn around via a three-point-turn, but no drive aisles would be designated for continuous flow.

Chair Rigoni stated that the applicant would need to consider how the proposed trash enclosure would impact vehicle flow on the north side of the property.

Staff mentioned that there was not a lot of buildable area available on the north side of the property.

Chair Rigoni agreed, and noted that the Plan Commission would need clarity on vehicle flow through the site to help them understand how the paved area would be laid out and allow for access to the building and space to maneuver. She then moved the discussion to the proposed architectural changes, and asked the applicant if they were going to keep the existing color of the brick.

The architect said they were not looking to keep that color, and instead change the existing red brick façade's color to an off-white.

Commissioner Jakubowski asked if there would be any technical issues with changing the color of the façade.

The architect responded there would not be, and that the applicant was intending to update the building for a more modern look.

Chair Rigoni asked what changes would be made to the roof material.

The architect said they would use darker shingles to contrast with the lighter-colored walls. In addition, the windows would be single-pane with no muntins.

Chair Rigoni stated that the proposed design did not match with the architecture of the nearby houses, which was a concern.

Commissioner Jakubowski noted that nearby commercial developments were designed to look more traditional and less modern, which was also true for the abutting residential neighborhood. The current structure matches better with the local fabric than the proposed design, which made deviation a concern. Another concern was with the covered windows on the west side of the proposed design. The renderings looked like the windows were just boarded up. She requested more detail on the design of the window covers.

Commissioner James noted that there were examples of buildings with similar designs appearing in the downtown area. He was unsure whether future nearby B-4 developments would want to match the proposed style.

The applicant noted that the proposed designs drew inspiration from Downtown Frankfort.

Chair Rigoni said that while she understood wanting to draw inspiration from local buildings, the look and feel of Downtown Frankfort was unique. Additionally, the proposed building was not in or near downtown, so nearby architecture was more important to consider and draw inspiration from. By changing the building from office use to retail use, the Plan Commission and the applicant would be changing the dynamic of the area around the property. She wondered if such a change would set a pattern for future development, and was not sure. She noted that while the proposed thrift shop was a form of retail, is was different from more traditional retail uses.

Commissioner Hogan stated that, on the other hand, denying a Special Use Permit may result in leaving the property vacant for the foreseeable future, similar to the past 30 years.

Chair Rigoni agreed, and stated she was unsure about what to do.

Staff noted that the existing structure was built in the Federalist style. Staff also noted that with the floodplain on the northern end of the property, there might only be one or two additional buildings on the property, so the number of future buildings that would have to either match or deviate from the current proposal was small.

Discussion continued about how the floodplain would impact the future development of the site.

Chair Rigoni said she wanted to make sure the design of the proposed building matched the fabric of the nearby neighborhood. It was also important to know what buildable area would be left over after the lots were resubdivided. Lastly, to make sure that the Special Use Permit, if granted, would only apply to the existing building, and not to the undeveloped lots as well.

Staff explained that the next steps for the project would include a resubdivision, which would allow for the Special Use Permit to be more specifically applied to the building and not include the adjacent undeveloped lots.

Commissioner Hogan also noted that additional detail from the applicant regarding the building renderings and proposed landscaping would also be beneficial to the Plan Commission. He suggested the applicant consider different designs for the covered windows.

Staff suggested using tinted panes to allow future uses to modify the windows in case they wished to use them as windows.

Chair Rigoni said she appreciated the design considerations which were present in the submitted materials. The Plan Commission was looking for clarity now to avoid confusion on design elements later.

Staff asked if the members of the Plan Commission were alright with the proposed modifications to the roof.

The architect explained that dormers and other decorative elements of the roof were being taken out because they had deteriorated since construction.

Staff asked the applicant if they felt that they had enough clarity on the Plan Commission's concerns with visuals and aesthetics.

The architect stated that they wanted to change the roof to look cleaner. What existed currently was a combination of non-essential utility and decorative elements which were never completed.

Chair Rigoni asked where the mechanical units would be located if the rooftop utility elements were removed.

The architect responded that those parts were not designed yet, but were planned to be located on the ground in the rear of the building.

Chair Rigoni noted that may be a future concern for the Plan Commission as well, depending on what the next round of drawings showed. The Plan Commission wanted to avoid an industrial look.

Commissioner Jakubowski asked that the applicant have more detailed renderings for the next time, since what was submitted currently had a big box store look. She said she would like some design changes so the building better matched the architecture of the nearby homes.

The applicant asked for the Plan Commission to clarify whether they wanted the brick to remain or if they were okay with the brick being painted over.

Chair Rigoni stated she was looking for a balance between nearby architecture and what the applicant was looking to do.

Staff added that the Federalist style of architecture was characterized by red brick, dark shingles, and roof dormers. Staff then asked the Plan Commission if they were alright with moving away from that design somewhat.

Chair Rigoni responded that she was, depending on what the next set of submitted designs showed.

Commissioner Hogan said the ground-level elevations showed a long, empty roofline, and that he would like to see changes to it to make it less boring.

D. Workshop: 10235 W. Lincoln Highway - Opa! Addition

Gruba summarized the case.

Chair Rigoni asked the applicant to approach the podium.

Steve Francis, the architect for the project, approached the podium. He stated that they were looking to enclose the patio so they could provide additional seating during the winter or other periods of inclement weather. The addition would match with the existing materials. The existing wall sign would move forward and remain in relatively the same location: on the gable facing Lincoln Highway. There would also be some minor changes to the exterior brickwork to accommodate the larger changes.

Chair Rigoni asked the members of the Plan Commission if they had any questions or comments about the act of enclosing the patio space.

Commissioner Hogan agreed that the restaurant needed more seating and asked if more seats would be added within the existing outdoor patio footprint.

The architect responded that the reason for the addition was to keep existing space available despite weather conditions, and that the overall amount of seating within the patio footprint would not increase beyond what it is today.

Commissioner James agreed that the addition made sense. He saw no problem with the use.

Commissioner Hogan asked if there would be any changes to square footage or if the existing exterior wall would be removed.

The architect responded there would be no change to square footage and the current exterior wall would remain.

Commissioner Jakubowski asked whether there would be four additional tables on the proposed outdoor deck area.

The architect said there would be four new tables.

Chair Rigoni asked if the proposed enclosure met the setback requirements from Route 30.

Staff responded they were unsure, but believed they did.

Approved Meeting Minutes Excerpt - 9/7/23 PC/ZBA Meeting

Lincoln Highway, in accordance with the reviewed plans, public testimony, and Findings of Fact, conditioned on final engineering approval; Motion by: Jakubowski Seconded by: Morris

Approved: (4-0)

Motion (#22): Recommend to the Village Board approval of a Variation to allow an increase of the required maximum area of a freestanding fuel station sign from 30 square feet to 48 square feet [Municipal Code Section 151.060(B)(1)(h)], for the subject property located at 7654 W. Lincoln Highway, in accordance with the reviewed plans, public testimony, and Findings of Fact, conditioned on final engineering approval;

Motion by: James	Seconded by: Jakubowski
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Approved: (4-0)

Motion (#23): Recommend to the Village Board approval of the Preliminary and Final Plat of Circle K Frankfort Subdivision, subject to any necessary technical revisions prior to recording.

Motion by: Morris	Seconded by: Jakubowski
Approved: (4-0)	

E. Workshop: 21420 S. Harlem Avenue – Thrift Home & Restoration (The Bridge Teen Center)

Mike Schwarz presented the staff report and noted that the curbs shown at the northeast corner and southwest corner of the building on the Site Plan have been requested to be removed per the Frankfort Fire Protection District.

The applicant, Rob Steinmetz, representing The Bridge Teen Center, a 501c3 non-profit corporation, along with the Project Architect, Patrick McCarty, Jr., approached the podium. Rob Steimetz stated that they have purchased the property now and that they are requesting a PUD because of all of the existing conditions of the site. The original development was supposed to include four separate office buildings that match each other and that they are now just requesting one building on one lot. Their intent is to reuse the building, get the building functional, and occupy the building. The applicant has had conversations with the Village Engineer, Frankfort Fire Protection District, and nearby homeowners. The homeowners did not want to see a fence or a berm along the shared property line. They prefer natural landscaping for screening. The existing windows and doors on the building are in bad shape. They are seeking to make it look like more of a commercial building rather than the existing 30-year-old office building.

Priscilla Steinmetz approached the podium and stated that she was the founder of the organization. The proposed thrift store would support the teen center located in Orland Park. The existing location has helped around 12,000 students. The teen center helps provide free programs for the students. She passed out a flyer for the programs that are offered.

Chair Schaeffer asked the other Commission members if they had any initial questions for the applicant. There were none.

Chair Schaeffer suggested that the commission go through the staff report headings topic by topic. On the topic of land use, there was consensus from the Commissioners regarding the proposed retail use.

Chair Schaeffer asked the applicant if the employees would be adults.

Prescilla Steinmetz responded that the leadership employees will be adults, but both adults and students can and would be volunteers.

Chair Schaeffer asked staff if there is a proposed rezoning or if the proposed retail use could be done through the proposed PUD.

Mike Schwarz replied that the existing B-4 Office District zoning has been in place on the property for many years and the applicant is not requesting to rezone. Rather, the proposed retail use is allowable as a Special Use in the B-4 Office District.

Chair Schaeffer asked staff if the proposed PUD would set a precedent for any future buildings that might later be proposed on the property.

Mike Schwarz replied that the Commissioners can discuss whether or not to include as a condition of the PUD that any future buildings that are not depicted or detailed at this time must be considered a Major Change to the PUD, which require future review of each building by staff, the Commission and the Village Board.

Patrick McCarty, Jr. stated that they wouldn't be able to build anything north of Parcel 1 as shown on the Plat of Survey. They could expand the parking lot, but there would be no buildings north of the existing building. The site drains from south to north. They potentially could only expand and build additional buildings to the south of the existing building. He noted that a utility easement for water and sanitary sewer runs right through the middle of the entire property from east to west. There is space to potentially add a future retail building and a greenhouse to the south of the existing building.

Commissioner Morris asked if the future retail building would look like a barn type building as depicted like to the submitted concept image.

Patrick McCarty, Jr. replied that the applicants are looking for an "old barn house" look if a future accessory retail building is approved. He added that the main goal is to get the proposed retail use operational, and then if it is profitable, they would consider future expansion. There is barely enough funding in their budget to get the existing building brought up to Code and up and running.

Chair Schaeffer stated that she agrees that any future change to the proposed Site Plan to add the future accessory retail building and greenhouse that are currently noted, would be deemed to be a Major Change to the PUD.

Priscilla Steinmetz stated that as a non-profit they need to consider what the community needs, so any future decisions would be based on the needs of community at that time. She added that things could change in the future.

Commissioner James stated that aspects of this project remind him of the Navarro Farm, which he sees has turned into a community asset.

Commissioner Jakubowski asked about the style of the proposed replacement windows on the existing building. She added that she would want the existing building and any potential future accessory retail building to match more in terms of architectural style than just in terms of color. She asked why they are proposing to remove the muntins from the windowpanes.

Patrick McCarty, Jr. replied that the proposed replacement windows will be aluminum in a black or bronze finish. The muntins on the existing windows would not be replaced as they are going for more of a commercial look.

Commissioner Jakubowski asked for clarification on the white vertical elements along the ridgeline of the existing roof that are shown on the building photos.

Patrick McCarty, Jr. replied that the existing roof includes three chimneys that enclose stacked vents. They do not need them anymore. A roofer will repair the existing dormers on each side of the roof, but the three chimneys would be removed.

Commissioner Schaeffer asked where the rooftop vents would go if these chimneys are removed.

Patrick McCarty, Jr. replied that a rooftop vent will only be needed on the west side of the building due to the interior floor plan. That rooftop vent currently is not shown on plans because there are no mechanical or plumbing plans yet.

Commissioner James stated that in terms of the proposed painting of the red brick, you can see that other homes in the neighborhood to the west have a lighter color brick than what is on the subject property's brick. He noted that when this project goes before the

Village Board, there might be comments that there is a big contrast from the nearby Walgreens and McDonalds which have darker brick colors.

Commissioner Jakubowski stated that she appreciates the applicants trying to make the building look different from its current appearance. She noted that this building is right next to a residential neighborhood.

Chair Schaeffer stated that she is starting to see variations in brick color from the nearby Walgreens and McDonalds buildings and she thinks that this is a good architectural change for the building.

Commissioner Jakubowski asked if the main entrance into the building on the south side is distinguished enough.

Patrick McCarty, Jr. responded that the south primary entrance will be clearly identified to visitors. On the north side of the building there will be deliveries under the canopy. There are two doors on the north side for easy flow for customers to get in and out.

Chair Schaeffer stated that she agrees that the delivery entrance makes sense to be covered. She asked staff with respect to signage what is the quantity allowed. Can there be a sign at the main entrance?

Mike Schwarz replied that as a proposed PUD the Commission and Village Board have the ability to allow flexibility related to signage. Per the Sign Regulations, wall signs are only allowed on facades that face a street or a major access aisle.

Chair Schaeffer asked if the main entrance door is a residential style door currently.

Patrick McCarty, Jr. replied yes, each of the existing doors are residential style doors and they would be replaced with commercial grade doors.

Commissioner Jakubowski asked for further information on the color and style of the new doors.

Patrick McCarty, Jr. replied that each new door would be a commercial door that matches the window frame casings and will have glazed glass with sidelights.

Commissioner Morris asked how many ADA handicap accessible spaces would be provided.

Patrick McCarty, Jr. replied that there would be a total of three handicap accessible spaces. Two would be for clients and one would be for employees. The existing parking lots include a total of 42 spaces. The proposed parking lots would provide a total of 59 spaces. He added that even with a potential future accessory retail building, the provided parking would comply with the minimum required by the Zoning Ordinance.

Chair Schaeffer asked what material is proposed on the exterior of the trash enclosure.

Patrick McCarty Jr. replied that it will be brick to match the building.

Commissioner Jakubowski stated that she will want more detail on the proposed roof material of the potential future accessory retail building. She would like to see consistency within the project in terms of architecture. It looks like we're shifting from one style of building to another. She would like to see more detail in the millwork such as the windowpanes, shutters, etc.

Chair Schaeffer stated that a small section of metal roofing or awnings might be good to consider for an architectural feature on the existing building, especially on the east side.

Commissioner James stated that he agrees to adding some architectural detail above the windows on the east side of the existing building facing Harlem Avenue.

Commissioner Morris asked if the proposed monument sign on the east side of the building would be illuminated.

Patrick McCarty, Jr. replied yes, there would be uplighting from the ground, but the sign would not be internally illuminated. Currently, there is no electrical service on the site of the proposed monument sign.

Commissioner Morris noted that the proposed Landscape Plan would be done in phases, and asked when the anticipated completion date would be.

Patrick McCarty, Jr. replied that there are basically two options. They could either provide landscaping along the west property line in areas that are missing landscaping completely, since the south property line has existing landscaping on the residential properties, or they could provide some amount of landscaping along the entire length of the abutting residential properties, and then fill in any gaps later wherever they might be a gap in the required continuous screening.

Chair Schaeffer asked the other Commissioners if they were okay with the applicant's proposed approach to phase the required landscaping along the abutting residential properties since some of the homes are already heavily landscaped. She asked staff when the second phase of landscaping would be triggered.

Patrick McCarty, Jr. replied that the final required perimeter screening for the abutting residential properties could be triggered when any future buildings are constructed.

Mike Schwarz noted that the applicant should choose plantings wisely where there are existing or proposed utility easements.

Commissioner James emphasized the importance of perimeter screening on the west side and is glad to see that there is no fence or berm along the shared property lines with the homes.

Mike Schwarz asked the Commissioners if there were any concerns about the applicant's proposal to initially not provide the required landscape screening for the two homes on the south.

Chair Schaeffer suggested that the applicant work with what is already there, but the Commission could add a condition regarding the timing of installation of the second phase of plantings.

Commissioner Jakubowski stated that she does not see the aforementioned phasing idea being managed well.

Mike Schwarz stated that there could be a potential condition that any required landscape screening along the south property line must be provided if and when any future buildings are reviewed. Any such landscaping could be reviewed at that time.

Chair Schaeffer asked the applicant and staff if they felt like there was adequate direction and feedback.

Mike Schwarz mentioned that the Comprehensive Plan calls for a bike path along the west side of Harlem Avenue. This segment is noted as part of a "Priority Gap" in the trails system on Figure 6.10 in the Comprehensive Plan. He added that at a minimum the Subdivision Ordinance requires a sidewalk which was never installed as part of the original office development.

Some discussion ensued regarding the idea of a potential cost-sharing arrangement between the applicant and the Village for a future bike path project subject to Village Administration and Village Board review and approval.

Patrick McCarty, Jr. stated that there is a drainage ditch along the west side of Harlem Avenue that would impact the ability to construct a potential bike path or sidewalk within the public right-of-way. There is also more than 900 feet of property frontage along Harlem Avenue. If either a bike path or sidewalk is required, the applicants would need to provide a public access easement on their property, which would likely require the removal of existing trees. He would like more input from their design engineer before discussing this topic. He added that the applicant is strongly opposed to constructing or paying for any such bike path or sidewalk as they simply cannot afford such a project in their current budget.

Chair Schaeffer stated that the Commission can table further bike path or sidewalk discussion so that the Village Administration, staff, and the applicant can have further discussion.

Commissioner James asked the Project Architect if he has sketched out what a future accessory retail building might look like on the Site Plan. He would like to ensure that it will be usable.

Patrick McCarty, Jr. replied that the proposed lot to the south of the existing building is a little over one acre in size. It should be sufficient to accommodate any potential future accessory retail building or greenhouse.

Chair Schaeffer suggests that the applicant not show the potential future accessory retail building and greenhouse on the Site Plan given that there are some unknowns related to the architecture and an additional use approval would be needed for exceeding the amount of retail space that is permitted in the B-4 Office District.

The applicant, Rob Steinmetz, and the Project Architect, Patrick McCarty, Jr., agreed that they would were just showing these potential future buildings to share their possible longer-term plans, but would be fine with removing them from the Site Plan, knowing that they would need to return at some point in the future requesting a Major Change to the PUD if they eventually want to propose such buildings.

A question was posed by one of the Commissioners regarding what might happen if the current owner sold the proposed undeveloped lot to the south of the existing building to another party.

Mike Schwarz noted that stated that since a PUD is being requested, any future buildings on the currently vacant proposed lot would require a Major Change to the PUD, so even if the applicant was to sell the proposed lot to another party, that other party would need to go through a future review process and public hearing.

F. Public Comments

There were no public comments.

G. Village Board & Committee Updates

There were no Village Board & Committee updates.

H. Other Business

Mike Shwarz mentioned that he will be registering any Commissioners who would like to attend the Plan Commission Training Sessions at the APA-IL State Conference by the end of the week.

I. Attendance Confirmation (September 14th, 2023)

Commissioner Morris mentioned that he will be out of the country and will not be able to attend the September 14th meeting, but he plans to be back for the September 28th meeting.

Motion (#24): Adjournment 10:05 P.M.

Motion by: Jakubowski

Seconded by: James

The motion was unanimously approved by voice vote (4-0).

Approved October 12th, 2023

As Presented <u>As Amended</u> <u>Ni Une Uwerf</u> Nichie Schaeffer, Chair <u>Churtzek Druk</u> /s/ Secretary



Findings of Fact Commissioner Evaluation Form - Special Use Permit

Article 3, Section E, Part 6 of the Village of Frankfort Zoning Ordinance lists "findings" or "standards" that the Plan Commission must use to evaluate every special use permit request. No special use shall be recommended by the Plan Commission unless all the following findings are made.

	STANDARD	NOTES	ME	ETS
a.	That the establishment, maintenance or operation of the special use will not be detrimental to, or endanger, the public health, safety, morals, comfort or general welfare.		YES	NO
b.	That the special use will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminish and impair property values within the neighborhood.		YES	NO
C.	That the establishment of the special use will not impede the normal and orderly development and improvement of the surrounding property for uses permitted in the district.		YES	NO
d.	That the exterior architectural appeal and functional plan of any proposed structure will not be so at variance with either the exterior architectural appeal and functional plan of the structures already constructed, or in the course of construction in the immediate neighborhood or the character of the applicable district, as to cause a substantial depreciation in the property values within the neighborhood.		YES	NO

e.	That the adequate utilities, access roads, drainage and/or necessary facilities have been or are being provided.	YES	NO
f.	That adequate measures have been or will be taken to provide ingress and egress so designed as to minimize traffic congestion in the public streets.	YES	NO
α.	That the special use shall, in all other respects, conform to the applicable regulations of the district in which it is located, except as such regulations may, in each instance, be modified by the Village Board, pursuant to the recommendations of the Plan Commission.	YES	NO



Review Standards Commissioner Evaluation Form - Planned Unit Development (PUD)

Article 3, Section F, Part 4 of the Village of Frankfort Zoning Ordinance lists "findings" or "standards" that the Plan Commission must use to evaluate every PUD Preliminary Plan and Final Plan. The Plan Commission shall consider the extent to which the proposal fulfills the following standards.

	STANDARD	NOTES	ME	ETS
a.	The plan is designed to protect the public health, welfare and safety.		YES	NO
b.	The proposed development does not cause substantial injury to the value of other property in the immediate area.		YES	NO
с.	The plan provides for protection of the aesthetic and function of the natural environment, which shall include, but not be limited to, flood plains, streams, creeks, lakes, ponds, wetlands, soil and geologic characteristics, air quality, vegetation, woodlands, and steep slopes.		YES	NO
d.	The plan provides for and ensures the preservation of adequate recreational amenities and common open spaces.		YES	NO
e.	Residential use areas may provide a variety of housing types to achieve a balanced neighborhood.		YES	NO

f.	The planned unit development provides land area to accommodate cultural, educational, recreational and other public and quasi-public activities to serve the needs of the residents thereof.	YES	NO
g.	The proposed development provide for the orderly and creative arrangement of all land uses with respect to each other and to the entire Village.	YES	NO

Article 3, Section F, Part 5, letter 'd' of the Village of Frankfort Zoning Ordinance lists two additional "findings" or "standards" related specifically to residential or mixed-use PUDs to permit uses that are otherwise not permitted in the underlying zoning district. For these specific types of proposals, the Plan Commission must also find the following.

	STANDARD	NOTES	MEE	TS
d1.	That the uses permitted by such exceptions are necessary or desirable and are appropriate with		YES	NO
	respect to the primary purpose of the planned unit development;			
d2.	That the uses permitted by such exception are not of such a nature or so located as to exercise a detrimental influence on the surrounding neighborhood;		YES	NO

FRANKFORT

October 26, 2023

Planning Commission / ZBA

Project:	Prestwick Country Club – Golf Cart Barn Replacement & Site Improvements
Meeting Type:	Public Hearing
Requests:	4 Zoning Variations
Location:	601 Prestwick Drive
Applicant:	Ed Tindall
Prop. Owner:	Prestwick Country Club
Representative:	Steve Weiss
Staff Reviewer:	Christopher Gruba, Senior Planner

Site Details

Lot Size:	64.23 acres (approximately)	
PIN:	19-09-25-102-009-0000	
Existing Zoning:	E-R	
Proposed Zoning:	N/A	
Future Land Use:	Parks/Open Space	
Buildings:	1 (golf cart building)	
Total Sq. Ft.:	4,320 SF (proposed)	
Adjacent Land Use Summary:		

	Land Use	Comp. Plan	Zoning
Subject Property	Golf Course	Parks/Open Space	E-R
North	Natural gas pipeline	Old Plank Road Trail	E-R
South	Golf Course	Parks/Open Space	E-R
East	Golf Course	Parks/Open Space	E-R
West	Single-Family	Parks/Open Space	E-R



Project Summary

The applicant is proposing to construct a 4,320 square foot golf cart barn to replace the existing barn in approximately the same location. The replacement barn would be only slightly larger than the existing building. This structure is classified as an accessory building in the Zoning Ordinance. Due to the size, height and placement of the golf cart barn, the project will require four (4) variations from the Zoning Ordinance as listed below. In addition to the golf cart barn replacement, the applicant is proposing minor site work including a new 9' wide asphalt path for the golf carts to enter/exit the building and a new 6" water service line would be installed from the barn to the main along Prestwick Drive. The applicant has indicated to staff that they intend to renovate and expand the existing clubhouse in the near future, but this would be part of a different review process.

The project will require the following four (4) variations:

- 1. Variation for accessory structure size: 144 square feet permitted; 4,320 square feet proposed.
- 2. Variation for accessory structure height: 15' permitted to the roof peak; 21' proposed.
- 3. Variation to permit an accessory structure in the front yard, whereas side and rear yards are permitted.
- 4. Variation to permit an accessory structure in front of the primary structure.

Attachments –

- 1. Aerial image (1:2000 scale) VOF GIS
- 2. Findings of Fact (Variation), applicant responses
- 3. Photographs of subject property (staff, October 16, 2023)
- 4. Manufacturer Specifications (lighting)
- 5. 3D renderings of cart barn, received October 6, 2023
- 6. Building Elevations of cart barn in color, received October 6, 2023
- 7. Submittal, including Site Plan, Floor Plan, Existing Conditions, Demolition Plan, Geometric Plan, Utility Plan, received October 6, 2023

Analysis (updated since the workshop) —

<u>Zoning</u>

The subject property is zoned E-R, Estate Residential. The existing zoning or use of the property will not be changed.

<u>Site Design</u>

- 1. The proposed golf cart barn would be reconstructed in almost exactly the same location as the existing barn. It would not be moved any closer to the side property line to the west. It would be moved marginally closer toward Prestwick Drive (approximately 1' or less).
- 2. The proposed accessory building would measure 21' tall to the peak of the gabled roof. The existing golf cart barn is approximately 10' to the top of the roof, which has a sloped roof typical of sheds.
- 3. The Fire District has reviewed the proposed site plan and does not have any additional comments currently.
- 4. A 9' wide asphalt golf cart path is proposed to the south of the proposed cart barn that wraps around the existing putting green. The putting green would be reconfigured slightly.
- 5. A new 6" water service line is proposed connecting the cart barn to the water main along Prestwick Drive.
- 6. All other work illustrated on the plans, including the clubhouse addition, concrete walkway, relocated catch basin and new 6" sanitary sewer line are proposed for the future and are **not** part of this project.

<u>Floorplan</u>

The floorplan for the proposed 4,320 square foot cart barn illustrates room for 69 golf carts, golf bag storage, a separate storage room, a mechanical room and a unisex bathroom. Although the building would have a vaulted ceiling, no second floor or attic space is proposed. The cart barn would be sprinklered for fire suppression.

Parking & Loading

Parking and loading would not be affected by the proposed golf cart barn or site improvements.

Architectural Style and Building Materials

1. The Zoning Ordinance does not contain any specific provisions for the architecture of this type of accessory building. However, it has been past practice that the accessory structure's architecture should

be compatible with the primary structure, in this case the clubhouse. The sides of the clubhouse are made of brick, with a Dutch gable roof comprised of wood shingles or wood composite shingles. Parts of the clubhouse's roof have dormer windows. The proposed golf cart barn would employ fiberboard lap siding and board and batten fiberboard, which are wood composites. The roof would be comprised of composite shingle shakes, also a wood composite. Three dormer windows are proposed on the side of the roof facing toward the clubhouse. The opposite side of the roof facing west would not have dormer windows. The proposed golf cart barn would not have a second floor or attic space.

2. The proposed golf cart barn would not have any ground-mounted or rooftop-mounted mechanical units. The only mechanical equipment in the barn would be two ventilation fans placed within the gables on each end, screened with louvers.

Stormwater & Drainage

Although there are extensive floodplains and wetlands within Prestwick Country Club, there are no wetlands or floodplains in the area of the golf cart barn. Stormwater and drainage is not anticipated to be greatly impacted by the proposed site improvements.

Landscaping

There are no specific landscaping requirements for the proposed work as it relates to this type of accessory building. The scope of work would involve the removal of several trees between the proposed golf cart barn and the single-family home to the west. Although the Demolition Plan indicates that two mulberry trees would be removed, during a site inspection by staff on October 16, 2023, it was noticed that 5 trees had recently been removed. Staff recommends discussing landscaping during the public hearing. Additional landscaping may be considered by the PC/ZBA as part of any conditions of approval of the variations.

<u>Lighting</u>

The building would be illuminated with interior lights as well as wall sconce lights on the exterior of the cart barn. No new light poles are proposed. There would be a total of 10 wall sconce lights, in the form of two different types. The manufacturer specifications have been provided for each type of exterior wall sconce light.

Variation Requests

The following findings of fact are used to judge the merit of a variation request. The applicant has provided responses to these findings of fact in a separate attachment.

Findings of Fact:

No variation shall be recommended by the Plan Commission, unless such Commission shall find that all three of the following criteria are met:

- 1. That the property in question cannot yield a reasonable return if permitted to be used only under the conditions allowed by the regulations in that zone;
- 2. That the plight of the owner is due to unique circumstances; and
- 3. That the variation, if granted, will not alter the essential character of the locality.

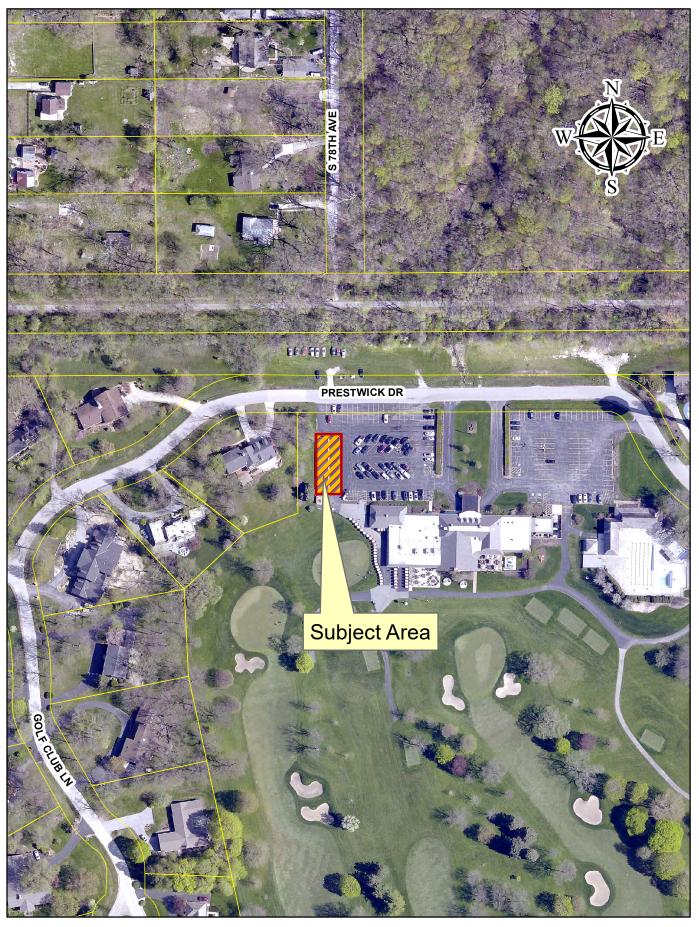
In addition to the above 3 required criteria, the Plan Commission shall also take into consideration the following 7 criteria:

- 1. That the particular physical surroundings, shape or topographical conditions of the specific property involved will bring a particular hardship upon the owner, as distinguished from a mere inconvenience, if the strict letter of the regulations was carried out;
- 2. That the conditions upon which the petition for variation is based would not be applicable, generally, to other property within the same zoning classification;
- 3. That the purpose of the variation is not based exclusively upon a desire to make more money out of the property;
- 4. That the alleged difficulty or hardship has not been created by any person presently having an interest in the property;
- 5. That the granting of the variation will not be detrimental to the public welfare or unduly injurious to other property or improvements in the neighborhood in which the property is located;
- 6. That the exterior architectural appeal and functional plan of any proposed structure will not be so at variance with either the exterior architectural appeal and functional plan of the structures already constructed, or in the course of construction in the immediate neighborhood or the character of the applicable district, as to cause a substantial depreciation in the property values within the neighborhood;
- 7. That the proposed variation will not impair an adequate supply of air to adjacent property, substantially increase the danger of fire, otherwise endanger the public safety or substantially diminish or impair property values within the neighborhood.

Affirmative Motions -

- 1. Recommend to the Village Board to approve a variation request for size from the permitted 144 square feet to 4,320 square feet per Article 5, Section D, Part 2(b) of the Zoning Ordinance, in accordance with the reviewed plans, findings of fact, and public testimony, conditioned on final engineering approval.
- 2. Recommend to the Village Board to approve a variation request for height from the permitted 15' to 21' per Article 5, Section D, Part 2(c) of the Zoning Ordinance, in accordance with the reviewed plans, findings of fact, and public testimony, conditioned on final engineering approval.
- 3. Recommend to the Village Board to approve a variation request to permit an accessory structure within a front yard, whereas only sides and rear yards are permitted per Article 5, Section D, Part 2(a) of the Zoning Ordinance, in accordance with the reviewed plans, findings of fact, and public testimony, conditioned on final engineering approval.
- 4. Recommend to the Village Board to approve a variation request to permit an accessory structure in front of the primary structure Article 5, Section D, Part 2(a) of the Zoning Ordinance, in accordance with the reviewed plans, findings of fact, and public testimony, conditioned on final engineering approval.

Prestwick Country Club - Cart Barn (variations)



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Application for Plan Commission / Zoning Board of Appeals Review Standards of Variation

Article 3, Section B, Part 3 of the Village of Frankfort Zoning Ordinance lists "findings" or "standards" that the Zoning Board of Appeals must use to evaluate every variation request. The Zoning Board of Appeals must answer the following three findings favorable to the applicant based upon the evidence provided. To assist the Zoning Board of Appeals in their review of the variation request(s), please provide responses to the following "Standards of Variation." Please attach additional pages as necessary.

1. That the property in question cannot yield a reasonable return if permitted to be used only under the conditions allowed by the regulations in that zone;

A variation is sought to allow for an existing golf cart storage building to be replaced essentially in its current location in the Prestwick Country Club property. The current cart sotrage building is located in front of the current clubhouse, which is the primary building. No changes to the side yard setback nor the front yard setback are being

- That the plight of the owner is due to unique circumstances; and The Prestwick Country Club is a unique property; it would not be able to function without the golf cart storage building.
- 3. That the variation, if granted, will not alter the essential character of the locality.

This variance seeks to replace an aging building with a new onw of similar character and scale. The new building will be closer to the character of the existing club buildings and will be is substantially better condition.

For the purpose of supplementing the above standards, the Zoning Board of Appeals also determines if the following seven facts, favorable to the applicant, have been established by the evidence. Please provide responses to the following additional "Standards of Variation."

1. That the particular physical surroundings, shape or topographical conditions of the specific property involved will bring a particular hardship upon the owner, as distinguished from a mere inconvenience, if the strict letter of the regulations was carried out;

Due to current flood plain restrictions, there is no other suitable location for the golf cart storage building. Even if other locations could be utilized, the location of the building is part of the functional plan of the golf course in relation to the clubhouse, locker rooms and golf course circulation scheme.

2. That the conditions upon which the petition for variation is based would not be applicable, generally, to other property within the same zoning classification;

The Prestwick Country Club is a unique property and the location of the golf cart storage building was determined well before the Village annexed the development. The reconstruction of the cart storage building in its current location is a completely unique condition.

3. That the purpose of the variation is not based exclusively upon a desire to make more money out of the property;

This variance has no financial goal other than replacing an existing aging building with a new one.

4. That the alleged difficulty or hardship has not been created by any person presently having an interest in the property;

This variance petition has no relationship to any person having an interest in the property other than the membership of the country club.

5. That the granting of the variation will not be detrimental to the public welfare or unduly injurious to other property or improvements in the neighborhood in which the property is located;

As a replacement to the current golf cart storage building, granting of this variance will not be detrimental to the public welfare or unduly injurious to other properties in the neighborhood.

6. That the exterior architectural appeal and functional plan of any proposed structure will not be so at variance with either the exterior architectural appeal and functional plan of the structures already constructed, or in the course of construction in the immediate neighborhood or the character of the applicable district, as to cause a substantial depreciation in the property values within the neighborhood; or

The exterior architectural design and functional character of the replacement golf cart storage building will be in general conformance with the other existing structures of the Prestwick Country Club.

7. That the proposed variation will not impair an adequate supply of air to adjacent property, substantially increase the danger of fire, otherwise endanger the public safety or substantially diminish or impair property values within the neighborhood.

The replacement golf cart storage building will not impair air supply to adjacent properties nor substantially increase the danger of fire nor otherwise endanger the public safety or property values in the neighborhood.

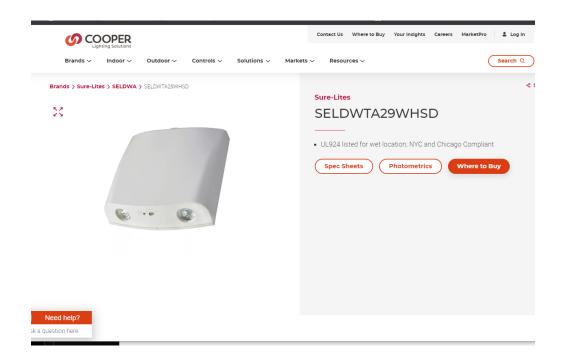












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Technical Spec







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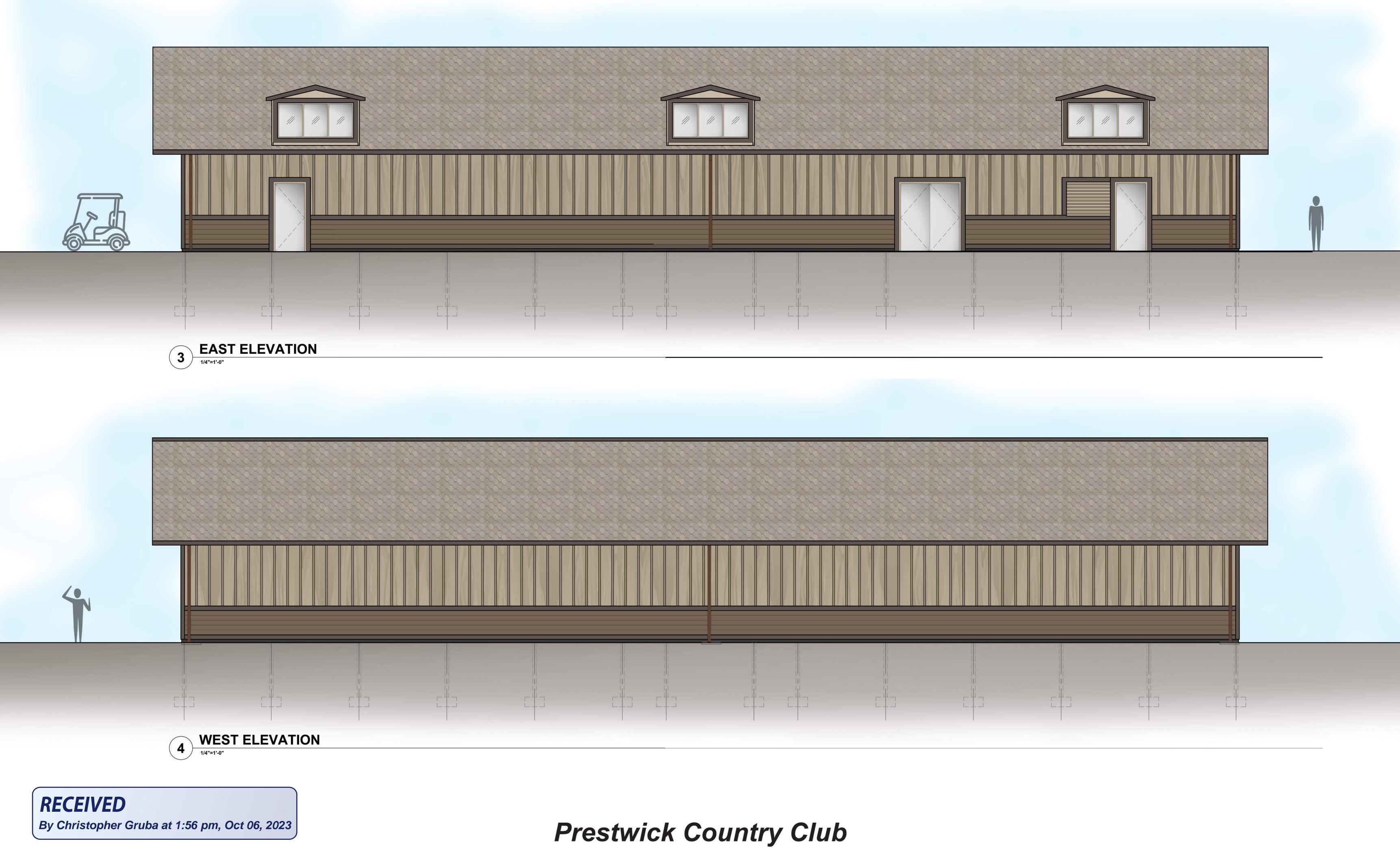
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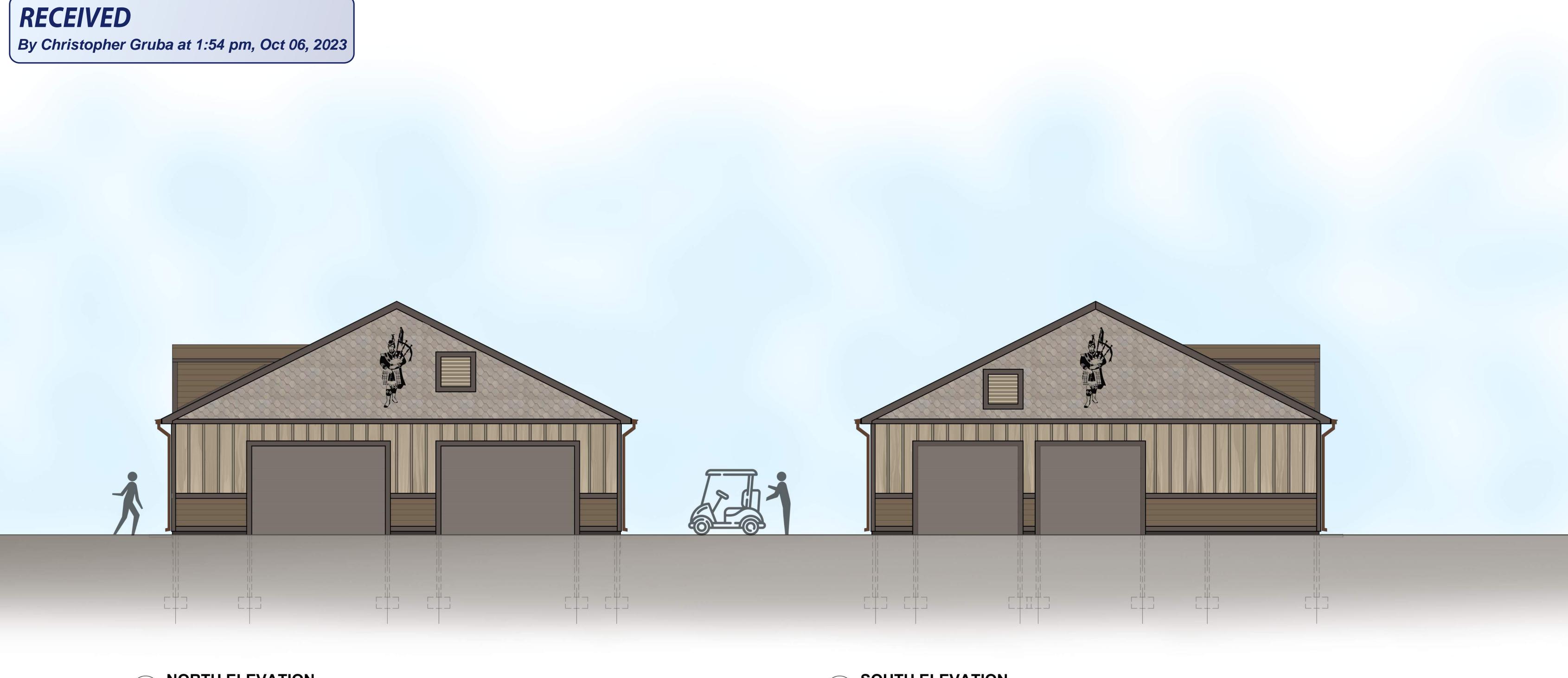
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SOUTH ELEVATION 2

Prestwick Country Club

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PRESTWICK COUNTRY CLUB

REPLACEMENT CART BARN 601 PRESTWICK DRIVE

FRANKFORT, IL 60423



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ELARA ENERGY SERVICES, INC. MECHANICAL, ELECTRICAL

& PLUMBING ENGINEERS 213 W. INSTITUTE, #702 CHICAGO, IL 60610 (708) 236-0300









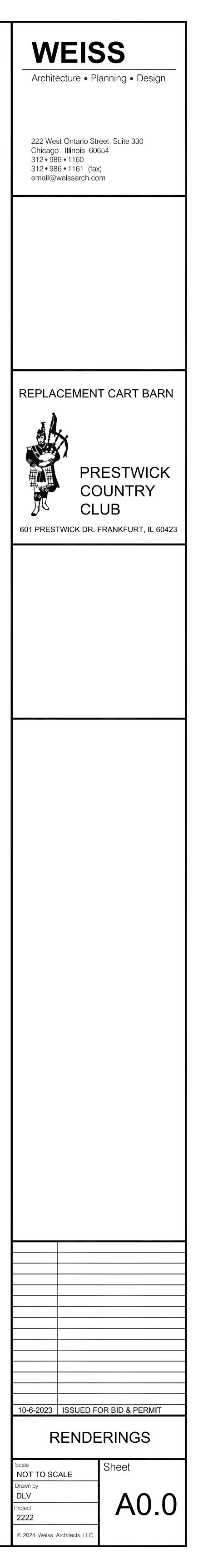


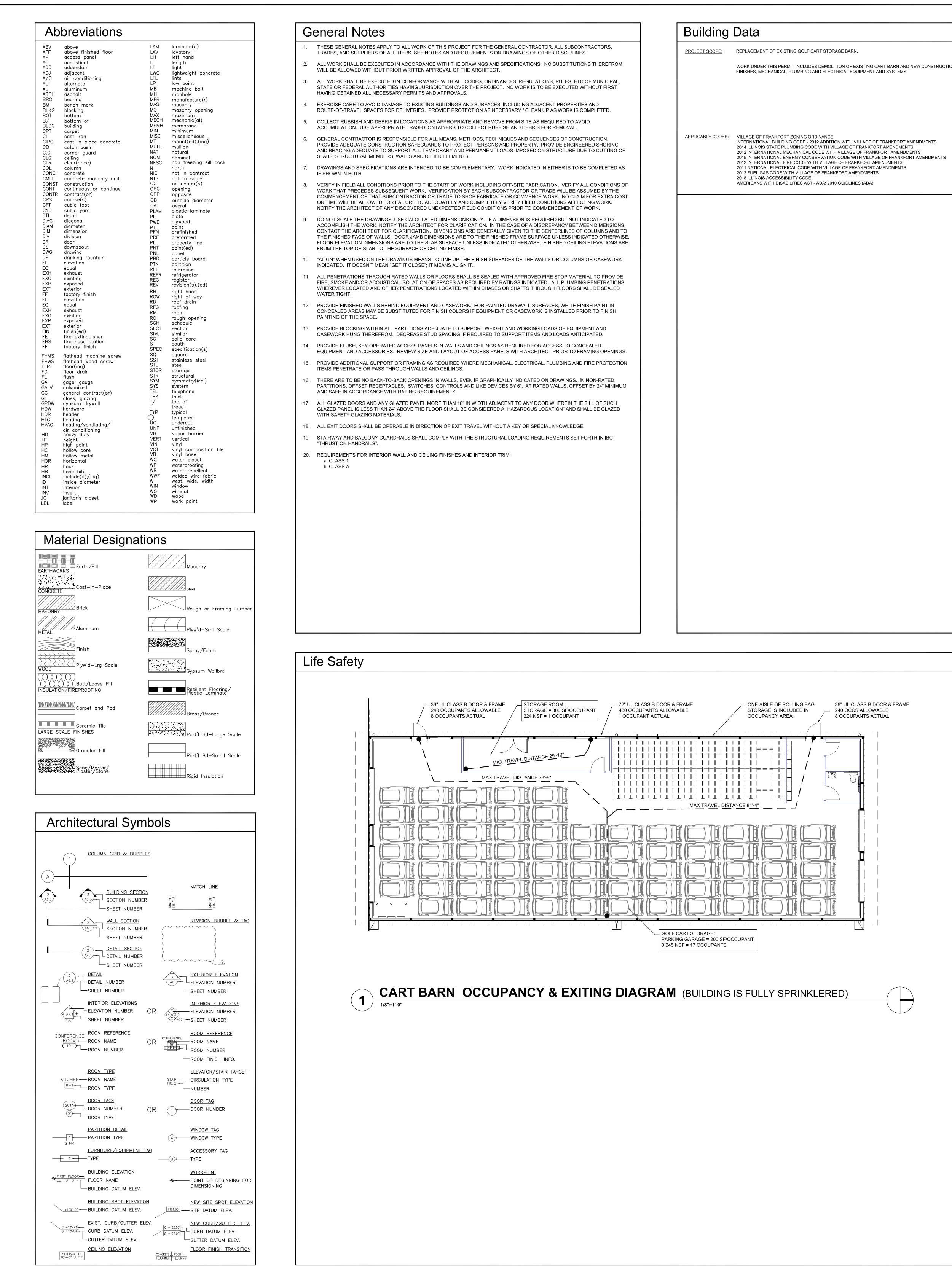
CART BARN, FROM SOUTH-EAST

CART BARN, FROM NORTH-EAST



CART BARN, INTERIOR





GE BARN.
ION OF EXISTING CART BARN AND NEW CONSTRUCTION OF SPACES AND RICAL EQUIPMENT AND SYSTEMS.
N WITH VILLAGE OF FRANKFORT AMENDMENTS LAGE OF FRANKFORT AMENDMENTS VILLAGE OF FRANKFORT AMENDMENTS CODE WITH VILLAGE OF FRANKFORT AMENIDMENTS

		DES
		ISSUED FOR CONCEPTUAL 2-3-2023
		3 EPT
SHEET		
NUMBER	SHEET NAME	2-3 2-3
	COVER	X
A0.0	RENDERINGS	
A0.1	DRAWING INDEX, SYMBOLS, LIFE SAFETY PLANS, CODES & NOTES	
A0.2	GENERAL REQUIREMENTS	
A0.3 A0.4	ARCHITECTURAL SPECIFICATIONS ARCHITECTURAL SPECIFICATIONS	
A0.4	ARCHITECTURAL SPECIFICATIONS	
, 1010		
A1.1	OVERALL SITE PLAN	X
A10.1		
A10.1 A10.2	CART BARN SITE PLAN & ROOF PLAN CART BARN FLOOR PLANS & ELEVATIONS	X
A10.2	CART BARN SECTIONS & DETAILS	
A10.4	CART BARN DETAILS	
C1		
C2 C3	EXISTING CONDITIONS DEMOLITION PLAN	
C3 C4	GEOMETRIC PLAN	
C5	GRADING / UTILITY PLAN	
C6	CONSTRUCTION DETAILS	
C7	DETAILS	
MO 4		
M0.1 M1.1	MECHANICAL SYMBOLS, ABBREVIATIONS AND NOTES MECHANICAL NEW WORK PLAN	
P0.1	PLUMBING SYMBOLS, ABBREVIATIONS AND NOTES	
P1.1	PLUMBING NEW WORK PLAN - CART BARN	
P3.1 P4.1	PLUMBING DETAILS PLUMBING SPECIFICATIONS	
F4.1		
FP0.1	FIRE PROTECTION SYMBOLS, ABBREVIATIONS AND NOTES	
FP1.1	FIRE PROTECTION NEW WORK PLAN - CART BARN	
FP2.1	FIRE PROTECTION DETAILS	
FP3.1	FIRE PROTECTION SPECIFICATIONS	
E0.1	ELECTRICAL SYMBOLS, ABBREVIATIONS AND NOTES	
E1.1	ELECTRICAL NEW WORK PLAN - CART BARN	
E2.1	ELECTRICAL LIGHTING PLANS	

Index of Drawings

THESE DRAWINGS HAVE BEEN PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND AND, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, COMPLY WITH THE REC OF THE BUILDING CODES AND ORDINANCES ADOPTED BY THE VILLAGE OF FRANKFORT, ILL

STEVEN F. WEISS ILLINOIS REGISTERED ARCHITECT #01-008425 LICENSE EXPIRES NOVEMBER 30, 2024

Building Code Data

Use Group Classification Occupancy Classifications:

Special Requirements Based on Use and Occupancy

Automatic Sprinkler System required for Cart Barn per IFC 903.2.10 (Frankfor Fire Alarm System is required in Addition and in Cart Barn, manual fire alarm, and NFPA 72 compliant central station alarm monitoring center, per IFC 907.2 **Building Area Summary**

Existing Cart Barn

Replacement Cart Barn Construction Type Existing Cart Barn Replacement Cart Barn Required fire resistance ratings **Building Height**

Cart Barn Actual Floor Area Per Floor

Cart Barn Allowable

Cart Barn Actual

Cart Barn Allowable (S-2, V-B)

60 ft./ 3 stories (Fully sprinklered) 21'-6"/ 1 story

54,000 SF (Fully sprinklered) 4,320 SF





]	W	EIS	S
	ISSUED FOR CONCEPTUAL DESIGN 2-3-2023	R C DESIGN	ISSUED FOR CART BARN BID & PERMIT 10-6-2023					Architec	ture • Pla	anning • Design
DES & NOTES	X CONCEPTU	X X SCHEMATIC 3-17-2023	X X X X X ISSUED FO					222 West (Chicago 312 • 986 • 312 • 986 • email@we	Illinois 606 1160 1161 (fax))
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								601 PRESTW	/ICK DR. F	RANKFURT, IL 60423
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MY DIRECT SUPERVIS ELIEF, COMPLY WITH E VILLAGE OF FRANKF	THE REQUIF	REMENTS								
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Group S-2	Golf Cart	Storage E	3arn					SSUF	MITO	
<u>ncy</u> er IFC 903.2.10 (F Barn, manual fire ring center, per IF(alarm, mo	onitored b	y Frankfort F	ire Protection		proved		S S S S S S S S S S S S S S S S S S S	ן ש (T FOF
3,813 SF 4,320 SF								ZAWII		
Type V-B Type V-B 0 hours								Ц Ц Ц С		S
ft./ 3 stories sprinklered)								Ц Ц Н		
1'-6"/ 1 story 54,000 SF sprinklered)										
4,320 SF										
			Country Club Hil	s						
	80									
	1.67									
PROJE	ECT	LOC	ATION	Olyme						
LINC	OLN	HWA	- US	30				3-17-2023	SCHEMAT	DR BID & PERMIT
				Righton Park				NOTI	ES, L	CODES, OCATION Sheet
								NOT TO SCAL Drawn by - Project 2222	.⊏	A0.1
								© 2024 Weiss Arch	nitects, LLC	

SECTION 007200 - GENERAL CONDITIONS PART 1 - GENERAL	"Architect's Supplemental Instructions". B. Owner-Initiated Proposal Requests: Architect will is
 DESCRIPTION A. The <u>General Conditions of the Contract for Construction - AIA Document A201-2017</u>, as modified for this project, are a part of this project and are incorporated herein as if 	changes in the Work. 1. Proposal Requests are not instructions either to
appearing in full. B. ADDITIONAL INSURED: In accordance with the requirements of the General	proposed change. 2. Within time specified in Proposal Request or 20 receipt of Proposal Request, submit a quotation
Conditions and prior to commencement of work covered under this contract, Contractor shall submit Certificates of Insurance indicating compliance with the requirements of	Contract Sum and the Contract Time. C. Contractor-Initiated Proposals: If latent or changed
this contract and naming the following entities as Additional Insureds: 1. PRESTWICK COUNTRY CLUB	Contract, Contractor may initiate a claim by submitti D. On Owner's approval of a Proposal Request, Archite
 WEISS ARCHITECTS, LLC K ENG LLC 	of Owner and Contractor on AIA Document G701, fo Contract Time.
 ELARA ENGINEERING JOSEPH A SCHUDT & ASSOCIATES 	E. Architect may issue a Construction Change Directiv Change Directive instructs Contractor to proceed wi inclusion in a Change Order.
The coverage afforded the additional insureds shall be primary insurance for the insured or additional insured with respect to claims arising out of operations performed by or on behalf of the named	 Construction Change Directive contains a comp also designates method to be followed to deterring
insured. If the additional insureds have other insurance which is applicable to the loss, such other insurance shall be treated as excess or contingent coverage. The extent of the insurer's liability	Contract Time. 2. Documentation: Maintain detailed records on a
under this insurance policy shall not be reduced by the existence of such other insurance.	the Construction Change Directive. After comp account and supporting data necessary to subs
. INDEMNIFICATION: To the fullest extent permitted by law, the General Contractor and all contractors and subcontractors of any tier shall waive any right of contribution and, with respect to the Indemnified Parties, any limitation of liability under Worker Compensation laws, and shall indemnify and hold	Contract. PART 2 - PRODUCTS (Not Used)
harmless the Owner and Owners, the Architect and their agents and employees and consultants (the Indemnified Parties") from and against all claims, damages, losses and expenses ("Claims"), including but not limited to attorneys' fees and economic or consequential damages, arising out of, resulting	PART 3 - EXECUTION (Not Used)
from or in connection with the performance of the Work, provided that any such Claim, is caused in whole or in part by any negligent act or omission of the General Contractor, any Contractor, any	SECTION 013000 - ADMINISTRATIVE REQUIREMENTS
Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by an Indemnified Party. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation	PART 1 - GENERAL 1.1 PROJECT MANAGEMENT AND COORDINATION
of indemnity which would otherwise exist as to any party or person described in this Agreement. In any and all Claims against any Indemnified Party by any employee of the General Contractor,	 A. Subcontract List: Submit a written summary identify portion of the Work.
any Contractor or any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this Paragraph shall not be limited in any way by any limitation on the amount or type of damages,	 Key Personnel Names: Within 15 days of starting c personnel assignments, including superintendent ar
compensation or benefits payable by or for the General Contractor, any Contractor or any Subcontractor under worker compensation acts, disability benefit acts or other employee benefits	site. List e-mail addresses and telephone numbers.C. Coordinate construction operations included in diffe efficient and orderly installation of each part of the V
acts. The term 'Claim' as used in this Paragraph shall be construed to include, but not be limited to (1)	 D. Requests for Information (RFIs): On discovery of th interpretation of the Contract Documents, Contracto
njury or damage consequent upon the failure of or use or misuse by the General Contractor, any Contractor, its Subcontractors, agents, servants or employees, of any kind of items of equipment, whether or not the same be owned, furnished or loaned by Owner, General Contractor, or any	AIA Document G716 or similar form. E. Schedule and conduct progress meetings at Project
Contractor; (2) all attorneys' fees and costs incurred in bringing an action to enforce the provisions of this indemnity or any other indemnity contained in the Contract Documents; and (3) time	Architect of meeting dates and times. Require atter concerned with current progress or involved in plan
expended by the Indemnified Party and its employees, at their usual rates plus costs of travel, ong distance telephone and reproduction of documents.	activities. Record minutes and distribute to everyone con
Only to the extent necessary to prevent this provision from being void under 740 ILCS 35/1, et seq., entitled "Indemnification of person from person's own negligence", this indemnity agreement shall not	1.2 SUBMITTAL ADMINISTRATIVE REQUIREMENTSA. Architect's Digital Data Files: Upon specific request
require the Contractor to indemnify any Indemnified Party against that party's own negligence. T 2 - PRODUCTS (Not Used)	data files of the Contract Drawings will be provided preparing submittals.
T 3 - EXECUTION (Not Used) OF SECTION 007200	 Architect will furnish Contractor one set of digita Drawings for use in preparing Shop Drawings a
	a. Architect makes no representations as to th drawing files as they relate to the Contract
TION 011000 - SUMMARY T 1 - GENERAL	 b. Contractor shall execute a data licensing ag AIA Document C106, Digital Data Licensing B. Coordinate each submitted with fabrication, number
PROJECT INFORMATION	 B. Coordinate each submittal with fabrication, purchasi related activities that require sequential activity. 1. No extension of the Contract Time will be authority.
Project Identification: DEMOLITION OF EXISTING GOLF CART STORAGE BUILDING AND CONSTRUCTION OF NEW REPLACEMENT BUILDING, INCLUDING ASSOCIATED SITE WORK, MECHANICAL, PLUMBING, FIRE PROTECTION, AND ELECTRICAL WORK.	 No extension of the Contract Time will be autho submittals enough in advance of the Work to pe All submittals are to be submitted as electronic
Owner: PRESTWICK COUNTRY CLUB Architect: Weiss Architects, LLC, 222 West Ontario Street, Suite 330, Chicago, Illinois 60654;	 All submittals are to be submitted as electronic must include, either within the pages of the sub- a. Project name.
312/986-1160. Structural Consultant for Cart Barn: K.Eng LLC, 1017 W. Washington Blvd., Chicago, Illinois	b. Date.
60607; 312/238-8968 Structural Engineer of Record for Cart Barn: Lester Buildings, LLC, 1111 2nd Avenue South,	c. Name and address of Contractor.d. Name and address of subcontractor or support of subcontractor of subcontractor or support of subcontractor of sub
Lester Prairie, Minnesota 55354; 320/395-2531. MEP/FP Engineer: Elara Engineering, Chicago, Illinois; 708/236-0300.	e. Number and title of appropriate Specificatio C. Electronic Submittals: Identify and incorporate infor
Civil Engineer: Joseph A Schudt & Associates, 9455 Enterprise Drive, Mokena, Illinois 60448, 708/720-1000	follows: 1. Assemble complete submittal package into a si
WORK RESTRICTIONS	requirements of a single Specification Section a2. Name file with unique identifier, including project
Contractor's Use of Premises: During construction, Contractor will have use of site, subject to work rules and restrictions of the Owner, the Village of Frankfort and others having jurisdiction.	and revision identifier.3. Provide means for insertion to permanently reconstruction to permanently reconstruction.
F 2 - PRODUCTS (Not Used) F 3 - EXECUTION (Not Used)	markings and action taken by Architect. D. Identify options requiring selection by Architect.
TION 012000 - PRICE AND PAYMENT PROCEDURES	E. Identify deviations from the Contract Documents onF. Contractor's Construction Schedule Submittal Proce
ALLOWANCES	 Submit required submittals in the following form a. PDF electronic file.
A Advise Architect of the date when selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.	 Contractor's Construction Schedule: Initial sche schedule for entire construction period.
Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.	 Coordinate Contractor's construction schedule v schedule, progress reports, payment requests, s
Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include taxes, freight and delivery to Project	PART 2 - PRODUCTS 2.1 SUBMITTAL PROCEDURES
site. ALTERNATES	A. General Submittal Procedure Requirements: Prepa individual Specification Sections.
Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the Base Bid amount if	 Post electronic submittals as PDF electronic file established for Project or, upon mutual agreement
Owner decides to accept a corresponding change either in the amount of construction to be ompleted or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.	management method. a. Architect will return annotated file. Annotat
 Alternates described in this Section are part of the Work only if enumerated in the Agreement. 	electronic Project record document file. 2.2 ACTION SUBMITTALS
2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the	 A. Product Data: Mark each submittal to show application following:
Contract Sum. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate	 Manufacturer's written recommendations, produ instructions.
 work of the alternate into Project. 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated. 	 Wiring diagrams showing factory-installed wiring Printed performance curves and operational rar
Notification: Immediately following award of the Contract, notify each party involved, in writing, whether alternates have been accepted, rejected, or deferred for later consideration.	 Testing by recognized testing agency. Compliance with specified standards and requir
PAYMENT PROCEDURES	 B. Shop Drawings: Prepare Project-specific informatio Shop Drawings on reproductions of the Contract Do
Submit a Schedule of Values in accordance with the Contract. Application for Payment. Break down the Contract Sum into at least one line item for each Specification Section in the Project Manual table of contents.	the following: Dimensions and identification of products.
1. Arrange schedule of values consistent with format of AIA Document G703.	 Fabrication and installation drawings and rough Wiring diagrams showing field-installed wiring.
 Round amounts to nearest whole dollar; total shall equal the Contract Sum. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and 	 4. Notation of coordination requirements. 5. Notation of dimensions established by field means
Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.4. Provide separate line items in the schedule of values for initial cost of materials and for total	 C. Samples: Submit Samples for review of kind, color, of these characteristics between submittal and actual
 Provide separate line items in the schedule of values for initial cost of materials and for total installed value of that part of the Work. Provide a separate line item in the schedule of values for each allowance. 	Include name of manufacturer and product name on 1. If variation is inherent in material or product, sul
Application for Payment Forms: Use AIA Document G702 and AIA Document G703.	2.3 INFORMATIONAL SUBMITTALS
Submit three copies of each application for payment according to the schedule established in Owner/Contractor Agreement.1. Notarize and execute by a person authorized to sign legal documents on behalf of	A. Qualification Data: Include lists of completed project names and addresses of architects and owners, and
 Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. With each Application for Payment, submit waivers of mechanic's liens from 	 B. Product Certificates: Prepare written statements on product complies with requirements in the Contract
 With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application. 	2.4 CONTRACTOR'S CONSTRUCTION SCHEDULEA. Gantt-Chart Schedule: Submit a comprehensive, fu
 Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is 	 B. Preparation: Indicate each significant construction a
lawfully entitled to a lien. RT 2 - PRODUCTS (Not Used)	each week with a continuous vertical line. C. Recovery Schedule: When periodic update indicate
<u>SCHEDULE OF ALLOWANCES</u>	behind the current approved schedule, submit a ser by which Contractor intends to regain compliance w
. To Be Determined	working hours, working days, crew sizes, and equip indicate date by which recovery will be accomplishe
ALL OTHER MATERIALS, ITEMS AND EQUIPMENT ARE TO BE FURNISHED AND INSTALLED WITHIN THE CONTRACT SUM.	PART 3 - EXECUTION 3.1 SUBMITTAL REVIEW
SCHEDULE OF ALTERNATES	A. Review each submittal and check for coordination w compliance with the Contract Documents. Note cor approval stamp before submitting to Architect.
A. To Be Determined	 B. Architect will review each action submittal, make ma required, will stamp each submittal with an action st
CTION 012500 - SUBSTITUTION PROCEDURES	indicate action. C. Informational Submittals: Architect will review each
RT 1 - GENERAL SUBSTITUTION PROCEDURES	it if it does not comply with requirements. Architect party.
. Substitutions include changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.	 Submittals not required by the Contract Documents discarded.
Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and	3.2 CONTRACTOR'S CONSTRUCTION SCHEDULEA. Updating: At monthly intervals, update schedule to
title and Drawing numbers and titles. 1. Substitution Request Form: Use CSI Form 13.1A.	activities. Issue schedule before each regularly sch B. Distribute copies of approved schedule to Owner, A
 Submit requests within 30 days after the Notice of Award. Identify product to be replaced and show compliance with requirements for substitutions. 	inspecting agencies, and parties identified by Contra responsibility. When revisions are made, distribute
Include a detailed comparison of significant qualities of proposed substitution with those of the Work specified, a list of changes needed to other parts of the Work required to	
accommodate proposed substitution, and any proposed changes in the Contract Sum or the Contract Time should the substitution be accepted.	SECTION 014000 - QUALITY REQUIREMENTS PART 1 - GENERAL
 Architect will review proposed substitutions and notify Contractor of their acceptance or rejection. If necessary, Architect will request additional information or documentation for evaluation. 	1.1 SECTION REQUIREMENTS
	 A. I esting and inspecting services are required to verif or indicated. These services do not relieve Contrac Contract Document requirements.
 Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or 	·
 Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later. Do not submit unapproved substitutions on Shop Drawings or other submittals. 	 B. Referenced Standards: If compliance with two or m standards establish different or conflicting requirement
 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later. Do not submit unapproved substitutions on Shop Drawings or other submittals. RT 2 - PRODUCTS (Not Used) 	standards establish different or conflicting requirement requirement. Refer uncertainties to Architect for a dC. Minimum Quantity or Quality Levels: The quantity or
 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later. Do not submit unapproved substitutions on Shop Drawings or other submittals. RT 2 - PRODUCTS (Not Used) 	 standards establish different or conflicting requirement requirement. Refer uncertainties to Architect for a d C. Minimum Quantity or Quality Levels: The quantity or the minimum. The actual installation may exceed the Indicated numeric values are minimum or maximum
 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later. Do not submit unapproved substitutions on Shop Drawings or other submittals. RT 2 - PRODUCTS (Not Used) RT 3 - EXECUTION (Not Used) 	 standards establish different or conflicting requirement requirement. Refer uncertainties to Architect for a d C. Minimum Quantity or Quality Levels: The quantity of the minimum. The actual installation may exceed the Indicated numeric values are minimum or maximum requirements. Refer uncertainties to Architect for a D. Test and Inspection Reports: Prepare and submit c
 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later. Do not submit unapproved substitutions on Shop Drawings or other submittals. RT 2 - PRODUCTS (Not Used) 	 standards establish different or conflicting requirement requirement. Refer uncertainties to Architect for a d Minimum Quantity or Quality Levels: The quantity of the minimum. The actual installation may exceed the Indicated numeric values are minimum or maximum requirements. Refer uncertainties to Architect for a

involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710,

sal Requests: Architect will issue a detailed description of proposed

- ts are not instructions either to stop work in progress or to execute the fied in Proposal Request or 20 days, when not otherwise specified, after al Request, submit a quotation estimating cost adjustments to the
- roposals: If latent or changed conditions require modifications to the nay initiate a claim by submitting a request for a change to Architect.
- of a Proposal Request, Architect will issue a Change Order for signatures ctor on AIA Document G701, for all changes to the Contract Sum or the
- Construction Change Directive on AIA Document G714. Construction ructs Contractor to proceed with a change in the Work, for subsequent
- nge Directive contains a complete description of change in the Work. It nethod to be followed to determine change in the Contract Sum or the
- Maintain detailed records on a time and material basis of work required by Change Directive. After completion of change, submit an itemized porting data necessary to substantiate cost and time adjustments to the

STRATIVE REQUIREMENTS

- MENT AND COORDINATION
- mit a written summary identifying individuals or firms proposed for each Within 15 days of starting construction operations, submit a list of key
- ts, including superintendent and other personnel in attendance at Project esses and telephone numbers. on operations included in different Sections of the Specifications to ensure
- stallation of each part of the Work. ion (RFIs): On discovery of the need for additional information or ontract Documents, Contractor shall prepare and submit an RFI. Use
- t progress meetings at Project site at weekly intervals. Notify Owner and lates and times. Require attendance of each subcontractor or other entity nt progress or involved in planning, coordination, or performance of future
- and distribute to everyone concerned, including Owner and Architect. STRATIVE REQUIREMENTS
- a Files: Upon specific request for each individual use, Electronic digital act Drawings will be provided by Architect for Contractor's use in
- ish Contractor one set of digital data drawing files of the Contract in preparing Shop Drawings and Project record drawings. kes no representations as to the accuracy or completeness of digital data
- as they relate to the Contract Drawings. all execute a data licensing agreement in the form of
- nt C106, Digital Data Licensing Agreement. nittal with fabrication, purchasing, testing, delivery, other submittals, and
- ne Contract Time will be authorized because of failure to transmit i in advance of the Work to permit processing, including resubmittals. to be submitted as electronic documents, in PDF format. Each submittal er within the pages of the submittal or on cover sheet,
- ldress of subcontractor or supplier. title of appropriate Specification Section.
- Identify and incorporate information in each electronic submittal file as
- ete submittal package into a single indexed file incorporating submittal single Specification Section and transmittal form. ique identifier, including project identifier, Specification Section number,
- r insertion to permanently record Contractor's review and approval
- m the Contract Documents on submittals. tion Schedule Submittal Procedure
- submittals in the following format:
- struction Schedule: Initial schedule, of size required to display entire
- actor's construction schedule with the schedule of values, submittal ss reports, payment requests, and other required schedules and reports.
- ocedure Requirements: Prepare and submit submittals required by bmittals as PDF electronic files directly to Architect's FTP site specifically
- oject or, upon mutual agreement, via email or other document return annotated file. Annotate and retain one copy of file as an
- ach submittal to show applicable products and options. Include the ritten recommendations, product specifications, and installation
- showing factory-installed wiring.
- nce curves and operational range diagrams.
- specified standards and requirements. are Project-specific information, drawn accurately to scale. Do not base productions of the Contract Documents or standard printed data. Include
- stallation drawings and roughing-in and setting diagrams. showing field-installed wiring.
- sions established by field measurement. nples for review of kind, color, pattern, and texture and for a comparison s between submittal and actual component as delivered and installed. afacturer and product name on label.
- rent in material or product, submit at least three sets of paired units that clude lists of completed projects with project names and addresses,
- s of architects and owners, and other information specified. Prepare written statements on manufacturer's letterhead certifying that equirements in the Contract Documents
- Submit a comprehensive, fully developed, horizontal Gantt-chart-type s of date established for the Notice of Award. each significant construction activity separately. Identify first workday of
- When periodic update indicates the Work is 5 or more calendar days proved schedule, submit a separate recovery schedule indicating means ntends to regain compliance with the schedule. Indicate changes to g days, crew sizes, and equipment required to achieve compliance, and
- al and check for coordination with other Work of the Contract and for Contract Documents. Note corrections and field dimensions. Mark with
- ach action submittal, make marks to indicate corrections or modifications ach submittal with an action stamp, and will mark stamp appropriately to
- als: Architect will review each submittal and will not return it, or will return with requirements. Architect will forward each submittal to appropriate d by the Contract Documents may not be reviewed and may be
- NSTRUCTION SCHEDULE intervals, update schedule to reflect actual construction progress and dule before each regularly scheduled progress meeting.
- proved schedule to Owner, Architect, subcontractors, testing and and parties identified by Contractor with a need-to-know schedule revisions are made, distribute updated schedules to the same parties.
- g services are required to verify compliance with requirements specified ervices do not relieve Contractor of responsibility for compliance with the
- : If compliance with two or more standards is specified and the ifferent or conflicting requirements, comply with the most stringent
- ncertainties to Architect for a decision. Quality Levels: The quantity or quality level shown or specified shall be tual installation may exceed the minimum within reasonable limits. ues are minimum or maximum, as appropriate, for the context of
- Reports: Prepare and submit certified written reports specified in other d Certificates: For Owner's records, submit copies of permits, licenses,
- on reports, notices, receipts for fee payments, and similar documents, ance with standards and regulations bearing on performance of the Work. F. Professional Engineer Qualifications: A professional engineer who is legally qualified to

- practice in the State of Illinois and who is experienced in providing engineering services of the kind indicated. G. Testing Agency Qualifications: An independent agency with the experience and capability to
- conduct testing and inspecting indicated; and where required by authorities having jurisdiction, that is acceptable to authorities. H. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's
- responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
- 1. Notify Architect and Contractor of irregularities or deficiencies in the Work observed during performance of its services. 2. Do not release, revoke, alter, or increase requirements of the Contract Documents or
- approve or accept any portion of the Work. 3. Do not perform any duties of Contractor.
- I. Associated Services: Cooperate with testing agencies and provide reasonable auxiliary services as requested. Provide the following: 1. Access to the Work.
- 2. Incidental labor and facilities necessary to facilitate tests and inspections. 3. Adequate quantities of representative samples of materials that require testing and
- inspecting. Assist agency in obtaining samples. 4. Facilities for storage and field curing of test samples.
- 5. Security and protection for samples and for testing and inspecting equipment.
- K. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
- 1. Schedule times for tests, inspections, obtaining samples, and similar activities. PART 2 - PRODUCTS (Not Used) PART 3 - EXECUTION (Not Used)
- SECTION 015000 TEMPORARY FACILITIES AND CONTROLS
- PART 1 GENERAL
- 1.1 SECTION REQUIREMENTS
- A. Use Charges: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. B. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary
- electric service. Install service to comply with NFPA 70. PART 2 - PRODUCTS
- 2.1 TEMPORARY FACILITIES
- A. Provide field offices, storage and fabrication sheds, and other support facilities as necessary for construction operations. Store combustible materials apart from building. 2.2 EQUIPMENT
- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures. PART 3 - EXECUTION
- 3.1 TEMPORARY UTILITY INSTALLATION
- A. Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions. 3.2 SECURITY AND PROTECTION FACILITIES INSTALLATION
- A. Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
- B. Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings.
- Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Perform control operations lawfully, using environmentally safe materials.
- D. Furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates. E. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- F. Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
- G. Install and maintain temporary fire-protection facilities. Comply with NFPA 241.
- **SECTION 016000 PRODUCT REQUIREMENTS**
- PART 1 GENERAL 1.1 SECTION REQUIREMENTS
- A. The term "product" includes the terms "material," "equipment," "system," and terms of similar B. Comparable Product Requests: Submit request for consideration of each comparable product.
- Identify product or fabrication or installation method to be replaced. 1. Show compliance with requirements for comparable product requests. 2. Architect will review the proposed product and notify Contractor of its acceptance or
- rejection C. Basis-of-Design Product Specification Submittal: Show compliance with requirements. D. Compatibility of Options: If Contractor is given option of selecting between two or more products, select product compatible with products previously selected.
- E. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions. 1. Schedule delivery to minimize long-term storage at Project site and to prevent
- overcrowding of construction spaces. 2. Deliver products to Project site in manufacturer's original sealed container or packaging, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
- 3. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
- 4. Store materials in a manner that will not endanger Project structure.
- 5. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation. F. Warranties specified in other Sections shall be in addition to, and run concurrent with, other
- warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents. PART 2 - PRODUCTS
- 2.1 PRODUCT SELECTION PROCEDURES
- A. Provide products that comply with the Contract Documents, are undamaged, and, unless otherwise indicated, are new at the time of installation. 1. Provide products complete with accessories, trim, finish, and other devices and
- components needed for a complete installation and the intended use and effect. 2. Where products are accompanied by the term "as selected," Architect will make selection.
- 3. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products. B. Where the following headings are used to list products or manufacturers, the Contractor's options for product selection are as follows:
- Products:

conditions are satisfied:

Specifications.

4. Samples, if requested.

PART 3 - EXECUTION (Not Used)

1.1 EXECUTION REQUIREMENTS

PART 1 - GENERAL

A. Cutting and Patching:

and patching.

safet\

qualities

1.2 CLOSEOUT SUBMITTALS

- a. Where requirements include "one of the following," provide one of the products listed that complies with requirements. b. Where requirements do not include "one of the following," provide one of the products
- listed that complies with requirements or a comparable product. 2. Manufacturers: a. Where requirements include "one of the following," provide a product that complies
- with requirements by one of the listed manufacturers. b. Where requirements do not include "one of the following," provide a product that complies with requirements by one of the listed manufacturers or another
- manufacturer. 3. Basis-of-Design Product: Provide the product named, or indicated on the Drawings, or a comparable product by one of the listed manufacturers. C. Where Specifications require "match Architect's sample," provide a product that complies with
- requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches. D. Where Specifications include the phrase "as selected by Architect from manufacturer's full

A. Architect will consider Contractor's request for comparable product when the following

that it is compatible with other portions of the Work.

3. List of similar installations for completed projects, if requested.

SECTION 017000 - EXECUTION AND CLOSEOUT REQUIREMENTS

range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items. 2.2 COMPARABLE PRODUCTS

1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and

2. Detailed comparison of significant qualities of proposed product with those named in the

1. Structural Elements: When cutting and patching structural elements, notify

Architect of locations and details of cutting and await directions from Architect

2. Operational Elements: Do not cut and patch operating elements and related

3. Visual Elements: Do not cut and patch construction in a manner that results in

in a manner that would, in Architect's opinion, reduce the building's aesthetic

written recommendations and instructions for installation of products and equipment.

1. PDF Electronic File: Assemble manual into a composite electronically indexed file.

C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's

A. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.

B. Certified List of Incomplete Items: Final submittal at Final Completion.

C. Operation and Maintenance Data: Submit three copies of manual.

components in a manner that results in reducing their capacity to perform as

before proceeding. Shore, brace, and support structural elements during cutting

intended or that results in increased maintenance or decreased operational life or

visual evidence of cutting and patching. Do not cut and patch exposed construction

1. Record Digital Data Files: Submit data file and one set(s) of plots. E. Record Product Data: Submit annotated PDF electronic files and directories of each

1.3 SUBSTANTIAL COMPLETION PROCEDURES

Submit on digital media.

D. Record Drawings:

Architect.

maintenance.

Completion.

visual defects.

PART 2 - PRODUCTS

fullest extent possible.

part of a system.

agent.

6. Wiring diagrams.

warranty claims

2.3 RECORD DRAWINGS

PART 3 - EXECUTION

Drawings.

3.3 INSTALLATION

conditions.

form hairline joints.

elevation, as indicated.

2.1 MATERIALS

submittal.

A. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.

B. Submittals Prior to Substantial Completion: Before requesting Substantial Completion inspection, complete the following: 1. Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include

occupancy permits, operating certificates, and similar releases. 2. Submit closeout submittals specified in other sections, including project record documents, operation and maintenance manuals, property surveys, similar final record information, warranties, workmanship bonds, maintenance service

agreements, final certifications, and similar documents. 3. Submit maintenance material submittals specified in other sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by

Submit test/adjust/balance records. 5. Submit changeover information related to Owner's occupancy, use, operation, and

C. Procedures Prior to Substantial Completion: Before requesting Substantial Completion inspection, complete the following: 1. Advise Owner of pending insurance changeover requirements.

2. Make final changeover of permanent locks and deliver keys to Owner. Complete startup and testing of systems and equipment. 4. Perform preventive maintenance on equipment used prior to Substantial

5. Advise Owner of changeover in heat and other utilities.

6. Participate with Owner in conducting inspection and walkthrough with local emergency responders. 7. Remove temporary facilities and controls.

8. Complete final cleaning requirements, including touchup painting. 9. Touch up and otherwise repair and restore marred exposed finishes to eliminate

D. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will proceed with inspection or advise Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will advise Contractor of items that must be completed or corrected

before certificate will be issued. 1.4 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting inspection for determining final completion, complete the following: Submit a final Application for Payment. 2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved.

3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements. 4. Submit pest-control final inspection report.

B. Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare final Certificate for Payment after inspection or will advise Contractor of items that must be completed or corrected before certificate will be

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

A. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the

B. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces. 2.2 OPERATION AND MAINTENANCE DOCUMENTATION

A. Directory: Prepare a single, comprehensive directory of emergency, operation, and maintenance data and materials, listing items and their location to facilitate ready access to desired information.

B. Organization: Unless otherwise indicated, organize manual into separate sections for each system and subsystem, and separate sections for each piece of equipment not

C. Organize data into three-ring binders with identification on front and spine of each binder, and envelopes for folded drawings. Include the following: 1. Manufacturer's operation and maintenance documentation.

2. Maintenance and service schedules. 3. Maintenance service contracts. Include name and telephone number of service

4. Emergency instructions. 5. Spare parts list and local sources of maintenance materials.

7. Copies of warranties. Include procedures to follow and required notifications for

A. Record Prints: Maintain a set of prints of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued. Mark to show actual installation where installation varies from that shown originally. Accurately record information in an acceptable drawing technique.

1. Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial

Completion, review marked-up record prints with Architect. When authorized, prepare a full set of corrected digital data files of the Contract Drawings. 1. Format: Annotated PDF electronic file.

3.1 EXAMINATION AND PREPARATION

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, and other construction affecting the Work.

B. Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. 1. Verify compatibility with and suitability of substrates.

2. Examine roughing-in for mechanical and electrical systems.

3. Examine walls, floors, and roofs for suitable conditions. C. Proceed with installation only after unsatisfactory conditions have been corrected. D. Take field measurements as required to fit the Work properly. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication.

. Verify space requirements and dimensions of items shown diagrammatically on 3.2 CONSTRUCTION LAYOUT AND FIELD ENGINEERING

A. Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks.

A. Locate the Work and components of the Work accurately, in correct alignment and

1. Make vertical work plumb and make horizontal work level. 2. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated. 3. Maintain minimum headroom clearance of 96 inches in occupied spaces and 90 inches in unoccupied spaces.

B. Comply with manufacturer's written instructions and recommendations. C. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy. D. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed.

E. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place. Where size and type of attachments are not indicated, verify size and type required for load

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect. Joints: Make joints of uniform width. Where joint locations in exposed work are not

indicated, arrange joints for the best visual effect. Fit exposed connections together to G. Use products, cleaners, and installation materials that are not considered hazardous.

3.4 CUTTING AND PATCHING A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

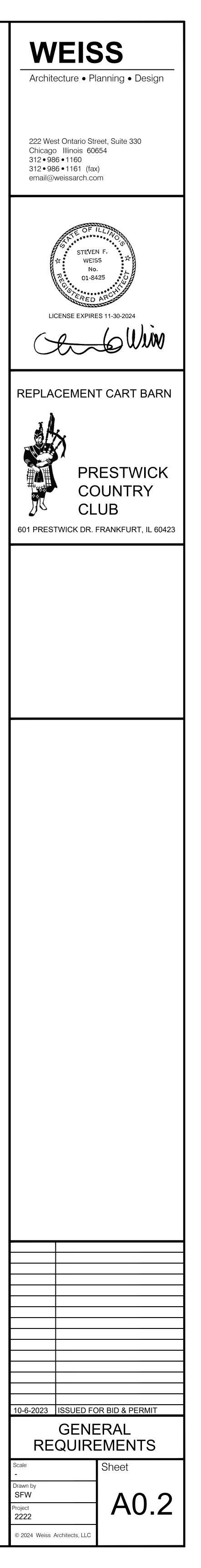
C. Temporary Support: Provide temporary support of work to be cut. D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching with Owner and Landlord.

F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas. G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and

similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

- 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Cover openings when not in use. 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed
- surfaces. 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
- 4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations. 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to
- be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting. 6. Proceed with patching after construction operations requiring cutting are complete.
- H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable. 1. Inspection: Where feasible, test and inspect patched areas after completion to
- demonstrate physical integrity of installation. 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize
- evidence of patching and refinishing. 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to
- achieve uniform color and appearance. 4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
- 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
- Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces. 3.5 CLEANING
- A. Clean Project site and work areas daily, including common areas. Dispose of materials lawfullv 1. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- 2. Remove debris from concealed spaces before enclosing the space. B. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion:
- 1. Clean Project site, yard, and grounds, in areas disturbed by construction activities. Sweep paved areas; remove stains, spills, and foreign deposits. Rake grounds that are neither planted nor paved to a smooth, even-textured surface. 2. Sweep paved areas broom clean. Remove spills, stains, and other foreign
- deposits 3. Remove labels that are not permanent.
- 4. Clean transparent materials, including mirrors. Remove excess glazing
- compounds. 5. Clean exposed finishes to a dust-free condition, free of stains, films, and foreign
- substances. Sweep concrete floors broom clean. 6. Vacuum carpeted surfaces and wax resilient flooring.
- 7. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and foreign substances. Clean plumbing fixtures. Clean light fixtures, lamps, globes, and reflectors.
- 8. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
- 3.6 OPERATION AND MAINTENANCE MANUAL PREPARATION A. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
- . Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
- 1. Prepare supplementary text if manufacturers' standard printed data are unavailable and where the information is necessary for proper operation and maintenance of equipment or systems. . Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate
- the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. 3.7 DEMONSTRATION AND TRAINING
- A. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.



1.1	1 - <u>GENERAL</u>	A.	CONCRETE MATERIALS Cementitious Materials:
	SUMMARY Section Includes:		 Portland Cement: ASTM C150/C150M, Pozzolans: ASTM C618, Class C, F, or
	 Demolition and removal of buildings and site improvements. Removing below-grade construction. 		 Slag Cement: ASTM C989/C989M, Gra Ground Glass Pozzolan: ASTM C1866/
1.2	 Disconnecting, capping or sealing, and abandoning in-place site utilities. Salvaging items for reuse by Owner. MATERIALS OWNERSHIP 	B.	Normal-Weight Aggregates:1. Coarse Aggregate: ASTM C33/C33M.2. Maximum Coarse-Aggregate Size: 1-1.
A.	Unless otherwise indicated, demolition waste becomes property of Contractor. FIELD CONDITIONS	2.3	 Maximum Coarse-Aggregate Size. 1-1. Fine Aggregate: ASTM C33/C33M. ADMIXTURES
	Buildings to be demolished will be vacated and their use discontinued before start of the Work.	A.	Air-Entraining Admixture: ASTM C260/C26
	Buildings immediately adjacent to demolition area will be occupied. Conduct building demolition so operations of occupied buildings will not be disrupted.		chloride. 1. Water-Reducing Admixture: ASTM C49
	Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.		 Retarding Admixture: ASTM C494/C494 Water-Reducing and -Retarding Admixture
D.	Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.If materials suspected of containing hazardous materials are encountered, do not		 High-Range, Water-Reducing Admixtur High-Range, Water-Reducing and -Retained
	disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.		Type G.6. Admixtures with special properties, with special properties.
	On-site storage or sale of removed items or materials is not permitted. Arrange demolition schedule so as not to interfere with Owner's on-site operations or	C.	enhancement, ASTM C494/C494M, Ty Mixing Water for Concrete Mixtures and Wa ASTM C1602/C1602M. Include documenta
	operations of adjacent occupied buildings. 2 - PRODUCTS PERFORMANCE REQUIREMENTS		sulfates, chlorides, or solids content of mixi ASTM C1602/C1602M.
	Regulatory Requirements: Comply with governing EPA notification regulations before beginning demolition. Comply with hauling and disposal regulations of authorities	2.4 A.	VAPOR RETARDERS Sheet Vapor Retarder, Class A: ASTM E17
B.	having jurisdiction. Standards: Comply with ANSI/ASSP A10.6 and NFPA 241.	2.5	recommended thickness and adhesive or p CURING MATERIALS Water: Potable water that does not cause s
	SOIL MATERIALS Satisfactory Soils: Comply with requirements in Section 312000 "Earth Moving."	B.	Clear, Waterborne, Membrane-Forming, Di Type 1, Class B.
	3 - <u>EXECUTION</u> EXAMINATION	2.6 A.	ACCESSORIES Expansion- and Isolation-Joint-Filler Strips:
	Verify that utilities have been disconnected and capped before starting demolition operations.	2.7	fiber or ASTM D1752, cork or self-expandir CONCRETE MIXTURE MATERIALS
В.	Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during building demolition operations.	A.	Prepare design mixtures for each type and basis of laboratory trial mixture or field test
	Inventory and record the condition of items to be removed and salvaged. PREPARATION	B.	 Use a qualified testing agency for prepa designs, based on laboratory trial mixtu Admixtures: Use admixtures in accordance
3.3 A.	UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS Existing Utilities to Be Disconnected: Locate, identify, disconnect, and seal or cap off	2.8 A.	CONCRETE MIXTURE CLASS TYPES Class A: Normal-weight concrete used for f
	utilities serving buildings and structures to be demolished. Arrange to shut off utilities with utility companies. 		 Exposure Class: ACI 318 Class F1 Class Minimum Compressive Strength: 4000
	 If removal, relocation, or abandonment of utility services will affect adjacent occupied buildings, then provide temporary utilities that bypass buildings and structures to be demolished and that maintain continuity of service to other 		 Maximum w/cm Ratio: 0.55. Air Content:
	buildings and structures.3. Cut off pipe or conduit a minimum of 24 inches below grade. Cap, valve, or plug	B.	Class C: Normal-weight concrete used for i 1. Exposure Class: ACI 318 Class F1 Class
	and seal remaining portion of pipe or conduit after bypassing according to requirements of authorities having jurisdiction.4. Do not start demolition work until utility disconnecting and sealing have been		 Minimum Compressive Strength: 4000 Maximum w/cm Ratio : 0.55.
3.4	completed and verified in writing. PROTECTION		4. Air Content:a. Do not use an air-entraining admixt
	Existing Facilities: Protect adjacent walkways, loading docks, building entries, and other building facilities during demolition operations. Maintain exits from existing buildings.	2.9	3 percent for concrete used in trowe CONCRETE MIXING
B.	Temporary Shoring: Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent unexpected movement or collapse of construction being demolished.		Ready-Mixed Concrete: Measure, batch, m ASTM C94/C94M and furnish delivery ticke T 3 - EXECUTION
C.	Existing Utilities to Remain: Maintain utility services to remain and protect from damage during demolition operations. Do not interrupt existing utilities serving adjacent	3.1	EXAMINATION Before placing concrete, verify that installat
	occupied or operating facilities unless authorized in writing by Owner and authorities having jurisdiction.	/ .	reinforcement, and embedded items is com been performed.
D.	Temporary Protection: Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction and as indicated. Comply with requirements in Section 015000 "Temporary Facilities	B. 3.2	Do not proceed until unsatisfactory conditio TOLERANCES
	and Controls."Protect adjacent buildings and facilities from damage due to demolition activities.	3.3	Comply with ACI 117. INSTALLATION OF EMBEDDED ITEMS
	 Protect existing site improvements, appurtenances, and landscaping to remain. Erect a plainly visible fence around drip line of individual trees or around perimeter drip line of groups of trees to remain. 		Place and secure anchorage devices and o Work that is attached to or supported by ca
	drip line of groups of trees to remain.4. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.	3.4 A.	INSTALLATION OF VAPOR RETARDERS Sheet Vapor Retarders: Place, protect, and with ASTM E1643 and manufacturer's writt
	 Provide protection to ensure safe passage of people around building demolition area and to and from occupied portions of adjacent buildings and structures. 	3.5 A	INSTALLATION OF CAST-IN-PLACE CON Before placing concrete, verify that installat
	Protect walls, windows, roofs, and other adjacent exterior construction that are to remain and that are exposed to building demolition operations.		items, and vapor retarder is complete and t Notify Architect and testing and inspection a
F	 Erect and maintain dustproof partitions and temporary enclosures to limit dust, noise, and dirt migration to occupied portions of adjacent buildings. Remove temporary barriers and protections where hazards no longer exist. Where 	C.	of concrete placement. Water addition in transit or at the Project sit ASTM C94/C94M and must not exceed the
∟.	open excavations or other hazardous conditions remain, leave temporary barriers and protections in place.	D.	delivery ticket. Deposit concrete continuously in one layer
	DEMOLITION General: Demolish indicated buildings and site improvements completely. Use methods		no new concrete is placed on concrete that planes of weakness.
	 required to complete the Work within limitations of governing regulations and as follows: Locate building demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing. 	E.	Deposit and consolidate concrete for floors limits of construction joints, until placement INSTALLATION OF JOINTS
В.	Site Access and Temporary Controls: Conduct building demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and	A.	Construct joints true to line, with faces perp
	 other adjacent occupied and used facilities. 1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. 		concrete into areas as indicated. Construct one-fourth of concrete thickness as follows
	used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed trafficways if required by authorities having jurisdiction.		 Grooved Joints: Form control joints after each edge of joint to a radius of 1/8 inc applying surface finishes. Eliminate gro
	2. Use water mist and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations.		 Sawed Joints: Form control joints with pabrasive or diamond-rimmed blades. C
	Explosives: Use of explosives is not permitted. Proceed with demolition of structural framing members systematically, from higher to lower level.		cutting action does not tear, abrade, or concrete develops random cracks.
E.	Demolish foundation walls and other below-grade construction that are within footprint of new construction and extending 5 feet outside footprint indicated for new	U.	Isolation Joints in Slabs-on-Ground: After results slab junctions with vertical surfaces, such a beams, and other locations, as indicated.
F.	construction. Existing Utilities: Abandon existing utilities and below-grade utility structures that are		1. Extend joint-filler strips full width and de concrete surface unless otherwise indic
G	within 5 feet outside footprint indicated for new construction. Abandon utilities outside this area. Below-Grade Areas: Completely fill below-grade areas and voids resulting from building		 Install joint-filler strips in lengths as long length is required, lace or clip sections
G.	demolition operations with satisfactory soil materials according to backfill requirements in Section 312000 "Earth Moving."	D.	Doweled Joints: 1. Install dowel bars and support assemble 2. Install cover an early of the state of the st
H.	Site Grading: Uniformly rough grade area of demolished construction to a smooth surface, free from irregular surface changes. Provide a smooth transition between adjacent existing grades and new grades.	3.7	 Lubricate or asphalt coat one-half of do to one side of joint. APPLICATION OF FINISHING FLOORS A
	Promptly repair damage to adjacent buildings caused by demolition operations. CLEANING	A.	Float Finish: 1. When bleedwater sheen has disappear
A.	Remove and legally dispose demolition waste materials from Project site Do not burn demolished materials.		sufficiently to permit operation of specif surface with power-driven floats or by h
	Clean adjacent structures and improvements of dust, dirt, and debris caused by building demolition operations. Return adjacent areas to condition existing before building		to power-driven floats.2. Repeat float passes and restraightening granular texture and complies with ACI
END	demolition operations began. OF SECTION 024116	B.	•
			 2. Continue troweling passes and restraig
SEC PAR	<u> ION 033000 - CAST-IN-PLACE CONCRETE</u> 1 - <u>GENERAL</u>		uniform in texture and appearance.3. Grind smooth any surface defects that
I.1 A.	SUMMARY Section Includes:		floor coverings.4. Do not add water to concrete surface. I acceptable.
	 Concrete standards. Concrete materials. 		 Do not apply troweled finish to concrete 3 percent.
	 Admixtures. Vapor retarders. 		 Finish surfaces to the following tolerand randomly trafficked floor surface:
	 Curing materials. Accessories. 		 a. Slabs on Ground: 1) In all areas of floors except as inflotence and of level and a flower and a flowe
	 Repair materials. Concrete mixture materials. 		flatness, F _F 25; and of levelnes flatness, F _F 17; and of levelnes 2) In area of rolling golf bag storag
-	 Concrete mixture class types. Concrete mixing. Deleted Degravity mentage 		flatness, F _F 45; and of levelnes flatness, F _F 30; and of levelnes
В.	Related Requirements: 1. Section 312000 "Earth Moving" for drainage fill under slabs-on-ground.	C.	Trowel and Fine-Broom Finish: First apply still plastic, slightly scarify surface with a fir
	2. Section 321313 "Concrete Paving" for concrete pavement and walks. ACTION SUBMITTALS		 Coordinate required final finish with Arc Comply with flatness and levelness tole ADDUCATION OF CONCRETE CURING
	Product data. Design Mixtures: For each concrete mixture, include the following:	3.8 A.	APPLICATION OF CONCRETE CURING Protect freshly placed concrete from prema temperatures.
	 Mixture identification. Compressive strength at 28 days or other age as specified. 		 Comply with ACI 301 for cold weather p Comply with ACI 301 and ACI 305.1 for
	 Maximum w/cm ratio. Slump or slump flow limit. 	B.	
	 Air content. Nominal maximum aggregate size. Submit a division and the design maintained when the protocilation of materials. Protoct. 		 Begin curing after missing concrete. Interior Concrete Floors: a. Floors To Receive Curing Compou
	 Submit adjustments to design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant changes. PRODUCTS 		 a. Floors to Receive Curing Compound 1) Apply uniformly in continuous of accordance with manufacturer's
D D D -	2- <u>PRODUCTS</u> CONCRETE STANDARDS		 Recoat areas subjected to heav application.
2.1	ACI Publications: Comply with ACI 301 unless modified by requirements in the Contract Documents.	3.9	3) Maintain continuity of coating, a INSTALLATION OF CONCRETE SURFAC

3.9 INSTALLATION OF CONCRETE SURFACE REPAIRS

	1. Repair and patch defective areas when approved by Architect.	exclude water. Provide weep holes where w
Type I, gray.	 Remove and replace concrete that cannot be repaired and patched to meet specification requirements. 	2.5 MISCELLANEOUS FRAMING AND SUPPO A. General: Provide steel framing and supports
N. de 100 or 120.	B. Repairing Unformed Surfaces:	to complete the Work.
C1866M, Type GS or GE.	 Test unformed surfaces, such as floors and slabs, for finish, and verify surface tolerances specified for each surface. 	B. Fabricate units from steel shapes, plates, ar otherwise indicated. Fabricate to sizes, shap necessary to receive adjacent construction.
	a. Correct low and high areas.b. Test surfaces sloped to drain for trueness of slope and smoothness; use a	2.6 MISCELLANEOUS STEEL TRIM
2 inches nominal.	 Repair finished surfaces containing surface defects, including spalls, popouts, 	 A. Unless otherwise indicated, fabricate units f profiles shown with continuously welded joir
NN 4	honeycombs, rock pockets, crazing, and cracks in excess of 0.01 inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless	corners and use concealed field splices whe B. Provide cutouts, fittings, and anchorages as
M. hloride or admixtures containing calcium	of width. 3. After concrete has cured at least 14 days, correct high areas by grinding.	installation with other work. 1. Provide with integrally welded steel stra
4/C494M, Type A.	4. Correct localized low areas during, or immediately after, completing	masonry construction. C. Galvanize exterior miscellaneous steel trim.
M, Type B. ure: ASTM C494/C494M, Type D.	surface-finishing operations by adding patching mortar. a. Finish repaired areas to blend into adjacent concrete.	D. Prime miscellaneous steel trim with zinc-rich
e: ASTM C494/C494M, Type F.	C. Repair materials and installation not specified above may be used, subject to Architect's approval.	2.7 METAL BOLLARDSA. Fabricate metal bollards from Schedule 80 s
rding Admixture: ASTM C494/C494M,	3.10 FIELD QUALITY CONTROL	B. Prime steel bollards with zinc-rich primer.
documentation of claimed performance e S.	A. Special Inspections: Owner will engage a special inspector to perform field tests and inspections and prepare testing and inspection reports.	2.8 GENERAL FINISH REQUIREMENTSA. Finish metal fabrications after assembly.
ter Used to Make Ice: ion of compliance with limits for alkalis,	B. Testing Agency: Owner will engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.	2.9 STEEL AND IRON FINISHESA. Galvanizing: Hot-dip galvanize items as indi
ng water from Table 2 in	 Testing agency to be responsible for providing curing facility for initial curing of strength test specimens on-site and verifying that test specimens are cured in 	for steel and iron hardware and with ASTM products.
	accordance with standard curing requirements in ASTM C31/C31M.Testing agency to immediately report to Architect, Contractor, and concrete	B. Shop prime iron and steel items not indicate
15, Class A. Include manufacturer's essure-sensitive tape.	manufacturer any failure of Work to comply with Contract Documents.3. Testing agency to report results of tests and inspections, in writing, to Owner,	embedded in concrete, sprayed-on fireproof indicated.
aining of the surface.	Architect, Contractor, and concrete manufacturer within 48 hours of inspections and tests.	C. Shop Priming: Apply shop primer to comply Specification No. 1: Shop, Field, and Mainte
sipating Curing Compound: ASTM C309,	C. Delivery Tickets: Comply with ASTM C94/C94M.	PART 3 - <u>EXECUTION</u> 3.1 INSTALLATION, GENERAL
	D. Concrete Tests: Testing of composite samples of fresh concrete obtained in accordance with ASTM C 172/C 172M to be performed in accordance with the following	A. Cutting, Fitting, and Placement: Perform cut installing metal fabrications. Set metal fabric
ASTM D1751, asphalt-saturated cellulosic g cork.	requirements: 1. Testing Frequency: Obtain one composite sample for each day's pour of each	and elevation; with edges and surfaces leve measured from established lines and levels.
strength of concrete, proportioned on the	concrete mixture exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for each additional 150 cu. yd. or fraction thereof.	B. Fit exposed connections accurately togethe
lata, or both, in accordance with ACI 301.	 When frequency of testing provides fewer than five compressive-strength tests for each concrete mixture, testing is to be conducted from at least five randomly 	that are not to be left as exposed joints but on size limitations. Do not weld, cut, or abrade that dip galvapized after fabrication and are set.
ring and reporting proposed mixture es.	selected batches or from each batch if fewer than five are used. 2. Slump: ASTM C143/C143M:	hot-dip galvanized after fabrication and are C. Fastening to In-Place Construction: Provide
with manufacturer's written instructions.	a. One test at point of delivery for each composite sample, but not less than one	metal fabrications are required to be fastene threaded fasteners for use with concrete an
ootings, foundation walls, and grade beams.	test for each day's pour of each concrete mixture. b. Perform additional tests as needed.	bolts, lag screws, wood screws, and other c D. Provide temporary bracing or anchors in for
s S1 Class W1. psi at 28 days.	 Air Content: ASTM C231/C231M pressure method, for normal-weight concrete;. a. One test for each composite sample when strength test specimens are cast, but 	concrete, masonry, or similar construction. 3.2 INSTALLATION OF MISCELLANEOUS FR/
	not less than one test for each day's pour of each concrete mixture.	A. Install framing and supports to comply with i including manufacturers' written instructions
iterior slabs-on-ground.	4. Concrete Temperature: ASTM C1064/C1064M:a. One test hourly when air temperature is 40 deg F and below or 80 deg F and	Drawings.
s S1 Class W1 Class C1. psi at 28 days.	above, and one test for each composite sample when strength test specimens are cast.	B. Anchor supports for securely to, and rigidly3.3 INSTALLATION OF METAL BOLLARDS
-	 Concrete Density: ASTM C138/C138M: a. One test for each composite sample when strength test specimens are cast. 	A. Anchor bollards in concrete in formed or con and 3/4 inch larger than OD of bollard. Fill a
re or allow total air content to exceed	6. Compression Test Specimens: ASTM C31/C31M:	shrinkage-resistant grout; mixed and placed instructions. Slope grout up approximately 1
I-finished floors.	 Cast and standard cure two sets of three 6 inches by 12-inches or 4-inch by 8-inch cylindrical specimens for each composite sample. 	 B. Fill bollards solidly with concrete, mounding 3.4 REPAIRS
x, and deliver concrete in accordance with	 Compressive-Strength Tests: ASTM C39/C39M. a. Test one set of three standard cured specimens at seven days and one set of 	A. Touchup Painting:
	two specimens at 28 days.	 Immediately after erection, clean field w areas. Paint uncoated and abraded area
on of concrete forms, accessories,	 A compressive-strength test to be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated 	painting to comply with SSPC-PA 1 for t B. Galvanized Surfaces: Clean field welds, bol
blete and that required inspections have	indicated. 8. Strength of each concrete mixture will be satisfactory if every average of any three	repair galvanizing to comply with ASTM A78 END OF SECTION 055000
ns have been corrected.	consecutive compressive-strength tests of standard cured cylinders equals or exceeds specified compressive strength, and no compressive-strength test value	END OF SECTION 055000
	falls below specified compressive strength by more than 500 psi if specified compressive strength is 5000 psi, or no compressive strength test value is less than	SECTION 061000 - ROUGH CARPENTRY
her embedded items required for adjoining	10 percent of specified compressive strength if specified compressive strength is greater than 5000 psi.	PART 1 - <u>GENERAL</u> 1.1 SUMMARY
st-in-place concrete.	 Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or 	A. Section Includes:
repair sheet vapor retarder in accordance	rejection of concrete. 10. Additional testing and inspecting, at Contractor's expense, will be performed to	 Framing with dimension lumber. Wood blocking and nailers.
n instructions. CRETE	determine compliance of replaced or additional work with specified requirements. 11. Correct deficiencies in the Work that test reports and inspections indicate do not	3. Plywood backing panels.
on of formwork, reinforcement, embedded at required inspections are completed.	comply with the Contract Documents.	1.2 ACTION SUBMITTALS A. Product Data:
gencies 24 hours prior to commencement	 E. Measure floor and slab flatness and levelness in accordance with ASTM E1155 within 48 hours of completion of floor finishing and promptly report test results to Architect. 	1. For each type of process and factory-fal
e must be in accordance with	3.11 PROTECTION A. Protect concrete surfaces.	 For preservative-treated wood products. PART 2 - PRODUCTS
permitted amount indicated on the concrete	B. Protect from petroleum stains.	2.1 WOOD PRODUCTS, GENERALA. Lumber: Comply with DOC PS 20 and appli
or in horizontal layers of such thickness that has hardened enough to cause seams or	C. Prohibit vehicles from interior concrete slabs.D. Prohibit placement of steel items on concrete surfaces.	no grading agency is indicated, comply with agency certified by the ALSC Board of Revi
and slabs in a continuous operation, within	END OF SECTION 033000	the ALSC Board of Review to inspect and g 1. Dress lumber, S4S, unless otherwise ind
of a panel or section is complete.	SECTION 055000 - METAL FABRICATIONS	B. Maximum Moisture Content:
endicular to surface plane of concrete.	PART 1 - <u>GENERAL</u>	 Boards: 15 percent. Dimension Lumber: 19 percent unless of
eakened-plane control joints, sectioning control joints for a depth equal to at least	1.1 SUMMARY A. Section Includes:	2.2 PRESERVATIVE TREATMENT
initial floating by grooving and finishing	1. Miscellaneous framing and supports.	A. Preservative Treatment by Pressure Proces construction not in contact with ground, Use
. Repeat grooving of control joints after over tool marks on concrete surfaces.	 Metal bollards. Golf cart charger shelf supports. 	not in contact with ground, and Use Categor 1. Preservative Chemicals: Acceptable to a
ower saws equipped with shatterproof It 1/8-inch wide joints into concrete when	1.2 ACTION SUBMITTALS A. Product Data: For the following:	no arsenic or chromium. B. Kiln-dry lumber after treatment to a maximu
otherwise damage surface and before	1. Shrinkage-resisting grout.	use material that is warped or that does not material.
moving formwork, install joint-filler strips at s column pedestals, foundation walls, grade	 Slotted channel framing. Metal bollards. 	C. Mark lumber with treatment quality mark of a ALSC Board of Review.
	PART 2 - PRODUCTS	D. Application: Treat items indicated on Drawir
oth of joint, terminating flush with finished ated on Drawings.	2.1 METALSA. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise	 Wood cants, nailers, curbs, equipment s similar members in connection with roof
as practicable. Where more than one ogether.	indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.	waterproofing. 2. Wood sills, sleepers, blocking, and simil
es at joints where indicated on Drawings.	 B. Steel Plates, Shapes, and Bars: ASTM A36/A36M. C. Steel Tubing: ASTM A500/A500M, cold-formed steel tubing. 	masonry or concrete. 3. Wood floor plates that are installed over
vel bar length to prevent concrete bonding	D. Steel Pipe: ASTM A53/A53M, Standard Weight (Schedule 40) unless otherwise	2.3 FIRE-RETARDANT-TREATMENT
ID SLABS	indicated. E. Slotted Channel Framing: Cold-formed metal box channels (struts) complying with	A. General: Where fire-retardant-treated mater with requirements in this article, that are acc and with fire test response characteristics s
ed and concrete surface has stiffened	MFMA-4. 1. Size of Channels: As indicated.	and with fire-test-response characteristics s products per test method indicated by a qua
c float apparatus, consolidate concrete and floating if area is small or inaccessible	 Material: Galvanized steel, ASTM A653/A653M, commercial steel, Type B, with G90 coating; 0.108-inch nominal thickness. 	B. Fire-Retardant-Treated Lumber and Plywoo flame-spread index of 25 or less when teste evidence of significant progressive combust
until surface is left with a uniform, smooth,	2.2 FASTENERS	evidence of significant progressive combust 20 minutes, and with the flame front not exter centerline of the burners at any time during
117 tolerances for conventional concrete.	A. General: Unless otherwise indicated, provide Type 304 stainless steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B633 or	centerline of the burners at any time during 1. Exterior Type: Treated materials are to o
veling and consolidate concrete by hand or	ASTM F1941/F1941M, Class Fe/Zn 5, at exterior walls. Select fasteners for type, grade, and class required.	for fire-retardant-treated lumber and ply subjected to accelerated weathering acc
ten until surface is free of trowel marks and	 B. Post-Installed Anchors: . 1. Material for Interior Locations: Carbon-steel components zinc plated to comply with 	locations and where indicated. 2. Interior Type A: Treated materials are to
ould telegraph through applied coatings or	ASTM B633 or ASTM F1941/F1941M, Class Fe/Zn 5, unless otherwise indicated. 2. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy	less when tested according to ASTM D3 humidity. Use where exterior type is not
se of an approved finishing aid is	Group 1 stainless steel bolts, ASTM F593, and nuts, ASTM F594. 2.3 MISCELLANEOUS MATERIALS	C. Kiln-dry lumber after treatment to maximum plywood after treatment to maximum moistu
which has a total air content greater than	A. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd	 Identify fire-retardant-treated wood with app testing agency.
	primer complying with MPI#79 and compatible with topcoat. 1. Use primer that contains pigments that make it easily distinguishable from zinc-rich	E. Application: Treat items indicated on Drawir
es, in accordance with ASTM E1155, for a	primer. B. Shrinkage-Resistant Grout: Factory-packaged, nonmetallic, nonstaining, noncorrosive,	 Roof construction. Plywood backing panels.
dicated below: specified overall values of	nongaseous grout complying with ASTM C1107/C1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.	2.4 DIMENSION LUMBER FRAMING A. All interior framing and lumber: Constructio
, F _L 20; with minimum local values of , F _L 15.	C. Concrete: Comply with requirements in Section 033000 "Cast-in-Place Concrete" for normal-weight, air-entrained concrete with a minimum 28-day compressive strength of	1. Application: All interior partitions.
e system: specified overall values of , F _L 35; with minimum local values of	3000 psi. 2.4 FABRICATION, GENERAL	 Species: a. Southern pine or mixed southern pir
, F ⁻ _L 24.	A. Shop Assembly: Preassemble items in the shop to greatest extent possible.	b. Northern species; NLGA.
trowel finish to surfaces. While concrete is broom perpendicular to main traffic route.	Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation	c. Eastern softwoods; NeLMA.d. Western woods; WCLIB or WWPA.
nitect before application. ances for trowel-finished floor surfaces.	reassembly and coordinated installation. B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a	2.5 PLYWOOD BACKING PANELS A. Equipment Backing Panels: Plywood, DOC
	radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.	thickness indicated or, if not indicated, not le
ure drying and excessive cold or hot	C. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.	2.6 PLYWOOD CART CHARGER SHELVING A. Shelves on steel channel supports: Plywood
rotection during curing. hot-weather protection during curing.	D. Form exposed work with accurate angles and surfaces and straight edges.	treated, in thickness indicated or, if not indic thickness. "A" face on bottom, facing down.
a 308.1 as follows:	E. Weld corners and seams continuously to comply with the following:1. Use materials and methods that minimize distortion and develop strength and	2.7 FASTENERS
	corrosion resistance of base metals.2. Obtain fusion without undercut or overlap.	A. General: Fasteners are to be of size and typ specified in this article for material and man sufficient length, to penetrate not less than
d: peration by power spray or roller in	3. Remove welding flux immediately.	1. Where rough carpentry is exposed to we
written instructions.	 At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing. 	pressure-preservative treated, or in area of Type 304 stainless steel.
rainfall within three hours after initial	F. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Where exposed fasteners are required, use Phillips	 B. Power-Driven Fasteners: Fastener systems authorities having jurisdiction, based on ICC
nd repair damage during curing period.	flat-head (countersunk) fasteners unless otherwise indicated. Locate joints where least	C. Post-Installed Anchors: Fastener systems w

A. Defective Concrete

G. Fabricate seams and other connections that are exposed to weather in a manner to le weep holes where water may accumulate. RAMING AND SUPPORTS

> el framing and supports not specified in other Sections as needed steel shapes, plates, and bars of welded construction unless abricate to sizes, shapes, and profiles indicated and as adjacent construction.

TEEL TRIM cated, fabricate units from steel shapes, plates, and bars of ontinuously welded joints and smooth exposed edges. Miter ealed field splices where possible. gs, and anchorages as needed to coordinate assembly and

rally welded steel strap anchors for embedding in concrete or

scellaneous steel trim.

steel trim with zinc-rich primer.

- rds from Schedule 80 steel pipe. vith zinc-rich primer.
- EQUIREMENTS ons after assembly.

NISHES galvanize items as indicated to comply with ASTM A153/A153M dware and with ASTM A123/A123M for other steel and iron

steel items not indicated to be galvanized unless they are to be e, sprayed-on fireproofing, or masonry, or unless otherwise

shop primer to comply with SSPC-PA 1, "Paint Application Shop, Field, and Maintenance Painting of Steel," for shop painting.

Placement: Perform cutting, drilling, and fitting required for ations. Set metal fabrications accurately in location, alignment, ges and surfaces level, plumb, true, and free of rack; and lished lines and levels.

ons accurately together to form hairline joints. Weld connections as exposed joints but cannot be shop welded because of shipping ot weld, cut, or abrade surfaces of exterior units that have been er fabrication and are for bolted or screwed field connections. Construction: Provide anchorage devices and fasteners where required to be fastened to in-place construction. Provide r use with concrete and masonry inserts, toggle bolts, through

od screws, and other connectors. acing or anchors in formwork for items that are to be built into r similar construction. **/ISCELLANEOUS FRAMING AND SUPPORTS**

pports to comply with requirements of items being supported, ers' written instructions and requirements indicated on Shop

securely to, and rigidly brace from, building structure. /IETAL BOLLARDS

ncrete in formed or core-drilled holes not less than 42 inches deep an OD of bollard. Fill annular space around bollard solidly with rout; mixed and placed to comply with grout manufacturer's written out up approximately 1/8 inch toward bollard. th concrete, mounding top surface to shed water.

erection, clean field welds, bolted connections, and abraded ated and abraded areas with same material as used for shop

y with SSPC-PA 1 for touching up shop-painted surfaces. Clean field welds, bolted connections, and abraded areas and comply with ASTM A780/A780M.

process and factory-fabricated product.

GENERAL

DOC PS 20 and applicable rules of grading agencies indicated. If indicated, comply with the applicable rules of any rules-writing e ALSC Board of Review. Grade lumber by an agency certified by eview to inspect and grade lumber under the rules indicated. S, unless otherwise indicated.

er: 19 percent unless otherwise indicated.

nt by Pressure Process: AWPA U1; Use Category UC2 for interior ntact with ground, Use Category UC3b for exterior construction bund, and Use Category UC4a for items in contact with ground. micals: Acceptable to authorities having jurisdiction and containing omium.

treatment to a maximum moisture content of 19 percent. Do not arped or that does not comply with requirements for untreated

atment quality mark of an inspection agency approved by the ms indicated on Drawings, and the following:

ers, curbs, equipment support bases, blocking, stripping, and in connection with roofing, flashing, vapor barriers, and

ers, blocking, and similar concealed members in contact with

that are installed over concrete slabs-on-grade. REATMENT

etardant-treated materials are indicated, materials are to comply this article, that are acceptable to authorities having jurisdiction, bonse characteristics specified as determined by testing identical hod indicated by a qualified testing agency.

ed Lumber and Plywood by Pressure Process: Products with a f 25 or less when tested according to ASTM E84, and with no t progressive combustion when the test is extended an additional the flame front not extending more than 10.5 feet beyond the

ers at any time during the test. eated materials are to comply with requirements specified above treated lumber and plywood by pressure process after being lerated weathering according to ASTM D2898. Use for exterior

ere indicated. reated materials are to have a moisture content of 28 percent or according to ASTM D3201/D3201M at 92 percent relative ere exterior type is not indicated.

reatment to maximum moisture content of 19 percent. Kiln-dry ent to maximum moisture content of 15 percent. treated wood with appropriate classification marking of qualified

ms indicated on Drawings, and the following:

panels.

d lumber: Construction or No. 2 grade. nterior partitions.

e or mixed southern pine; SPIB.

anels: Plywood, DOC PS 1, Exterior, A-C, fire-retardant treated, in r, if not indicated, not less than 3/4-inch nominal thickness. HARGER SHELVING

nnel supports: Plywood, DOC PS 1, Exterior, A-C, fire-retardant ndicated or, if not indicated, not less than 3/4-inch nominal h bottom, facing down.

re to be of size and type indicated and comply with requirements e for material and manufacture. Provide nails or screws, in enetrate not less than 1-1/2 inches into wood substrate. pentry is exposed to weather, in ground contact,

ative treated, or in area of high relative humidity, provide fasteners less steel. ers: Fastener systems with an evaluation report acceptable to sdiction, based on ICC-ES AC70.

s: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC01, ICC-ES AC58, ICC-ES AC193, or ICC-ES AC308 as appropriate for the substrate.

2.8 METAL FRAMING ANCHORS A. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with

ASTM A653/A653M, G60 coating designation. 1. Use for interior locations unless otherwise indicated.

- PART 3 EXECUTION
- 3.1 INSTALLATION A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- B. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions. 2. Set work to required levels and lines, with members plumb, true to line, cut, and fitted.
- Fit rough carpentry accurately to other construction. Locate furring, nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- D. Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole. E. Do not splice structural members between supports unless otherwise indicated.
- F. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
- G. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
- 1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code (IBC). END OF SECTION 061000

SECTION 073136 - SYNTHETIC SHAKE SHINGLES

PART 1 GENERAL

1.1 SUMMARY A. Section Includes:

- 1. Synthetic shake shingles, underlayment, flashings, fasteners, and accessories. 1.2 REFERENCES
- A. American Society for Testing and Materials (ASTM) (www.astm.org): 1. D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in
- Roofing and Waterproofing. 2. D3161/D3161M - Standard Test Method for Wind-Resistance of Asphalt Shingles
- (Fan-Induced Method). 3. D3462/D3462M - Standard Specification for Asphalt Shingles Made from Glass Felt
- and Surfaced with Mineral Granules.
- 4. E108 Standard Test Methods for Fire Tests of Roof Coverings. 5. G21 - Standard Practice for Determining Resistance of Synthetic Polymeric
- Materials to Fungi. B. Underwriters Laboratories (UL) (www.ul.com):
- 1. 790 Standard for Standard Test Methods for Fire Tests of Roof Coverings.
- 2. 2218 Standard for Impact Resistance of Prepared Roof Covering Materials. C. International Code Council (ICC) (www.iccsafe.org) - ES Acceptance Criteria AC07 Section 4.9.

1.3 SUBMITTALS

- A. Action Submittals:
- 1. Shop Drawings: Show shingle layout, method of attachment, flashings, trim, conditions at eaves, intersections with adjacent materials, and other installation
- details. 2. Product Data: Manufacturer's data sheets on each product including:
- a. Shingles, underlayment, flashings, fasteners, and accessories:
- 1) Indicate composition, properties, and dimensions.
- 2) Show compliance with specified requirements.
- b. Preparation instructions and recommendations. c. Storage and handling requirements and recommendations.
- d. Installation methods.
- 3. Samples:
- a. Selection Samples: Two sets of color chips representing manufacturer's full range of available colors and surface textures. b. Verification Samples: After selection, submit two samples representing actual
- product, color, and texture. B. Maintenance Material Submittals: Provide 100 square feet of extra shingles.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Minimum 3 years experience in work of this Section.

- B. Mockup: 1. Provide mockup of shingles, underlayment, and related flashings. 2. Size: Minimum 8 x 8 feet.
- 3. Locate where directed.
- 4. Approved mockup may remain as part of the Work.
- 1.5 DELIVERY, STORAGE AND HANDLING A. Ship shingles in bundles:
- 1. Collate in sequence of widths and colors as required for selected color blend. 2. Assemble bundles so that sorting at job site is not required. B. Deliver shingles to site in manufacturer's unopened, labeled bundles.
- 1. Verify quantities and condition upon delivery.
- 2. Remove damaged products from site.
- C. Store products in protected environment, off ground, protected moisture, traffic, and construction activities.
- D. Store shingles flat. Do not store on site for prolonged period. E. Store products at temperature between 40 and 120 degrees F (4 degrees C and 49
- degrees C). F. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of authorities having jurisdiction.

A. Furnish manufacturer's 50 years warranty against breakage and deterioration resulting

1. Roof system: Manufactured synthetic shingles attached to structural substrate to

. Meet minimum uplift resistance of 93 PSF with 2:1 safety factor in accordance with

1. Description: Lightweight, synthetic shake shingles with appearance, color, texture,

3. Material: Engineered polymer formulated from 100 percent virgin plastic resins;

a. Fire resistance, installed over underlayment listed by International Accreditation

d. Nail pull through resistance: 138 foot-pounds at 72 degree F (187 joules at 22 degrees C) and 166 foot-pounds at 32 degrees F (225 joules at 0 degrees C),

e. Freeze-thaw resistance: No crazing, cracking, delamination of coating, or other

f. Accelerated weathering: Little change after 2,500 hours exposure to ultraviolet

g. Fungus resistance: No algae growth when inoculated with blue green algae in

a. 9 inch (229 mm) exposure: 342 pounds per 100 square feet (16.5 kg/sq. m).

a. Rectangular shape with exposed-to-view upper surface and edges textured to

a. Thickness: Varies from 1/4 inch (6 mm) at top to 5/8 inch (16 mm) at bottom.

mm) to create appearance of random sized natural wood shake.

9. Markings: Form shingles with markings on upper surface to indicate nailing

b. Color to match existing shingles at adjacent Clubhouse building.

a. Provide shingles factory blended in multiple colors and widths.

locations and provide alignment guide lines for different exposure lengths.

b. Blend: To match existing pattern of shingles at adjacent Clubhouse building.

8. Starter shingle: 12 inches (305 mm) long x 12 inches (305 mm) wide.

a. Multiple colors comparable to natural wood shakes.

c. Provide internal ultraviolet stabilizers.

c. Width: Variable widths of 4, 6, 7, 8, and 9 inches (102, 152, 178, 203, and 229

deleterious surface changes after one month exposure with temperature cycled from minus 40 to plus 180 degrees F (0 degrees to 82 degrees C) in 22 hours,

Service that meets Class A requirements, in addition to required self-adhered

form weather tight roof envelope with no measurable water penetration.

2. Method of attachments designed to adequately resist wind uplift for roof

1.6 SITE CONDITIONS

absolute limits.

7 WARRANTIES

PART 2 PRODUCTS

2.2 MATERIALS

2.1 MANUFACTURERS

www.davinciroofscapes.com.

configuration and Project location.

and thickness of natural wood shakes.

recycled materials not acceptable.

4. Performance characteristics:

2. Product: Multi-Width Shake by DaVinci Roofscapes, LLC.

c. Impact resistance: Class 4, tested to UL 2218.

tested to ASTM D3462/D3462M.

resemble natural wood shake.

b. Length: 22 inches (559 mm).

b. Underside formed with reinforcing ribs.

membrane: Class C, tested to ASTM E108 or UL 790.

b. Water absorption: 0.18 percent by weight, tested to ASTM D471.

tested to ICC ES Acceptance Criteria AC07 Section 4.9.

radiation, elevated temperature, moisture, and thermal shock.

warm, damp environment for 4 to 6 weeks, tested to ASTM G21.

B. Substitutions: Not permitted.

A. Performance Requirements:

TAS 125.

B. Synthetic Shake Shingles:

5. Installed weight:

6. Profile:

7. Size:

10. Color:

11. Shingle pattern:

A. Environmental Requirements:

in leaks under normal weather and use conditions.

1. Observe manufacturer's temperature, humidity, and moisture limits. 2. Do not install products under environmental conditions outside manufacturer's

B. Furnish installer's 2 years total roof system warranty against water penetration,

including underlayment, flashings, trim, and other roof components.

A. Acceptable Manufacturer: DaVinci Roofscapes, LLC, 800-DAVINCI,

2.3 ACCESSORIES

A. Underlayment: ASTM D226/D226M, Type II, No. 30 non-perforated saturated asphalt

B. Waterproof Sheet Membrane: Cold applied, self-adhering waterproof membrane composed of polyethylene film coated one side with rubberized asphalt adhesive. 1. Thickness: 40 mils (1 mm).

2. Low temperature flexibility: Unaffected at minus 32 degrees F (minus 36 degrees 3. Minimum tensile strength: 250 PSI (1724 kPa).

4. Minimum elongation: 250 percent. 5. Permeance: Maximum 0.05 perms. C. Flashing:

1. Fabricate from sheet to profiles and dimensions indicated on Drawings and approved Shop Drawings.

2. Material: 16 ounce copper or 24 ounce stainless steel. 3. Linear components: Form in longest possible lengths, 8 feet (2.5 m) minimum. 4. Counterflashings: Extend minimum 4 inches (102 mm) up vertical surfaces and minimum 4 inches (102 mm) under shingles. 5. Valley flashings: Minimum 24 inches (610 mm) wide, extending minimum 10 inches (254 mm) from valley center line. 6. Eave flashings: Fabricate with bottom edge formed outward 1/4 inch (6 mm) and hemmed to form drip.

D. Fasteners: 1. 3/8 inch (9.5 mm) flat head nails, 1-1/2 inches (38 mm) long. 2. Material: Copper or Stainless steel.

PART 3 EXECUTION

3.1 EXAMINATION A. Inspect roof framing and substrate.

1. Verify that roof is complete, rigid, and braced, and that deck members are securely 2. Ensure that proper ventilation has been provided for roof space.

3. Verify that roof deck is clean, dry, and ready to receive shingles.

4. Remove dirt, loose fasteners, and protrusions from roof surface. 3.2 INSTALLATION - GENERAL

A. Install self-adhered waterproof sheet membrane on eaves. Cover waterproof sheet membrane and remaining portions of roof with approved underlayment. Install waterproof sheet membrane in valleys, along walls, and around projections terminating on top of underlayment. B. Underlayment:

1. Stripping ply: Install full sheet of self-adhered waterproof sheet membrane in valleys, and minimum 18 inch (457 mm) width on gable ends, against walls, and

around projections. 2. Install self-adhered waterproof sheet membrane from bottom edge extending two feet (610 mm) above exterior wall line on eaves. C. Underlayment/Slip Sheet: Install one ply asphalt felt over full roof area, with ends weather lapped minimum 4 inches (102 mm). Nail in place with roofing nails spaced in accordance with manufacturer's recommendations.

3.3 FLASHING INSTALLATION A. Install drip edge on eaves, gable ends, and metal flashings at valleys, ridges, hips, roof curbs, penetrations, and intersections with vertical surfaces. B. Weather lap joints minimum 2 inches (52 mm) and seal with sealant as specified in

Section 07 92 00. C. Secure in place with clips, nails, or other fasteners.

Drawings.

3.4 SHINGLE INSTALLATION A. Install shingles in accordance with manufacturer's instructions and approved Shop

B. Accurately lay out shingles. Ensure that edges are parallel and perpendicular to roof eaves. Lay out work to avoid cutting shingles. 1. At gables and vertical intersections, vary combination of shingle widths and spacing of shingles.

2. If cutting is required, place shingle so that cut edge is not exposed. 3. Use circular saw or straight edge and utility knife if cuts are necessary. C. Install shingles in rack or pyramid style from factory assembled bundles. D. Exposure: Install shingles in staggered pattern with 9 inches (229 mm) exposure and bottom edges of adjacent shingles staggered 1 inch (25 mm).

E. Spacing: Provide 3/16 to 3/8 inch (4.76 to 9.5 mm) gap between shingles. F. Stagger shingle joints in one course minimum 1-1/2 inches (38 mm) from joints in

course below. G. Eaves: Install row of starter shingles at eaves as base layer. Project eave shingles approximately 1 inch (25 mm) and 1/8 inch (3 mm) past overhanging drip edge, or as required to allow water to drain.

H. Ridges and Hips: After field shingle installation is complete, install double row of shingles over 6 inches (152 mm) wide metal flashing.

1. Use 6 inch (152 mm) wide shingles with 10 inch (254 mm) exposure or one-piece, 12 inch wide shingle with 10 inch exposure, 2. Ridges: Start ridge shingles at leeward end. Face shingle laps away from prevailing

3. Hips: Start hip course at eave.

I. Fastening: Attach each shingle to deck with two nails:

1. Place nails at locations indicated on shingles. 2. Ensure full penetration but do not overdrive nails.

3. Do not nail at an angle.

4. Ensure that nail head is flush with shingle surface. 5. At valleys do not nail shingles within 5 inches (127 mm) of valley center line.

3.5 FIELD QUALITY CONTROL

A. Inspect units as they are installed. Do not install cracked, broken, twisted, curled, or

otherwise damaged units. B. As work progresses, exercise care not to scratch or mar installed shingles. Replace damaged shingles.

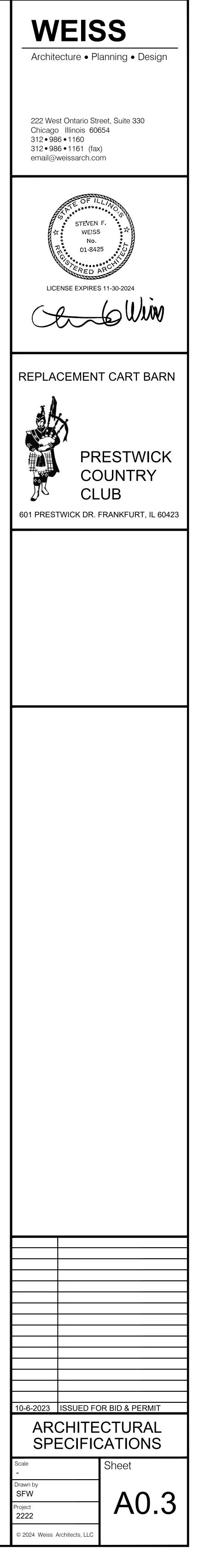
C. After approximately 200 units have been installed, inspect roof from ground. Verify proper layout and appearance. Repeat inspection every 200 shingles.

D. Visually inspect completed installation for weathertight condition. 3.6 PROTECTION

A. Protect installed roofing until completion of Project.

B. Do not allow traffic on completed roof. 3.7 ADJUSTING

A. Replace damaged shingles prior to Substantial Completion. END OF SECTION 073136



	T 1 - <u>GENERAL</u> SUMMARY Section Includes: Manufactured units for the following applications: 1. Roof-edge drainage systems.	PART 1 - <u>GENERAL</u> 1.1 SUMMARY A. Section Includes: 1. Interior standard steel door	rs and
Α.	ACTION SUBMITTALS Product data.	2. Exterior standard steel doo 1.2 ACTION SUBMITTALS	ors an
В.	 Shop Drawings: For roof specialties. Plans, expansion-joint locations, keyed details, and attachments to other work. Distinguish between factory pre manufactured- and field-assembled installation. 	A. Product Data: For each type of B. Product Schedule: For hollow- supervision of supplier, using s	metal
	2. Indicate profile and pattern of seams and layout of fasteners, cleats, clips, and other attachments.	those on Drawings. Coordinate PART 2 - <u>PRODUCTS</u>	e with
	 Details of termination points and assemblies, including fixed points. Samples: For each type of roof specialty indicated with factory-applied color finishes. PRODUCTS 	2.1 PERFORMANCE REQUIREM A. Fire-Rated Door Assemblies: A labeled by a qualified testing a	Assen
2.1	PERFORMANCE REQUIREMENTS General Performance: Roof specialties to withstand exposure to weather and resist	fire-protection ratings indicated accordance with NFPA 252 or	d on E UL 1
	thermally induced movement without failure, rattling, leaking, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.	2.2 INTERIOR STANDARD STEE A. Construct hollow-metal doors a materials, fabrication, hardwar	and fr
В.	Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, hole elongation, overstressing of components, failure of islants, failure of connections, and other	clearances, and as specified. B. Heavy-Duty Doors and Frames	s: AN
	overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of thermal movements. Base calculations on surface temperatures of materials due to	1. Doors: a. Type: As indicated in t b. Thickness: 1-3/4 inche	
0.0	both solar heat gain and nighttime-sky heat loss. 1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.	c. Face: Metallic-coated d. Edge Construction: M	odel 1
	ROOF-EDGE DRAINAGE SYSTEMS Gutters: Manufactured in uniform section lengths not exceeding 12 ft., with matching corner units, ends, outlet tubes, and other accessories. Elevate back edge at least	e. Core: Manufacturer's f. Fire-Rated Core: Manu fire-rateddoors.	
	1 inch above front edge. Furnish flat-stock gutter straps, gutter brackets, expansion joints, and expansion-joint covers fabricated from same metal as gutters.	2. Frames: a. Materials: Metallic-coa	
	 Metallic-Coated Steel Sheet: Nominal 0.034-inch thickness. Gutter Profile: Style A in accordance with SMACNA's "Architectural Sheet Metal Manual." 	b. Construction: Face we 2.3 EXTERIOR STANDARD STEE A. Construct hollow-metal doors a	EL DO
	 Corners: Factory mitered and mechanically clinched and sealed watertight. Gutter Supports: Manufacturer's standard supports as selected by Architect with finish methods and the muttered 	materials, fabrication, hardwar clearances, and as specified.	re loca
B.	finish matching the gutters.5. Gutter Accessories: Wire ball downspout strainer. Flat ends.Downspouts: Corrugated rectangular complete with smooth-curve elbows,	B. Heavy-Duty Doors and Frames 1. Doors: a. Type: As indicated in t	
	manufactured from the following exposed metal. Furnish with metal hangers, from same material as downspouts, and anchors.	b. Thickness: 1-3/4 inche c. Face: Metallic-coated s	es. steel s
C.	 Metallic-Coated Steel Sheet: Nominal 0.034-inch thickness. Size: As indicated on Drawings. Finishes: 	minimum A60 coating. d. Edge Construction: M e. Edge Bevel: Bevel loc	odel 1
	 Metallic-Coated Steel: Two-coat fluoropolymer. a. Color: As selected by Architect from manufacturer's full range. 	f. Top Edge Closures: C material as face sheets	lose t s. Sea
	SHEET METAL MATERIALS Metallic-Coated Steel Sheet: Zinc-coated (galvanized) steel sheet complying with minimum ASTM A653/A653M, G90 coating designation, or aluminum-zinc alloy-coated	g. Bottom Edges: Close b same material as face exterior doors to permi	sheet
	steel sheet complying with minimum ASTM A792/A792M, Class AZ50 coating designation; structural quality.	h. Core: Manufacturer's i. Fire-Rated Core: Manu	stand ufactu
	 Exposed Coil-Coated Finish: Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions. a. Two-Coat Fluoropolymer Finish: AAMA 2605. System consisting of primer and 	core for fire-rated door 2. Frames: a. Materials: Metallic-coa	
	fluoropolymer color topcoat containing not less than 70 percent PVDF resin by weight in color coat.	minimum A60 coating. b. Construction: Face we	
	2. Concealed Finish: Pretreat with manufacturer's standard white or light-colored acrylic or polyester-backer finish consisting of prime coat and wash coat, with a minimum total dry film thickness of 0.5 mil.	2.4 FRAME ANCHORS A. Jamb Anchors: 1. Type: Anchors of minimum	
	MISCELLANEOUS MATERIALS Provide materials and types of fasteners, protective coatings, sealants, and other	standard, and suitable for 2. Quantity: Minimum of three	perfor e ancl
	miscellaneous items required by manufacturer for a complete installation. Fasteners: Roof specialty manufacturer's recommended fasteners, designed to meet	with no floor anchor. Provi height above 7 feet.	ide on
	performance requirements, suitable for application and metals being fastened. Match finish of exposed fasteners with finish of material being fastened. Provide nonremovable fastener heads to exterior exposed fasteners. Furnish the following	 Postinstalled Expansion Alson shields or inserts, with main B. Floor Anchors: Provide floor and the shield s	nufac
	 unless otherwise indicated: 1. Fasteners for Metallic-Coated Steel Sheet: Series 300 stainless steel or hot-dip zinc-coated steel in accordance with ASTM A153/A153M or ASTM F2329/F2329M. 	C. Material: ASTM A879/A879M, phosphatized.	Com
C.	Elastomeric Sealant: ASTM C920, elastomeric polyurethane polymer sealant of type, grade, class, and use classifications required by roofing-specialty manufacturer for	1. For anchors built into exter ASTM A1008/A1008M or / with ASTM A153/A153M, (ASTM
	each application. GENERAL FINISH REQUIREMENTS	2.5 MATERIALS A. Cold-Rolled Steel Sheet: ASTI	
	Comply with NAAMM/NOMMA AMP 500, "Metal Finishes Manual for Architectural and Metal Products," for recommendations for applying and designating finishes. Protect mechanical and painted finishes on exposed surfaces from damage by applying	suitable for exposed applicatio B. Hot-Rolled Steel Sheet: ASTM scale, pitting, or surface defect	1 A101
C.	a strippable, temporary protective covering before shipping. Appearance of Finished Work: Noticeable variations in same piece are unacceptable.	C. Metallic-Coated Steel Sheet: A D. Inserts, Bolts, and Fasteners: I	ASTM
PAR	Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast. T 3 - EXECUTION	ASTM A153/A153M. E. Power-Actuated Fasteners in (indicated, fabricated from corre	
3.1	INSTALLATION, GENERAL Install roof specialties in accordance with manufacturer's written instructions. Anchor	devices for attaching hollow-m 2.6 FABRICATION	netal fi
	roof specialties securely in place, with provisions for thermal and structural movement. Use fasteners, protective coatings, separators, underlayments, sealants, and other miscellaneous items as required to complete roof-specialty systems.	A. Hollow-Metal Frames: Fabrica limitations require multiple sec alignment plates or angles at e	tions.
	1. Install roof specialties level, plumb, true to line and elevation; with limited oil-canning and without warping, jogs in alignment, buckling, or tool marks.	thickness as frames. 1. Frames: Provide closed tu	bular
	 Provide uniform, neat seams with minimum exposure of solder and sealant. Install roof specialties to fit substrates and to result in weathertight performance. Verify shapes and dimensions of surfaces to be covered before manufacture. 	fabricated from same mate jambs by welding, or by rig 2. Provide countersunk, flat-	gid me
_	 Torch cutting of roof specialties is not permitted. Do not use graphite pencils to mark metal surfaces. 	fasteners unless otherwise 3. Door Silencers: Except on	e indic weatl
В.	Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by	silencers as follows. Keep a. Single-Door Frames: D b. Double-Door Frames:	Drill st
	manufacturer's written installation instructions.Coat concealed side of uncoated aluminum roof specialties with bituminous coating	B. Hardware Preparation: Factory templated mortised hardware,	y prep and e
	where in contact with wood, ferrous metal, or cementitious construction.Bed flanges in thick coat of asphalt roofing cement where required by manufacturers of roof specialties for waterproof performance.	mortising, drilling, and tapping Schedule on Drawings, and te 1. Reinforce doors and frame	mplat
C.	Expansion Provisions: Allow for thermal expansion of exposed roof specialties.Space movement joints at a maximum of 12 ft. with no joints within 18 inches of	surface-mounted door hard 2. Comply with BHMA A156.	dware
	 corners or intersections unless otherwise indicated on Drawings. When ambient temperature at time of installation is between 40 and 70 deg F, set joint members for 50 percent movement each way. Adjust setting proportionately 	hardware. 2.7 STEEL FINISHES A. Prime Finish: Clean, pretreat, a	and a
D.	for installation at higher ambient temperatures. Fastener Sizes: Use fasteners of sizes that penetrate wood blocking or sheathing not	1. Shop Primer: Manufacture complying with ANSI/SDI	er's sta A250.
E.	less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws. Seal joints as required for weathertight construction. Place sealant to be completely concealed in joint. Do not install sealants at temperatures below 40 deg F.	substrate; compatible with exposure. PART 3 - EXECUTION	SUDS
	INSTALLATION OF ROOF-EDGE DRAINAGE SYSTEMS Install components to produce a complete roof-edge drainage system in accordance	3.1 PREPARATION A. Remove welded-in shipping sp	
B.	with manufacturer's written instructions. Coordinate installation of roof perimeter flashing with installation of roof-edge drainage system. Gutters: Join and seal gutter lengths. Allow for thermal expansion. Attach gutters to	grinding, filling, and dressing, a invisible on exposed faces. To removed.	
	firmly anchored gutter supports spaced not more than 30 inches apart. Attach ends with rivets and seal with sealant to make watertight. Slope to downspouts.	B. Drill and tap doors and frames door hardware.	to ree
С	 Install gutter with expansion joints at locations indicated but not exceeding 50 ft. apart. Install expansion-joint caps. Downspouts: Join sections with manufacturer's standard telescoping joints. Provide 	3.2 INSTALLATION A. Hollow-Metal Frames: Comply 1. Set frames accurately in p	
	hangers with fasteners designed to hold downspouts securely to walls and 1 inch away from walls; locate fasteners at top and bottom and at approximately 60 inches o.c.	permanent anchors are se braces without damage to	et. Afte comp
	 Provide elbows at base of downspouts at grade to direct water away from building. CLEANING AND PROTECTION Remove temporary protective coverings and strippable films as roof specialties are 	a. Where frames are fabr welding face joint cont and invisible on expose	inuou
	installed. On completion of installation, clean finished surfaces, including removing unused fasteners, metal filings, pop rivet stems, and pieces of flashing. Maintain roof	b. Install frames with rem 2. Fire-Rated Openings: Insta	iovabl all frai
В.	specialties in a clean condition during construction. Replace roof specialties that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures, as determined by	 Floor Anchors: Secure with a. Floor anchors may be expansion anchors if s 	set w
<u>END</u>	Architect. OF SECTION 077100	 Installation Tolerances: Ad a. Squareness: Plus or m 	ljust h ninus
<u>S</u> EC ⁻	TION 079200 - JOINT SEALANTS	degrees from jamb per b. Alignment: Plus or min parallel to plane of wal	nus 1/
PAR 1.1	T 1 - GENERAL SECTION REQUIREMENTS	c. Twist: Plus or minus 1/ parallel lines, and perp	/16 in pendic
	Submittals: Product Data and color Samples. Environmental Limitations: Do not proceed with installation of joint sealants when ambient and substrate temperature conditions are outside limits permitted by	d. Plumbness: Plus or mi B. Hollow-Metal Doors: Fit and ac clearances specified below.	djust ł
PAR	joint-sealant manufacturer or are below 40 deg F. T 2 - PRODUCTS	 Non-Fire-Rated Steel Door Fire-Rated Doors: Install d 	
2.1 A.	JOINT SEALANTS Compatibility: Provide joint sealants, joint fillers, and other related materials that are compatible with one another and with joint substrates under service and application	3.3 REPAIR A. Prime-Coat Touchup: Immedia areas of prime coat and apply	•
B.	conditions. Sealant for Use in Exterior Building Joints:	B. Metallic-Coated Surface Touch repair paint in accordance with	hup: C n man
	 Single-component, neutral-curing silicone sealant, ASTM C 920, Type S; Grade NS; Class 50; for Use NT. a. Dow Corning Corporation; 795, color selected by Architect from manufacturer's 	C. Touchup Painting: Cleaning ar specified in painting Sections. END OF SECTION 081113	
C.	standard colors. Sealant for Exterior Traffic-Bearing Joints, Where Slope Allows Use of Pourable		00-
	Sealant:1. Single-component, pourable urethane sealant, ASTM C 920, Type S; Grade P; Class 25; for Use T.	SECTION 083613 - SECTIONAL DO PART 1 - <u>GENERAL</u> 1.1 SUMMARY	<u>2085</u>
D.	a. Tremco Incorporated; Vulkem 45. Sealant for Use in Interior Joints in Ceramic Tile and Other Hard Surfaces in Kitchen	A. Section Includes: 1. Sectional-door assemblies	÷.
	 and Bathrooms and Around Plumbing Fixtures: 1. Single-component, mildew-resistant silicone sealant, ASTM C 920, Type S; Grade NS; Class 25; for Use NT; formulated with fungicide. 	1.2 ACTION SUBMITTALS A. Product Data: For each type a B. Shop Drawings: For each insta	
E.	a. Dow Corning Corporation; 786 Mildew Resistant. Sealant for Interior Use at Perimeters of Door and Window Frames:	in manufacturer's product data C. Samples: For each exposed p	a.
2.2	 Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF. a. BASF Building Systems; Sonolac or Tremco Incorporated; Tremflex 834. MISCELLANEOUS MATERIALS 	1.3 CLOSEOUT SUBMITTALSA. Maintenance data.1.4 QUALITY ASSURANCE	
	Provide sealant backings of material that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications	A. Installer Qualifications: An enti trained and approved by manu	•
В.	indicated by sealant manufacturer based on field experience and laboratory testing. Cylindrical Sealant Backings: ASTM C 1330, of size and density to control sealant	required for this Project. 1.5 WARRANTY	
C.	depth and otherwise contribute to producing optimum sealant performance. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials	A. Manufacturer's Warranty: Man sectional doors that fail in mate 1. Warranty Period: Five yea	erials ars fro
D.	or joint surfaces at back of joint. Provide self-adhesive tape where applicable. Primer: Material recommended by joint-sealant manufacturer where required for	B. Finish Warranty: Manufacturer evidence of deterioration of fac	r agre ctory-
PAR	adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests. T 3 - EXECUTION	1. Warranty Period: 10 years PART 2 - <u>PRODUCTS</u> 2.1 PERFORMANCE REQUIREM	
	INSTALLATION Comply with ASTM C 1193.	A. General Performance: Provide requirements specified without	e secti t failui
	Install sealant backings to support sealants during application that allow optimum	installation, or other defects in	cons

RS AND FRAMES

- rames.
- oors and frames, prepared by or under the ference numbers for details and openings as inal door hardware schedule.
- lies complying with NFPA 80 that are listed and cceptable to authorities having jurisdiction for awings, based on testing at positive pressure in
- RS AND FRAMES nes to comply with standards indicated for ions, hardware reinforcement, tolerances, and I/SDI A250.8, Level 2; ANSI/SDI A250.4, Level B..
- and Frame Schedule on Drawings. neet, minimum thickness of 0.042 inch.
- Full Flush. 's standard vertical steel stiffener core for
- el sheet, minimum thickness of 0.053 inch.
- DRS AND FRAMES nes to comply with standards indicated for ions, hardware reinforcement, tolerances, and
- I/SDI A250.8, Level 2; ANSI/SDI A250.4, Level B..
- and Frame Schedule on Drawings. eet, minimum thickness of 0.042 inch, with
- ull Flush. 1/8 inch in 2 inches. edges of doors with flush closures of same joints against water penetration. edges of doors with end closures or channels of
- Provide weep-hole openings in bottoms of ure to escape. 's standard vertical steel stiffener with insulation
- sheet, minimum thickness of 0.053 inch, with
- nd type required by applicable door and frame ance level indicated. ors per jamb, with one additional anchor for frames dditional anchor for each 24 inches of frame
- linimum 3/8-inch-diameter bolts with expansion rer's standard pipe spacer. for each jamb and mullion that extends to floor. rcial Steel (CS), 04Z coating designation; mill
- , steel sheet complying with 1011/A1011M; hot-dip galvanized in accordance
- 3/A1008M, Commercial Steel (CS), Type B; A1011M, Commercial Steel (CS), Type B; free of
- ed and oiled. 653/A653M, Commercial Steel (CS), Type B. galvanized in accordance with
- : Fastener system of type suitable for application sistant materials, with clips or other accessory les of type indicated.
- piece except where handling and shipping here frames are fabricated in sections, provide nt, fabricated of metal of same or greater
- embers with no visible face seams or joints, loor frame. Fasten members at crossings and to nanical anchors.
- nead exposed screws and bolts for exposed -stripped frames, drill stops to receive door
- lear during construction. o in strike jamb to receive three door silencers. o in head jamb to receive two door silencers. e hollow-metal doors and frames to receive ctrical wiring; include cutouts, reinforcement,
- dance with ANSI/SDI A250.6, the Door Hardware eive nontemplated, mortised, and
- reparing hollow-metal doors and frames for
- ly manufacturer's standard primer. lard, fast-curing, lead- and chromate-free primer recommended by primer manufacturer for ate and field-applied coatings despite prolonged
- installed at factory. Restore exposed finish by ired to make repaired area smooth, flush, and factory-applied finishes where spreaders are
- ive nontemplated, mortised, and surface-mounted
- ISI/SDI A250.11. olumbed, aligned, and braced securely until vall construction is complete, remove temporary ed Work.
- sections, field splice at approved locations by grind, fill, dress, and make splice smooth, flush, Touch-up finishes. stops located on secure side of opening.
- es in accordance with NFPA 80. stalled expansion anchors. power-actuated fasteners instead of postinstalled
- ated and approved on Shop Drawings. low-metal frames to the following tolerances: 16 inch, measured at door rabbet on a line 90
- ular to frame head. inch, measured at jambs on a horizontal line
- measured at opposite face corners of jambs on ar to plane of wall. inch, measured at jambs at floor.
- llow-metal doors accurately in frames, within ply with ANSI/SDI A250.8.
- h clearances in accordance with NFPA 80.
- er erection, sand smooth rusted or damaged of compatible air-drying, rust-inhibitive primer. ean abraded areas and repair with galvanizing acturer's written instructions. nup painting of abraded areas of paint are
- of sectional door and accessory. and for components not dimensioned or detailed and for each color and texture specified.
- mploys installers and supervisors who are for both installation and maintenance of units
- r agrees to repair or replace components of workmanship within specified warranty period. date of Substantial Completion. to repair or replace components that show plied finishes within specified warranty period. late of Substantial Completion.
- nal doors that comply with performance from defective manufacture, fabrication, ction and without requiring temporary installation
- : Capable of withstanding the design wind loads. ure (velocity pressure) of 30 lbf/sq. ft., acting

- inward and outward. 2.2 SECTIONAL-DOOR ASSEMBLY
- A. Steel Sectional Door: Provide sectional door formed with hinged sections and fabricated so that finished door assembly is rigid and aligned with tight hairline joints;
- free of warp, twist, and deformation; and complies with requirements in DASMA 102. B. Operation Cycles: Door components and operators capable of operating for not less than 50,000 operation cycles. One operation cycle is complete when door is opened
- from closed position to the open position and returned to closed position. C. Steel Door Sections: ASTM A653/A653M, zinc-coated (galvanized), cold-rolled,
- commercial steel sheet with G60 zinc coating. 1. Door-Section Thickness: 1-3/4 inches. 2. Section Faces:
- a. Exterior Face: Fabricated from single sheets, not more than 24 inches high; with horizontal meeting edges rolled to continuous, interlocking, keyed, rabbeted, shiplap, or tongue-in-groove, weather- and pinch-resistant seals and reinforcing flange return.
- 1) Steel Sheet Thickness: 0.040-inch nominal coated thickness. 2) Surface: Manufacturer's standard, flat. b. Interior Face: Enclose insulation completely within steel exterior facing and interior facing material, with no exposed insulation. Provide the following interior-facing material: 1) Zinc-Coated (Galvanized) Steel Sheet: With minimum nominal coated
- thickness of 0.019 inch. 3. End Stiles: Enclose open ends of sections with channel end stiles formed from galvanized-steel sheet not less than 0.040-inch nominal coated thickness and welded to door section.
- 4. Section Reinforcing: Horizontal and diagonal reinforcement as required to stiffen door and for wind loading. Provide galvanized-steel bars, struts, trusses, or strip steel, formed to depth and bolted or welded in place. a. Bottom Section: Reinforce section with a continuous channel or angle conforming to bottom-section profile and allowing installation of astragal
- (weatherseal). b. Hardware Locations: Provide reinforcement for hardware attachment. 5. Thermal Insulation: Insulate interior of steel sections with door manufacturer's standard insulation of type indicated below:
- a. Foamed-in-Place Insulation: Polyurethane, foamed in place to completely fill interior of section and pressure bonded to face sheets to prevent delamination under wind load. D. Track: Manufacturer's standard, galvanized-steel, standard-lift track system. Provide
- complete system including brackets, bracing, and reinforcement to ensure rigid support of ball-bearing roller guides. 1. Material: Galvanized steel, ASTM A653/A653M, minimum G60 zinc coating. 2. Size: As recommended in writing by manufacturer for door size, weight, track
- configuration and door clearances indicated on Drawings. 3. Track Reinforcement and Supports: Provide galvanized-steel members to support track without sag, sway, and vibration during opening and closing of doors. Slot vertical sections of track spaced 2 inches apart for door-drop safety device. a. Vertical Track: Incline vertical track to ensure weathertight closure at jambs. Provide intermittent jamb brackets attached to track and wall.
- b. Horizontal Track: Provide continuous reinforcing angle from curve in track to end of track, attached to track and supported at points by laterally braced attachments to overhead structural members. E. Weatherseals: Replaceable, adjustable, continuous, compressible weather-stripping
- gaskets of flexible vinyl, rubber, or neoprene fitted to bottom of door. F. Hardware: Heavy-duty, corrosion-resistant hardware, with hot-dip galvanized, stainless steel, or other corrosion-resistant fasteners, to suit door type. 1. Hinges: Heavy-duty, galvanized-steel hinges of not less than 0.079-inch nominal coated thickness at each end stile and at each intermediate stile, in accordance
- with manufacturer's written recommendations for door size. a. Attach hinges to door sections through stiles and rails with bolts and lock nuts or lock washers and nuts. Use rivets or self-tapping fasteners where access to nuts is impossible. 2. Rollers: Heavy-duty rollers with steel ball bearings in case-hardened steel races,
- mounted to suit slope of track. Extend roller shaft through both hinges where double hinges are required. Match roller-tire diameter to track width. a. Roller-Tire Material: Manufacturer's standard. 3. Push/Pull Handles: Equip each door with galvanized-steel lifting handles on each
- side of door, finished to match door. G. Locking Device: 1. Slide Bolt: Fabricate with side-locking bolts to engage through slots in tracks for locking by padlock, located on single-jamb side, operable from inside only.
- H. Counterbalance Mechanism: 1. Torsion Spring: Adjustable-tension torsion springs complying with requirements of DASMA 102 for number of operation cycles indicated, mounted on torsion shaft. 2. Cable Drums and Shaft for Doors: Cast-aluminum cable drums mounted on torsion shaft and grooved to receive door-lifting cables as door is raised. a. Mount counterbalance mechanism with manufacturer's standard ball-bearing brackets at each end of torsion shaft.
- 3. Cables: Galvanized-steel, multistrand, lifting cables. 4. Cable Safety Device: Include a spring-loaded steel or bronze cam mounted to bottom door roller assembly on each side and designed to automatically stop door if
- lifting cable breaks. 5. Bracket: Provide anchor support bracket as required to connect stationary end of spring to the wall and to level the shaft and prevent sag. 6. Bumper: Provide spring bumper at each horizontal track to cushion door at end of
- opening operation. Manual Door Operator: 1. Push-Up Operation: Lift handles and pull rope for raising and lowering doors
- located on inside and outside of bottom section; with counterbalance mechanism designed so that required lift or pull for door operation does not exceed 25 lbf. I. Metal Finish: 1. Factory Prime Steel Finish: Compatible with field-applied finish and in
- manufacturer's standard color. PART 3 - EXECUTION
- 3.1 INSTALLATION
- A. Install sectional doors and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports; in accordance with manufacturer's written instructions.
- B. Tracks: 1. Fasten vertical track assembly to opening jambs and framing with fasteners spaced not more than 24 inches apart. 2. Hang horizontal track assembly from structural overhead framing with angles or channel hangers attached to framing by welding or bolting, or both. Provide sway bracing, diagonal bracing, and reinforcement as required for rigid installation of track and door-operating equipment.
- END OF SECTION 083613
- SECTION 084313 ALUMINUM-FRAMED STOREFRONTS
- PART 1 GENERAL 1.1 SUMMARY
- A. Section Includes: Aluminum-framed storefront systems.
- a. Fixed windows at roof top dormers. 1.2 ACTION SUBMITTALS
- A. Product Data: For each type of product. B. Shop Drawings: For aluminum-framed storefronts. Include plans, elevations, sections, full-size details, and attachments to other work. 1. Show connection to and continuity with adjacent thermal, weather, air, and vapor
- C. Samples: For each type of exposed finish required. PART 2 - PRODUCTS
- 2.1 PERFORMANCE REQUIREMENTS A. General Performance: Comply with performance requirements specified, as determined by testing of aluminum-framed storefronts representing those indicated for this Project
- without failure due to defective manufacture, fabrication, installation, or other defects in construction. 1. Aluminum-framed storefronts shall withstand movements of supporting structure, including, but not limited to, twist, column shortening, long-term creep, and deflection from uniformly distributed and concentrated live loads.
- 2. Failure also includes the following: a. Thermal stresses transferring to building structure.
- b. Glass breakage. c. Noise or vibration created by wind and thermal and structural movements. d. Loosening or weakening of fasteners, attachments, and other components.
- e. Failure of operating units. B. Structural Loads:
- 1. Wind Loads: 30 PSF. C. Deflection of Framing Members Supporting Glass: At design wind load, as follows: 1. Deflection Normal to Wall Plane: Limited to 1/175 of clear span for spans of up to 13 feet 6 inches and to 1/240 of clear span plus 1/4 inch for spans greater than 13 feet 6 inches. 2. Deflection Parallel to Glazing Plane: Limited to amount not exceeding that which
- reduces glazing bite to less than 75 percent of design dimension and that which reduces edge clearance between framing members and glazing or other fixed components to less than 1/8 inch. D. Structural: Test in accordance with ASTM E330/E330M as follows: 1. When tested at positive and negative wind-load design pressures, storefront
- assemblies do not evidence deflection exceeding specified limits. 2. When tested at 150 percent of positive and negative wind-load design pressures, storefront assemblies, including anchorage, do not evidence material failures,
- structural distress, or permanent deformation of main framing members exceeding 0.2 percent of span. 3. Test Durations: As required by design wind velocity, but not less than 10 seconds. E. Water Penetration under Static Pressure: Test in accordance with ASTM E331 as
- 1. No evidence of water penetration through fixed glazing and framing areas when tested in accordance with a minimum static-air-pressure differential of 20 percent of positive wind-load design pressure, but not less than 6.24 lbf/sq. ft.. F. Thermal Movements: Allow for thermal movements resulting from ambient and surface temperature changes.
- 1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces. 2.2 ALUMINUM-FRAMED STOREFRONT SYSTEMS A. Framing Members: Manufacturer's extruded- or formed-aluminum framing members of thickness required and reinforced as required to support imposed loads. 1. Exterior Framing Construction: Nonthermal. 2. Glazing System: Retained mechanically with gaskets on four sides.
- 3. Glazing Plane: Center. 4. Finish: Color anodic finish.
- 5. Fabrication Method: Field-fabricated stick system. 6. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
- 7. Steel Reinforcement: As required by manufacturer. B. Backer Plates: Manufacturer's standard, continuous backer plates for framing members, if not integral, where framing abuts adjacent construction. C. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with
- nonstaining, nonferrous shims for aligning system components. 2.3 GLAZING A. Glazing: Comply with Section 088000 "Glazing."
- B. Glazing Gaskets: Manufacturer's standard sealed-corner pressure-glazing system of black, resilient elastomeric glazing gaskets, setting blocks, and shims or spacers. C. Glazing Sealants: As recommended by manufacturer. 2.4 MATERIALS
- A. Sheet and Plate: ASTM B209. B. Extruded Bars, Rods, Profiles, and Tubes: ASTM B221.

- 2.5 FABRICATION A. Form or extrude aluminum shapes before finishing. B. Fabricate components that, when assembled, have the following characteristics: 1. Profiles that are sharp, straight, and free of defects or deformations. 2. Accurately fitted joints with ends coped or mitered. Physical and thermal isolation of glazing from framing members. 4. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances. 5. Provisions for field replacement of glazing from exterior. 6. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible. C. Mechanically Glazed Framing Members: Fabricate for flush glazing without projecting D. After fabrication, clearly mark components to identify their locations in Project in accordance with Shop Drawings. 2.6 ALUMINUM FINISHES A. Color Anodic Finish: AAMA 611, AA-M12C22A42/A44, Class I, 0.018 mm or thicker. 1. Color: Black. PART 3 - EXECUTION 3.1 INSTALLATION, GENERAL A. Comply with manufacturer's written instructions. B. Do not install damaged components. C. Fit joints to produce hairline joints free of burrs and distortion. D. Rigidly secure nonmovement joints. E. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration and to prevent impeding movement of moving joints. F. Seal perimeter and other joints watertight unless otherwise indicated. G. Metal Protection: 1. Where aluminum is in contact with dissimilar metals, protect against galvanic action by painting contact surfaces with materials recommended by manufacturer for this purpose or by installing nonconductive spacers. 2. Where aluminum is in contact with concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint. H. Set continuous sill members and flashing in full sealant bed, as specified in Section 079200 "Joint Sealants," to produce weathertight installation. Install joint filler behind sealant as recommended by sealant manufacturer. J. Install components plumb and true in alignment with established lines and grades. 3.2 INSTALLATION OF GLAZING A. Install glazing as specified in Section 088000 "Glazing." END OF SECTION 084313 SECTION 087100 - DOOR HARDWARE PART 1 - GENERAL 1.1 SECTION REQUIREMENTS A. Submittals: Hardware schedule. PART 2 - PRODUCTS 2.1 HARDWARE A. Hardware is specified by Basis-of-Design on Hardware Schedule. Provide products specified or comparable products by another manufacturer as approved by the Architect. B. Refer to Hardware Schedule for required hardware units and finishes. PART 3 - EXECUTION 3.1 INSTALLATION A. Mount hardware in locations required to comply with governing regulations and according to SDI A250.8 and DHI WDHS.3. B. Deliver keys to Owner. END OF SECTION 087100 SECTION 088000 - GLAZING PART 1 - GENERAL 1.1 SUMMARY A. Section Includes: Glass products. 2. Glazing sealants. 3. Miscellaneous glazing materials. 1.2 COORDINATION A. Coordinate glazing channel dimensions to provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances to achieve proper safety margins for glazing retention under each design load case, load case combination, and service condition. **1.3 ACTION SUBMITTALS** A. Product Data: For each type of product. PART 2 - PRODUCTS 2.1 PERFORMANCE REQUIREMENTS A. Structural Performance: Glazing shall withstand the following design loads within limits and under conditions indicated determined in accordance with the IBC and ASTM E1300: 1. Design Wind Pressures: 30 PSF. 2.2 GLASS PRODUCTS, GENERAL A. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below unless more stringent requirements are indicated. See these publications for glazing terms not otherwise defined in this Section or in referenced standards. NGA Publications: "Glazing Manual." B. Thickness: Where glass thickness is indicated, it is a minimum. Provide glass that complies with performance requirements and is not less than thickness indicated. C. Strength: Where annealed float glass is indicated, provide annealed float glass, heat-strengthened float glass, or fully tempered float glass as needed to comply with "Performance Requirements" Article. Where heat-strengthened float glass is indicated, provide heat-strengthened float glass or fully tempered float glass as needed to comply with "Performance Requirements" Article. Where fully tempered float glass is indicated, provide fully tempered float glass. 2.3 GLASS PRODUCTS A. Tinted Annealed Float Glass: ASTM C1036, Type I, Class 2 (tinted), Quality-Q3. 1. Glass: Solarban 70 Solargray by Vitro Architectural Glass. a. Thickness: 6mm. 2.4 GLAZING SEALANTS A. General: 1. Compatibility: Compatible with one another and with other materials they contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience. 2. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation. Colors of Exposed Glazing Sealants: Black . B. Neutral-Curing Silicone Glazing Sealant, Class 100/50: Complying with ASTM C920, Type S, Grade NS, Use NT. 2.5 MISCELLANEOUS GLAZING MATERIALS A. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer. B. Setting Blocks: 1. Silicone with Shore A durometer hardness of 85, plus or minus 5. 2. Type recommended in writing by sealant or glass manufacturer. C. Spacers: 1. Neoprene blocks or continuous extrusions of hardness required by glass manufacturer to maintain glass lites in place for installation indicated. 2. Type recommended in writing by sealant or glass manufacturer. D. Edge Blocks: 1. Silicone with Shore A durometer hardness per manufacturer's written instructions. 2. Type recommended in writing by sealant or glass manufacturer. PART 3 - EXECUTION 3.1 GLAZING, GENERAL A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications. B. Protect glass edges from damage during handling and installation. Remove damaged ass from Project site and legally dispose of off Project site. Damaged glass includes glass with edge damage or other imperfections that, when installed, could weaken glass, impair performance, or impair appearance. 2. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction testing. D. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead. E. Do not exceed edge pressures stipulated by glass manufacturers for installing glass F. Provide spacers for glass lites where length plus width is larger than 50 inches. G. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and in accordance with requirements in referenced glazing publications. 3.2 GASKET GLAZING (DRY) A. Cut compression gaskets to lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation. B. Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints miter cut and bonded together at corners. C. Installation with Drive-in Wedge Gaskets: Center glass lites in openings on setting blocks, and press firmly against soft compression gasket by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended in writing by gasket manufacturer. D. Installation with Pressure-Glazing Stops: Center glass lites in openings on setting blocks, and press firmly against soft compression gasket. Install dense compression gaskets and pressure-glazing stops, applying pressure uniformly to compression gaskets. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended in writing by gasket
- manufacturer. E. Install gaskets so they protrude past face of glazing stops. 3.3 CLEANING AND PROTECTION A. Immediately after installation, remove nonpermanent labels and clean surfaces. B. Protect glass from contact with contaminating substances resulting from construction operations. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains. 1. If, despite such protection, contaminating substances do contact with glass, remove substances immediately as recommended in writing by glass manufacturer. Remove and replace glass that cannot be cleaned without damage to coatings. C. Remove and replace glass that is damaged during construction period.
- END OF SECTION 088000
- SECTION 092900 GYPSUM BOARD PART 1 - <u>GENERAL</u> 1.1 SUMMARY
- A. Section Includes: 1. Interior gypsum board. 1.2 ACTION SUBMITTALS A. Product data.

2.1 PERFORMANCE REQUIREMENTS

PART 2 - PRODUCTS

C. Structural Profiles: ASTM B308/B308M

- A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated in accordance with ASTM E119 by an independent testing agency.
- 2.2 GYPSUM BOARD, GENERAL A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated. 2.3 INTERIOR GYPSUM BOARD
- A. Gypsum Wallboard: ASTM C1396/C1396M. 1. Thickness: 5/8 inch. 2. Long Edges: Tapered and featured (rounded or beveled) for prefilling.
- 3. Type X: provide Type X gypsum board where indicated for fire-rated walls. 4. Type W/R: provide water-resistant "green board" where indicated.
- 2.4 TILE BACKING PANELS A. Cementitious Backer Units: ANSI A118.9 and ASTM C1288 or ASTM C1325, with manufacturer's standard edges. 1. Thickness: 5/8 inch.
- 2. Mold Resistance: ASTM D3273, score of 10 as rated in accordance with ASTM D3274.
- 2.5 TRIM ACCESSORIES A. Interior Trim: ASTM C1047.
- 1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized-steel sheet. 2. Shapes:
- a. Cornerbead. b. Bullnose bead.
- c. LC-Bead: J-shaped; exposed long flange receives joint compound.
- d. L-Bead: L-shaped; exposed long flange receives joint compound. e. U-Bead: J-shaped; exposed short flange does not receive joint compound.
- f. Expansion (control) joint g. Curved-Edge Cornerbead: With notched or flexible flanges.
- 2.6 JOINT TREATMENT MATERIALS A. General: Comply with ASTM C475/C475M.
- B. Joint Tape:
- 1. Interior Gypsum Board: Paper. 2. Tile Backing Panels: As recommended by panel manufacturer. C. Joint Compound for Interior Gypsum Board: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats. 1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface
- areas, use setting-type taping compound. 2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use drying-type, all-purpose compound. a. Use setting-type compound for installing paper-faced metal trim accessories.
- Fill Coat: For second coat, use drying-type, all-purpose compound. 4. Finish Coat: For third coat, use drying-type, all-purpose compound.
- D. Joint Compound for Tile Backing Panels:
- 1. Cementitious Backer Units: As recommended by backer unit manufacturer. 2.7 AUXILIARY MATERIALS
- A. Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions. B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering
- gypsum panels to continuous substrate. C. Steel Drill Screws: ASTM C1002 unless otherwise indicated. 1. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.
- PART 3 EXECUTION 3.1 INSTALLATION OF PANELS
- A. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged. B. Comply with ASTM C840.
- C. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide 1/4- to 1/2-inch-wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant D. For trim with back flanges intended for fasteners, attach to framing with same fasteners
- used for panels. Otherwise, attach trim according to manufacturer's written instructions. 3.2 FINISHING OF GYPSUM BOARD A. Prefill open joints, rounded or beveled edges, and damaged surface areas.
- B. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape. C. Gypsum Board Finish Levels: Finish panels to levels indicated below and in accordance with ASTM C840:
- 1. Level 1: Ceiling plenum areas, concealed areas, and where indicated. Level 2: Panels that are substrate for tile. 3. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.
- D. Cementitious Backer Units: Finish according to manufacturer's written instructions. 3.3 PROTECTION A. Protect installed products from damage from weather, condensation, direct sunlight,
- construction, and other causes during remainder of the construction period. B. Remove and replace panels that are wet, moisture damaged, and mold damaged. END OF SECTION 092900
- **SECTION 099113 EXTERIOR PAINTING**
- PART 1 GENERAL 1.1 SUMMARY
- A. Section Includes: 1. Primers.
- 2. Finish coatings. 1.2 ACTION SUBMITTALS
- A. Product Data: For each type of product. B. Samples: For each type of topcoat product.
- PART 2 PRODUCTS
- 2.1 PAINT PRODUCTS, GENERAL A. Material Compatibility:
- 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer based on testing and field experience. 2. For each coat in a paint system, provide products recommended in writing by topcoat manufacturer for use in paint system and on substrate indicated.
- B. Colors: As selected by Architect from manufacturer's full range.
- 2.2 PRIMERS A. Exterior, Alkyd/Oil Wood Primer: Alkyd/oil-based primer that is resistant to extractive bleeding when applied to wood substrates with less than 15 percent moisture content; formulated for sag, mold, and microbial resistance; for hiding stains; and for use on
- exterior wood subject to extractive bleeding. . Water-Based, Galvanized-Metal Primer: Corrosion-resistant, pigmented, acrylic primer; formulated for use on cleaned/etched, exterior, galvanized metal to prepare it for subsequent water-based coatings.
- 2.3 FINISH COATINGS A. Exterior, Water-Based, Light Industrial Coating, Low Sheen: Corrosion-resistant, water-based, pigmented, emulsion coating formulated for resistance to blocking (sticking of two painted surfaces), water, alkalis, moderate abrasion, and mild chemical exposure and for use on exterior, primed, wood and metal surfaces.
- 1. Gloss and Sheen Level: Manufacturer's standard low-sheen finish PART 3 - EXECUTION
- 3.1 EXAMINATION A. Verify suitability of substrates, including surface conditions and compatibility, with finishes and primers. B. Proceed with coating application only after unsatisfactory conditions have been
- corrected Application of coating indicates acceptance of surfaces and conditions. 3.2 PREPARATION
- A. Comply with manufacturer's written instructions applicable to substrates and paint systems indicated. B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of
- size or weight of item, provide surface-applied protection before surface preparation and painting. 1. After completing painting operations, use workers skilled in the trades involved to
- reinstall items that were removed. Remove surface-applied protection. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants. 3.3 INSTALLATION
- A. Apply paints in accordance with manufacturer's written instructions. B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- 3.4 CLEANING AND PROTECTION A. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- B. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition. C. At completion of construction activities of other trades, touch up and restore damaged

a. Prime Coat: Shop primer specified in Section in which substrate is specified.

c. Topcoat: Exterior, water-based, light industrial coating, low sheen.

c. Topcoat: Exterior, water-based, light industrial coating, low sheen.

c. Topcoat: Exterior, water-based, light industrial coating, semigloss.

C. Product Schedule: Use same designations indicated on Drawings and in the Interior

by manufacturer, based on testing and field experience.

Painting Schedule to cross-reference paint systems specified in this Section. Include

1. Materials for use within each paint system shall be compatible with one another and

2. For each coat in a paint system, products shall be recommended in writing by

substrates indicated, under conditions of service and application as demonstrated

or defaced painted surfaces. 3.5 EXTERIOR PAINTING SCHEDULE

. Galvanized-Metal Substrates:

END OF SECTION 099113

PART 1 - GENERAL

A. Section Includes:

1. Primers.

1.2 ACTION SUBMITTALS

color designations.

2.1 PAINT PRODUCTS, GENERAL

PART 2 - PRODUCTS

A. Material Compatibility:

1.1 SUMMARY

Dressed-Lumber Substrates: Trim.

SECTION 099123 - INTERIOR PAINTING

2. Water-based finish coatings.

A. Product Data: For each type of product.

B. Samples: For each type of topcoat product.

3. Floor sealers and paints.

A. Steel and Iron Substrates: 1. Water-Based, Light Industrial Coating System:

b. Intermediate Coat: Matching topcoat.

1. Water-Based, Light Industrial Coating System:

1. Water-Based, Light Industrial Coating System:

b. Intermediate Coat: Matching topcoat.

a. Prime Coat: Exterior, alkyd/oil wood primer.

b. Intermediate Coat: Matching topcoat.

a. Prime Coat: Water-based, galvanized-metal primer.

topcoat manufacturers for use in paint system and on substrate indicated. B. Colors: As selected by Architect from manufacturer's full range.

2.2 PRIMERS A. Interior Latex Primer Sealer: Water-based latex sealer used on new interior plaster, concrete, and gypsum wallboard surfaces.

B. Interior Latex Primer for Wood: Waterborne-emulsion primer formulated for resistance to extractive bleeding, mold, and microbials; for hiding stains; and for use on interior wood subject to extractive bleeding. C. Water-Based Rust-Inhibitive Primer: Corrosion-resistant, water-based-emulsion primer formulated for resistance to flash rusting when applied to cleaned, interior ferrous

metals subject to mildly corrosive environments. D. Water-Based Galvanized-Metal Primer: Corrosion-resistant, acrylic primer; formulated for use on cleaned/etched, exterior, galvanized metal to prepare it for subsequent water-based coatings. 2.3 WATER-BASED FINISH COATS

A. Interior, Latex, Eggshell: Pigmented, water-based paint for use on primed/sealed interior plaster and gypsum board, and on primed wood and metals.

1. Gloss and Sheen Level: Manufacturer's standard eggshell finish. B. Interior, Water-Based Light-Industrial Coating, Eggshell: Pigmented, water-based emulsion coating for interior primed wood and metal surfaces (e.g., walls, doors, frames, trim, and sash), providing resistance to moderate abrasion and mild chemical exposure and corrosive conditions.

1. Gloss and Sheen Level: Manufacturer's standard eggshell finish. 2.4 FLOOR SEALERS AND PAINTS

A. Water-Based Concrete Floor Sealer: Clear, water-based, acrylic-copolymer-emulsion sealer formulated for oil, gasoline, alkali, and water resistance and for use on concrete traffic surfaces. PART 3 - EXECUTION

3.1 EXAMINATION

corrected

surfaces

A. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers. B. Proceed with coating application only after unsatisfactory conditions have been

1. Application of coating indicates acceptance of surfaces and conditions. 3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations applicable to substrates and paint systems indicated. B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of

size or weight of item, provide surface-applied protection before surface preparation and painting. C. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

3.3 INSTALLATION A. Apply paints according to manufacturer's written instructions. B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush

marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks. 3.4 CLEANING AND PROTECTION

A. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished B. Protect work of other trades against damage from paint application. Correct damage to

work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition. C. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces. 3.5 INTERIOR PAINTING SCHEDULE

A. Concrete Substrates, Traffic Surfaces: 1. Water-Based Concrete Floor Sealer System: a. First Coat: Matching topcoat.

b. Topcoat: Water-based concrete floor sealer. Steel Substrates:

1. Water-Based Light-Industrial Coating System: a. Prime Coat: Primer, rust-inhibitive, water based. b. Intermediate Coat: Matching topcoat. c. Topcoat: Interior, water-based, light-industrial coating, eggshell.

Galvanized-Metal Substrates 1. Water-Based Light-Industrial Coating System: a. Prime Coat: Cementitious galvanized primer.

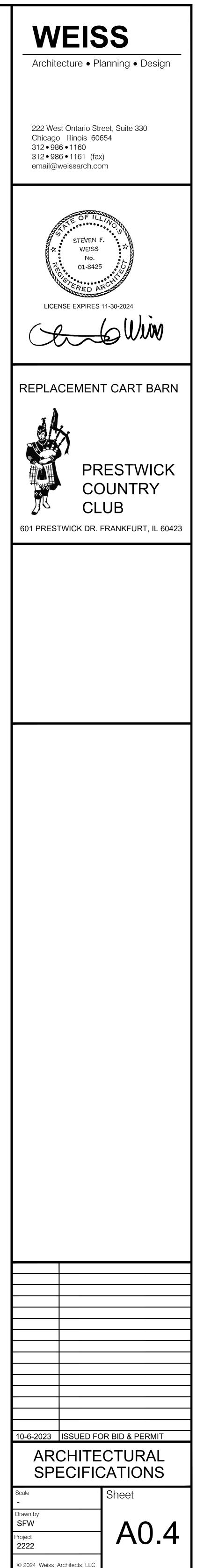
 b. Intermediate Coat: Matching topcoat. c. Topcoat: Interior, water-based, light-industrial coating, eggshell. D. Exposed Wood Framing: 1. Latex over Latex Primer System:

a. Prime Coat: Interior latex primer for wood. b. Intermediate Coat: Matching topcoat. c. Topcoat: Interior, latex, eggshell.

E. Finish Carpentry: Wood trim 1. Latex over Latex Primer System a. Prime Coat: Interior latex primer for wood. b. Intermediate Coat: Matching topcoat.

c. Topcoat: Interior, latex, eggshell. -. Gypsum Board Substrates: 1. Latex over Latex Sealer System:

 a. Prime Coat: Interior latex primer sealer. b. Intermediate Coat: Matching topcoat. c. Topcoat: Interior, latex, eggshell. END OF SECTION 099123



А.	ON 105626 - MOBILE STORAGE SHELVING 1 - <u>GENERAL</u> SUMMARY Section Includes:	 3. Storage and handling requirements and recommendations. C. Shop Drawings: Showing roof framing, cross sections, roof and wall covering and details and accessory and component details clearly indicating proper assembly. D. For permit submittal to authorities having jurisdiction, signed and sealed structure
	 Mechanically assisted systems. System capable of storing 624 (minimum) golf club bags. 	drawings (framing and foundations), structural calculations and Structural Engine Certification. All documents to be signed and sealed by a Structural Engineer,
Α.	ACTION SUBMITTALS Product Data: For each type of product. Shop Drawings: Show shelving layout, location and extent of rail system and	registered to practice in Illinois, verifying compliance with all specified Structural Requirements. Letter shall reference specific dead loads, live loads, wind loads, tributary area load reductions (if applicable) collateral loads, seismic loads, end u
	clear-aisle widths from face of carriages. 1. Detail fabrication and installation of mobile shelving systems including methods of	categories, and governing building code including edition and load applications. E. Selection Samples: For each finish product specified, two complete sets of color
	anchoring shelves to carriages and rails to building structure. Samples: For each exposed product and for each color and texture specified. CLOSEOUT SUBMITTALS	 chips representing manufacturer's full range of available colors and patterns. F. Verification Samples: For each finish product specified, two samples, minimum s inches (150 mm) square, representing actual product, color, and patterns.
A. 1.4 M	Maintenance data. /AINTENANCE MATERIAL SUBMITTALS	1.6 QUALITY ASSURANCE A. Manufacturer Qualifications: Minimum ten years experience in producing
	Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents. 1. Shelf units and accessories.	 pre-engineered wood buildings of the type specified. B. Installer Qualifications: Installer Qualifications: Minimum three years experience i erection of pre-engineered wood buildings of the type specified.
1.5 W	VARRANTY Special Warranty: Manufacturer agrees to repair or replace components of mobile	 C. Structural Engineer's Qualifications: Minimum of three years designing post frams structures; registered in the jurisdiction of the project.
	shelving systems that fail in materials or workmanship within specified warranty period.	 DELIVERY, STORAGE, AND HANDLING A. Store products in manufacturer's unopened packaging until ready for installation.
PART 2	 Warranty Period: Five years from date of Substantial Completion. <u>PRODUCTS</u> SYSTEMS AND COMPONENTS 	Follow manufacturer's recommended storage procedures. Do not allow steel sidi and roofing to contact the ground. B. Store and dispose of solvent-based materials, and materials used with solvent-based materials.
Α.	General: Provide manufacturer's standard mobile storage shelving systems and components. Where components are not otherwise indicated, provide manufacturer's	materials, in accordance with requirements of authorities having jurisdiction. 1.8 PROJECT CONDITIONS
В.	standard components as required for a complete system. Inserts: Furnish required concrete inserts and similar anchorage devices for installing	A. Anticipate environmental conditions (temperature, humidity, and ventilation) withi limits recommended by manufacturer for optimum results. Do not install products
	track system, and furnish other components of work where installation of devices is specified in another Section. Flooring: Underlayment thickness required to bring aisle floor finish flush with rail	under environmental conditions outside manufacturer's absolute limits. 1.9 WARRANTY
	tops. 1. Ramps: Manufacturer's standard metallic-coated, cold-rolled steel ramp not	A. Structural Design - Lifetime: Manufacturer warrants that the building designed by Lester will not experience an occurrence of structural failure or an occurrence of structural damage due to improper structural design (excepting ventilation system)
	steeper than 1:12, with non-slip finish. 2. Floor Finish: Manufacturer's standard 12-inch-square vinyl tile; color as selected	on account of weather conditions, such as wind, ice, and snow, as indicated on the Lester Sales Agreement, "Building Description Section". The foregoing warranty
	by Architect from manufacturer's full range. Tracks: Steel rails with tops machined to mate with guide wheels and with ends designed to provide smooth, secure continuity between sections without field welding.	limited to 50 years with respect to any Owner which is not an individual. B. Preservative Treated Materials: 50 years. Preservative treated lumber, including structural columns, are warranted by the original materials manufacturer against
	Provide mounting brackets, anchorage devices, adjustable leveling devices, and stops at terminations of rails to prevent carriages from running off track ends.	failures due to fungal decay, wood rot due to water infiltration (below grade embedded portions of columns) and termite infestation.
Ε.	1. Mounting: Surface mounted. Carriages: Rigid frames consisting of C-shaped cold-formed steel beams and cross	C. Roofing and Siding Finish, steel panel: Warranted by the original materials manufacturer for 40 years from the date of shipment. Refer to Warranty docume
	beams, designed to allow secure anchorage of shelving units.Carriage Width: 30 inches.Carriage Length: 144 inches.	complete details. D. Individual Building Products: Manufacturer's standard warranty. E. Installation Warranty: One year general installation warranty, five years against re
	 Wheels: Manufacturer's standard number of bearing-mounted, steel wheels, precision ground to mate with tracks. 	leaks. PART 2 PRODUCTS
F.	4. Bumpers: Provide two rubber bumpers with minimum depth of 1/2 inch each side. Carriage End Panels: Full depth and height of shelving units. Provide at both ends of	2.1 MANUFACTURERS A. Acceptable Manufacturer: Lester Building Systems, which is located at: 1111 2n
	each range. 1. Material: Cold-rolled steel sheet, 0.048 inch thick, manufacturer's standard. /ECHANICALLY ASSISTED SYSTEMS	Ave. S.; Lester Prairie, MN 55354; Toll Free Tel: 800-826-4439; Tel: 320-395-25 Fax: 320-395-2969; Email: request info (marketingdept@lesterbuildings.com); Web:www.lesterbuildings.com
	Basis-of-Design Product: Subject to compliance with requirements, provide "Spacesaver Mechanical Assist High-Density Mobile System" or comparable product	B. Substitutions: Not permitted. 2.2 STRUCTURAL FRAMING
	by one of the following: 1. <u>Spacesaver Corporation</u> .	A. Footings:1. Embedded Column Footings:
	Drive Shaft: Continuous tubular or solid steel shaft, capable of transmitting torque from drive system without distortion. STEEL FOUR-POST SHELVING	 a. Precast or cast-in-place concrete footing of 4000 psi (minimum) concrete size and thickness specified in the shop drawings. b. Footing design to be based on Geotechnical Report prepared for the pro-
Α.	STEEL FOUR-POST SHELVING Steel Four-Post Shelving: Shelving consisting of four angle-iron uprights per section, with adjustable shelves resting on shelf supports hung on uprights. Configure units	 b. Footing design to be based on Geotechnical Report prepared for the pro- B. Primary Framing: 1. Columns:
В.	for mounting on mobile carriages. Shelving Units:	a. Treated Lumber Section:1) Lumber: No. 1 or Better Southern Yellow Pine, pressure treated with
	 Type: Self-supporting unit. Configuration: Open with center dividers. Width: 36 inches. 	Chromated Copper Arsenate, Type III, to a retention of 0.6 pcf (9.6 k and kiln dried after treating to 19 percent maximum moisture content 2) Fabrication: Laminate individual pieces using ring shank feed nails p
	 Width: 36 inches. Height: 112 inches Shelf Depth: 15 inches nominal. 	 Fabrication: Laminate individual pieces using ring shank feed nails per manufacturer's engineered nailing pattern. Fasteners shall have AST A153 galvanizing.
2.4 M 2.5 S	ATERIALS STEEL FINISHES	b. Untreated Lumber Section:1) Lumber: Lumber: No. 1 or Better Southern Yellow Pine or Douglas
	Baked-Enamel or Powder-Coat Finish: Manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat to achieve a minimum dry film thickness of 2 mils.	Fir-Larch or other equivalent NDS approved species/grade kiln dried percent maximum moisture content. 2) Fabrication: Laminate individual pieces using ring shank feed nails p
	1. Color and Gloss: As selected by Architect from manufacturer's full range.	 manufacturer's engineered nailing pattern. Grade and size shall be selected to support imposed loads within
3.1 IN A.	NSTALLATION Level and plumb tracks to a tolerance of 0.09 inch in 120 inches with no more than	deflection limits. c. End Joint Connection of Treated and Untreated Sections: Factory fabrica
	0.06-inch variation between adjacent rails. Use permanent shims or non-shrink grout as indicated by manufacturer.	finger joint. d. Configuration:
	Surface-Mounted Track Systems: Install underlayment, ramps, and finish flooring according to manufacturer's written instructions and flush with track surfaces. Do not extend ramps beyond ends of carriages.	 Sidewall and Endwall Columns: 3 ply or 4 ply combining 2x4, 2x6, 2x 2x10 (50x150, 50x200, 50x250 mm) dimension lumber as required b "Structural Design" requirements specified herein.
C.	Carriage Installation: Mount mobile carriages on track system and adjust for smooth operation. Provide non-moving carriages securely fixed to rails where indicated.	 2) Corner Columns: 2 ply or 3 ply 2x4, 2x6 or 2x8 (50x150, 50x200 mm dimension lumber as required by "Structural Design" requirements
D.	Attach shelving units to carriages according to manufacturer's written instructions and as required to prevent vibration during movement.	specified herein. e. Embedded Column Anchorage:
	 Level and plumb shelving units to a tolerance of 1/8 inch in 96 inches. F SECTION 105626 	 Concrete collar pinned to column base with steel reinforcing rods. Provide screw in or cast-in-place anchors per shop drawings. Trusses: Comply with "Structural Design" and "Quality Assurance" requirement
SECTIO	ON 133400 - PRE-ENGINEERED BUILDING SYSTEM	as specified herein. a. Comply with TPI "Design Specification for Metal Plate Connected Wood
	CTION INCLUDES	Trusses" and "Quality Standard for Metal Plate Connected Wood Trusse b. Manufacturer shall have a third party inspection program to verify compli
	Provide pre-engineered building system, including but not limited to primary and secondary structural framing systems, wall and roof sheathing, dormer framing and sheathing, and accessories. Basis of design is the following system by Lester Building	with requirements of TPI. c. Stamp trusses with inspection agency identification. C. Secondary Framing:
	Systems: 1. Uni-Frame I, clear span truss and embedded columns.	 Purlins and Girts: Lumber: No. 2 or Better dimension lumber kiln dried to 19 percent maxim
Α.	LATED SECTIONS Section 31 20 00 - Earth Moving. Section 03 30 00 - Cast-in-Place Concrete.	moisture content. b. Configuration: 2x4 or 2x6 or 2x8 (50x100, 50x150, 50x200 mm) as requi by "Structural Design" requirements specified herein.
C. D.	Section 073136 - Synthetic Shake Shingles (ALTERNATE ROOFING SYSTEM) Section 074646 - Fiber-Cement Siding	 Girts: Size, grade and spacing to meet wind and deflection criterion. a) Precision cut to fit between columns. Flush to exterior and interior
F.	Section 081113 - Hollow Metal Doors & Frames Section 083613 - Sectional Doors Section 084313 - Aluminum Storefront	faces. 2) Purlins: Precision cut to fit between trusses flush with top of top chor
Η.	Section 084313 - Administration Storenont Section 08 71 00 - Hardware. FERENCES	Provide 20 gauge galvanized purlin saddle hangers. c. Spacing: As required by "Structural Design" requirements specified here 2. Splashplank:
	ASTM International (ASTM): 1. ASTM A153 - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel	a. Lumber: No. 2 or Better Southern Yellow Pine, preservative treated, to a retention of 14 pcf (2.2 kg/m3) of micronized copper azole.
	 Hardware. ASTM A653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process. 	 b. Configuration: 2x6 or 2x8 (50x 150 or 50x200 mm) dimension lumber. M S4S for single row and milled T&G for multiple rows.
	 ASTM D523 - Standard Test Method for Specular Gloss. ASTM D3363 - Standard Test Method for Film Hardness by Pencil Test. 	 Sill Plate: a. Lumber: No. 2 or Better Southern Yellow Pine, preservative treated, to a retention of 0.17 pcf (B2O3) borate (0.25 pcf disodium octaborate
	 ASTM D4145 - Standard Test Method for Coating Flexibility of Prepainted Sheet. ASTM E84 - Standard Test Method for Surface Burning Characteristics of 	tetrahydrate DOT) and kiln dried after treating to 19 percent maximum moisture content.
	Building Materials. 7. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.	b. Configuration: 2x4 or 2x6 or 2x8 or 2x10 (50x100 or 50x150 or 50x2 50x250 mm) dimension lumber as required by "Structural Design"
	STEM DESCRIPTION Structural Frame Design: 1. Design shall be based on the building framing and enclosure as manufactured by	requirements specified herein. 4. Bracing, Wall and Lateral Truss Type (where required by "Structural Design a. Lumber: No. 2 or Better dimension lumber.
	Lester Building Systems. a. Type: Clear span roof truss roof framing.	 a. Lumber: No. 2 or Better dimension lumber. b. Configuration: 2x4 or 2x6 (50x100, 50x150 mm) as required by "Structural Design"
-	 b. Columns: Embedded in ground. c. Purlins: Recessed between trusses in galvanized steel joist hangers. Dimensions: 	requirements specified herein. 2.3 EXPOSED FASTENER, LAP-SEAM, METAL ROOF PANELS
	 Width: 43 feet 1-1/2 inches, outside to outside of primary or secondary wall framing. 	A. Basis of Design: Eclipse panel as manufactured by Lester Building Systems. Me roof panels with side edges lapping adjacent panels. Secured to supports using fasteners through the major ribs.
	2. Length: 108 feet 3 inches, outside to outside of primary or secondary wall framing.	 Configuration: a. Roll-formed; 36 inch (915 mm) coverage width. Provide panels covering
	 Height: 10 feet 0 inches, clearance from top of slab-on-grade to bearing point of underside of roof trusses. Roof Slope: 6:12 (units of rise per 12 units of run). 	 35 foot (10.5 m) lengths in single pieces. b. Three major corrugations, 7/8 inch (25 mm) high, spaced 18 inches (457
	 Roof Slope: 6:12 (units of rise per 12 units of run). Ceiling Slope: 3:12 (units of rise per 12 units of run). Structural Requirements: 	on center with 3 minor corrugations, 1/8 inch (3mm) high, spaced 3 inch mm) on center between each major corrugation. c. Form one outboard corrugation as overlapping corrugation.
_	 Building Codes: International building Code (IBC) 2012 Edition, and ASCE-7-10, as adopted by the Village of Frankfort, Illinois. 	 d. Form opposite outboard corrugation as underneath corrugation with full leg to support side lap and a continuous anti-siphon drain channel.
	Design Loads: a. Building Risk Category: II b. Cround Snow Load: 20 not	e. Factory cut to required length.2. Material and Finish: 26 gauge steel, ASTM A 792 Class AZ50 Galvalume, contract of the statement of the st
	 b. Ground Snow Load: 30 psf c. Ground Exposure Factor: C. d. Roof Load, Live load: 20 psf (Snow design shall be based on unheated 	both sides, 0.0187 inches (.474 mm) thick. a. Exterior Surface Finish: Bonderize and provide baked-on primer and fac applied baked-on 70 percent Kynar 500 or Hylar 5000 PVDF fluropolyme
	 building, Ct=1.2). e. Roof Dead Load: 7 psf 	resin based paint coating manufactured by Valspar, with a minimum dry thickness of 0.7 - 0.8 mil
	 f. Ceiling Dead Load: 10 psf g. Wind Load: Wind speed (3 sec gust): 115 mph 	 Color: As selected by Architect from full range of Manufacturer's colo Fasteners: DS2000 coated No. 14 piercing screws with 3/8 inch (9.5 mm) here
	 h. Wind Exposure: Maximum Considered Earthquake 0.2 Second Spectral Response Acceleration. i. Maximum Considered Earthquake 1.0 Second Spectral Response 	head pre-assembled to 1/2 inch (13 mm) O.D. dome seal or bond seal galva steel and EPDM washers. 2.4 SHINGLE ROOFING (ALTERNATE ROOFING SYSTEM)
	Acceleration. j. Collateral Loads: Additional loads imposed by contract documents other than	A. Deck Materials: APA rated sheathing, thickness and span rating as required by "Structural Design" requirements specified herein.
	weight of building systems specified in this section.1) Consider loads of cart charger shelves hanging from trusses.	B. Underlayment: Mechanically attached, coated woven synthetic roofing underlayr for sloped roofs. TITANIUM UDL-30 as manufactured by Interwrap, Inc.
	 k. Combination Loads: Comply with Building Code. 3. Structural Design: a. Perform calculations using diaphragm and/or frame analysis. Incorporate 	 C. Shingles: Refer to SECTION 073136 - SYNTHETIC SHAKE SHINGLES. D. Fasteners: Deck Material to Structural Framing: Nail type, size and spacing as required
	bracing as required.	 Deck Material to Structural Framing: Nail type, size and spacing as required "Structural Design" requirements specified herein. 2.5 ROOFING ACCESSORIES
	 b. Comply with AF&PA "National Design Specification for Wood Construction 	A. Steel Ridge Cap: 1. The cap materials and construction shall match the roof steel materials and
	(NDS)." c. Trusses:	
	 (NDS)." c. Trusses: 1) Limit deflection for live or snow loads to L/240 for trusses supporting steel ceilings and to L/180 for overhangs and trusses not supporting ceilings. 	construction. B. Eave Overhang Fascia Flashing:
	 (NDS)." c. Trusses: 1) Limit deflection for live or snow loads to L/240 for trusses supporting steel ceilings and to L/180 for overhangs and trusses not supporting ceilings. 2) Comply with appropriate NDS and Truss Plate Institute (TPI) standards. d. Metal Wall and Roof Panels: 	construction. B. Eave Overhang Fascia Flashing: 1. Size: as indicated. 2. Fascia Flashing Color: As selected by Architect from full range of Manufactu
	 (NDS)." c. Trusses: 1) Limit deflection for live or snow loads to L/240 for trusses supporting steel ceilings and to L/180 for overhangs and trusses not supporting ceilings. 2) Comply with appropriate NDS and Truss Plate Institute (TPI) standards. d. Metal Wall and Roof Panels: 1) Design in accordance with AISI "Specifications for the Design of Light-Gauge, Cold-Formed Steel Structural Members" and in accordance with sound engineering methods and practices. 	construction. B. Eave Overhang Fascia Flashing: 1. Size: as indicated.
	 (NDS)." c. Trusses: 1) Limit deflection for live or snow loads to L/240 for trusses supporting steel ceilings and to L/180 for overhangs and trusses not supporting ceilings. 2) Comply with appropriate NDS and Truss Plate Institute (TPI) standards. d. Metal Wall and Roof Panels: 1) Design in accordance with AISI "Specifications for the Design of Light-Gauge, Cold-Formed Steel Structural Members" and in accordance with sound engineering methods and practices. e. Plywood or Oriented Strand Board Sheathing: Comply with APA "Plywood Design Specification." 	 construction. B. Eave Overhang Fascia Flashing: Size: as indicated. Fascia Flashing Color: As selected by Architect from full range of Manufactur colors.Vented Soffit Color: As selected by Architect from full range of Manufacturer's colors. C. End Overhang Fascia Flashing: Size: as indicated. Fascia Flashing Color: As selected by Architect from full range of Manufacturer's colors.
	 (NDS)." c. Trusses: Limit deflection for live or snow loads to L/240 for trusses supporting steel ceilings and to L/180 for overhangs and trusses not supporting ceilings. Comply with appropriate NDS and Truss Plate Institute (TPI) standards. Metal Wall and Roof Panels: Design in accordance with AISI "Specifications for the Design of Light-Gauge, Cold-Formed Steel Structural Members" and in accordance with sound engineering methods and practices. Plywood or Oriented Strand Board Sheathing: Comply with APA "Plywood Design Specification." Expansion/Contraction Provisions: Design roof attachment system to allow for expansion and contraction of metal roofing, due to seasonal temperature 	 construction. B. Eave Overhang Fascia Flashing: Size: as indicated. Fascia Flashing Color: As selected by Architect from full range of Manufactu colors. Vented Soffit Color: As selected by Architect from full range of Manufacturer's colors. C. End Overhang Fascia Flashing: Size: as indicated. Fascia Flashing Color: As selected by Architect from full range of Manufacturer's colors.
	 (NDS)." c. Trusses: 1) Limit deflection for live or snow loads to L/240 for trusses supporting steel ceilings and to L/180 for overhangs and trusses not supporting ceilings. 2) Comply with appropriate NDS and Truss Plate Institute (TPI) standards. d. Metal Wall and Roof Panels: 1) Design in accordance with AISI "Specifications for the Design of Light-Gauge, Cold-Formed Steel Structural Members" and in accordance with sound engineering methods and practices. e. Plywood or Oriented Strand Board Sheathing: Comply with APA "Plywood Design Specification." f. Expansion/Contraction Provisions: Design roof attachment system to allow for expansion and contraction of metal roofing, due to seasonal temperature variations, without detrimental effect to the roof panels. g. Spread footing allowable bearing and required bearing depth to be per 	 construction. B. Eave Overhang Fascia Flashing: Size: as indicated. Fascia Flashing Color: As selected by Architect from full range of Manufactur colors. Vented Soffit Color: As selected by Architect from full range of Manufacturer's colors. C. End Overhang Fascia Flashing: Size: as indicated. Fascia Flashing Color: As selected by Architect from full range of Manufacturer's colors. Size: as indicated. Fascia Flashing Color: As selected by Architect from full range of Manufacturer's colors. D. Gutters and Downspouts: Provide manufacturer's standard gutters and downspoted for the selected by Architect from full range of Manufacturer's colors.
	 (NDS)." c. Trusses: Limit deflection for live or snow loads to L/240 for trusses supporting steel ceilings and to L/180 for overhangs and trusses not supporting ceilings. Comply with appropriate NDS and Truss Plate Institute (TPI) standards. Metal Wall and Roof Panels: Design in accordance with AISI "Specifications for the Design of Light-Gauge, Cold-Formed Steel Structural Members" and in accordance with sound engineering methods and practices. Plywood or Oriented Strand Board Sheathing: Comply with APA "Plywood Design Specification." Expansion/Contraction Provisions: Design roof attachment system to allow for expansion and contraction of metal roofing, due to seasonal temperature variations, without detrimental effect to the roof panels. Spread footing allowable bearing and required bearing depth to be per Geotechnical Report. Lester Building to provide specifications regarding required backfill and soil compaction around embedded poles to maintain required ground lateral resistance support per Lester's designs. 	 construction. B. Eave Overhang Fascia Flashing: Size: as indicated. Fascia Flashing Color: As selected by Architect from full range of Manufactu colors.Vented Soffit Color: As selected by Architect from full range of Manufacturer's colors. C. End Overhang Fascia Flashing: Size: as indicated. Fascia Flashing Color: As selected by Architect from full range of Manufacturer's colors. Size: as indicated. Fascia Flashing Color: As selected by Architect from full range of Manufacturer's colors. Vented Soffit Color: As selected by Architect from full range of Manufacturer colors. Vented Soffit Color: As selected by Architect from full range of Manufacturer colors.
1.5 SUI A.	 (NDS)." c. Trusses: Limit deflection for live or snow loads to L/240 for trusses supporting steel ceilings and to L/180 for overhangs and trusses not supporting ceilings. Comply with appropriate NDS and Truss Plate Institute (TPI) standards. Metal Wall and Roof Panels: Design in accordance with AISI "Specifications for the Design of Light-Gauge, Cold-Formed Steel Structural Members" and in accordance with sound engineering methods and practices. Plywood or Oriented Strand Board Sheathing: Comply with APA "Plywood Design Specification." Expansion/Contraction Provisions: Design roof attachment system to allow for expansion and contraction of metal roofing, due to seasonal temperature variations, without detrimental effect to the roof panels. Spread footing allowable bearing and required bearing depth to be per Geotechnical Report. Lester Building to provide specifications regarding required backfill and soil compaction around embedded poles to maintain 	 construction. B. Eave Overhang Fascia Flashing: Size: as indicated. Fascia Flashing Color: As selected by Architect from full range of Manufacture colors. Vented Soffit Color: As selected by Architect from full range of Manufacturer's colors. C. End Overhang Fascia Flashing: Size: as indicated. Fascia Flashing Color: As selected by Architect from full range of Manufacturer's colors. C. End Overhang Fascia Flashing: Size: as indicated. Fascia Flashing Color: As selected by Architect from full range of Manufacture colors. Solution: As selected by Architect from full range of Manufacturer colors. Vented Soffit Color: As selected by Architect from full range of Manufacturer colors. Gutters and Downspouts: Provide manufacturer's standard gutters and downsport as shown on Drawings. Closure Strips: Closed cell, 2 pcf density polyethylene foam, premolded to match

recommendations.

- ss sections, roof and wall covering and trim ails clearly indicating proper assembly. urisdiction, signed and sealed structural tural calculations and Structural Engineer and sealed by a Structural Engineer, ompliance with all specified Structural fic dead loads, live loads, wind loads, collateral loads, seismic loads, end use cluding edition and load applications. specified, two complete sets of color
- e of available colors and patterns. uct specified, two samples, minimum size 6 ual product, color, and patterns. years experience in producing
- specified. ons: Minimum three years experience in s of the type specified. um of three years designing post frame the project.
- d packaging until ready for installation. age procedures. Do not allow steel siding
- ials, and materials used with solvent-based s of authorities having jurisdiction.
- erature, humidity, and ventilation) within ptimum results. Do not install products anufacturer's absolute limits.
- warrants that the building designed by f structural failure or an occurrence of ral design (excepting ventilation systems) wind, ice, and snow, as indicated on the tion Section". The foregoing warranty is ner which is not an individual. Preservative treated lumber, including original materials manufacturer against to water infiltration (below grade
- infestation. rranted by the original materials shipment. Refer to Warranty document for s standard warranty. stallation warranty, five years against roof

Systems, which is located at: 1111 2nd e Tel: 800-826-4439; Tel: 320-395-2531; arketingdept@lesterbuildings.com);

- ooting of 4000 psi (minimum) concrete of shop drawings.
- ern Yellow Pine, pressure treated with Γype III, to a retention of 0.6 pcf (9.6 kg/m³) 19 percent maximum moisture content. I pieces using ring shank feed nails per ling pattern. Fasteners shall have ASTM
- er Southern Yellow Pine or Douglas DS approved species/grade kiln dried to 19 I pieces using ring shank feed nails per ing pattern ted to support imposed loads within
- and Untreated Sections: Factory fabricated
- : 3 ply or 4 ply combining 2x4, 2x6, 2x8, or) mm) dimension lumber as required by its specified herein. 2x4, 2x6 or 2x8 (50x150, 50x200 mm) by "Structural Design" requirements

mn base with steel reinforcing rods. ce anchors per shop drawings.

- gn" and "Quality Assurance" requirements tion for Metal Plate Connected Wood r Metal Plate Connected Wood Trusses." ty inspection program to verify compliance ncy identification.
- lumber kiln dried to 19 percent maximum 50x100, 50x150, 50x200 mm) as required specified herein. to meet wind and deflection criterion. columns. Flush to exterior and interior
- veen trusses flush with top of top chord. purlin saddle hangers. I Design" requirements specified herein.
- Yellow Pine, preservative treated, to a nicronized copper azole. 0 or 50x200 mm) dimension lumber. Milled for multiple rows.
- Yellow Pine, preservative treated, to a e (0.25 pcf disodium octaborate Ifter treating to 19 percent maximum
- 8 or 2x10 (50x100 or 50x150 or 50x200 or required by "Structural Design"
- (where required by "Structural Design"):
- m) as required by "Structural Design" ROOF PANELS tured by Lester Building Systems. Metal
- ent panels. Secured to supports using erage width. Provide panels covering up to
- n (25 mm) high, spaced 18 inches (457 mm) , 1/8 inch (3mm) high, spaced 3 inches (76 corrugation. overlapping corrugation. n as underneath corrugation with full return
- uous anti-siphon drain channel. STM A 792 Class AZ50 Galvalume, coated
- and provide baked-on primer and factory ar 500 or Hylar 5000 PVDF fluropolymer tured by Valspar, with a minimum dry film
- from full range of Manufacturer's colors. cing screws with 3/8 inch (9.5 mm) hex m) O.D. dome seal or bond seal galvanized SYSTEM)
- ness and span rating as required by ated woven synthetic roofing underlayment anufactured by Interwrap. Inc.
- NTHETIC SHAKE SHINGLES. lail type, size and spacing as required by
- ified herein.
- all match the roof steel materials and

Architect from full range of Manufacturer's by Architect from full range of

- Architect from full range of Manufacturer's chitect from full range of Manufacturer's cturer's standard gutters and downspouts olyethylene foam, premolded to match
- ION 074646 FIBER-CEMENT SIDING SECTION 081113 - HOLLOW METAL

2.9 WINDOWS A. Dormer windows: refer to SECTION 084313 - ALUMINUM STOREFRONT 2.10 JOINT SEALANT MATERIAL A. Sealant: Manus 75-A for applications that will not be painted, contains no solvents or isocyanates, non-yellowing. 1. Color: As selected by Architect from full range of Manufacturer's colors. B. Sealant: Manus 75-AM for applications that will be painted, contains no solvents or isocyanates, non-yellowing. 1. Color: Use white or bronze color for nearest match to adjacent substrate. C. Tape Sealant: Manus-Bond 64-A Polysul Grip tape. PART 3 EXECUTION 3.1 EXAMINATION A. Verify that site conditions are acceptable for erection/installation of pre-engineered wood building system. B. Coordinate with responsible entity to perform corrective work on unsatisfactory conditions.

A. Sectional Overhead Doors: refer to SECTION 083613 - SECTIONAL DOORS

- C. Commencement of work by erector/installer is acceptance of site conditions. 3.2 ERECTION- STRUCTURAL FRAMING A. Erect in accordance with manufacturer's instructions and approved shop drawings. B. Provide temporary erection and wind load bracing to maintain structure plumb and in alignment until installation of permanent bracing and/or roofing and wall coverings are completed.
- C. Do not field cut or alter structural members without approval of Architect and manufacturer. 3.3 INSTALLATION
- A. Erect building per manufacturer's instructions and sequencing. B. Metal Roofing:
- 1. General: Install in accordance with manufacturer's instructions. Secure to structural framing aligned, level and plumb. Space fasteners as shown on Erection Drawings.
- 2. Sidelap: Minimum one full corrugation. 3. Endlap: 8 inches (200 mm) for slopes 4 in 12 to 5 in 12. Secure together over and to structural members.
- 4. Endlap: 12 inches (300 mm) for slopes 2 in 12 to 4 in 12. Secure together over and to structural members.
- 5. Endlap: 6 inches (150 mm) for slopes greater than 5 in 12. Secure together over and to structural members. 6. Special detailing is required for slopes less than 2 in 12. Refer to construction
- documents. 7. Accessories: Install as shown on Erection Drawings.
- C. Deck at Shingle Roofing: Comply with applicable recommendations "APA Design/Construction Guide - Residential & Commercial" using specified fasteners. END OF SECTION 133400

SECTION 312000 - EARTH MOVING PART 1 - GENERAL

- 1.1 SUMMARY A. Section Includes:
 - 1. Excavating and filling for rough grading the Site. 2. Preparing subgrades for slabs-on-grade and pavements.
 - 3. Excavating and backfilling for buildings and structures. 4. Drainage course for concrete slabs-on-grade.
 - 5. Subbase course for concrete pavements. 6. Subbase course and base course for asphalt paving.
- 7. Excavating and backfilling trenches for utilities and pits for buried utility structures. 1.2 DEFINITIONS A. Backfill: Soil material used to fill an excavation.
- 1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
- 2. Final Backfill: Backfill placed over initial backfill to fill a trench. B. Base Course: Aggregate layer placed between the subbase course and hot-mix
- asphalt paving. C. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench
- before laying pipe. D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.
- E. Drainage Course: Aggregate layer supporting the slab-on-grade that also minimizes upward capillary flow of pore water. F. Excavation: Removal of material encountered above subgrade elevations and to lines
- and dimensions indicated. 1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Architect. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
- 2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Architect. Unauthorized excavation, as well as remedial work directed by Architect, will be without additional compensation.
- G. Fill: Soil materials used to raise existing grades. H. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs,
- mechanical and electrical appurtenances, or other fabricated stationary features constructed above or below the ground surface.
- I. Subbase Course: Aggregate layer placed between the subgrade and base course for hot-mix asphalt pavement, or aggregate layer placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.
- J. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials. K. Utilities: On-site underground pipes, conduits, ducts, and cables as well as
- underground services within buildings. 1.3 INFORMATIONAL SUBMITTALS
- A. Material test reports. 1.4 FIELD CONDITIONS
- A. Utility Locator Service: Notify utility locator service for area where Project is located before beginning earth-moving operations. PART 2 - PRODUCTS 2.1 SOIL MATERIALS
- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations. B. Satisfactory Soils: Soil Classification Groups GW, GP, GM, SW, SP, and SM according to ASTM D2487, or a combination of these groups; free of rock or gravel
- larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter. C. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D2487, or a combination of these groups.
- 1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction. D. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940/D2940M; with at least 90
- percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 E. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940/D2940M; with at least 95 percent passing a 1-1/2-inch sieve and not more than 8 percent passing a No. 200
- F. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940/D2940M; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200
- G. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940/D2940M; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve. H. Drainage Course: Narrowly graded mixture of washed crushed stone, or crushed or uncrushed gravel; ASTM D448; coarse-aggregate grading Size 57; with 100 percent
- passing a 1-1/2-inch sieve and zero to 5 percent passing a No. 8 sieve. 2.2 ACCESSORIES A. Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility; colored to comply
- with local practice or requirements of authorities having jurisdiction. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored to comply with local
- practice or requirements of authorities having jurisdiction. PART 3 - EXECUTION 3.1 PREPARATION
- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth-moving operations. B. Protect and maintain erosion and sedimentation controls during earth-moving
- operations. C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.
- 3.2 EXCAVATION, GENERAL A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions. 1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.
- 3.3 EXCAVATION FOR STRUCTURES A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections. 1. Excavations for Footings and Foundations: Do not disturb bottom of excavation.
- Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work. 3.4 EXCAVATION FOR WALKS AND PAVEMENTS A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.
- 3.5 EXCAVATION FOR UTILITY TRENCHES A. Excavate trenches to indicated gradients, lines, depths, and elevations. B. Excavate trenches to uniform widths to provide the following clearance on each side
- of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit unless otherwise indicated. Clearance: 12 inches each side of pipe or conduit.
- C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade. 1. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.
- 3.6 SUBGRADE INSPECTION A. Proof-roll subgrade below the building slabs and pavements with a pneumatic-tired dump truck to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades. B. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated
- water, or construction activities, as directed by Architect, without additional compensation. 3.7 UNAUTHORIZED EXCAVATION
- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top

- B. Place backfill on subgrades free of mud, frost, snow, or ice. 3.10 UTILITY TRENCH BACKFILL A. Place backfill on subgrades free of mud, frost, snow, or ice. and for joints, fittings, and bodies of conduits. C. Trenches under Footings: Backfill trenches excavated under footings and within 18 Section 033000 "Cast-in-Place Concrete." elevation. 3.11 SOIL FILL A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 3. Under steps and ramps, use engineered fill. 4. Under building slabs, use engineered fill. 3.12 SOIL MOISTURE CONTROL contain frost or ice. specified dry unit weight. 3.13 COMPACTION OF SOIL BACKFILLS AND FILLS unit weight according to ASTM D1557: 95 percent. 4. For utility trenches, compact each layer of initial and final backfill soil material at 85 percent. 3.14 GRADING and elevations indicated. 1. Turf or Unpaved Areas: Plus or minus 1 inch. Walks: Plus or minus 1 inch. 3. Pavements: Plus or minus 1/2 inch. C. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch when tested with a 10-foot straightedge walks as follows: cross-slope grades. thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick. 3.16 DRAINAGE COURSE UNDER CONCRETE SLABS-ON-GRADE A. Place drainage course on subgrades free of mud, frost, snow, or ice. concrete slabs-on-grade as follows: inches thick. Compact each layer of drainage course to required cross sections and ASTM D698. 3.17 FIELD QUALITY CONTROL inspections: agency to perform tests and inspections. work comply with requirements. tested subgrade when approved by Architect. obtained. 3.18 PROTECTION erosion. Keep free of trash and debris.
- 3.19 DISPOSAL OF SURPLUS AND WASTE MATERIALS trash, and debris, and legally dispose of them off Owner's property.
- END OF SECTION 312000 **SECTION 321216 - ASPHALT PAVING**
- SECTION 321313 CONCRETE PAVING

elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Architect. 1. Fill unauthorized excavations under other construction, pipe, or conduit as

3.8 STORAGE OF SOIL MATERIALS A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to

1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees. A. Place and compact backfill in excavations promptly, but not before completing the

1. Construction below finish grade. 2. Surveying locations of underground utilities for Record Documents. 3. Testing and inspecting underground utilities.

4. Removing concrete formwork. 5. Removing trash and debris. 6. Removing temporary shoring, bracing, and sheeting.

directed by Architect.

prevent windblown dust.

3.9 BACKFILL

following:

B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes

inches of bottom of footings with satisfactory soil; fill with concrete to elevation of bottom of footings. Concrete is specified in Section 033000 "Cast-in-Place Concrete." D. Trenches under Roadways: Provide 4-inch-thick, concrete-base slab support for piping or conduit less than 30 inches below surface of roadways. After installing and testing, completely encase piping or conduit in a minimum of 4 inches of concrete before backfilling or placing roadway subbase course. Concrete is specified in

E. Initial Backfill: Place and compact initial backfill of subbase material, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the pipe or conduit. 1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing. F. Final Backfill: Place and compact final backfill of satisfactory soil to final subgrade

G. Warning Tape: Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

horizontal so fill material will bond with existing material. B. Place and compact fill material in layers to required elevations as follows: 1. Under grass and planted areas, use satisfactory soil material. 2. Under walks and pavements, use satisfactory soil material.

5. Under footings and foundations, use engineered fill.

A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content. 1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or

Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to

A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment and not more than 4 inches in loose depth for material compacted by hand-operated tampers. B. Place backfill and fill soil materials evenly on all sides of structures to required elevations and uniformly along the full length of each structure.

C. Compact soil materials to not less than the following percentages of maximum dry 1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material at

2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 92 percent. 3. Under turf or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 85 percent.

A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines,

B. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to elevations required to achieve indicated finish elevations, within the following subgrade tolerances:

3.15 SUBBASE AND BASE COURSES UNDER PAVEMENTS AND WALKS A. Place subbase course and base course on subgrades free of mud, frost, snow, or ice. B. On prepared subgrade, place subbase course and base course under pavements and

1. Shape subbase course and base course to required crown elevations and Place subbase course and base course that exceeds 6 inches in compacted

Compact subbase course and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D1557.

B. On prepared subgrade, place and compact drainage course under cast-in-place 1. Place drainage course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3

thicknesses to not less than 95 percent of maximum dry unit weight according to A. Special Inspections: Owner will engage a qualified special inspector to perform B. Testing Agency: Owner will engage a qualified geotechnical engineering testing

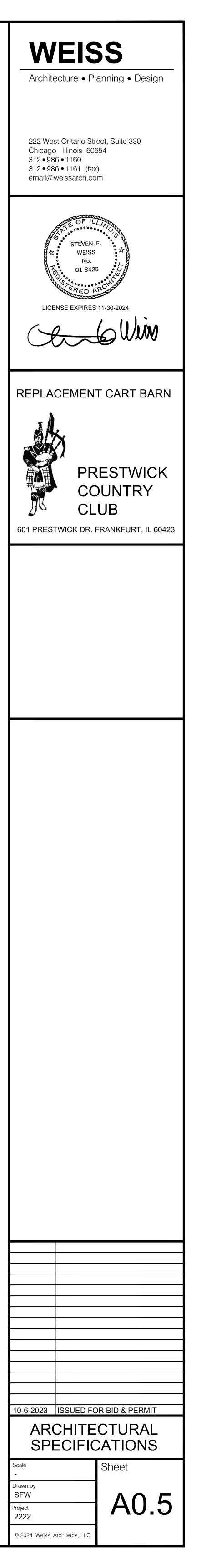
C. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed D. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with

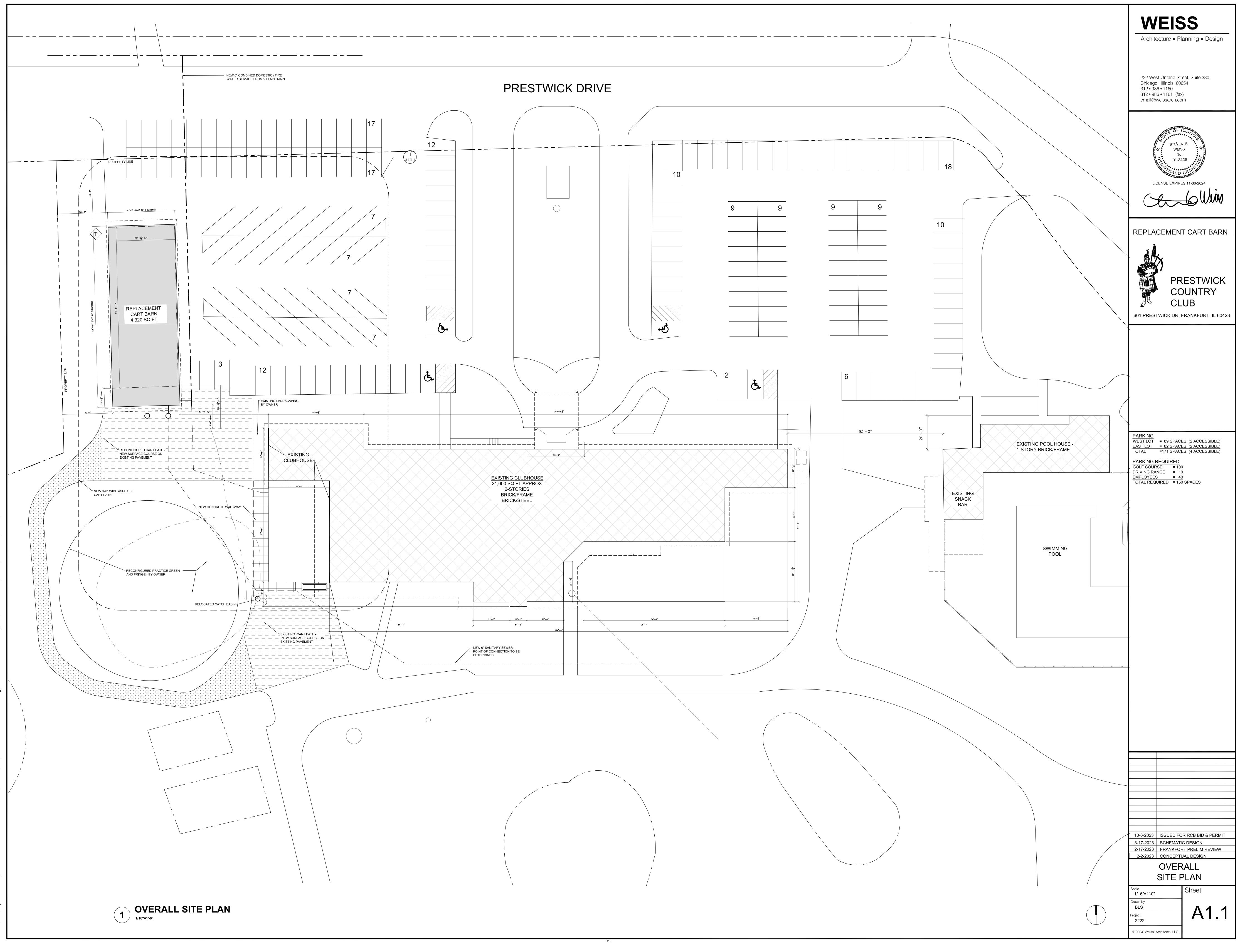
E. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is

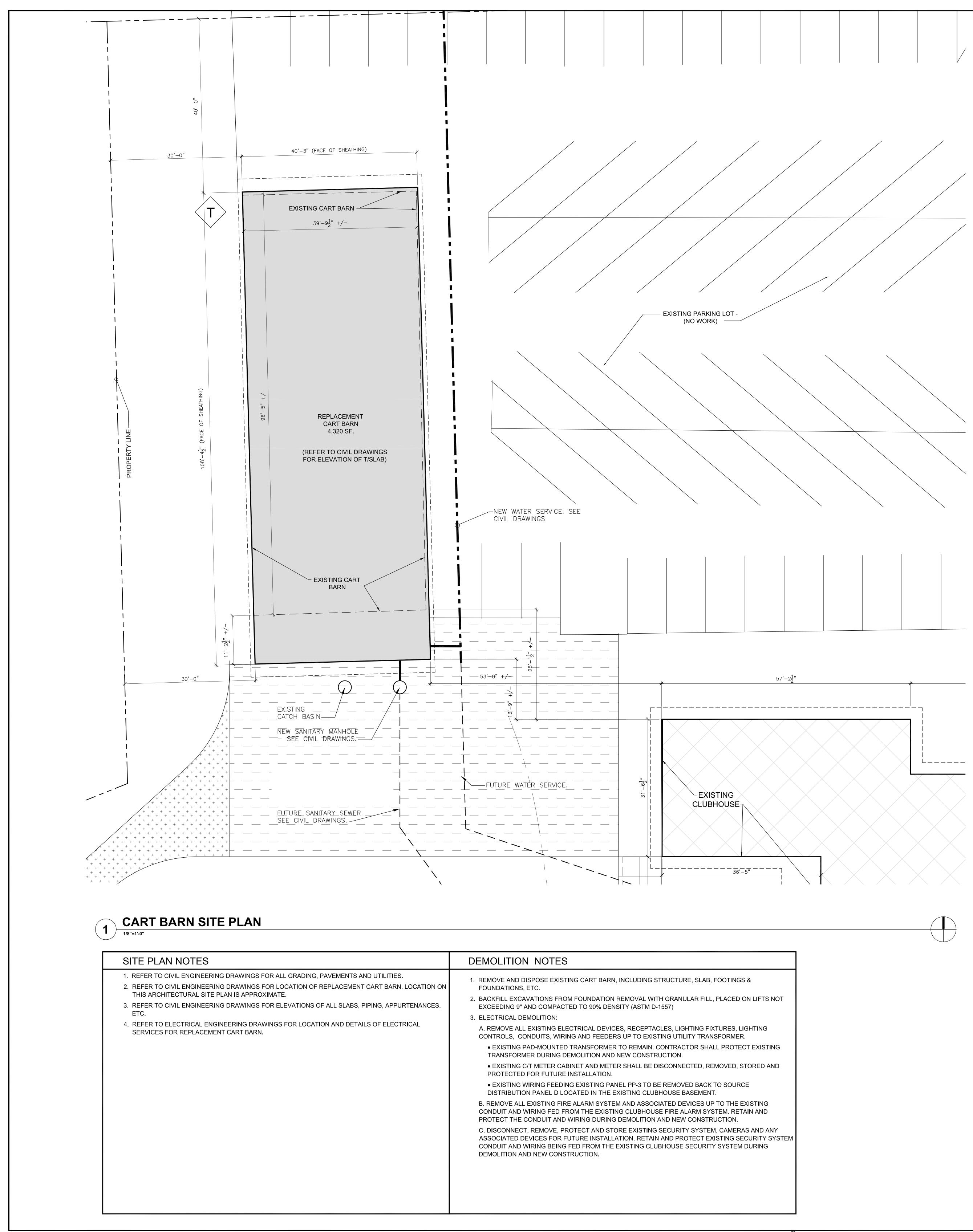
A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions. C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing. 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible. A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil,

Refer to Civil Engineer's Drawings for specifications for asphalt paving.

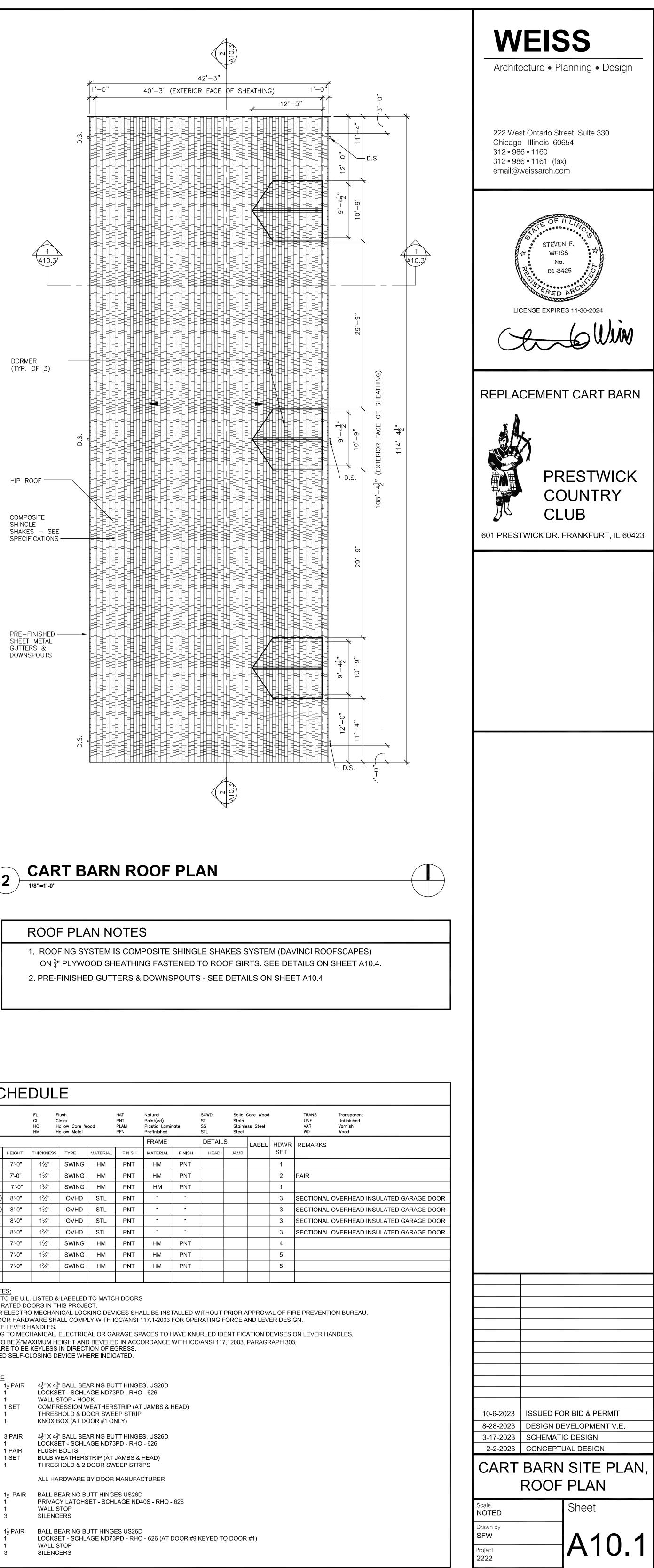
Refer to Civil Engineer's Drawings for specifications for concrete paving.

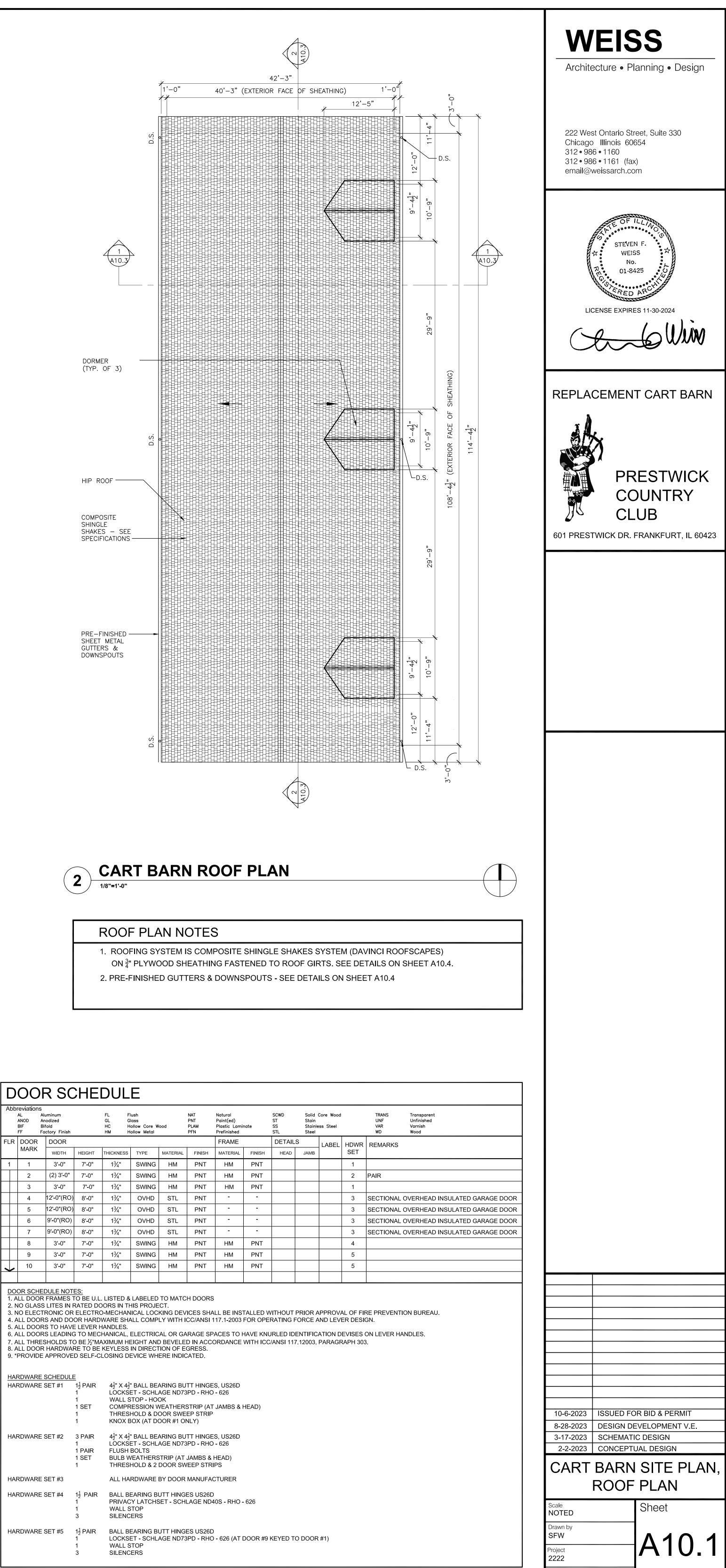






	DEMOLITION NOTES
TIES. ARN. LOCATION ON	1. REMOVE AND DISPOSE EXISTING CART BARN, INCLUDING STRUCTURE, SLAB, FOOTINGS & FOUNDATIONS, ETC.
PPURTENANCES,	2. BACKFILL EXCAVATIONS FROM FOUNDATION REMOVAL WITH GRANULAR FILL, PLACED ON LIFTS NOT EXCEEDING 9" AND COMPACTED TO 90% DENSITY (ASTM D-1557)
	3. ELECTRICAL DEMOLITION:
ECTRICAL	A. REMOVE ALL EXISTING ELECTRICAL DEVICES, RECEPTACLES, LIGHTING FIXTURES, LIGHTING CONTROLS, CONDUITS, WIRING AND FEEDERS UP TO EXISTING UTILITY TRANSFORMER.
	• EXISTING PAD-MOUNTED TRANSFORMER TO REMAIN. CONTRACTOR SHALL PROTECT EXISTING TRANSFORMER DURING DEMOLITION AND NEW CONSTRUCTION.
	• EXISTING C/T METER CABINET AND METER SHALL BE DISCONNECTED, REMOVED, STORED AND PROTECTED FOR FUTURE INSTALLATION.
	• EXISTING WIRING FEEDING EXISTING PANEL PP-3 TO BE REMOVED BACK TO SOURCE DISTRIBUTION PANEL D LOCATED IN THE EXISTING CLUBHOUSE BASEMENT.
	B. REMOVE ALL EXISTING FIRE ALARM SYSTEM AND ASSOCIATED DEVICES UP TO THE EXISTING CONDUIT AND WIRING FED FROM THE EXISTING CLUBHOUSE FIRE ALARM SYSTEM. RETAIN AND PROTECT THE CONDUIT AND WIRING DURING DEMOLITION AND NEW CONSTRUCTION.
	C. DISCONNECT, REMOVE, PROTECT AND STORE EXISTING SECURITY SYSTEM, CAMERAS AND ANY ASSOCIATED DEVICES FOR FUTURE INSTALLATION. RETAIN AND PROTECT EXISTING SECURITY SYSTEM CONDUIT AND WIRING BEING FED FROM THE EXISTING CLUBHOUSE SECURITY SYSTEM DURING DEMOLITION AND NEW CONSTRUCTION.





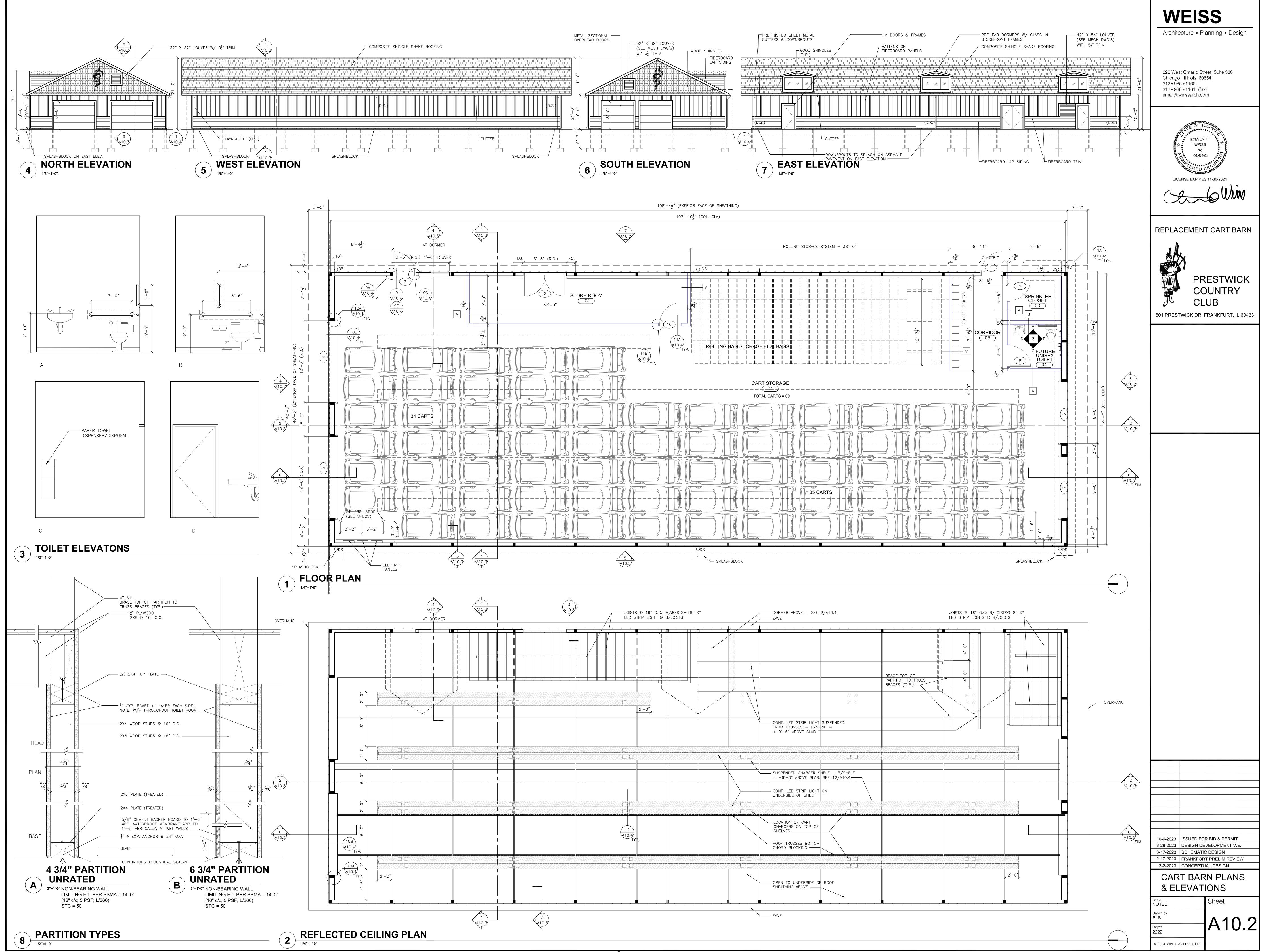
DOOR SCHEDULE

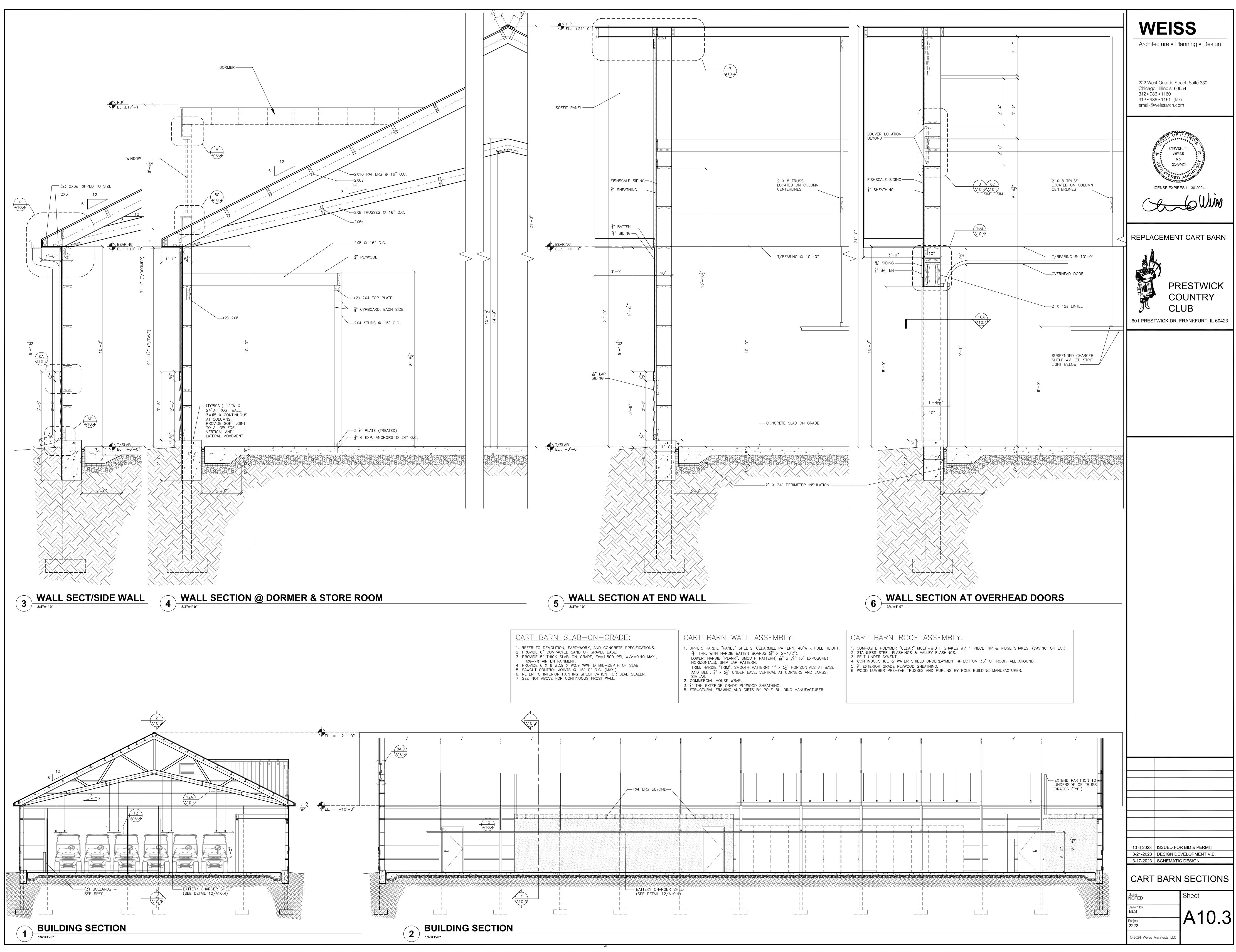
										_	
Abbreviations AL Aluminum ANOD Anodized BIF Bifold FF Factory Finish				GL G HC H	Tush Glass Hollow Core W Hollow Metal	/ood	NAT PNT PLAM PFN	Natural Paint(ed) Plastic Lami Prefinished	nate	5 5 5 5	
FLR	DOOR	DOOR						FRAME		[
	MARK	WIDTH	HEIGHT	THICKNESS	TYPE	MATERIAL	FINISH	MATERIAL	FINISH		
1	1	3'-0"	7'-0"	13⁄4"	SWING	НМ	PNT	НМ	PNT		
	2	(2) 3'-0"	7'-0"	13⁄4"	SWING	НМ	PNT	НМ	PNT		
	3	3'-0"	7'-0"	13⁄4"	SWING	НМ	PNT	НМ	PNT		
	4	12'-0"(RO)	8'-0"	1¾"	OVHD	STL	PNT	-	-		
	5	12'-0"(RO)	8'-0"	1¾"	OVHD	STL	PNT	-	-		
	6	9'-0"(RO)	8'-0"	1¾"	OVHD	STL	PNT	-	-		
	7	9'-0"(RO)	8'-0"	1¾"	OVHD	STL	PNT	-	-		
	8	3'-0"	7'-0"	1¾"	SWING	НМ	PNT	НМ	PNT		
	9	3'-0"	7'-0"	1¾"	SWING	НМ	PNT	НМ	PNT	T	
	10	3'-0"	7'-0"	1¾"	SWING	НМ	PNT	НМ	PNT	T	
										T	

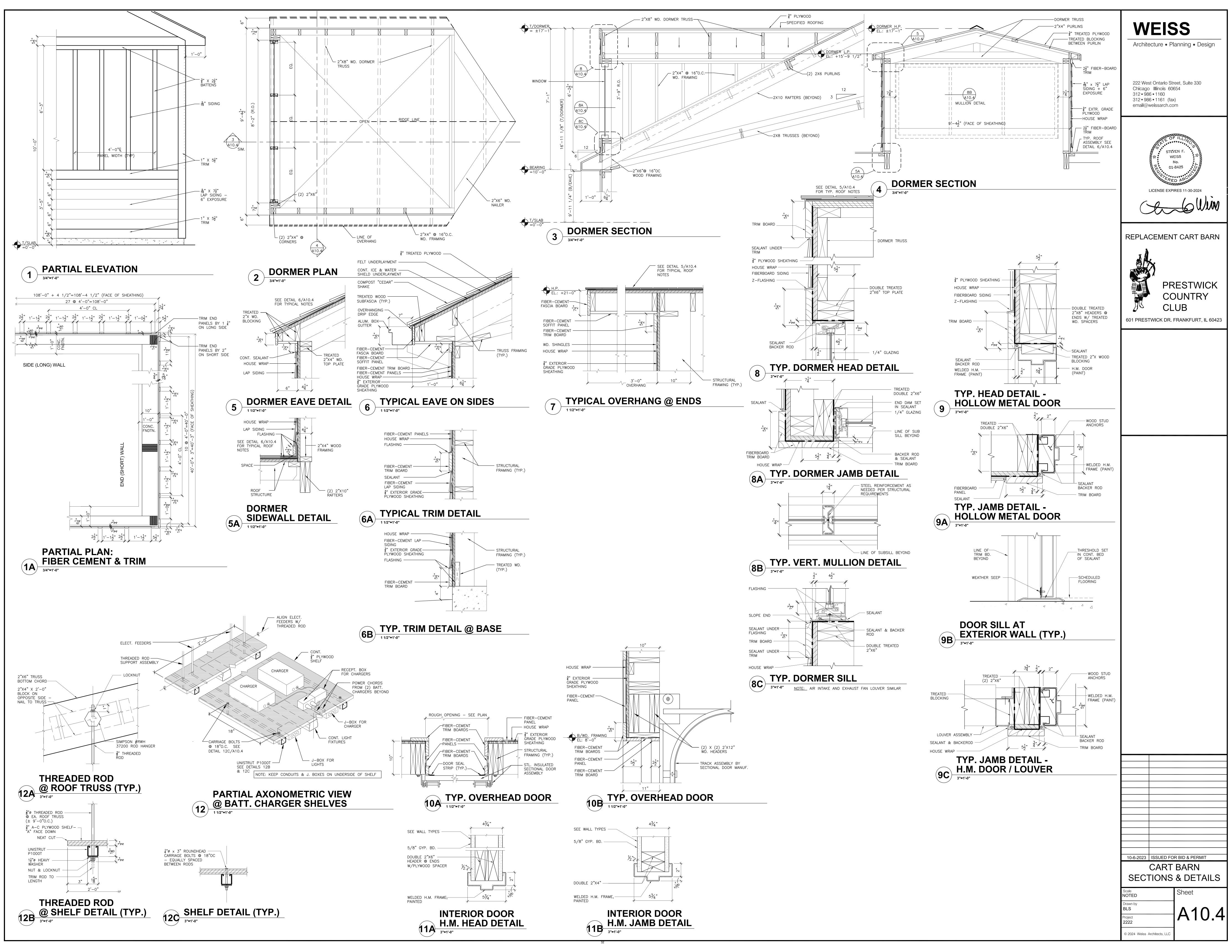
5. ALL DOORS TO HAVE LEVER HANDLES. 8. ALL DOOR HARDWARE TO BE KEYLESS IN DIRECTION OF EGRESS.

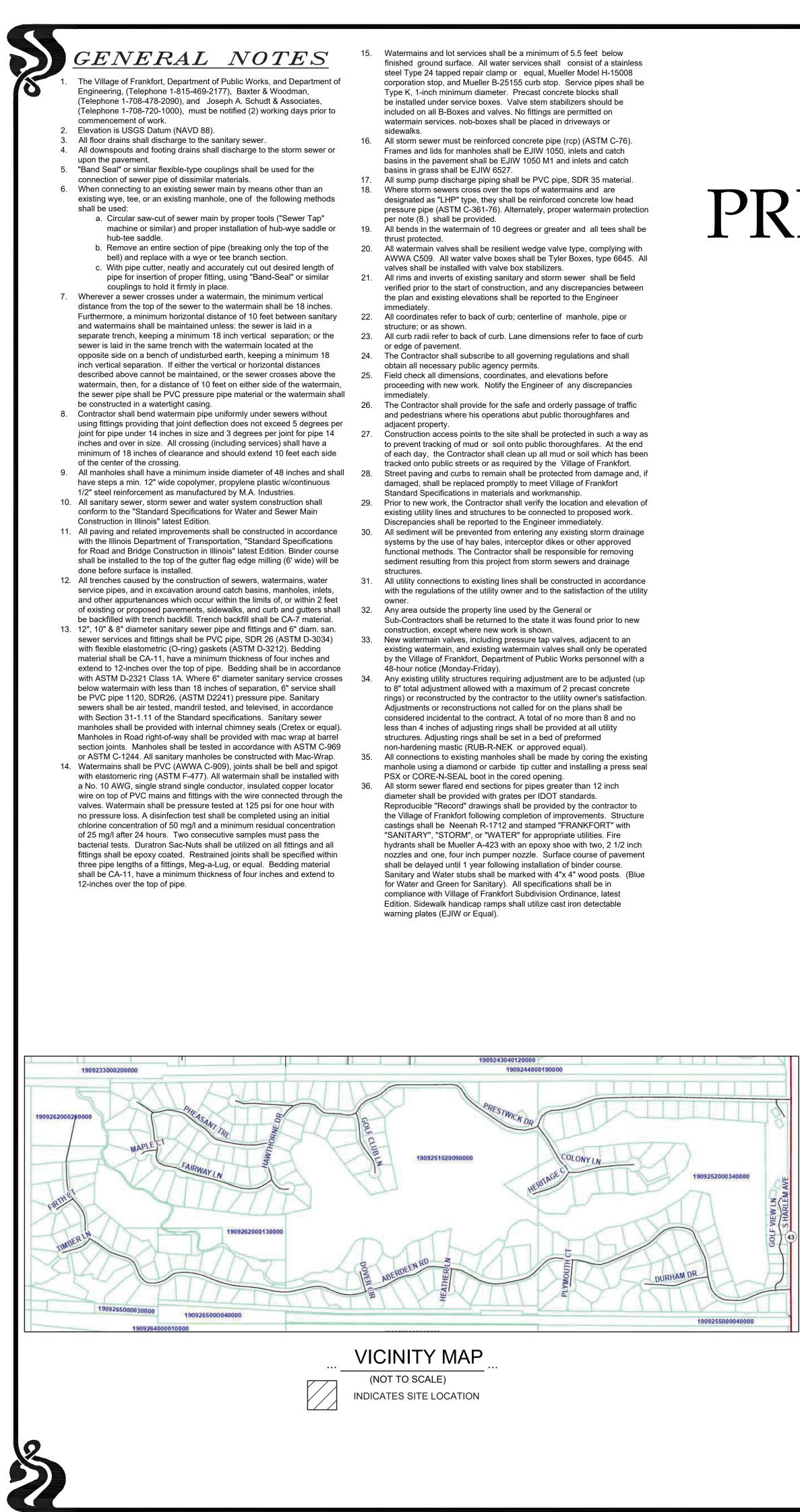
HARDWARE SCHEDUI HARDWARE SET #1	<u>_E</u> 1 ¹ 2 PAIR 1 1 1 SET	LÕCKSET - SCHLAGE ND73PD - RHO - 626 WALL STOP - HOOK COMPRESSION WEATHERSTRIP (AT JAMBS & HEAD)
	1 1	THRESHOLD & DOOR SWEEP STRIP KNOX BOX (AT DOOR #1 ONLY)
HARDWARE SET #2	3 PAIR 1 1 PAIR 1 SET 1	LOCKSET - SCHLAGE ND73PD - RHO - 626 FLUSH BOLTS
HARDWARE SET #3		ALL HARDWARE BY DOOR MANUFACTURER
HARDWARE SET #4	1½ PAIR 1 1 3	BALL BEARING BUTT HINGES US26D PRIVACY LATCHSET - SCHLAGE ND40S - RHO - 626 WALL STOP SILENCERS
HARDWARE SET #5	1 <u>1</u> PAIR 1 1 3	BALL BEARING BUTT HINGES US26D LOCKSET - SCHLAGE ND73PD - RHO - 626 (AT DOOR #9 WALL STOP SILENCERS
HANDWARE SET #3	1 1	LOCKSET - SCHLAGE ND73PD - RHO - 626 (AT DOOR #9 WALL STOP

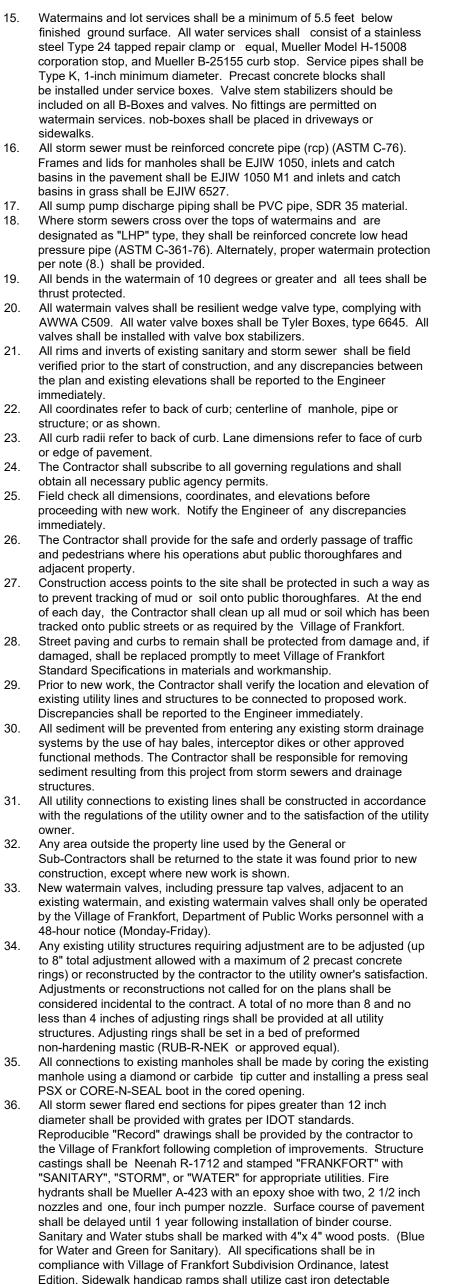
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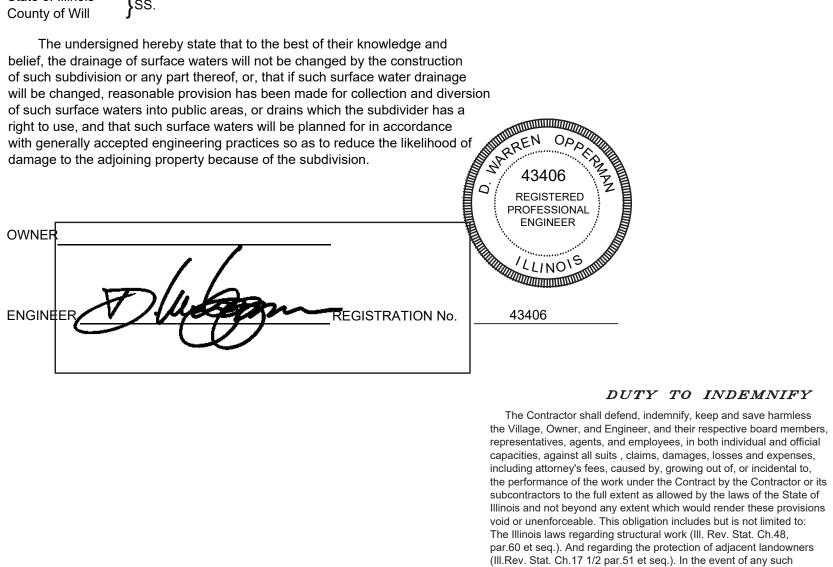
PRESTWICK COUNTRY CLUB CART BARN SITE IMPROVEMENT PLANS

_____ *ARCHITECT* _____ STEVE WEISS WEISS ARCHITECTURE 222 W. ONTARIO CHICAGO, ILLINOIS 60654 PHONE: (312) 986-1160 312-986-1161 (FAX) EMAIL@WEISSARCH.COM (general)

______ *CLIENT* ______ EDWARD S. TINDALL GENERAL MANAGER/COO PRESTWICK COUNTRY CLUB EMAIL@ETINDALL@PRESTWICKCC.COM

DRAINAGE STATEMENT

State of Illinois





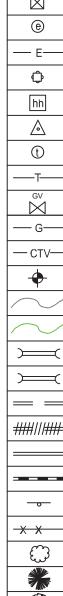
CONTACT JULIE AT 811 OF WITH THE FOLLOWING INFO COUNTY-NAME ITY / TOWNSH SEC & 1/4 SEC No. Know what'elow.48 HOURS (2 working days) Calbefore you dig.

ATT FIBER OPTIC CABLE - Phone 1-800-252-1133

injury (including death) or loss or damage, or claims therefore, the

Contractor shall give prompt notice to the owner.

	LEGEND
S	EXISTING SANITARY MANHOLE
	PROPOSED SANITARY MANHOLE
—SAN—	- EXISTING SANITARY SEWER
	- PROPOSED SANITARY SEWER
	EXISTING VALVE IN VAULT
۲	PROPOSED VALVE IN VAULT
\oplus	EXISTING VALVE
•	PROPOSED VALVE
	EXISTING REDUCER
	PROPOSED REDUCER
V	EXISTING HYDRANT
8	PROPOSED HYDRANT
—-w—	- EXISTING WATERMAIN
	- PROPOSED WATERMAIN
1	EXISTING INLET
	PROPOSED TYPE "A" INLET
\bigcirc	PROPOSED CIRCULAR INLET
Cb	EXISTING CATCH BASIN
	PROPOSED CATCH BASIN
mh	EXISTING STORM MANHOLE
	PROPOSED STORM MANHOLE
	- EXISTING STORM SEWER
	- PROPOSED STORM SEWER
¢	EXISTING LIGHT
*	PROPOSED LIGHT
↓ PP	POWER POLE



de la

SHEET COVER SHEET OVERALL TOP DEMOLITION F SITE GEOMET SITE GRADING

CONSTRUCTIC DETAILS

BENCHMARK

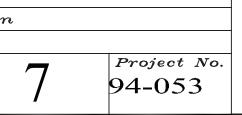
SITE BENCHMARK NE FLANGE BOLT ON FIRE HYDRANT NORTH SIDE OF PRESTWICK DRIVE OPPOSITE PARKING LOT ELEV = 713.14

Joseph A. Schudt & Associates

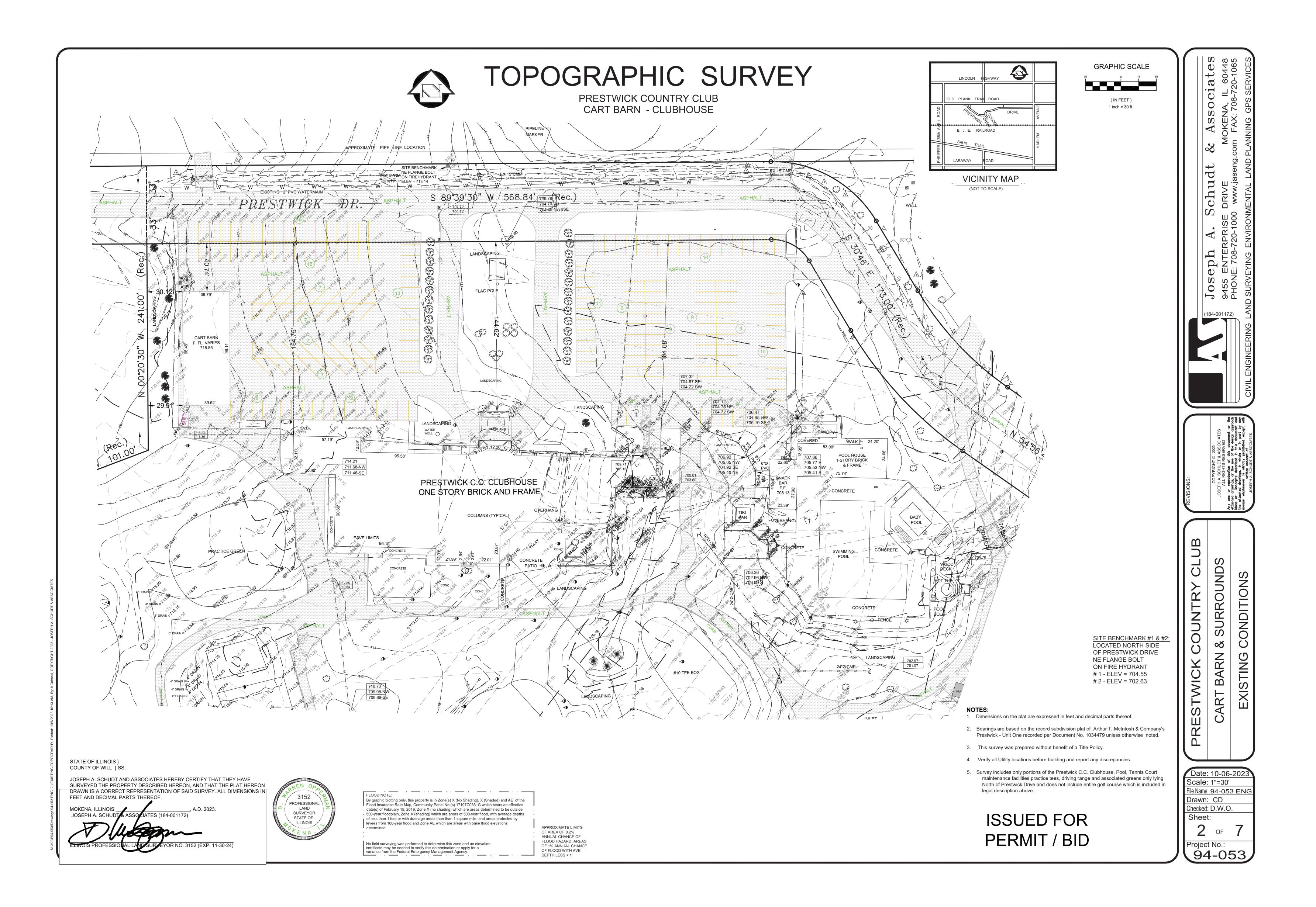
DRIVE, MOKENA, ILLIN 1000 FAX: 708-720-10 J.com http://www.jaseng.	0 <mark>65</mark> com ICES	MINTEREN OPO	7	_	SUED	_
OR 800-892-0123 FORMATION WILL	Prepared at or under the direction of:	C REGISTERED PROFESSIONAL ENGINEER			ERMIT	/ B
WASHINGTON	F/11	/LLINOIS	Vo. Date	By		escriptio
C 16, TWN 33, R 14	Magen	SIGNED: 10-06-2023	Durter		REVIS	IONS
s) BEFORE YOU DIG	innois Registered Professional Engineer No. 43406	(14.00.00	Date: 10-06-2023 Design: DWO	Drawn: KG/TF Approved: DWO	SHEET	1 <i>of</i>

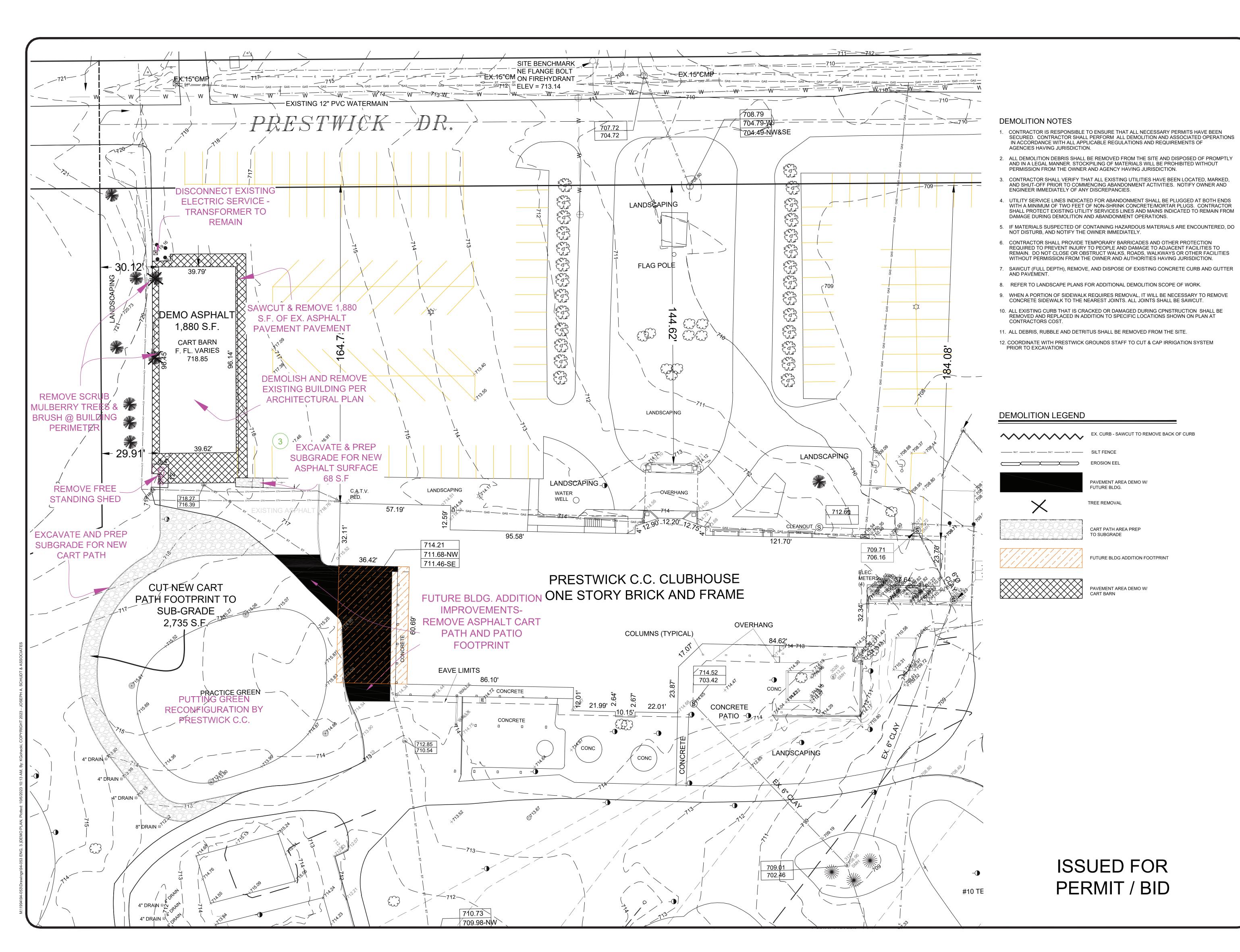
	TRANSFORMER	
	EXISTING ELECTRIC MANHOLE	7
	EXISTING ELECTRIC CABLE	-
	TRAFFIC SIGNAL	
	HAND HOLE	
	ILLINOIS BELL TELEPHONE (IBT)	
_	EXISTING TELEPHONE CABLE	
_	EXISTING GAS MAIN	
	EXISTING CABLE T.V.	
	BORING LOCATION	
/	EXISTING CONTOUR LINE	
/	PROPOSED CONTOUR LINE	
=(EXISTING CULVERT	
<	PROPOSED CULVERT	
	EXISTING CURB LINE	
	EXISTING CURB TO BE REMOVED	
	PROPOSED HUNG CURB	
_	FENCE LINE	
	DECIDUOUS TREE	
1	EVERGREEN	
	BUSH/HEDGE	
	WETLAND	
-	GRAPHY PLAN	
	AN	
R	ICS PLAN	
	PLAN	
1C	N DETAILS	

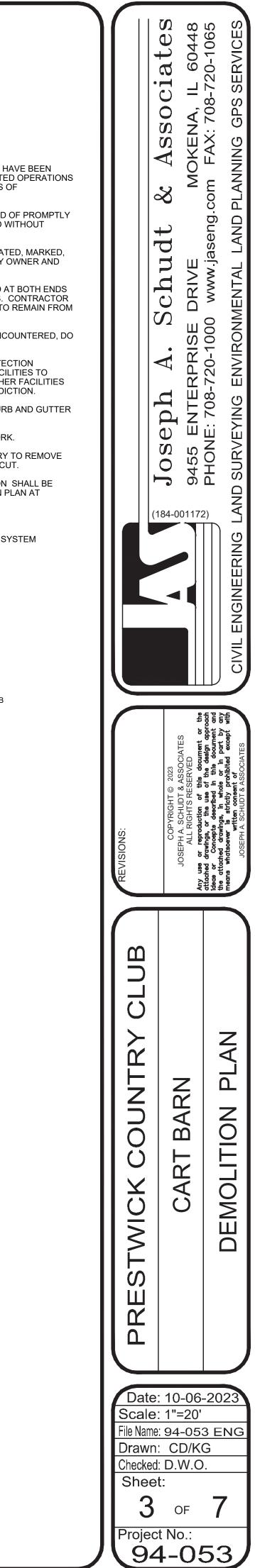


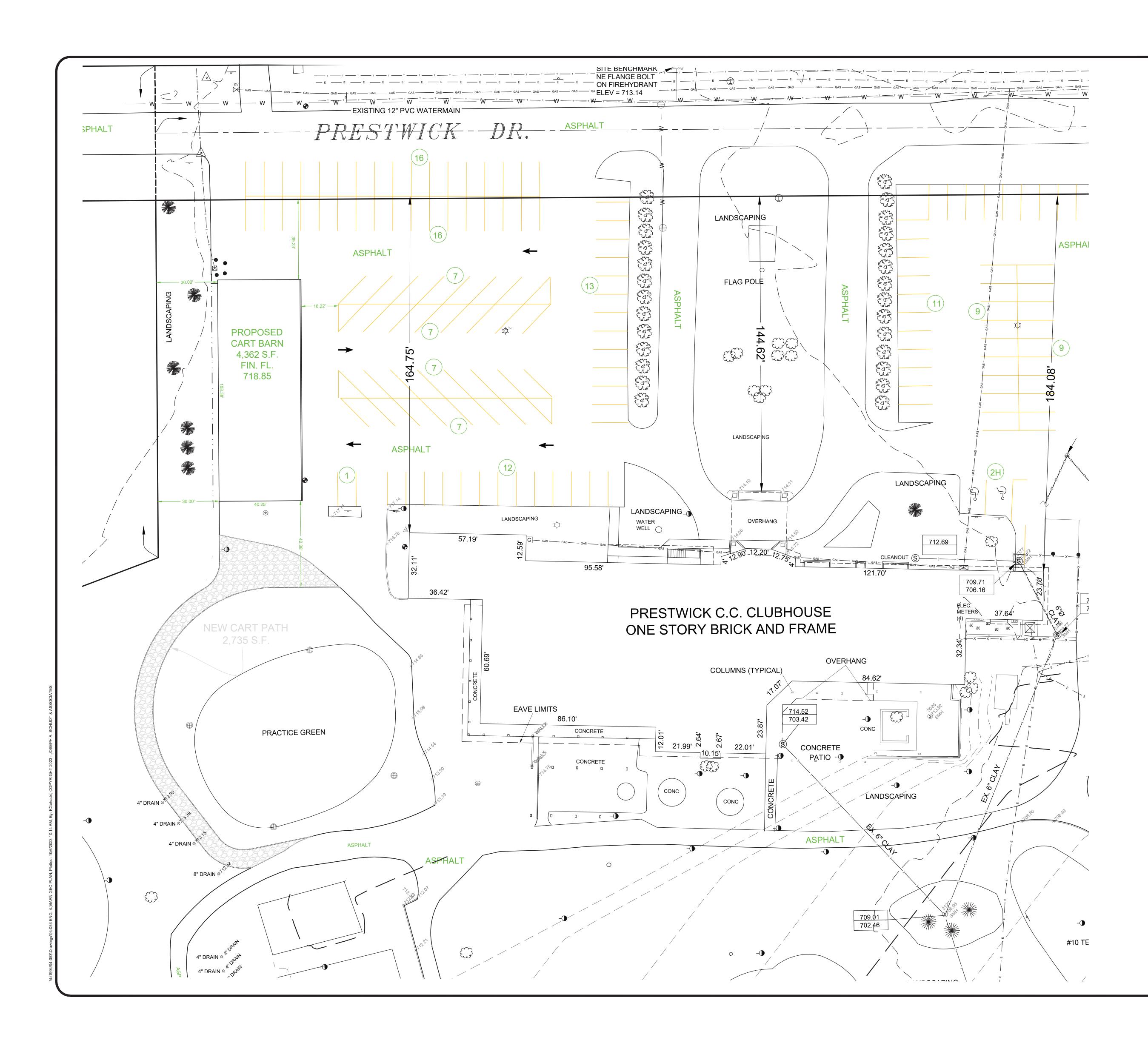




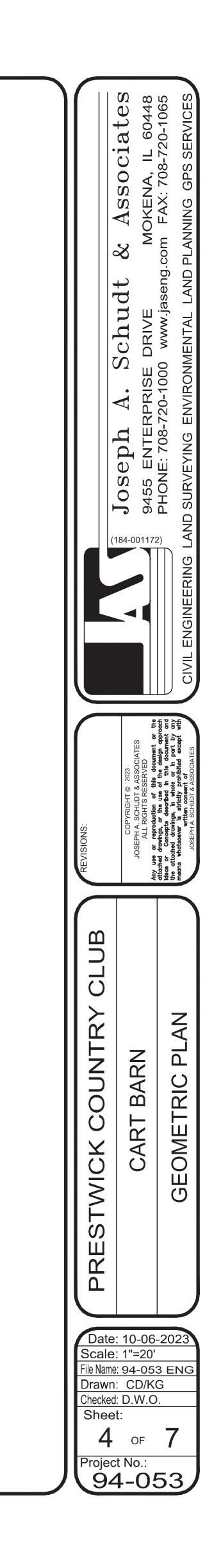


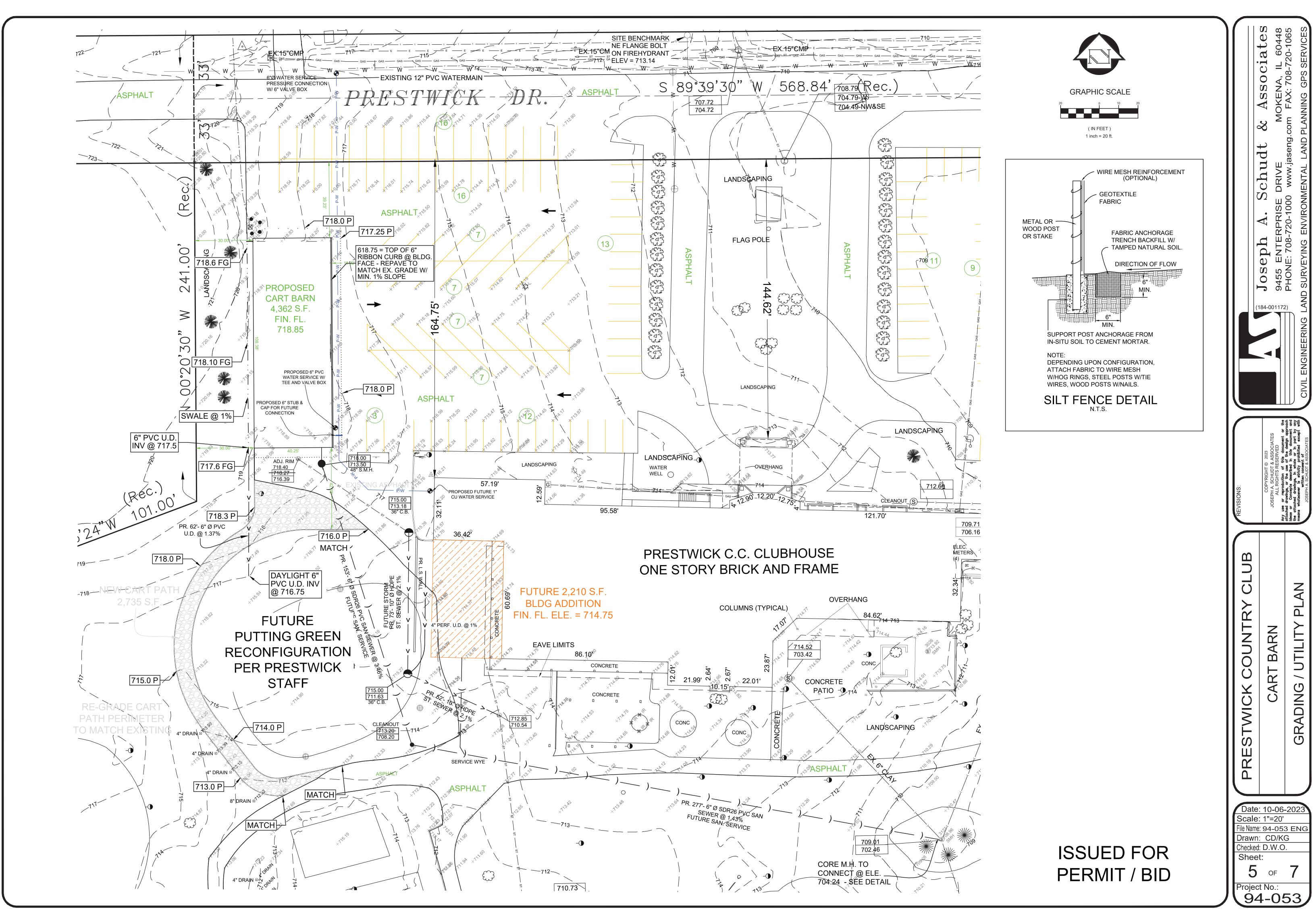


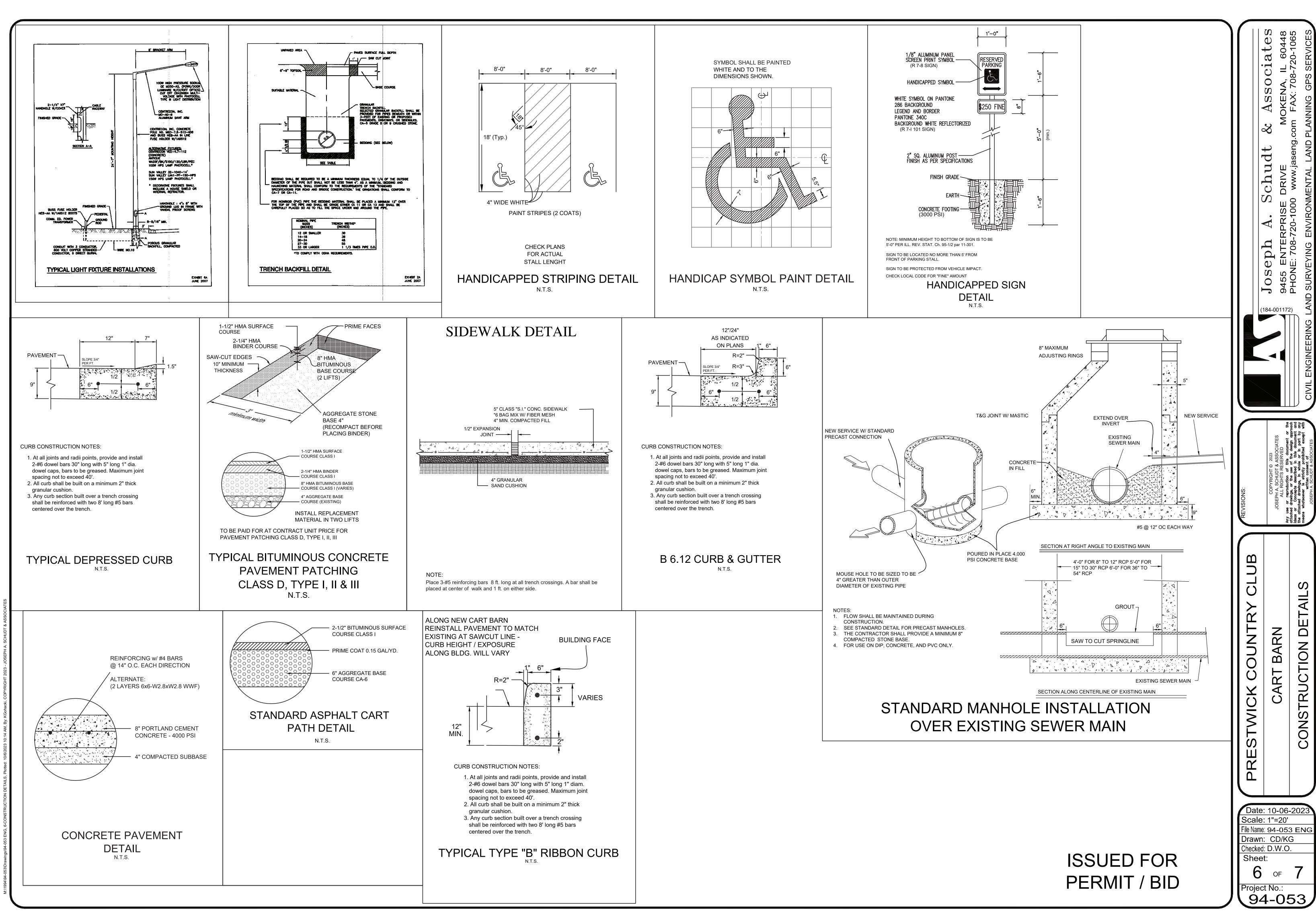




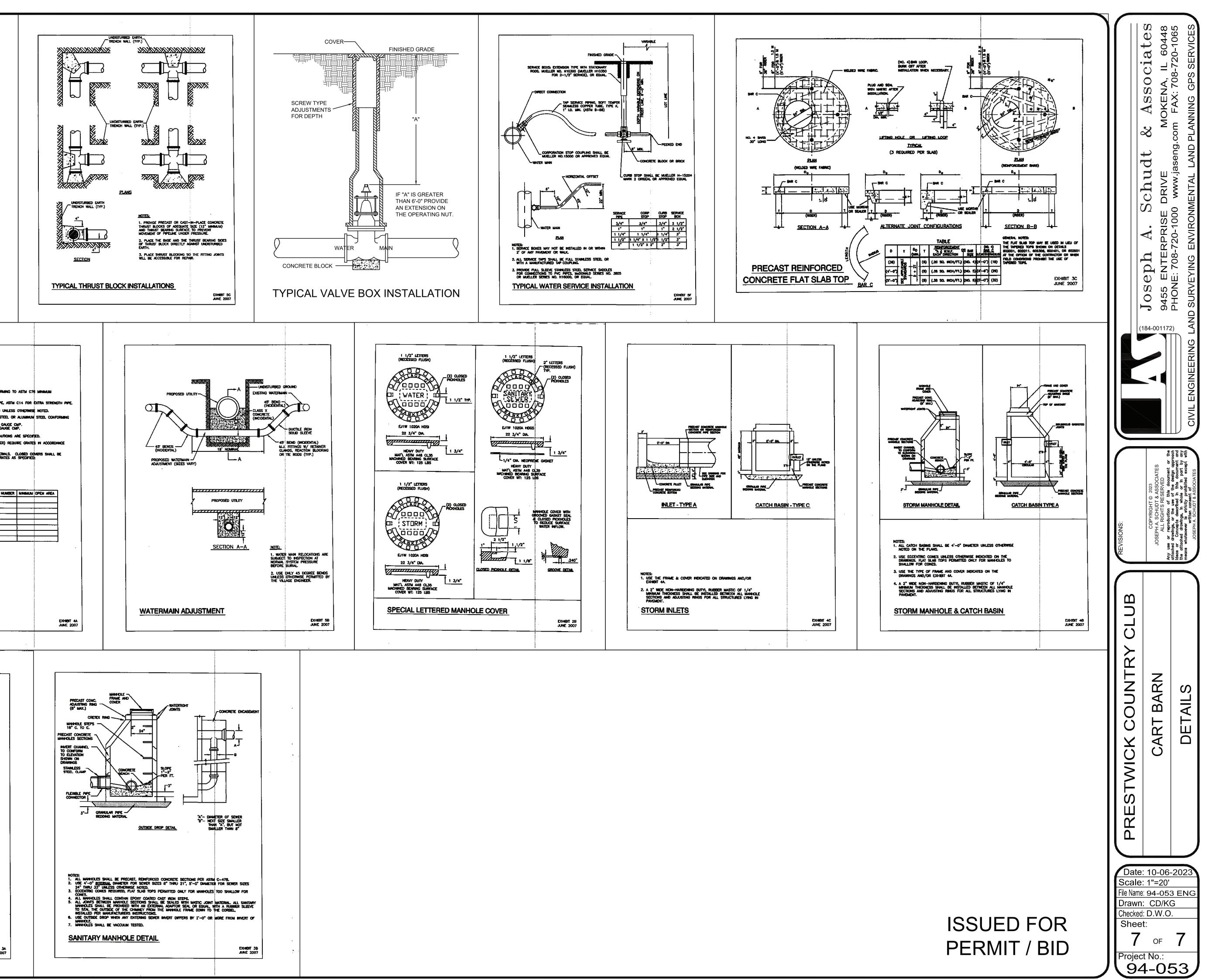
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(
ALL CASTINGS OUCTILE IRON A21.11. • OUCTILE ASSI A2 • EXTERN ASSI A2 • EXTERN ASPHALL • HTERNA • WATER S POLYWRYL CHL • SYCE PP • TREMCH • 147-19 • 207-24 THE DEPTH BE ALL SEMOS OF TO PREVENT W THE USE OF A CONNECTORS • TAPPI MELL • CONNECTORS • TAPPI MELL • CONNECTORS • TAPPI MELL • DEPTH BE • CONNECTORS • TAPPI MELL • CONTRACT RISTELLD. TO THE SYSTEM IN • REQU ULEAST THE CONTRACT RISTEN S • THE CONTRACT RISTEN S • THE ONTRACT RISTEN • REQU • DESMIFECTING • DESMIFECTING	DXES SHALL NOT GE ALLOWED UNDER STREETS, SIDEWALL SHALL BE MADE IN THE U.S.A. WITH U.S.A. MATERIALS. "THE SHALL COMPLY WITH ARSI A21.51, CLASS 52, WITH IRON FITTINGS SHALL BE USED WITH MECHANICAL JOINT 110 OR A21.53." A COATING SHALL BE STANDARD, AS SPECIFIED FOR GEN TIC COATING PER ANNIA C-151. L CLEART LINING SHALL COMPLY WITH ANNIA C-800 FOR CLAS SEDONG MATERIA, SHALL COMPLY WITH ANNIA C-800 FOR CLAS ES SHALL BE INSTALLED WITH MAGNETIC TRACER WITE A ANN SHALL BE INSTALLED WITH MAGNETIC TRACER WITE A SEDONG MATERIA, SHALL COMPLY WITH ANNIA C-800 FOR CLAS ES SHALL BE INSTALLED WITH MAGNETIC TRACER WITE A BEDONG MATERIA, SHALL COMPLY WITH ANNIA C-800 FOR CLAS ES SHALL BE INSTALLED WITH MAGNETIC TRACER WITE A SEDONG MATERIA, SHALL COMPLY WITH ANNIA C-800 FOR CLAS ES SHALL BE INSTALLED WITH MAGNETIC TRACER WITE A SEDONG MATERIA, SHALL COMPLY WITH ANNIA C-800 FOR CLAS ES SHALL BE INSTALLED WITH MAGNETIC TRACER WITE A SEDONG MATERIA, SHALL EDE MADE INFORMATION DAMETER: USE 153 PSI PRESSURE RATED PIPE AND SI INMEEN PINSHED GRADE AND TOP OF THE WATER MAIN B 22-1/2 DEGREES OR GREATER, AND ALL TEES AND FL OVERLENT OF THE LINE UNDER PRESSURE THEOR FOLL GOMENTATION OR RETAINING GLANDS AND THEORED BOLTED SLEEVES SHALL INCLUDE TRUE PROCESSORES. IN WILLOGE WATER SYSTEM SHALL BE MADE UNDER FULL G SLEEVES SHALL INCLUDE THO-PIECE BOLTED SLEEVE ER - HB15, OR EQUAL, WITH JOINT ACCESSORES. IN WELCOL SEPARATION SHALL MEET REQUIREMENTS OF D SENCE MAIN CONSTRUCTION IN ILLINOSY. LOCATIONS I THE FLANS. IN VERTICAL SEPARATION SHALL MEET REQUIREMENTS OF INSTRUCTOR SHALL PROVIDE 40 HOURS ADVANCED NOT CONSTRUCTOR SHALL PROVIDE 40 HOURS ADVANCED NOT CERTING DEPARTMENT FOR ALL TESTING. 24 HOURS PROR TO ANY SCHEDULED OPERATIONS OR OR SHALL PRESSURE TESTED AND DISINFECTED IN ACCORD MININTAL PRESSURE TESTED AND DISINFECTED IN ACCORD MININTAL PRESSURE TESTED, THE CONTRACTOR SHALL PERFORM A PRELIMINARY TEST TO EET THE LEAKAGE BANDES AS SET FORTH HEREM. IN SHWE BEEN PRESSURE TESTED, THE CONTRACTOR SHALL PERFORM A PRELIMINARY TEST TO EET THE LEAKA	JOINTS COMPLYING WITH ANSI RETAINER QUANDS COMPLYING WITH RETAIL USE IN ANSI A21.51 OR WINA C205, STANDARD THICKINESS. SS 150 PRESSURE PIPE (SDR 18). WARNING TAPE 2' ADOVE PIPE. F THE PIPE FOR ALL PVC PIPE. SOR 18. WARNING TAPE 2' ADOVE PIPE. F THE PIPE FOR ALL PVC PIPE. SOR 15. WARNING TAPE 2' ADOVE PIPE. F THE PIPE FOR ALL PVC PIPE. SOR 25. IN BETWEEN 5' AND 7'. UGS SHALL BE THRUSY PROTECTED TECTION MAY ALSO BE ATTAINED BY OS. WATER SERVICE PRESSURE. TYPE WITH MECHANICAL JOINTS, COMPLYING WITH ANNIA CSOO AND NG VALVES SHALL BE PLACED IN THE "STANDARD SPECIFICATIONS REQUIRING ALTERNATIVE INITERIALS SINCE WITH REQUIREMENTS OF THE COFFCATIONS FOR WATER AND SE TO THE VILLAGE UTILITY OR H THE UTILITY DEPARTMENT AT TESTS. E WATER SERVICES HAVE BEEN D INSURE THAT ALL SEGMENTS OF MALL ORSINFECT THE MAINS IN AMPLE THE CHLORINATED BY THE WILLAGE UTILITY R FROM THE MAIN FOR COLLECTED NO LESS THAN 24 E CONTRACTOR AND THE VILLAGE	
		EXHERT 5A JUNE 2007	
	CLASS III WITH ORING ALL STRUCTURE CONNEL SUMP PUMP SERVICE C CORRUGATED METAL PIP TO AASHTO M36. • FOR 21" DAA • FOR 24" DAA MINIMUM COVER SHALL ALL FLARED END SECTI WITH DOT SPECIFICATION ALL CASTINGS SHALL B STAMPED PER EDHIBT : STAMPED PER EDHIBT : MOUNTABLE CURB MOUNTABLE CURB PAVED AREAS GRASSED AREAS	e made in the U.S.A. with U.S.A. Ma 28. Open covers shall have the o	IPE, A 8 UNI STEED 8 GAUG GAUTO TERNI TERNI TERNI TERNI
	STORM SEVE	R SPECIFICATIONS	
THE WATER L PERMITS, LICE DEWATERING. SANITARY SEN PIPE OUCTILE IRON PVC SDR 26 PVC PROFILE VYLON WHERE SEPARATON SEWERS SHALL SEWERS SHALL SEWERS SHALL SEWERS SHALL SEWERS SHALL SERVICE LINE POSITIONS. S TICHTLY PLIG SERVICE LINE POSITIONS. S TICHTLY PLIG ALL SEWERS OF STANDARD VACUUM TEST CONNECTIONS APPROVED IN TESTING, ALL THE PLIAS F WISIDE OF TH MANUFACTURE ON THE FRAM SHUT OFF. IN TO 9 MICHES. DIAMETER MAN DHE MANHOLE SATISFACTORY ALL PUBLIC S TAPES SHALL TO THE VILLA	(24" DIA, OR LESS) ASTIN D-3034 PIPE (OVER 24" DIAMETER) ASTIN D-1734 ASTIN D-3034 ASTIN D-1784 ASTIN D-1784	E BEDDING. STATE/FEDERAL SHALL BE OBTAINED PRIOR TO IM SHALL BE OBTAINED PRIOR TO IM SHALL BE AS FOLLOWS: JOINT MATERIAL LSO ASA A-21.11 ASTM 0-3212 ASTM 0-3212 ASTM 0-3212 ASTM 0-3212 C-900 OR C-905. CAL PLANES GETWEEN MAINOLES AT THE 10:00 AND DESTING INTER & SEWER MAIN S AT THE 10:00 AND DESTING INTER & SEWER MAIN S AT THE 10:00 AND DESTING INTER AS SEWER MAIN S AT THE 10:00 AND DESTING INTER FOR SUCH USE. CORDANCE WITH THE LATEST EDITION JCTION IN ILLINOIS DATELY ATER ASSEMBLY, AFTER ALL DOLES SHALL BE PLACED AT THE CONDOR FOR THE VACUUM FUMP INTENDE TESTER, POSITION THE PLATE E DRIVIN AND THE VACUUM FUMP RIGONOS FOR A 22 MAINHOLE. IF PEAT TEST PROCEDURES UNTIL A DEAD TO SECONDS FOR A 48° DECONDS FOR A 72 MAINHOLE. IF PEAT TEST PROCEDURES UNTIL A DEAD TAPED BY REMOTE CAMERA. SUBMITTED WITH WRITTEN REPORTS	
SANIT	ARY SEWER SPECIFICATIONS	EXHIBIT	-



I. GENERAL NOTES A. ALL WORK PERFORMED UNDER THIS CONTRACT SHALL BE IN CONFORMANCE WITH ALL GOVERNING	V. WARRANTY A. CONTRACTOR SHALL WARRANTY THEIR WORK FOR ONE YEAR FROM DATE OF SUBSTANTIAL
 NATIONAL, STATE, AND LOCAL CODES HAVING JURISDICTION. B. ALL EQUIPMENT FURNISHED, AND ALL WORK PERFORMED UNDER THIS CONTRACT SHALL BE IN STRICT COMPLIANCE WITH CURRENT APPLICABLE STANDARDS AS SET FORTH BY THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), UNDERWRITERS LABORATORIES (UL), THE AMERICAN GAS 	COMPLETION. REFER TO BID DOCUMENTS FOR ADDITIONAL INFORMATION. <u>VI. OWNER TRAINING</u> A. THE CONTRACTOR SHALL PROVIDE DEMONSTRATION AND TRAINING TO OWNER'S PERSONNEL FO
ASSOCIATION (AGA), THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME), THE AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS (ASHRAE), SHEET METAL AND AIR-CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC. (SMACNA), AND OTHER NATIONAL STANDARDS WHERE APPLICABLE	NEW SYSTEMS AND EQUIPMENT. THE COSTS ASSOCIATED WITH THIS SHALL BE INCLUDED AS PAP OF THE BASE BID.
C. CONTRACTOR SHALL REVIEW THE ENTIRE SET OF CONTRACT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, ALL ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS, AS WELL AS ALL SPECIFICATIONS AND INSTRUCTIONS TO BIDDERS. THIS	 B. ALL EQUIPMENT MANUALS, INSTALLATION OPERATION AND MAINTENANCE MANUALS, ETC. SHALL TURNED OVER TO THE OWNER PRIOR TO COMMENCING OWNER DEMONSTRATION AND TRAINING REFER TO PROJECT CLOSEOUT DOCUMENT REQUIREMENTS FOR ADDITIONAL INFORMATION.
CONTRACTOR SHALL VISIT THE SITE AND MAKE A DETAILED INSPECTION OF THE SPECIFIED WORK TO DEVELOP KNOWLEDGE OF ALL CONDITIONS PERTINENT TO THE COMPLETION OF HIS WORK. THIS CONTRACTOR SHALL FULLY COORDINATE HIS WORK WITH THE WORK PERFORMED BY OTHER TRADES AND/OR CONTRACTORS, AND SHALL MAKE SUCH FIELD ADJUSTMENTS AS ARE REQUIRED	 C. CONTRACTOR SHALL PROVIDE A MINIMUM OF 2 HOURS OF TRAINING OVER 1 VISIT ON SITE FOR OWNER PERSONNEL. D. OWNER TRAINING SHALL BE CONDUCTED AFTER FUNCTIONAL TESTING IS COMPLETE AS APPROV
 D. SHOULD CONTRACTOR FIND DISCREPANCIES IN, OR OMISSIONS FROM, THE DRAWINGS, SPECIFICATIONS, OR OTHER CONTRACT DOCUMENTS, OR DISCREPANCIES BETWEEN ACTUAL FIELD 	BY THE ENGINEER . E. COORDINATE TRAINING WITH OWNER, ARCHITECT, AND ENGINEER.
CONDITIONS AND THOSE REPRESENTED IN THE DRAWINGS, OR CONFLICTS BETWEEN HIS WORK AND THAT OF OTHER TRADES, OR BE IN DOUBT AS TO THE MEANING OF ANY CONTRACT DOCUMENTS, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT AND THE ENGINEER IN WRITING AND SHALL OBTAIN CLARIFICATION PRIOR TO SUBMITTING ANY BID. LACK OF SUCH	<u>VII. DUCTWORK</u> A. GENERAL
NOTIFICATION SHALL BE CONSTRUED AS CONTRACTOR'S REPRESENTATION THAT NO DISCREPANCIES OR CONFLICTS EXIST. ADDITIONAL COMPENSATION WILL NOT BE GRANTED AFTER AWARD OF CONTRACT FOR ANY WORK REQUIRED TO COMPLY WITH THIS REQUIREMENT.	 IN GENERAL, THE COMPLETE SHEET METAL DUCTWORK SYSTEMS FURNISHED UNDER THIS CONTRACT, SHALL BE CONSTRUCTED AND INSTALLED IN STRICT CONFORMANCE WITH THE STANDARDS AS SET FORTH IN THE "DUCT MANUAL AND SHEET METAL CONSTRUCTION FOR
E. THE DRAWINGS INDICATE DIAGRAMMATICALLY THE INTENT, REQUIREMENTS FOR, AND LOCATION OF THE WORK INCLUDED UNDER THIS CONTRACT. ALL WORK REQUIRED TO AFFECT THE INDICATED DESIGN, INCLUDING DETAILS NOT SHOWN BUT WHOSE INCLUSION WOULD BE DEEMED A REQUIREMENT BY A KNOWLEDGEABLE TRADESMAN, BUILDING ENGINEER, OR TECHNICIAN, SHALL	 2. ELBOWS SHALL BE CONSTRUCTED WITH THE INSIDE RADIUS NOT LESS THEN 1/2 THE DUCT
 F. IT IS THE INTENT OF THESE DOCUMENTS THAT THE CONTRACTOR PROVIDE ALL LABOR, MATERIAL, EQUIPMENT, AND TOOLS FOR THE COMPLETE INSTALLATION OF ALL WORK SHOWN ON THE PLANS 	WIDTH IN THE SAME PLANE. WHERE STANDARD RADIUS ELBOWS CANNOT BE INSTALLED DUE TO SPACE CONSTRAINTS, SQUARE ELBOWS WITH DOUBLE THICKNESS TURNING VANES MAY BE INSTALLED WHERE APPROVED BY ENGINEER. CROSS-BRAKE OR BEAD SURFACES WIDER THAN 18" FOR RIGIDITY.
AND/OR DESCRIBED HEREIN, INCLUDING ALL DEVICES, CONTROLS, AND APPURTENANCES REQUIRED TO SET THE NEW SYSTEMS INTO OPERATION, UNLESS OTHERWISE NOTED. G. CONTRACTOR SHALL VERIFY ALL MOUNTING, ARRANGEMENTS, HEIGHTS, AND LOCATIONS PRIOR TO	 TRANSFORM DUCT SIZES GRADUALLY, NOT EXCEEDING 15 DEGREES DIVERGENCE AND 30 DEGREES CONVERGENCE.
ROUGH-IN. ANY MENTION OF A SPECIFIC MOUNTING ARRANGEMENT, WEIGHT, OR LOCATION SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO VERIFY SPECIFIC REQUIREMENTS AND BASE HIS WORK ON THEM. THE SAME CARE SHALL BE TAKEN WITH RESPECT TO INFORMATION FURNISHED BY THIS CONTRACTOR TO HIS SUBCONTRACTORS OR TO OTHER CONTRACTORS ON	 ALL DUCT SIZES SHOWN ON PLANS SHALL BE INSIDE CLEAR DIMENSIONS. UPON COMPLETION OF THE INSTALLATION OF DUCTWORK CLEAN ENTIRE SYSTEM OF DEBRIS
THIS PROJECT. THIS CONTRACTOR SHALL BE FINANCIALLY RESPONSIBLE FOR ANY CHANGE ORDERS NECESSITATED BY INACCURATE OR INCORRECT INFORMATION FURNISHED TO OTHER CONTRACTORS. NO ADDITIONS TO THE CONTRACT AMOUNT WILL BE PERMITTED FOR ITEMS INSTALLED IN WRONG LOCATIONS OR IN CONFLICT WITH OTHER WORK.	6. PROTECT DUCTWORK FROM THE ELEMENTS AND FOREIGN MATERIAL AND COMPLY WITH INTERMEDIATE DUCT CLEANLINESS LEVEL IN ACCORDANCE WITH SMACNA'S "DUCT CLEANLINESS FOR NEW CONSTRUCTION GUIDELINES"
H. CONTRACTOR SHALL ESTABLISH SAFE WORKING PROCEDURES FOR THE PROTECTION OF THE WORKMEN IN ALL PHASES OF WORK AND SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY LAWS, INCLUDING THE REQUIREMENTS OF OSHA. HE SHALL ALSO PROVIDE ALL	 B. DUCTWORK MATERIAL 1. NON-COMBUSTIBLE OR CONFORMING TO REQUIREMENTS FOR CLASS 1 AIR DUCT MATERIALS OR UL 181.
NECESSARY SIGNS, LIGHTS, AND BARRICADES REQUIRED FOR THE SAFETY OF ALL OTHER PERSONS WHO MIGHT COME IN CONTACT WITH THE CONSTRUCTION BEING PERFORMED UNDER THIS CONTRACT.	 ALL DUCTWORK SHALL BE ALUMINUM MATERIAL. REINFORCEMENT PLATES AND SHAPES: ASTM A36 / A36M, STEEL PLATES, SHAPES, AND BARS
I. ALL PUBLIC AND PRIVATE PROPERTY DAMAGED AS A RESULT OF WORK PERFORMED UNDER THIS CONTRACT SHALL BE REPAIRED AND/OR REPLACED TO MATCH EXISTING CONSTRUCTION BY THIS CONTRACTOR AND TO THE SATISFACTION OF THE ARCHITECT.	 BLACK AND GALVANIZED. 4. TIE RODS: GALVANIZED STEEL, 1/4" MINIMUM DIAMETER FOR LENGTHS 36" OR LESS; 3/8" MINIMUM DIAMETER FOR LENGTHS LONGER THAN 36".
J. CONTRACTOR SHALL MAKE ALL ARRANGEMENTS WITH THE BUILDING OWNER'S REPRESENTATIVE REGARDING WORKSITE ACCESS, BUILDING RULES, AND REGULATIONS, INCLUDING WORKING HOURS, REFUSE DISPOSAL, DUMPSTER LOCATION, SECURITY, INTERRUPTIONS OF BUILDING UTILITIES OR FUNCTIONS, OWNERSHIP OF SALVAGED MATERIALS, PARKING, AND ANY OTHER ITEMS DEEMED TO BE OF MUTUAL INTEREST.	 SHEET METAL MATERIALS AND SUPPORTS SHALL COMPLY WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS" FOR APPLICABLE MATERIALS, MATERIAL THICKNESSES, AND DUCT CONSTRUCTION METHODS BASED ON APPLICABLE PRESSURE CLASSES. SHEET METAL MATERIALS SHALL BE FREE OF PITTING, SEAM MARKS, ROLLER MARKS, STAINS, DISCOLORATIONS, AND OTHER IMPERFECTIONS.
K. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO STORE AND PROTECT FROM DAMAGE ALL EQUIPMENT AND MATERIALS IN A MANNER THAT WILL MAINTAIN AN ORDERLY, CLEAN APPEARANCE. DAMAGED EQUIPMENT AND MATERIAL IS SUBJECT TO REJECTION. REPLACEMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.	 C. SEALANTS AND GASKETS 1. SEAL DUCTS FOR DUCT STATIC-PRESSURE, SEAL CLASSES, AND LEAKAGE CLASS SPECIFIED
L. PROVIDE ALL HOLES, SLEEVES, CUTTING, PATCHING, AND SEALING FOR INSTALLATION OF THIS WORK. SEALING SHALL CONFORM TO THE FIRE RATING OF ALL BUILDING ASSEMBLIES. ALL EXTERIOR PENETRATIONS SHALL BE MADE WEATHER TIGHT.	"DUCT SCHEDULE" ARTICLE ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS". ALL JOINTS AND SEAMS SHALL BE SEALED TO SEAL CLASS A.2. SURFACE BURNING CHARACTERISTICS FOR SEALANTS AND GASKETS SHALL BE A MAXIMUM
M. CONTRACTOR SHALL NOT MODIFY OR REMOVE ANYTHING FOUND TO BE IN THE PATH OF NEW SYSTEMS TO BE INSTALLED WITHOUT PRIOR APPROVAL BY THE ENGINEER.	FLAME SPREAD INDEX OF 25 AND A MAXIMUM SMOKE-DEVELOPED INDEX OF 50 WHEN TESTE ACCORDING TO UL-723; CERTIFIED BY AN NRTL. D. DUCTWORK SUPPORTS AND CONNECTIONS
 N. THE CONTRACTOR IS RESPONSIBLE FOR THE CONTINUOUS CLEANING OF ALL DUST AND DEBRIS RESULTING FROM THEIR WORK. O. CONTRACTOR SHALL BE PROPERLY LICENSED, BONDED, AND INSURED AND CAPABLE OF 	 COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS" FOR HANGERS AND SUPPORTS AND HANGER SPACING. HANGERS EXPOSED TO VIEW SHALL BE THREADED ROD AND ANGLE OR CHANNEL SUPPORTS
 PERFORMING QUALITY WORKMANSHIP ON THIS PROJECT. P. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, AND SAFETY. 	 HANGER RODS FOR NON-CORROSIVE ENVIRONMENTS SHALL BE CADMIUM PLATED STEEL RC AND NUTS. STEEL CABLES FOR DUCTS SHALL BE GALVANIZED STEEL COMPLYING WITH ASTM A603. STEEL CABLE END CONNECTIONS SHALL BE CADMIUM PLATED STEEL ASSEMBLIES WITH
 Q. CONTRACTOR SHALL COORDINATE DELIVERIES WITH THE OWNER. R. MAINTAIN ALL MANUFACTURER RECOMMENDED AND CODE REQUIRED CLEARANCES. 	BRACKETS, SWIVEL, AND BOLTS DESIGNED FOR DUCT HANGER SERVICE; WITH AN AUTOMATI LOCKING AND CLAMPING DEVICE. F. DUCTWORK ACCESSORIES
S. CONTRACTOR SHALL PROVIDE TRAINING TO THE OPERATING STAFF FOR NEW SYSTEMS AND EQUIPMENT. REFER TO OWNER TRAINING SPECIFICATION SECTION FOR ADDITIONAL INFORMATION.	 ALL EXHAUST GRILLES SHALL BE OF MODELS INDICATED, OR APPROVED EQUIVALENT UNITS PROVIDE GRAVITY BACKDRAFT DAMPER ON ALL EXHAUST DUCT MAINS AFTER THE EXHAUST
II. GENERAL DEMOLITION NOTES A. ALL WORK SHALL BE PERFORMED IN A CLEAN AND WORKMANLIKE MANNER. CARE SHALL BE	FAN BUT PRIOR TO LOUVER CONNECTION.
 EXERCISED TO MINIMIZE ANY INCONVENIENCE OR DISTURBANCE TO OTHER AREAS OF THE GOLF CLUB FACILITY WHICH ARE TO REMAIN IN OPERATION. B. ALL DEMOLITION AS CALLED FOR ON THE DEMOLITION DRAWINGS SHALL BE UNDER THIS 	VIII. SYSTEM START-UP, TESTING, ADJUSTING AND BALANCING (TAB) A. UPON SUBSTANTIAL COMPLETION OF SYSTEMS INSTALLATION, AND PRIOR TO ACCEPTANCE BY T ENGINEER AND OWNER, THIS CONTRACTOR SHALL SUBCONTRACT A TAB CONTRACTOR WHO'S
CONTRACTOR'S WORK. REFER TO ARCHITECTURAL DEMOLITION DRAWINGS FOR REQUIRED DEMOLITION SCOPE.C. THE INTENT OF THE DEMOLITION IS TO REMOVE THE ITEMS IN THEIR ENTIRETY. THIS INCLUDES ALL	 TECHNICIANS ARE NEBB OR AABC CERTIFIED. TAB SUBCONTRACTOR SHALL NOT BE AFFILIATED WITH THE CONTRACTOR. B. TEST PROCEDURES SHALL BE PER LATEST EDITIONS OF NEBB, AABC, OR TESTING, ADJUSTING, A
ASSOCIATED SUPPORT BASES, ANCHORAGE, HANGERS, CONTROLS INCLUDING WIRING AND CONDUIT EXPOSED IN MECHANICAL ROOMS, PIPING, DUCTWORK, WIRING, ETC. CAP EXISTING SYSTEMS TO REMAIN AT MAINS OR OTHER ACTIVE BRANCH LINES. MINIMIZE DEAD END LENGTHS.	 B. TEST PROCEDURES SHALL BE PER LATEST EDITIONS OF NEBB, AABC, OR TESTING, ADJUSTING, A BALANCING CHAPTER OF ASHRAE APPLICATIONS HANDBOOK. C. PRIOR TO ALL TAB PROCEDURES PROCEEDING, SYSTEMS INSTALLATION, STARTUP, AND OPERATION SHALL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND PER THE MINIMULAN APPLICATION SHALL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND PER THE MINIMULAN APPLICATION.
D. BEFORE STARTING ANY DEMOLITION WORK ON EQUIPMENT WHICH HAS AN ELECTRICAL CONNECTION, THE ELECTRICAL CONTRACTOR SHALL DISCONNECT THE POWER AND REMOVE CONDUIT, WIRING, DISCONNECT SWITCHES, AND STARTERS UNDER THIS CONTRACT.	REQUIREMENTS OF NEBB, AABC, OR ASHRAE. IF DEFICIENCIES ARE FOUND WHICH PREVENT PROPER TAB PROCEDURES AND REPEATABLE RESULTS, THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RESULTING COSTS.
 E. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTINUOUS CLEANUP THROUGHOUT THE COURSE OF THE DEMOLITION WORK. F. ALL EQUIPMENT, MATERIAL, ETC. THAT IS DEMOLISHED SHALL BE REMOVED FROM THE BUILDING 	D. THE ENGINEER SHALL BE NOTIFIED WHEN TAB SCOPE WILL BEGIN ON SITE, AUTHORIZED REPRESENTATIVE OF THE OWNER MAY BE IN ATTENDANCE IF DEEMED NECESSARY.
SITE BY THIS CONTRACTOR IN A PROPER AND LEGAL MANNER. NO ITEM WHICH IS DEMOLISHED MAY BE REUSED UNLESS SPECIFICALLY NOTED.	E. THIS CONTRACTOR TO ASSIST THE TAB CONTRACTOR AS REQUIRED TO ENSURE REPEATABLE RESULTS. THIS CONTRACTOR SHALL PROVIDE THE TAB CONTRACTOR WITH ALL REQUIRED DOCUMENTATION TO SUPPORT TAB SCOPE.
 <u>III. SHOP DRAWINGS, SUBMITTALS, AND AS-BUILTS</u> A. CONTRACTOR SHALL SUBMIT TO THE ENGINEER COORDINATED SHOP DRAWINGS. SHOP DRAWINGS SHALL BE 1/4" SCALE AND SHALL INDICATE LAYOUT OF ALL EQUIPMENT, DUCTS, GRILLES, 	 F. TAB CONTRACTOR SCOPE SHALL INCLUDE ALL NEW SYSTEMS AND EQUIPMENT (EF-1 AND EF-2). G. TAB CONTRACTOR SCOPE SHALL INCLUDE EXISTING SYSTEMS AS IDENTIFIED IN THE DOCUMENT OR AS REQUIRED FOR A FULLY FUNCTIONAL AND FULLY BALANCED SYSTEM.
THERMOSTATS, SENSORS, OPERATING SEQUENCES, CONTROL DEVICES WITH SETTINGS OR ADJUSTABLE RANGES, ETC. SHOP DRAWINGS SHALL INCLUDE ALL DUCT SIZES, CAPACITIES, ELEVATIONS, ETC. CONTRACTOR SHALL PROCEED WITH SITE WORK ONLY AFTER RECEIVING SHOP DRAWINGS MARKED REVIEWED.	I. TAB CONTRACTOR SHALL PROVIDE REPORT IN ACCORDANCE WITH UTILIZED STANDARD ALONG WITH AN EXECUTIVE SUMMARY STATING THE EXTENT OF SYSTEM COMPLIANCE, SYSTEM DEFICIENCIES, AND RECOMMENDED CHANGES. THIS REPORT SHALL BE SUBMITTED WITHIN THIR (20) DAYS OF COMPLETION OF THIS SCORE OF WORK
 B. SHOULD CONDITIONS NECESSITATE ANY REARRANGEMENTS, CONTRACTOR SHALL SUBMIT TO THE ENGINEER SHOP DRAWINGS SHOWING SUCH CHANGES. CONTRACTOR SHALL PROCEED WITH SITE WORK ONLY AFTER RECEIVING SHOP DRAWINGS MARKED REVIEWED. 	 (30) DAYS OF COMPLETION OF THIS SCOPE OF WORK. J. TAB CONTRACTOR SHALL COORDINATE WITH THE MC AS REQUIRED TO PERFORM SCOPE OF WOLDETERMINE CONTROL SETPOINTS, ETC. FOR PROPER OPERATION OF THE SYSTEM.
C. CONTRACTOR SHALL SUBMIT TO THE ENGINEER MANUFACTURERS' SUBMITTALS FOR ALL EQUIPMENT AND ACCESSORIES. CONTRACTOR SHALL PROCEED WITH PROCUREMENT ONLY AFTER RECEIVING SUBMITTALS MARKED REVIEWED.	K. ALL BALANCING PROCEDURES SHALL BE PERFORMED TO MINIMIZE ENERGY USAGE.
D. CONTRACTOR SHALL SUBMIT TO THE ENGINEER AN ELECTRONIC FILE OF THE AS-BUILT DRAWINGS. RECORD LOCATIONS OF CONTROL COMPONENTS, INCLUDING CONTROL UNITS, THERMOSTATS, AND SENSORS. REVISE SHOP DRAWINGS TO REFLECT ACTUAL INSTALLATION AND OPERATING	
SEQUENCES. E. CONTRACTOR SHALL SUBMIT TO THE ENGINEER AN ELECTRONIC FILE OF ALL EQUIPMENT INFORMATION. INCLUDE OPERATIONAL AND MAINTENANCE INSTRUCTIONS, PARTS LISTS, SUBMITTALS, AND DESCRIPTIVE LITERATURE.	
IV. MATERIALS AND EQUIPMENT	
 A. ALL MATERIALS AND EQUIPMENT INSTALLED UNDER THIS CONTRACT SHALL BE NEW. B. ALL MATERIALS AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS' RECOMMENDATIONS. 	
C. CONTRACTOR IS REQUIRED TO REVIEW ALL DRAWINGS. MATERIALS AND EQUIPMENT SHOWN ON THE SCHEDULES AND DETAILS SHALL BE INCLUDED IN BASE BID. NO MATERIAL OR EQUIPMENT SUBSTITUTIONS WILL BE CONSIDERED AFTER THE AWARD OF CONTRACT.	
 D. CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING THE PURCHASE, DELIVERY, RECEIVING, UNLOADING, UNCRATING, STORING, SETTING IN PLACE, AND PROTECTING OF ALL NEW EQUIPMENT FURNISHED BY THE CONTRACTOR, AND SHALL SECURE SUCH EQUIPMENT FROM DAMAGE UNTIL TIME OF FINAL ACCEPTANCE. 	
 E. CONTRACTOR SHALL FURNISH AND INSTALL ALL STRUCTURE, SLEEVES, SHIMS, ETC. REQUIRED TO LEVEL AND SUPPORT EQUIPMENT AND MATERIALS. F. CONTRACTOR SHALL VERIFY ALL PHYSICAL, ELECTRICAL, INGRESS, ETC. REQUIREMENTS FOR ALL 	
 G. EQUIPMENT DATA, LABELS, AND OTHER IDENTIFICATION SHALL NOT BE OBSTRUCTED. 	

Y THEIR WORK FOR ONE YEAR FROM DATE OF SUBSTANTIAL CUMENTS FOR ADDITIONAL INFORMATION.

IDE DEMONSTRATION AND TRAINING TO OWNER'S PERSONNEL FOR THE COSTS ASSOCIATED WITH THIS SHALL BE INCLUDED AS PART

ALLATION OPERATION AND MAINTENANCE MANUALS, ETC. SHALL BE PRIOR TO COMMENCING OWNER DEMONSTRATION AND TRAINING. DOCUMENT REQUIREMENTS FOR ADDITIONAL INFORMATION.

NDUCTED AFTER FUNCTIONAL TESTING IS COMPLETE AS APPROVED

E SHEET METAL DUCTWORK SYSTEMS FURNISHED UNDER THIS STRUCTED AND INSTALLED IN STRICT CONFORMANCE WITH THE IN THE "DUCT MANUAL AND SHEET METAL CONSTRUCTION FOR DITIONING SYSTEMS" AS PUBLISHED BY THE SHEET METAL AND AIR RS NATIONAL ASSOCIATION, INC. (SMACNA).

FIC-PRESSURE, SEAL CLASSES, AND LEAKAGE CLASS SPECIFIED IN ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION ND SEAMS SHALL BE SEALED TO SEAL CLASS A. TERISTICS FOR SEALANTS AND GASKETS SHALL BE A MAXIMUM

IVAC DUCT CONSTRUCTION STANDARDS" FOR HANGERS AND W SHALL BE THREADED ROD AND ANGLE OR CHANNEL SUPPORTS. RROSIVE ENVIRONMENTS SHALL BE CADMIUM PLATED STEEL RODS SHALL BE GALVANIZED STEEL COMPLYING WITH ASTM A603. TIONS SHALL BE CADMIUM PLATED STEEL ASSEMBLIES WITH LTS DESIGNED FOR DUCT HANGER SERVICE; WITH AN AUTOMATIC

N OF SYSTEMS INSTALLATION, AND PRIOR TO ACCEPTANCE BY THE INTRACTOR SHALL SUBCONTRACT A TAB CONTRACTOR WHO'S C CERTIFIED. TAB SUBCONTRACTOR SHALL NOT BE AFFILIATED

ER LATEST EDITIONS OF NEBB, AABC, OR TESTING, ADJUSTING, AND E APPLICATIONS HANDBOOK.

DE REPORT IN ACCORDANCE WITH UTILIZED STANDARD ALONG STATING THE EXTENT OF SYSTEM COMPLIANCE, SYSTEM DED CHANGES. THIS REPORT SHALL BE SUBMITTED WITHIN THIRTY HIS SCOPE OF WORK.

DINATE WITH THE MC AS REQUIRED TO PERFORM SCOPE OF WORK, S, ETC. FOR PROPER OPERATION OF THE SYSTEM. HALL BE PERFORMED TO MINIMIZE ENERGY USAGE.

IX. AUTOMATIC CONTROL SYSTEM A. GENERAL

- 1. CONTRACTOR SHALL FURNISH AND INSTALL ALL COMPONENTS REQUIRED FOR A COMPLETE AND FUNCTIONAL CONTROL SYSTEM TO CONTROL DEVICES, EQUIPMENT AND SYSTEMS.
- 2. FURNISH AND INSTALL CONTROL WIRING IN CONDUIT. THE CONTRACTOR SHALL INSTALL ANY 120 VOLT AND 24 VOLT WIRING AND CONDUIT REQUIRED FOR ALL CONTROL DEVICES AND CONTROL PANELS FROM THE DESIGNATED DISTRIBUTION PANEL.
- 3. MONITOR THE COMBUSTIBLE VAPORS THAT OFF GASES DURING BATTERY CHARGING OPERATIONS INDOORS WITH A HYDROGEN GAS DETECTION SYSTEM.
- B. GENERAL REQUIREMENTS FOR STAND ALONE CONTROL SYSTEMS 1. CONTROL OF THE EQUIPMENT OR SYSTEMS IN THE CART BARN SHALL OPERATE BASED ON ITS STAND ALONE LOCAL CONTROLLER INDEPENDENT OF THE CLUBHOUSE BUILDING AUTOMATION
- SYSTEM. 2. CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED CONDUIT, CONTROL WIRING, DAISY CHAIN
- NETWORK WIRING, CABLING, DEVICES, INTERLOCKS, SAFETIES, PROGRAMMING, ETC TO OPERATE THE EQUIPMENT OR SYSTEMS. B. GENERAL REQUIREMENTS FOR HYDROGEN GAS DETECTION SYSTEM
- 1. PROVIDE VENTILATION PER INTERNATIONAL MECHANICAL CODE 2012 SECTION 502.3: BATTERY CHARGING AREAS FOR POWERED INDUSTRIAL TRUCKS AND EQUIPMENT. 2. PROVIDE A GAS DETECTION SYSTEM APPROPRIATE FOR AN ELECTRIC GOLF CART STORAGE
- BUILDING, SENSING AND MONITORING FOR FLAMMABLE HYDROGEN GASES OMITTED BY THE BATTERY CHARGING STATIONS. 3. PROVIDE A MODEL TOX-4ANA CONTROLLER OR EQUAL BY TOXALERT INTERNATIONAL, INC. TO
- MONITOR THE HYDROGEN SENSORS. 4. WHEN A HYDROGEN SENSOR INDICATES A GAS CONCENTRATION OF 25% LEL OR HIGHER: 4.1. THE ASSOCIATED EXHAUST FANS (EF-1 AND EF-2) SHALL START PER THE SCHEDULE ON
- THE DRAWINGS. 4.2. THE ASSOCIATED INTAKE DAMPER ACTUATOR AT WALL LOUVER (WL-1) SHALL ENERGIZE TO OPEN POSITION TO ALLOW FOR MAKEUP AIR. 4.3. THE LED ON THE CONTROLLER SHALL INDICATE "WARNING LEVEL" (EXHAUST FAN ON) OPERATION.
- 4. WHEN A SENSOR INDICATES A GAS CONCENTRATION OF 50% LEL OR HIGHER: 4.1. AN ALARM SET OF CONTACTS SHALL CLOSE WHICH SHALL INDICATE ALARM CONDITION AND LIGHT AN ALARM LED AND GAS DETECTION ALARM SHALL SOUND. 4.2. EXHAUST FAN OPERATION SHALL CONTINUE TO RUN PER THE SCHEDULE ON THE DRAWINGS.
- 5. PROVIDE TEMPERATURE SENSOR. INTERLOCK TO GAS DETECTION PANEL TO OPERATE EXHAUST FANS (EF-1 AND EF-2) AND OPEN INTAKE DAMPER WHEN INDOOR SPACE
- TEMPERATURE IS GREATER THAN 80 DEGREES (ADJ.). 6. THE CONTROLLER SHALL HAVE INTERNAL LED'S TO INDICATE "WARNING LEVEL" AND "ALARM
- LEVEL" FOR EACH SENSOR INPUT.
- 7. PROVIDE WITH PANEL AUDIBLE ALARM LABELED WITH PUSH BUTTON SILENCE SWITCH. 8. PROVIDE PANEL FRONT MOUNTED LED'S FOR EACH SENSOR TO INDICATE WARNING AND
- ALARM LEVELS. 9. PROVIDE DIGITAL DISPLAY (SENSOR VALUE) FOR EACH SENSOR INPUT. DISPLAY MOUNTED ON PANEL FRONT.
- 10. PROVIDE SENSOR FAILURE ALARM.
- 11. HYDROGEN SENSORS SHALL BE BY SAME MANUFACTURER AS GAS DETECTION CONTROLLER. 12. FOR THE HYDROGEN SENSOR, PROVIDE TOXALERT INTERNATIONAL MODEL TOX-COMB / ANA COMBUSTIBLE TRANSMITTER / SENSOR MODULE OR EQUAL PER DRAWINGS.
- 12.1. CATALYTICALLY AIDED PLATINUM BEAD SENSOR 12.2. 0-100% LEL RANGE
- 12.3. POISON RESISTANT SENSOR STANDARD 12.4. WATER REPELLENT PATENTED SENSOR COATING
- 12.5. LINEAR 4-20MA OUTPUT 12.6. % LEL READOUT PROVIDED DURING CALIBRATION USING ANY VOLT METER
- 12.7. INDOOR USE 12.8. EXPLOSION PROOF CONSTRUCTION
- 13. ONE YEAR MANUFACTURER WARRANTY.

14. A FUNCTIONAL TEST OF GAS DETECTION SYSTEM ENSURING CORRECT VENTILATION INTERLOCK AND ALARM ANNUNCIATION USING PROPER COMBUSTIBLE TRACE GAS PPM SHALL BE CONDUCTED BY EQUIPMENT REPRESENTATIVE AT COMPLETION OF INSTALL. C. TRAINING SHALL INCLUDE:

- 1. BASIC THEORY ON THE INSTALLED SYSTEMS. THE REVIEW SHALL COVER EACH MAJOR SYSTEM AND SHALL COVER A SAMPLING OF EACH UNIQUE TERMINAL EQUIPMENT CONFIGURATION. 2. REVIEWING AND ACKNOWLEDGING ALARMS.
- 3. LOCATIONS OF AND HOW TO RESET EQUIPMENT SAFETIES.
- 4. ADJUSTING EQUIPMENT SCHEDULES; DEMONSTRATE PERMANENT CHANGES TO WEEKLY
- SCHEDULES AND ALSO SPECIAL EVENT AND HOLIDAY SCHEDULING. 5. ADJUSTING SETPOINTS AND SETPOINT RESETS. THE OWNER SHALL BE ABLE TO ADJUST THE
- OPERATION WITHOUT MANUAL OVERRIDES. 6. ANSWERING OWNER'S STAFF QUESTIONS.
- 7. ADJUSTMENT OF SEQUENCE OF OPERATIONS AS REQUESTED BY THE OWNER DURING TRAINING. PRIOR TO ENACTING ANY CHANGES, APPROVAL SHALL BE OBTAINED FROM THE

XVII. FUNCTIONAL TESTING

ENGINEER.

- A. GENERAL 1. ELARA WILL BE WITNESSING FUNCTIONAL TESTING FOR THIS PROJECT.
- 2. CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL LABOR AND MATERIALS REQUIRED TO PERFORM FUNCTIONAL TESTING ON THIS PROJECT.
- B. PRIME CONTRACTOR DOCUMENTATION: 1. THE FOLLOWING SHALL BE COMPLETED BY THE PRIME CONTRACTOR AND REPORTS SHALL BE SUBMITTED TO ENGINEER PRIOR TO THE START OF FUNCTIONAL TESTING. OWNER AND ENGINEER RESERVE THE RIGHT TO DELAY FUNCTIONAL TESTING DUE TO THE
 - INCOMPLETENESS OF ANY OF THE FOLLOWING ITEMS: a. TAB REPORT.
 - b. MEGGER TESTING. c. THERMAL SCANS OF ELECTRICAL EQUIPMENT.
 - d. STARTUP REPORTS. e. DRAFT OF O&M'S.
 - f. CONTROL PANELS AND WIRING ARE LABELED. g. POINT TO POINT CHECKOUT COMPLETED WITH LIST OF OUTSTANDING DEFICIENCIES.
 - h. REMOTE ALARMING HAS BEEN CONFIGURED; PROVIDE PROOF ALARMS ARE FUNCTIONAL. i. TRENDING HAS BEEN FULLY CONFIGURED; PROVIDE PROOF ALL TRENDING IS IN PLACE INCLUDING ALL HARD-WIRED POINTS AND KEY SETPOINTS.
 - EQUIPMENT IS OPERATING IN FULL AUTOMATIC OPERATION PER THE SEQUENCES OF OPERATION; CONTRACTOR SHALL PROVIDE WRITTEN CONFIRMATION TO THE ENGINEER. PROVIDE WRITTEN EXPLANATION FOR DEVIATIONS FROM THE DESIGNED SEQUENCES OF OPERATION.
- C. FUNCTIONAL TESTING ACTIVITIES:

EQUIPMENT REPRESENTATIVE.

- 1. FUNCTIONAL PERFORMANCE TESTING SHALL DEMONSTRATE THE INSTALLATION AND OPERATION OF COMPONENTS, SYSTEMS, AND SYSTEM-TO-SYSTEM INTERFACING RELATIONSHIPS IN ACCORDANCE WITH PLANS AND SPECIFICATIONS SUCH AS OPERATION, FUNCTION, AND MAINTENANCE SERVICEABILITY. TESTING SHALL INCLUDE:
- a. ALL MODES AS DESCRIBED IN THE SEQUENCE OF OPERATION
- b. FULL-LOAD AND PART-LOAD CONDITIONS c. SEASONAL CONDITIONS d. REDUNDANT OR AUTOMATIC BACKUP MODES
- e. PERFORMANCE OF ALARMS f. MODE OF OPERATION UPON A LOSS OF POWER AND RESTORATION OF POWER
- 2. CONTRACTOR TO INCLUDE TIME AS REQUIRED TO MODIFY THE SEQUENCE OF OPERATIONS AS DETERMINED DURING FUNCTIONAL TESTING TO OPTIMIZE ENERGY AND/OR OPERATION OF
- SYSTEMS. 3. FUNCTIONAL TEST OF GAS DETECTION SYSTEM UPON COMPLETED INSTALLATION SHALL BE BY

	VENTILATION SCHEDULE																	
ROOM			ROOM AREA CALCULATED ACTU			ACTUAL EFFECTIVE-			TABLE REC	UIREMENTS		REQUIR	RED SPACE VEN	TILATION	А	CTUAL PROVIDE	ED	
NUMBER	ROOM NAME	OCCUPANCY CLASSIFICATION	(SQFT)	NUMBER OF OCCUPANTS		AIR DISTRIBUTION CONFIGURATION	NESS (Ez)	CFM / OCCUPANT (Rp)	CFM / SQ. FOOT (Ra)	EXHAUST (CFM / SQFT)	EXHAUST (CFM / FIXTURE)	BREATHING ZONE O.A. (Vbz)	ZONE O.A. (Voz)	EXHAUST (CFM)	COOLING SUPPLY (CFM)	HEATING SUPPLY (CFM)	EXHAUST (CFM)	
01	Cart Storage	Repair Garages, enclosed parking	3950	0	0	Ceiling or floor supply of warm air and floor return	1.0	0.00	0.00	0.75	0.00	0	0	2963	0	0	4300	1
02	Store Room	Inactive	240	0	0	Ceiling or floor supply of warm air and floor return	1.0	0.00	0.00	0.00	0.00	0	0	0	0	0	0	1
03	Sprinkler	Inactive	49	0	0	Ceiling or floor supply of warm air and floor return	1.0	0.00	0.00	0.00	0.00	0	0	0	0	0	0	
04	Toilet	Public Toilet Rooms - Intermittent Exhaust	49	0	1	Ceiling or floor supply of warm air and floor return	1.0	0.00	0.00	0.00	70.00	0	0	70	0	0	100	

MEC	HANICAL SYMBU
GENERAL	
	EQUIPMENT TAG
2 VIEW # X#,## SHEET #	SECTION VIEW REFERENCE
DUCTWORK	
	NEW DUCTWORK
- ~	DIRECTION OF AIRFLOW
	RECTANGULAR EXHAUST/RETUR
	RECTANGULAR EXHAUST/RETUR
TYPE NECK SIZE	GRILLE/REGISTER/DIFFUSER TA
CONTROLS	
Н	HYDROGEN SENSOR

			GRILLE
EQUIP. TAG	MFR	MODEL	
А	TITUS	350FL	LOUVERED RET SPACING, 35
NOTES:			
1.	COLOR WHITE.		
2.	SURFACE MOUN	NTED FLANGED F	RAME WITH SCREW
3			

	MECHANICAL SYMBOLS	ABBREVIATIONS	WEISS
	GENERAL ABBREVIATION EQUIPMENT TAG	AFFABOVE FINISHED FLOORAPDAIR PRESSURE DROPBHPBRAKE HORSEPOWERBODBOTTOM OF DUCTDTUDRUTSULTUERMAL LINUT	Architecture • Planning • Design
		BTUBRITISH THERMAL UNITBTUHBRITISH THERMAL UNIT PER HOURCFMCUBIC FEET PER MINUTECUHCABINET UNIT HEATER	
	VIEW # SECTION VIEW REFERENCE	-EEXHAUSTEAEXHAUST AIRECELECTRICAL CONTRACTOREFEXHAUST FAN	222 West Ontario Street, Suite 330 Chicago Illinois 60654
	DUCTWORK	ESPEXTERNAL STATIC PRESSUREFFAHRENHEITFCFLEXIBLE CONNECTOR (OR CONNECTION)FLAFULL LOAD AMPS	312 • 986 • 1160 312 • 986 • 1161 (fax) email@weissarch.com
		FOBFLAT ON BOTTOMFOTFLAT ON TOPFPMFEET PER MINUTEGAGAUGE	
	Image: Direction of Airflow Image: Rectangular exhaust/return ductwork down	HP HORSEPOWER HZ HERTZ MBH THOUSAND BRITISH THERMAL UNITS PER HOUR MC MECHANICAL CONTRACTOR	
		MCA MINIMUM CIRCUIT AMPACITY MOCP MAXIMUM OVER-CURRENT PROTECTION NK NECK	
	A 6"x6" NK GRILLE/REGISTER/DIFFUSER TAG	NTSNOT TO SCALEPDPRESSURE DROPRPMREVOLUTIONS PER MINUTESPSTATIC PRESSURE	
		T THERMOSTAT TYP TYPICAL TSP TOTAL STATIC PRESSURE WL WALL LOUVER	elaraeng.com (708) 236-0300
	H HYDROGEN SENSOR		
	T TEMPERATURE SENSOR		
			REPLACEMENT CART BARN
			A.
			COUNTRY CLUB
			601 PRESTWICK DR. FRANKFURT, IL 60423
			PROFESSION 4
			JAMES GIBSON
			ATE OF ILLINO
	GRILLES, REGISTE	RS, AND DIFFUSERS	
	EQUIP. TAG MFR MODEL TYPE	MATERIAL SIZE MAX. NC NOTES	
	A III US 350FL SPACING, 35 DEGREE DEFLECTION NOTES:	ALUMINUM REFERITO PLANS 30 SEE BELOW	
	 COLOR WHITE. SURFACE MOUNTED FLANGED FRAME WITH SCREW FASTENING IN STOR ADDITIONAL ACCEPTABLE MANUFACTURERS INCLUDE: PRICE, NAILOR 	E ROOM.	
EQUIP. TAG	WALL LOUVERS (WL)	PERFORMANCE	
	ATION MFR MODEL FRAME TYPE WIDTH (IN)		
	RTH RUSKIN ELF4375DX 4" EXTRUDED ALUMINUM DRAINABLE STATIONARY LOUVER 32 32 ITH DUSKIN ELF4375DX 4" EXTRUDED ALUMINUM DRAINABLE 32 32	2150 3.50 615 0.07 SEE BELOW	
	JTHRUSKINELF4375DX4 EXTRODED ALUMINUM DRAINABLE STATIONARY LOUVER3232STRUSKINELC445D4" EXTRUDED ALUMINUM DRAINABLE COMBINATION LOUVER5442	2150 3.50 615 0.07 SEE BELOW 4300 6.35 680 0.06 SEE BELOW	
	ATIBILITY WITH BUILDING CONSTRUCTION PRIOR TO ORDERING. RIC ACTUATOR TO BE FURNISHED AND INSTALLED ON DAMPER BY MANUFACTURER PRIOR TO SHIPPING. AC		
 ALUMINUM BIRDSCREEN. MEDIUM BRONZE ANODIZED FINIS 	HED. ARCHITECT TO APPROVE BEFORE ORDERING.		
5. ADDITIONAL ACCEPTABLE MANU			
EQUIP. TAG	GENERAL CABINET UNIT HEATERS (CUH)	PERFORMANCE ELECTRICAL NOTES	
ABB. NO. LOCATION MFI	MODELWEIGHT (LBS)TYPEARRANGEMENT (IN)(IN)HEIGHT (IN)KWKCWH3180F25WALLRECESSED15.75519.251.8	MBH MIR 2000 FEMILIARE VOLTS HZ PHASE 6.2 100 57 120 60 1 SEE BELOW	
CUH 2 TOILET 04 QMA NOTES: . . LOCAL DISCONNECT PROVIDED BY		6.2 100 57 120 60 1 SEE BELOW	
 INSTALL AND MOUNT 8"-12" ABOVE UNIT MOUNTED THERMOSTAT BY M PROVIDE MANUFACTURER RECESS 			
5. COLOR APPROVED BY ARCHITECT.			
TAG	GENERAL EDUCE DAMPER SIZE COLUMN SP COM	NOTES	
NO. SERVICE LOCATION 1 CART BARN NORTH	MFR MODEL TYPE DRIVE DRIVE CFM ISF ISF FRF COOK 18XW29D17 (VF) PROP WALL FAN DIRECT 24x24 2150 0.25 115 COOK 18XW29D17 (VF) PROP WALL FAN DIRECT 24x24 2150 0.25 115	M SONE BHP HP VOLTS HZ PHASE	
2 CART BARN SOUTH		9 9.1 0.21 0.25 115 60 1 1-6, 9	
3 TOILET TOILET C	REENHECK SP-A125 CEILING DIRECT 8 X 6 100 0.27 110		
3 TOILET TOILET C	REENHECK SP-A125 CEILING DIRECT 8 X 6 100 0.27 110		
3 TOILET TOILET OF AND WIRED NEMA 1 DIST GRAVITY SHUTTER. FAN MOUINTED SPEED CONTROL. WALL COLLAR WIREGUARD - MOTOR SIDE.	REENHECK SP-A125 CEILING DIRECT 8 X 6 100 0.27 110		
3 TOILET TOILET OF AND WIRED NEMA 1 DIS GRAVITY SHUTTER. FAN MOUINTED SPEED CONTROL. WALL COLLAR WIREGUARD - MOTOR SIDE. FAN SHALL BE CONTROLLED BY GAS DETEC PROVIDE HOODED WALL CAP. FAN SHALL BE CONTROLLED BY WALL TOGG	REENHECK SP-A125 CEILING DIRECT 8 X 6 100 0.27 110 DNNECT SWITCH. ON CONTROL PANEL AND TEMPERATURE SENSOR. REFER TO SPECIFICATIONS FOR REQUIREMENTS. E SWITCH WITH INDICATOR LIGHT. E SWITCH WITH INDICATOR LIGHT. E SWITCH WITH INDICATOR LIGHT.		
3 TOILET TOILET OF AND WIRED NEMA 1 DIS GRAVITY SHUTTER. FAN MOUINTED SPEED CONTROL. WALL COLLAR WIREGUARD - MOTOR SIDE. FAN SHALL BE CONTROLLED BY GAS DETEC PROVIDE HOODED WALL CAP. FAN SHALL BE CONTROLLED BY WALL TOGG	REENHECK SP-A125 CEILING DIRECT 8 X 6 100 0.27 110 DNNECT SWITCH. ON CONTROL PANEL AND TEMPERATURE SENSOR. REFER TO SPECIFICATIONS FOR REQUIREMENTS. E SWITCH WITH INDICATOR LIGHT. E SWITCH WITH INDICATOR LIGHT. E SWITCH WITH INDICATOR LIGHT.	0 0.7 0.01 21W 115 60 1 1, 2, 7-9	
3 TOILET TOILET O FACTORY MOUNTED AND WIRED NEMA 1 DIS GRAVITY SHUTTER. FAN MOUINTED SPEED CONTROL. WALL COLLAR WIREGUARD - MOTOR SIDE. FAN SHALL BE CONTROLLED BY GAS DETEC PROVIDE HOODED WALL CAP. FAN SHALL BE CONTROLLED BY WALL TOGG ADDITIONAL ACCEPTABLE MANUFACTURERS ENT FURNISHED BY THE ELECTRICAL CONTR	REENHECK SP-A125 CEILING DIRECT 8 X 6 100 0.27 110 ONNECT SWITCH.	0 0.7 0.01 21W 115 60 1 1, 2, 7-9	
3 TOILET TOILET O	REENHECK SP-A125 CEILING DIRECT 8 X 6 100 0.27 110 DIRECT SWITCH. ON CONTROL PANEL AND TEMPERATURE SENSOR. REFER TO SPECIFICATIONS FOR REQUIREMENTS. E SWITCH WITH INDICATOR LIGHT. COOK, TWIN CITY. MECHANICAL / ELECTRICAL COORDINATION SCHEE	0 0.7 0.01 21W 115 60 1 1, 2, 7-9	
3 TOILET TOILET O	REENHECK SP-A125 CEILING DIRECT 8 X 6 100 0.27 110 DNNECT SWITCH. ON CONTROL PANEL AND TEMPERATURE SENSOR. REFER TO SPECIFICATIONS FOR REQUIREMENTS. E SWITCH WITH INDICATOR LIGHT. COOK, TWIN CITY. MECHANICAL / ELECTRICAL COORDINATION SCHEE CTOR MARKED 'EC', MECHANICAL CONTRACTOR MARKED 'MC' OL AND EQUIPMENT INTERLOCK SHALL BE BY MECHANICAL CONTRACTOR. RACTOR TO COORDINATE AND REVIEW THE ELECTRICAL CHARACTERISTICS, AMPACITY, AND OTHER REQUIR PILOT LIGHT MOUNTED IN COVER, CONTROL TRANSFORMER, AND ONE (1) N.O. AND ONE (1) N.C. AUXILIARY CO D LOCATIONS OF DEVICES SCHEDULED BELOW. UNIT MOUNTED DEVICES LOOSE DEVIC	0 0.7 0.01 21W 115 60 1 1, 2, 7-9 Image: Second	
3 TOILET TOILET C FACTORY MOUNTED AND WIRED NEMA 1 DIS GRAVITY SHUTTER. FAN MOUINTED SPEED CONTROL. FAN MOUINTED SPEED CONTROL. WALL COLLAR WIREGUARD - MOTOR SIDE. FAN SHALL BE CONTROLLED BY GAS DETEC PROVIDE HOODED WALL CAP. FAN SHALL BE CONTROLLED BY WALL TOGG ADDITIONAL ACCEPTABLE MANUFACTURERS IDUIT AND WIRING FOR TEMPERATURE CONTR ENT FURNISHED BY THE ELECTRICAL CONTR IDUIT AND WIRING FOR TEMPERATURE CONT E RESPONSIBILITY OF THE ELECTRICAL CON SE STARTERS SHALL INCLUDE HOA SWITCH, ECIFICATIONS AND DRAWINGS FOR TYPES A EQUIPMENT DESCRIPTION 12	REENHECK SP-A125 CEILING DIRECT 8 X 6 100 0.27 110 DNNECT SWITCH.	0 0.7 0.01 21W 115 60 1 1, 2, 7-9 OULE	
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3 TOILET TOILET C FACTORY MOUNTED AND WIRED NEMA 1 DIS GRAVITY SHUTTER. FAN MOUINTED SPEED CONTROL. WALL COLLAR WIREGUARD - MOTOR SIDE. FAN SHALL BE CONTROLLED BY GAS DETEC PROVIDE HOODED WALL CAP. FAN SHALL BE CONTROLLED BY WALL TOGG ADDITIONAL ACCEPTABLE MANUFACTURERS ENT FURNISHED BY THE ELECTRICAL CONTR IDUIT AND WIRING FOR TEMPERATURE CONT E RESPONSIBILITY OF THE ELECTRICAL CONTR IDUIT AND WIRING FOR TEMPERATURE CONT E RESPONSIBILITY OF THE ELECTRICAL CONTR IDUIT AND WIRING FOR TEMPERATURE CONT E RESPONSIBILITY OF THE ELECTRICAL CONTR IDUIT AND WIRING FOR TEMPERATURE CONT SE STARTERS SHALL INCLUDE HOA SWITCH, ECIFICATIONS AND DRAWINGS FOR TYPES A IDUIPMENT DESCRIPTION IDUIPMENT DESCRIPTION IDUIPMENT DESCRIPTION IDUIPMENT FAN INTAKE DAMPER ACTUATOR IDUIT ADVITORIZED INTAKE DAMPER FURNIS	REENHECK SP-A125 CEILING DIRECT 8 X 6 100 0.27 110 DNNECT SWITCH.	0 0.7 0.01 21W 115 60 1 1, 2, 7-9 OULE	Image:
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	MECHANICAL SYMBOLS	ABBREVIATIONS AFF ABOVE FINISHED FLOOR	Architecture • Planning • Design
	ABBREVIATION EQUIPMENT TAG	APDAIR PRESSURE DROPBHPBRAKE HORSEPOWERBODBOTTOM OF DUCTBTUBRITISH THERMAL UNIT	
	1 NUMBER 2 VIEW # 2 SECTION VIEW REFERENCE SHEET # DUCTWORK NEW DUCTWORK	BTUHBRITISH THERMAL UNIT PER HOURCFMCUBIC FEET PER MINUTECUHCABINET UNIT HEATER-EEXHAUSTEAEXHAUST AIRECELECTRICAL CONTRACTOREFEXHAUST FANESPEXTERNAL STATIC PRESSUREFFAHRENHEITFCFLEXIBLE CONNECTOR (OR CONNECTION)FLAFULL LOAD AMPSFOBFLAT ON BOTTOMFOTFLAT ON TOPFPMFEET PER MINUTE	222 West Ontario Street, Suite 330 Chicago Illinois 60654 312 • 986 • 1160 312 • 986 • 1161 (fax) email@weissarch.com
	Image: Direction of AirflowImage: Direction of AirflowImage	GAGAUGEHPHORSEPOWERHZHERTZMBHTHOUSAND BRITISH THERMAL UNITS PER HOURMCMECHANICAL CONTRACTORMCAMINIMUM CIRCUIT AMPACITYMOCPMAXIMUM OVER-CURRENT PROTECTIONNKNECKNTSNOT TO SCALEPDPRESSURE DROPRPMREVOLUTIONS PER MINUTESPSTATIC PRESSURETTHERMOSTATTYPTYPICALTSPTOTAL STATIC PRESSUREWLWALL LOUVER	ELARAA elaraeng.com (708) 236-0300
			<section-header></section-header>
	GRILLES, REGISTEI EQUIP. TAG MFR MODEL TYPE A TITUS 350FL LOUVERED RETURN GRILLE, 3/4" BLA SPACING, 35 DEGREE DEFLECTION NOTES:	N ALUMINUM REFER TO PLANS 30 SEE BELOW	JAMES GIBSON
EQUIP. TAG ABB. NO. SERVICE LOC	GENERAL GENERAL WIDTH HEIGH		
	NUMBERNUMBERNUMBER(IN)ORTHRUSKINELF4375DX4" EXTRUDED ALUMINUM DRAINABLE STATIONARY LOUVER3232	(CFM) (SF) (FPM) (IN.WC.) 2150 3.50 615 0.07 SEE BELOW	
	DUTH RUSKIN ELF4375DX 4" EXTRUDED ALUMINUM DRAINABLE STATIONARY LOUVER 32 32 AST RUSKIN ELC445D 4" EXTRUDED ALUMINUM DRAINABLE STATIONARY LOUVER 54 42	2150 3.50 615 0.07 SEE BELOW 4300 6.35 680 0.06 SEE BELOW	
NOTES: 1. CONTRACTOR TO CONFIRM COMINATION	PATIBILITY WITH BUILDING CONSTRUCTION PRIOR TO ORDERING.		
 ALUMINUM BIRDSCREEN. MEDIUM BRONZE ANODIZED FINIS 	TRIC ACTUATOR TO BE FURNISHED AND INSTALLED ON DAMPER BY MANUFACTURER PRIOR TO SHIPPING. AC	TUATOR VOLTAGE AT 120V. CONFIRM COMPATIBILITY WITH GAS DETECTION PANEL.	
5. ADDITIONAL ACCEPTABLE MANU	CABINET UNIT HEATERS (CUH)		
EQUIP. TAG ABB. NO. LOCATION MFF	GENERAL GENERAL LENGTH WIDTH	PERFORMANCE ELECTRICAL MBH AIRFLOW (CFM) TEMP RISE (F) VOLTS HZ PHASE	
CUH 1 SPRINKLER 03 QMAI CUH 2 TOILET 04 QMAI NOTES:	Image: RK CWH3180F 25 WALL RECESSED 15.75 5 19.25 1.8 RK CWH3180F 25 WALL RECESSED 15.75 5 19.25 1.8 MANUFACTURER. FLOOR LINE. FLOOR LINE. 5 19.25 1.8	6.2 100 57 120 60 1 SEE BELOW 6.2 100 57 120 60 1 SEE BELOW	
. TAG	EXHAUST FANS (EF)	N	
NO.SERVICELOCATION1CART BARNNORTH2CART BARNSOUTH3TOILETTOILET	MFR MODEL TYPE DRIVE DAMPER SIZE (IN.) CFM SP (IN. WC) FRP (IN. WC) COOK 18XW29D17 (VF) PROP WALL FAN DIRECT 24x24 2150 0.25 115 COOK 18XW29D17 (VF) PROP WALL FAN DIRECT 24x24 2150 0.25 115 REENHECK SP-A125 CEILING DIRECT 8 X 6 100 0.27 110	PM SONE BHP HP VOLTS HZ PHASE NOTES 59 9.1 0.21 0.25 115 60 1 1-6, 9 59 9.1 0.21 0.25 115 60 1 1-6, 9	
FACTORY MOUNTED AND WIRED NEMA 1 DISC GRAVITY SHUTTER. FAN MOUINTED SPEED CONTROL.			
	ION CONTROL PANEL AND TEMPERATURE SENSOR. REFER TO SPECIFICATIONS FOR REQUIREMENTS.		
PROVIDE HOODED WALL CAP. FAN SHALL BE CONTROLLED BY WALL TOGGI ADDITIONAL ACCEPTABLE MANUFACTURERS			
	MECHANICAL / ELECTRICAL COORDINATION SCHEE	DULE	
NDUIT AND WIRING FOR TEMPERATURE CONTI HE RESPONSIBILITY OF THE ELECTRICAL CON OSE STARTERS SHALL INCLUDE HOA SWITCH, PECIFICATIONS AND DRAWINGS FOR TYPES AI	ACTOR MARKED 'EC', MECHANICAL CONTRACTOR MARKED 'MC' ROL AND EQUIPMENT INTERLOCK SHALL BE BY MECHANICAL CONTRACTOR. "RACTOR TO COORDINATE AND REVIEW THE ELECTRICAL CHARACTERISTICS, AMPACITY, AND OTHER REQUIR PILOT LIGHT MOUNTED IN COVER, CONTROL TRANSFORMER, AND ONE (1) N.O. AND ONE (1) N.C. AUXILIARY CO ND LOCATIONS OF DEVICES SCHEDULED BELOW.	ONTACTS.	
EQUIPMENT DESCRIPTION	VFD STARTER DISCONNECT OVERCURRENT PROTECTION SINGLE POINT CONNECTION VFD STARTER DISCON MC YES YES VFD YES YES YES YES		
02 EXHAUST FAN 3 EXHAUST FAN	MC YES EC MC YES EC	EC 115 60 1 EC 115 60 1	
3 INTAKE DAMPER ACTUATOR GAS DETECTION PANEL	HED WITH WALL LOLIVER (WL03) BY EC	120 60 1 1 EC 120 60 1 2	
OF 120V MOTORIZED INTAKE DAMPER FURNIS FURNISHED AND INSTALLED BY MC. 120V POW			10-06-2023 ISSUED FOR BID AND PERMIT MECHANICAL SYMBOLS, ABBREVIATIONS, AND
	BLE REQUIREMENTS REQUIRED SPACE VENTILATION	ACTUAL PROVIDED	NOTES Scale Sheet
OCCUPANT SQ. (Rp) (1 1.0 0.00 0	IM / FOOT Ra) EXHAUST (CFM / SQFT) EXHAUST (CFM / FIXTURE) BREATHING ZONE O.A. (Vbz) ZONE O.A. (Voz) EXHAUST (CFM) COOLIN SUPPL (CFM) .00 0.75 0.00 0 0 2963 0 .00 0.00 0 0 0 0 0 0	Y SUPPLY (CEM)	NO SCALE Drawn by CC Project 23062
1.0 0.00 0	.00 0.00 0.00 0	0 0 0 0 0 100	© 2023 Weiss Architects, LLC

	MECHANICAL SYMBOLS	ABBREVIATIONS	Architecture - Planning - Design
	ABBREVIATION P EQUIPMENT TAG	APDAIR PRESSURE DROPBHPBRAKE HORSEPOWERBODBOTTOM OF DUCTBTUBRITISH THERMAL UNIT	Architecture • Planning • Design
	Image: NUMBER Image: VIEW # Image: VIEW # Image: Section view Reference Image: Sheet # Image: Difference Image: New Ductwork	BTUHBRITISH THERMAL UNIT PER HOURCFMCUBIC FEET PER MINUTECUHCABINET UNIT HEATER-EEXHAUSTEAEXHAUST AIRECELECTRICAL CONTRACTOREFEXHAUST FANESPEXTERNAL STATIC PRESSUREFFAHRENHEITFCFLEXIBLE CONNECTOR (OR CONNECTION)FLAFULL LOAD AMPSFOBFLAT ON BOTTOMFOTFLAT ON TOPFPMFEET PER MINUTEGAGAUGE	222 West Ontario Street, Suite 330 Chicago Illinois 60654 312 • 986 • 1160 312 • 986 • 1161 (fax) email@weissarch.com
	Image: Direction of AirflowImage: Direction of AirflowImage	GAGAUGEHPHORSEPOWERHZHERTZMBHTHOUSAND BRITISH THERMAL UNITS PER HOURMCMECHANICAL CONTRACTORMCAMINIMUM CIRCUIT AMPACITYMOCPMAXIMUM OVER-CURRENT PROTECTIONNKNECKNTSNOT TO SCALEPDPRESSURE DROPRPMREVOLUTIONS PER MINUTESPSTATIC PRESSURETTHERMOSTATTYPTYPICALTSPTOTAL STATIC PRESSUREWLWALL LOUVER	ELARAA elaraeng.com (708) 236-0300
			REPLACEMENT CART BARN Image: Solution of the so
			1062-067152 (1) ************************************
		ERS, AND DIFFUSERS	
	EQUIP. TAG MFR MODEL TYPE A TITUS 350FL LOUVERED RETURN GRILLE, 3/4" BL SPACING, 35 DEGREE DEFLECTION	ALUMINUM REFER TO PLANS 30 SEE BELOW	
	NOTES: 1. COLOR WHITE. 2. SURFACE MOUNTED FLANGED FRAME WITH SCREW FASTENING IN STO 3. ADDITIONAL ACCEPTABLE MANUFACTUREEDS INCLUDE: DRICE MANOR	DRE ROOM.	
	3. ADDITIONAL ACCEPTABLE MANUFACTURERS INCLUDE: PRICE, NAILOR WALL LOUVERS (WL)		
WL 1 EXHAUST NC WL 2 EXHAUST SC	ATIONMFRMODELFRAME TYPEWIDTH (IN)HEIG (IN)RTHRUSKINELF4375DX4" EXTRUDED ALUMINUM DRAINABLE STATIONARY LOUVER3232UTHRUSKINELF4375DX4" EXTRUDED ALUMINUM DRAINABLE STATIONARY LOUVER3232STRUSKINELF4375DX4" EXTRUDED ALUMINUM DRAINABLE STATIONARY LOUVER3232STRUSKINELF4375DX4" EXTRUDED ALUMINUM DRAINABLE COMBINATION LOUVER5442	I) (CFM) (SF) VELOCITY (FPM) (IN.WC.) 2 2150 3.50 615 0.07 SEE BELOW 2 2150 3.50 615 0.07 SEE BELOW	
2. FOR WL-1 INTAKE LOUVER, ELEC	ATIBILITY WITH BUILDING CONSTRUCTION PRIOR TO ORDERING. RIC ACTUATOR TO BE FURNISHED AND INSTALLED ON DAMPER BY MANUFACTURER PRIOR TO SHIPPING. A	CTUATOR VOLTAGE AT 120V. CONFIRM COMPATIBILITY WITH GAS DETECTION PANEL.	
	HED. ARCHITECT TO APPROVE BEFORE ORDERING. ACTURERS: CONSTRUCTION SPECIALTIES, GREENHECK		
EQUIP. TAG	CABINET UNIT HEATERS (CUH) GENERAL	PERFORMANCE ELECTRICAL	
ABB. NO. LOCATION MFR	MODEL OPER. WEIGHT (LBS) MOUNTING TYPE ARRANGEMENT LENGTH WIDTH (IN) HEIGHT (IN) KW	MBH AIRFLOW TEMP RISE (CFM) (CFM) (CFM) VOLTS HZ PHASE NOTES	
CUH2TOILET 04QMARNOTES:1.LOCAL DISCONNECT PROVIDED BY M2.INSTALL AND MOUNT 8"-12" ABOVE F3.UNIT MOUNTED THERMOSTAT BY MA	K CWH3180F 25 WALL RECESSED 15.75 5 19.25 1.8 ANUFACTURER. LOOR LINE.		
P. TAG		AN NOTES	
	COOK 18XW29D17 (VF) PROP WALL FAN DIRECT 24x24 2150 0.25 1 COOK 18XW29D17 (VF) PROP WALL FAN DIRECT 24x24 2150 0.25 1 COOK 18XW29D17 (VF) PROP WALL FAN DIRECT 24x24 2150 0.25 1 REENHECK SP-A125 CEILING DIRECT 8 X 6 100 0.27 1	RPM SONE BHP HP VOLTS HZ PHASE NOTES 159 9.1 0.21 0.25 115 60 1 1-6, 9 159 9.1 0.21 0.25 115 60 1 1-6, 9 100 0.7 0.01 21W 115 60 1 1, 2, 7-9	
 FACTORY MOUNTED AND WIRED NEMA 1 DISC GRAVITY SHUTTER. FAN MOUINTED SPEED CONTROL. WALL COLLAR WIREGUARD - MOTOR SIDE. FAN SHALL BE CONTROLLED BY GAS DETECT PROVIDE HOODED WALL CAP. FAN SHALL BE CONTROLLED BY WALL TOGGL 	ON CONTROL PANEL AND TEMPERATURE SENSOR. REFER TO SPECIFICATIONS FOR REQUIREMENTS.		
ADDITIONAL ACCEPTABLE MANUFACTURERS:	COOK, TWIN CITY.	DULE	
NDUIT AND WIRING FOR TEMPERATURE CONTR HE RESPONSIBILITY OF THE ELECTRICAL CONT OSE STARTERS SHALL INCLUDE HOA SWITCH,	CTOR MARKED 'EC', MECHANICAL CONTRACTOR MARKED 'MC' OL AND EQUIPMENT INTERLOCK SHALL BE BY MECHANICAL CONTRACTOR. RACTOR TO COORDINATE AND REVIEW THE ELECTRICAL CHARACTERISTICS, AMPACITY, AND OTHER REQUI PILOT LIGHT MOUNTED IN COVER, CONTROL TRANSFORMER, AND ONE (1) N.O. AND ONE (1) N.C. AUXILIARY (IREMENTS OF COMPONENTS BEFORE INSTALLATION OF WORK.	
	D LOCATIONS OF DEVICES SCHEDULED BELOW. UNIT MOUNTED DEVICES LOOSE DEV VFD STARTER DISCONNECT OVERCURRENT SINGLE POINT PROTECTION CONNECTION VFD STARTER DISCO	VICES ELECTRICAL NOTES	
02 ELECTRIC CABINET UNIT HEATER 02 EXHAUST FAN 3 EXHAUST FAN	MC YES EC MC YES EC MC YES EC	EC 120 60 1 EC 115 60 1 EC 115 60 1	
3 INTAKE DAMPER ACTUATOR GAS DETECTION PANEL	HED WITH WALL LOLINER (MIL 03) BY EC	120 60 1 1 EC 120 60 1 2	
OF 120V MOTORIZED INTAKE DAMPER FURNIS FURNISHED AND INSTALLED BY MC. 120V POW			10-06-2023 ISSUED FOR BID AND PERMIT MECHANICAL SYMBOLS, ABBREV/IATIONIS, AND
ATION SCHEDULE	LE REQUIREMENTS REQUIRED SPACE VENTILATION	ACTUAL PROVIDED	ABBREVIATIONS, AND NOTES
EFFECTIVE- NESS (Ez) CFM / CF OCCUPANT SQ. (Rp) (F 1.0 0.00 0.00	M / EXHAUST EXHAUST (CFM / SQFT) EXHAUST (CFM / CFM / SQFT) (CFM / FIXTURE) (Vbz) (Vbz) CONE O.A. (Voz) (CFM) (CFM	LING HEATING PLY SUPPLY (CFM) M) (CFM) 0 0 4300	NO SCALE Drawn by CC
1.0 0.00 0 1.0 0.00 0	00 0.00 0.00 0<	0 0 0 0 0 0	Project 23062 Moiss Architects, LLC

	MECHANICAL SYMBOLS	ABBREVIATIONS	WEISS
	GENERAL ABBREVIATION P EQUIPMENT TAG	AFFABOVE FINISHED FLOORAPDAIR PRESSURE DROPBHPBRAKE HORSEPOWERBODBOTTOM OF DUCTBTUBRITISH THERMAL UNIT	Architecture • Planning • Design
	Image: NUMBER Image: NUMBER Section view reference Image: New Diction of Airflow	BTUHBRITISH THERMAL UNIT PER HOURCFMCUBIC FEET PER MINUTECUHCABINET UNIT HEATER-EEXHAUSTEAEXHAUST AIRECELECTRICAL CONTRACTOREFEXHAUST FANESPEXTERNAL STATIC PRESSUREFFAHRENHEITFCFLEXIBLE CONNECTOR (OR CONNECTION)FLAFULL LOAD AMPSFOBFLAT ON BOTTOMFOTFLAT ON TOPFPMFEET PER MINUTEGAGAUGE	222 West Ontario Street, Suite 330 Chicago Illinois 60654 312 • 986 • 1160 312 • 986 • 1161 (fax) email@weissarch.com
	RECTANGULAR EXHAUST/RETURN DUCTWORK DOWNRECTANGULAR EXHAUST/RETURN DUCTWORK UPTYPENECK SIZE (A) 100-S (CFM SERVICERECTANGULAR EXHAUST/RETURN DUCTWORK UPGRILLE/REGISTER/DIFFUSER TAGCONTROLSHHYDROGEN SENSORTTTEMPERATURE SENSOR	HPHORSEPOWERHZHERTZMBHTHOUSAND BRITISH THERMAL UNITS PER HOURMCMECHANICAL CONTRACTORMCAMINIMUM CIRCUIT AMPACITYMOCPMAXIMUM OVER-CURRENT PROTECTIONNKNECKNTSNOT TO SCALEPDPRESSURE DROPRPMREVOLUTIONS PER MINUTESPSTATIC PRESSURETTHERMOSTATTYPTYPICALTSPTOTAL STATIC PRESSUREWLWALL LOUVER	ELARAA elaraeng.com (708) 236-0300
			<section-header><image/><image/><section-header></section-header></section-header>
			JAMES GIBSON
	EQUIP. TAG MFR MODEL TYPE	STERS, AND DIFFUSERS MATERIAL SIZE MAX. NC NOTES	
	A TITUS 350FL LOOVERLED REFORM ORDER, 35 DEGREE DEF NOTES: 1. COLOR WHITE.	ALUMINUM REFER TO PLANS 30 SEE BELOW	
	 2. SURFACE MOUNTED FLANGED FRAME WITH SCREW FASTENING 3. ADDITIONAL ACCEPTABLE MANUFACTURERS INCLUDE: PRICE, NA 		
EQUIP. TAG	GENERAL COUVERS (WL)	HEIGHT AIRFLOW FREE AREA MAX. FACE MAX APD NOTES	
	CATION MFR MODEL FRAME TYPE MODIT ORTH RUSKIN ELF4375DX 4" EXTRUDED ALUMINUM DRAINABLE STATIONARY LOUVER 32	(IN) (CFM) INCLE AND (SF) VELOCITY (FPM) (IN.WC.) 32 2150 3.50 615 0.07 SEE BELOW	
	OUTH RUSKIN ELF4375DX 4" EXTRUDED ALUMINUM DRAINABLE STATIONARY LOUVER 32 EAST RUSKIN ELC445D 4" EXTRUDED ALUMINUM DRAINABLE STATIONARY LOUVER 54	32 2150 3.50 615 0.07 SEE BELOW 42 4300 6.35 680 0.06 SEE BELOW	
NOTES: 1. CONTRACTOR TO CONFIRM COM	PATIBILITY WITH BUILDING CONSTRUCTION PRIOR TO ORDERING.		
 ALUMINUM BIRDSCREEN. MEDIUM BRONZE ANODIZED FINITIALISM 	TRIC ACTUATOR TO BE FURNISHED AND INSTALLED ON DAMPER BY MANUFACTURER PRIOR TO SHIPF SHED. ARCHITECT TO APPROVE BEFORE ORDERING.	PING. ACTUATOR VOLTAGE AT 120V. CONFIRM COMPATIBILITY WITH GAS DETECTION PANEL.	
5. ADDITIONAL ACCEPTABLE MANU	FACTURERS: CONSTRUCTION SPECIALTIES, GREENHECK CABINET UNIT HEATERS (CUH	I)	
EQUIP. TAG ABB. NO. LOCATION MF	GENERAL JENGTH WIDTH	PERFORMANCE ELECTRICAL KW MBH AIRFLOW (CFM) TEMP RISE (F) VOLTS HZ PHASE	
NOTES:1.LOCAL DISCONNECT PROVIDED BY2.INSTALL AND MOUNT 8"-12" ABOVE3.UNIT MOUNTED THERMOSTAT BY MOUNT BY AND BY MOUNT B	RK CWH3180F 25 WALL RECESSED 15.75 5 19.25 RK CWH3180F 25 WALL RECESSED 15.75 5 19.25 MANUFACTURER. FLOOR LINE. FLOOR FLOOR <td>1.8 6.2 100 57 120 60 1 SEE BELOW 1.8 6.2 100 57 120 60 1 SEE BELOW</td> <td></td>	1.8 6.2 100 57 120 60 1 SEE BELOW 1.8 6.2 100 57 120 60 1 SEE BELOW	
EQUIP. TAG	EXHAUST FANS (EF)	FAN	
ABB.NO.SERVICELOCATIONEF1CART BARNNORTHEF2CART BARNSOUTH	MFR MODEL TYPE DRIVE DAMPER SIZE (IN.) CFM SP (IN. WC COOK 18XW29D17 (VF) PROP WALL FAN DIRECT 24x24 2150 0.25 COOK 18XW29D17 (VF) PROP WALL FAN DIRECT 24x24 2150 0.25	1159 9.1 0.21 0.25 115 60 1 1-6, 9	
EF3TOILETTOILETNOTES:I1.FACTORY MOUNTED AND WIRED NEMA 1 DIS2.GRAVITY SHUTTER.3.FAN MOUINTED SPEED CONTROL.4.WALL COLLAR5.WIREGUARD - MOTOR SIDE.	GREENHECK SP-A125 CEILING DIRECT 8 X 6 100 0.27	1100 0.7 0.01 21W 115 60 1 1, 2, 7-9	
 FAN SHALL BE CONTROLLED BY WALL TOGO ADDITIONAL ACCEPTABLE MANUFACTURERS 			
ES: EQUIPMENT FURNISHED BY THE ELECTRICAL CONTR	MECHANICAL / ELECTRICAL COORDINATION SC	CHEDULE	
ALL CONDUIT AND WIRING FOR TEMPERATURE CONT IT IS THE RESPONSIBILITY OF THE ELECTRICAL CON	ROL AND EQUIPMENT INTERLOCK SHALL BE BY MECHANICAL CONTRACTOR. TRACTOR TO COORDINATE AND REVIEW THE ELECTRICAL CHARACTERISTICS, AMPACITY, AND OTHER PILOT LIGHT MOUNTED IN COVER, CONTROL TRANSFORMER, AND ONE (1) N.O. AND ONE (1) N.C. AUXII		
. SEE SPECIFICATIONS AND DRAWINGS FOR TYPES A EQUIP. TAG B. NO. EQUIPMENT DESCRIPTION	UNIT MOUNTED DEVICES LOOS	SE DEVICES ELECTRICAL NOTES	
B. NO. JH 01, 02 ELECTRIC CABINET UNIT HEATER F 01, 02 EXHAUST FAN F 03 EXHAUST FAN	VFD STARTER DISCONNECT PROTECTION CONNECTION VFD STARTER MC MC YES EC MC YES EC	DISCONNECT PROTECTION VOLTS HZ PHASE EC 120 60 1 EC 115 60 1 EC 115 60 1	
F 03 EXHAUST FAN L 03 INTAKE DAMPER ACTUATOR - GAS DETECTION PANEL	MC YES EC YES YES YES	EC 115 60 1 120 60 1 1 EC 120 60 1 2	
. WIRING OF 120V MOTORIZED INTAKE DAMPER FURNI . PANEL FURNISHED AND INSTALLED BY MC. 120V POV			10-06-2023 ISSUED FOR BID AND PERMIT MECHANICAL SYMBOLS,
VENTILATION SCHEDULE			ABBREVIATIONS, AND NOTES
N EFFECTIVE- NESS (Ez) CFM / C	FOOT EXHAUST CEM / ZONE O.A. EXHAUST	ACTUAL PROVIDED COOLING HEATING EXHAUST SUPPLY SUPPLY (2514)	Scale Sheet Drawn by
(Rp) (Rp) (Rp)	FOOT Ra) (CFM / SQFT) (CFM / FIXTURE) ZONE O.A. (Vbz) (Voz) (CFM) 0.00 0.75 0.00 0 0 2963 0.00 0.00 0 0 0 0	SUPPLY SUPPLY (CFM) (CFM) (CFM) (CFM) 0 0 4300 0 0 0	CC Project 23062 CC
1.0 0.00 0	0.00 0.00 0.00 0	0 0 0 0 0 0 0 0 100	© 2023 Weiss Architects, LLC

GENERAL	ECHANICAL SYMBOLS	ABBREVIATIONS	Architecture • Planning • Design
ABBREVIATIO ABBREVIATIO P 1 NUMBER VIEW # X#,## SHEET # DUCTWORK	EQUIPMENT TAG	APDAIR PRESSURE DROPBHPBRAKE HORSEPOWERBODBOTTOM OF DUCTBTUBRITISH THERMAL UNITBTUHBRITISH THERMAL UNIT PER HOURCFMCUBIC FEET PER MINUTECUHCABINET UNIT HEATER-EEXHAUSTEAEXHAUST AIRECELECTRICAL CONTRACTOREFEXHAUST FANESPEXTERNAL STATIC PRESSUREFFAHRENHEITFCFLEXIBLE CONNECTOR (OR CONNECTION)FLAFULL LOAD AMPSFOBFLAT ON BOTTOMFOTFLAT ON TOPFPMFEET PER MINUTEGAGAUGE	222 West Ontario Street, Suite 330 Chicago Illinois 60654 312 • 986 • 1160 312 • 986 • 1161 (fax) email@weissarch.com
TYPE NECK S A 6"x6" NK CFM SERV CONTROLS H T	GRILLE/REGISTER/DIFFUSER TAG	HPHORSEPOWERHZHERTZMBHTHOUSAND BRITISH THERMAL UNITS PER HOURMCMECHANICAL CONTRACTORMCAMINIMUM CIRCUIT AMPACITYMOCPMAXIMUM OVER-CURRENT PROTECTIONNKNECKNTSNOT TO SCALEPDPRESSURE DROPRPMREVOLUTIONS PER MINUTESPSTATIC PRESSURETTHERMOSTATTYPTYPICALTSPTOTAL STATIC PRESSUREWLWALL LOUVER	ELARA elaraeng.com (708) 236-0300
			<section-header><image/><image/><section-header><section-header></section-header></section-header></section-header>
			JAMES GIBSON
	QUIP. MFR MODEL TYPE	MATERIAL SIZE MAX. NC NOTES	
Ν	A TITUS 350FL LOUVERED RETURN GRILLE, 3/4" BL SPACING, 35 DEGREE DEFLECTION DTES:	ALUMINUM REFER TO PLANS 30 SEE BELOW	
	 SURFACE MOUNTED FLANGED FRAME WITH SCREW FASTENING IN STO ADDITIONAL ACCEPTABLE MANUFACTURERS INCLUDE: PRICE, NAILOR 	RE ROOM.	
EQUIP. TAG ABB. NO. SERVICE LOCATION MFR	WALL LOUVERS (WL) GENERAL WIDTH MODEL FRAME TYPE		
WL 2 EXHAUST SOUTH RUSKIN WL 3 INTAKE EAST RUSKIN	ELF4375DX4" EXTRUDED ALUMINUM DRAINABLE STATIONARY LOUVER3232ELF4375DX4" EXTRUDED ALUMINUM DRAINABLE STATIONARY LOUVER3232ELF4375DX4" EXTRUDED ALUMINUM DRAINABLE STATIONARY LOUVER3232ELC445D4" EXTRUDED ALUMINUM DRAINABLE COMBINATION LOUVER5442	2 2150 3.50 615 0.07 SEE BELOW 2 2150 3.50 615 0.07 SEE BELOW	
NOTES:1.CONTRACTOR TO CONFIRM COMPATIBILITY WITH BUILDING CO2.FOR WL-1 INTAKE LOUVER, ELECTRIC ACTUATOR TO BE FURNI3.ALUMINUM BIRDSCREEN.		CTUATOR VOLTAGE AT 120V. CONFIRM COMPATIBILITY WITH GAS DETECTION PANEL.	
 MEDIUM BRONZE ANODIZED FINISHED. ARCHITECT TO APPROV 5. ADDITIONAL ACCEPTABLE MANUFACTURERS: CONSTRUCTION 	SPECIALTIES, GREENHECK		
EQUIP. TAG ABB. NO. LOCATION MFR MODEL WEIGHT	CABINET UNIT HEATERS (CUH) GENERAL MOUNTING ARRANGEMENT LENGTH WIDTH HEIGHT (IN) KW	PERFORMANCE ELECTRICAL MBH AIRFLOW TEMP RISE VOLTS HZ PHASE	
CUH1SPRINKLER 03QMARKCWH3180F25CUH2TOILET 04QMARKCWH3180F25NOTES:	TYPEARRANGEMENT(IN)(IN)HEIGHT (IN)KWWALLRECESSED15.75519.251.8WALLRECESSED15.75519.251.8SED APPLICATION. COORDINATE WITH ARCHITECTURAL DRAWINGS.	(CFM) (F) 6.2 100 57 120 60 1 SEE BELOW	
EQUIP. TAG GENERAL ABB. NO. SERVICE LOCATION MFR MODEL	EXHAUST FANS (EF) FA TYPE DAMPER SIZE (IN.) SP CFM SP (IN. WC)	AN RPM SONE BHP HP VOLTS HZ PHASE NOTES	
EF1CART BARNNORTHCOOK18XW29D17 (VEF2CART BARNSOUTHCOOK18XW29D17 (VEF3TOILETTOILETGREENHECKSP-A125	(IN.) (IN. WC) F) PROP WALL FAN DIRECT 24x24 2150 0.25 1 ⁻¹ F) PROP WALL FAN DIRECT 24x24 2150 0.25 1 ⁻¹	159 9.1 0.21 0.25 115 60 1 1-6, 9 159 9.1 0.21 0.25 115 60 1 1-6, 9 159 9.1 0.21 0.25 115 60 1 1-6, 9 100 0.7 0.01 21W 115 60 1 1, 2, 7-9	
NOTES: 1. FACTORY MOUNTED AND WIRED NEMA 1 DISCONNECT SWITCH. 2. GRAVITY SHUTTER. 3. FAN MOUINTED SPEED CONTROL. 4. WALL COLLAR 5. WIREGUARD - MOTOR SIDE. 6. FAN SHALL BE CONTROLLED BY GAS DETECTION CONTROL PANEL AND TE 7. PROVIDE HOODED WALL CAP. 8. FAN SHALL BE CONTROLLED BY WALL TOGGLE SWITCH WITH INDICATOR L 9. ADDITIONAL ACCEPTABLE MANUFACTURERS: COOK, TWIN CITY.	GHT.		
NOTES: Image: Contractor Marked 'ec', Mechanical Contractor Marked 'ec', Mechanical Contractor Marked 'ec', Mechanical Control and Equipment Interlocation Control and Equipment Interlocation Control and Equipment Interlocation Control Contr		DULE	
 IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO COORDINATE AN ALL LOOSE STARTERS SHALL INCLUDE HOA SWITCH, PILOT LIGHT MOUNTED IN CO SEE SPECIFICATIONS AND DRAWINGS FOR TYPES AND LOCATIONS OF DEVICES S 	D REVIEW THE ELECTRICAL CHARACTERISTICS, AMPACITY, AND OTHER REQUI /ER, CONTROL TRANSFORMER, AND ONE (1) N.O. AND ONE (1) N.C. AUXILIARY (CHEDULED BELOW.	CONTACTS.	
ABB. NO. EQUIPMENT DESCRIPTION VFD STARTER DISCON CUH 01, 02 ELECTRIC CABINET UNIT HEATER M	PROTECTION CONNECTION YES	ONNECTOVERCURRENT PROTECTIONVOLTSHZPHASENOTESEC120601	
EF01, 02EXHAUST FANMEF03EXHAUST FANMWL03INTAKE DAMPER ACTUATORMGAS DETECTION PANELM		EC 115 60 1 EC 115 60 1 I20 60 1 1 EC 120 60 1 2	
NOTES: 1. WIRING OF 120V MOTORIZED INTAKE DAMPER FURNISHED WITH WALL LOUVER (WL 2. PANEL FURNISHED AND INSTALLED BY MC. 120V POWER BY E.C.	03) BY EC.		10-06-2023 ISSUED FOR BID AND PERMIT MECHANICAL SYMBOLS,
VENTILATION SCHEDULE			ABBREVIATIONS, AND NOTES
RATION EFFECTIVE- NESS (Ez) CFM / CFM / EXHAUST OCCUPANT SQ. FOOT (CFM / SQFT)	EXHAUST BREATHING ZONE O.A. EXHAUST COOL (CFM / ZONE O.A. (Voz) (CFM) SUPP	PLY SUPPLY (CEM)	Scale Sheet
(Rp) (Ra) (Crivi / SQri /) urn 1.0 0.00 0.00 0.75 urn 1.0 0.00 0.00 0.00	FIXTURE) (Vbz) (V02) (CTN) (CFN) 0.00 0 0 2963 0 0.00 0 0 0 0 0 0.00 0 0 0 0 0 0.00 0 0 0 0 0 70.00 0 0 70 0	M) (CFM) 0 4300 0 0 0 0 0 0	CC Project 23062 © 2023 Weiss Architects, LLC

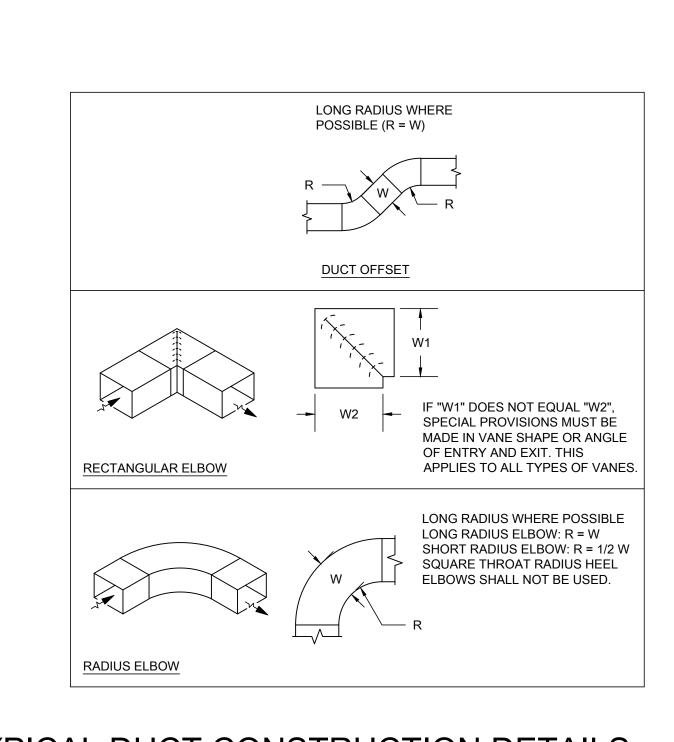
32"W x 32"H 🧲 2150 CFM

	HEIGHT AND LOCATION		(A) <u>12"x12" NK</u>	STORE I									
	WALL W/ GRIL	SLEEVE THROUGH - LE ON BOTH SIDES. F.F. HIGH IN STORE ROOM.	A TRANSFER TYP. 2		WALL W/ GRI	R SLEEVE THROUGH LLE ON BOTH SIDES. A.F.F. HIGH IN STORE ROOM. A. <u>12"x11</u> TRAN TYP.							
							 	BELOW F	IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	AT MAXIMUM 18" C IBLE LOCATION STO NSING RADIUS OF [OFFSET 8 REQUIRED TO EXHA
							H	CONTRA ADDITIO	CTOR. REFER TO SPECIF NAL INFORMATION. (TYP)	FICATIONS FOR		H	
TO ARCH	LER WALL FAN MOUNTED HIGH. RE INTECTURAL ELEVATIONS FOR EXA AND LOCATION. REFER TO DETAIL	ACT											PF REF FOR EX
													SCHEE
STL. BO	LLARDS												

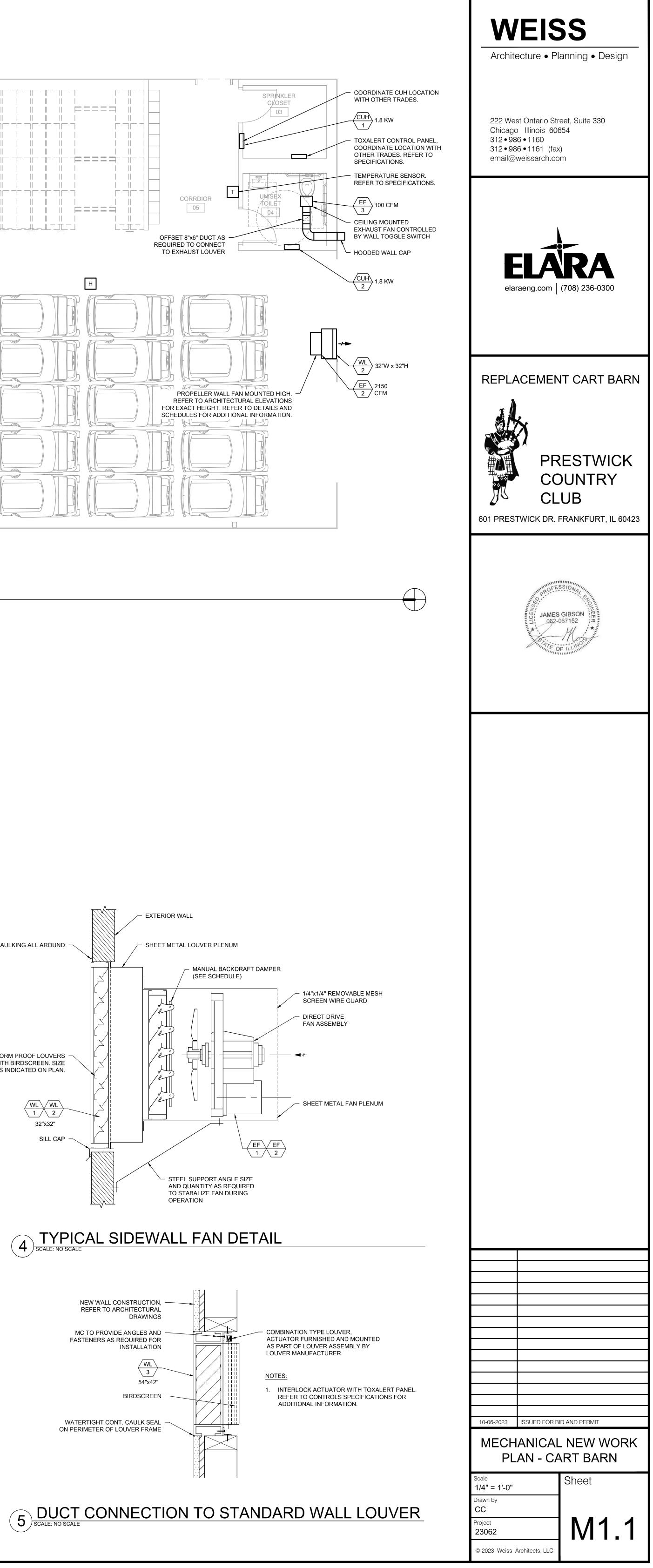
1 MECHANICAL NEW WORK PLAN - CART BARN

ZONE SENSOR WIRING AND -CONDUIT, 24V AND SIGNAL BY MECHANICAL CONTRACTOR.

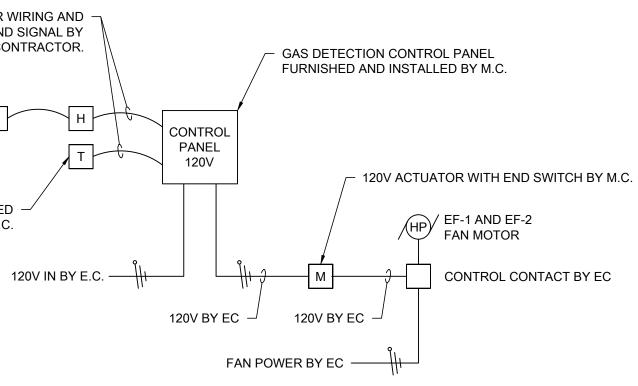
Н HYDROGEN SENOR FURNISHED -AND INSTALLED BY M.C. (TYP. 3) TEMPERATURE SENOR FURNISHED AND INSTALLED BY M.C.

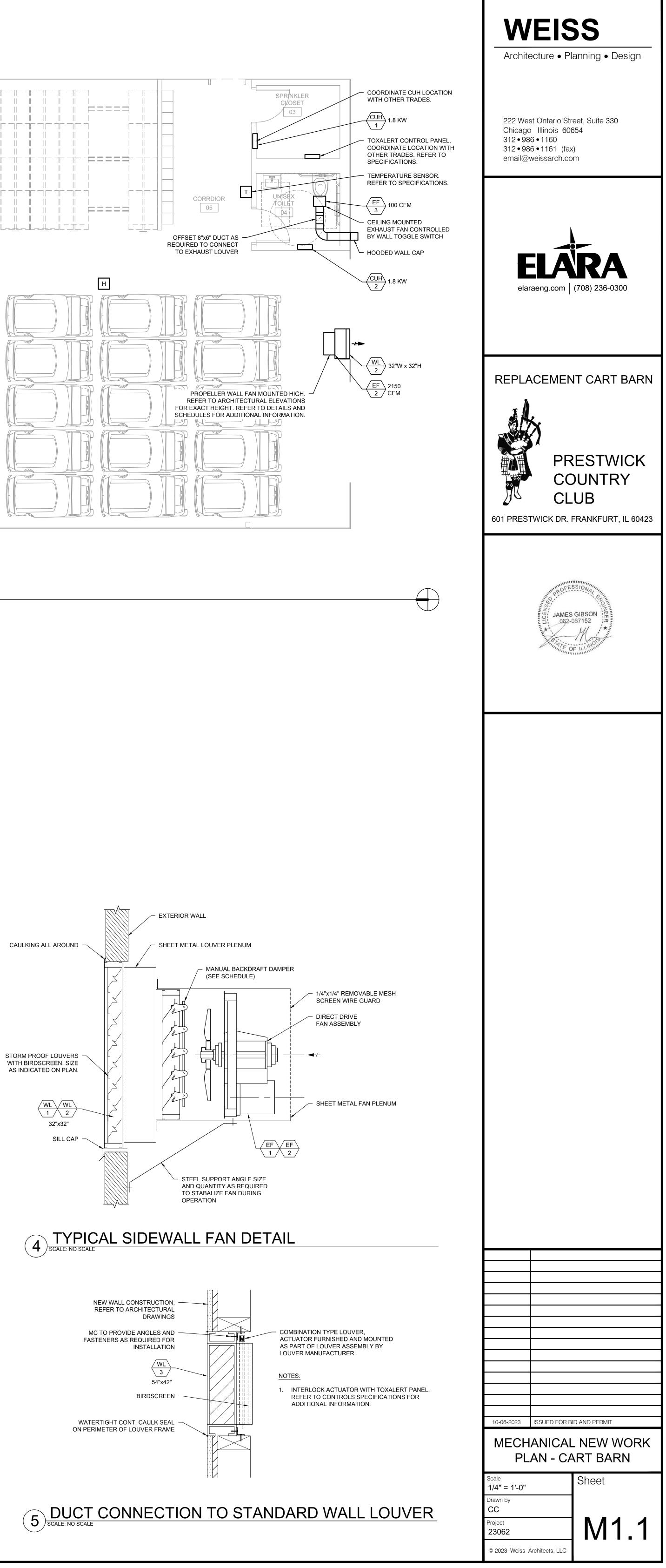


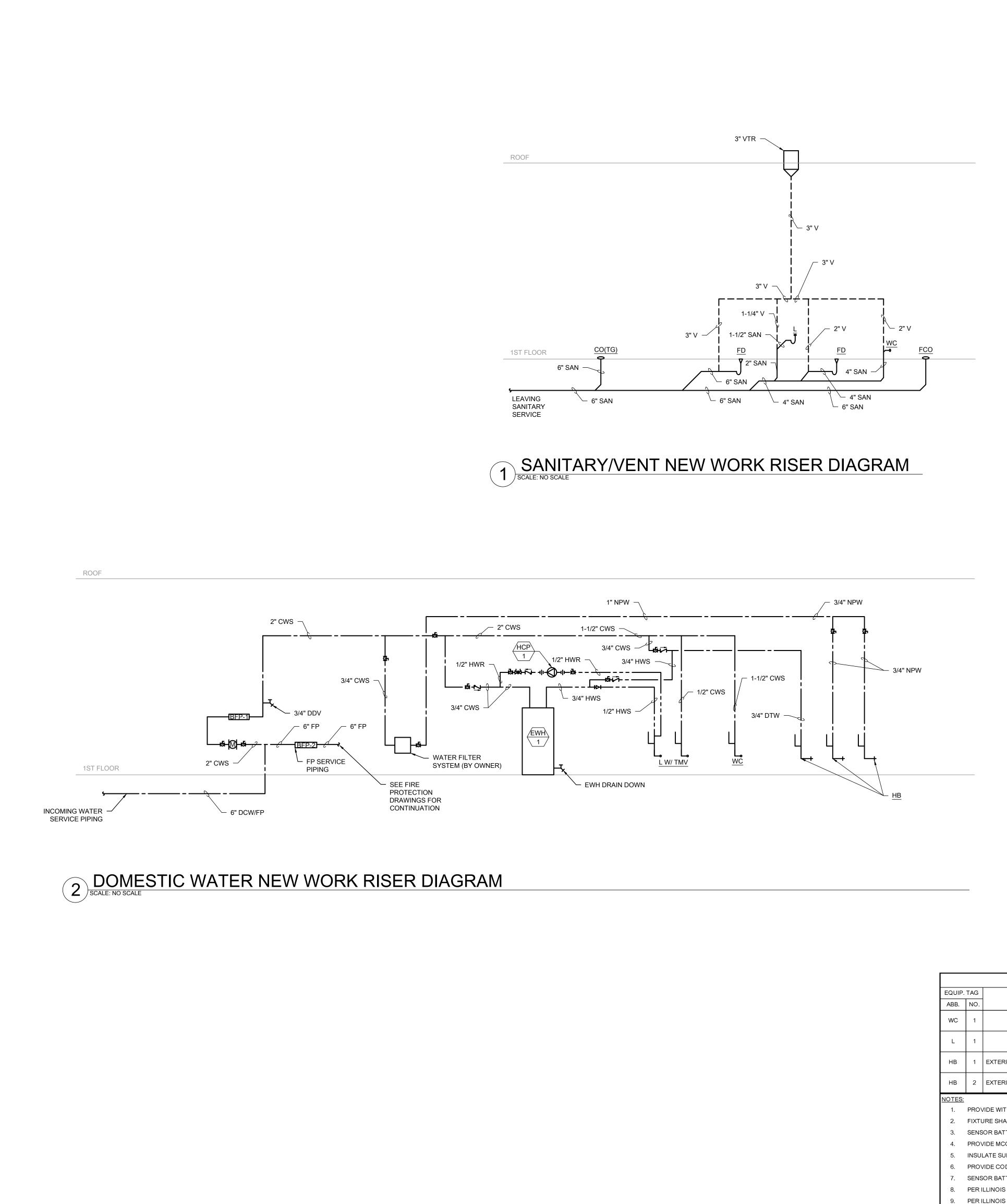












	ABBREV	IATIO	NS			PLUMBIN	IG S
ACW	AUTOMATIC CLOTHES WASHER	KS	KITCHEN STACK		GENERAL		
AD		KEC					
AFF AMP	ABOVE FINISHED FLOOR AMPERE	KED KW	KITCHEN EQUIPMENT DESIGNER KITCHEN WASTE OR KILOWATT			FLOOR DRAIN	
ANB	ACID NEUTRALIZING BASIN	L / LAV	LAVATORY		_		
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	LS	LAB SINK		0	FLOOR SINK	
AP ASME	ACCESS PANEL AMERICAN SOCIETY OF MECHANICAL ENGINEERS	LT MB	LAUNDRY TUB MOP BASIN		۲		
ASIME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS AMERICAN SOCIETY OF SAFETY ENGINEERS	MC	MOP DASIN MECHANICAL CONTRACTOR		\otimes	FLOOR CLEANOUT	
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MSS	MANUFACTURERS STANDARDIZATION SOCIETY		\circledast	ROOF DRAIN	
AV		NC	NEW CONNECTION OR NORMALLY CLOSED		Φ		
AVTR AW	ACID/CHEMICAL VENT THRU ROOF ACID/CHEMICAL WASTE	NIC NPS	NOT IN CONTRACT NOMINAL PIPE SIZE		Ŷ	EMERGENCY SHUTOFF	
BASC	BUILDING AUTOMATION SYSTEMS CONTRACTOR	NPW	NON POTABLE WATER		<u> </u>		
BFP	BACKFLOW PREVENTER	NO	NORMALLY OPEN		•	POINT OF CONNECTION OF NEW TO EXISTING WORK	C
BOP BT	BOTTOM OF PIPE BATH TUB	NSF NTS	NATIONAL SCIENCE FOUNDATION NOT TO SCALE				
CA	COMPRESSED AIR	OD	OVERFLOW DRAIN		\mathbf{X}	POINT OF DEMOLITION TO EXISTING WORK	
CI	CAST IRON	OSD	OPEN SITE DRAIN		- ABBREVIATION		
CISPI CLG	CAST IRON SOIL PIPE INSTITUTE CEILING	OS&Y P	OUTSIDE STEM AND YOKE PUMP				
CO	CLEANOUT	PA	PIPE ANCHOR		(P)	EQUIPMENT TAG	
CONN	CONNECTION	PC	PLUMBING CONTRACTOR				
CO(TG) DCW	CLEANOUT TO GRADE	PD			ABBREVIATION		
DCW	DOMESTIC COLD WATER DRAIN DOWN VALVE	PDI PE	PLUMBING & DRAINAGE INSTITUTE PROFESSIONAL ENGINEER			RISER TAG	-
DHW	DOMESTIC HOT WATER	PH	PHASE				-
DHWR	DOMESTIC HOT WATER RETURN	PIV	POST INDICATOR VALVE				
DTW DBCV	DOMESTIC TEMPERED WATER DOUBLE CHECK VALVE	PPM PRV	PARTS PER MILLION PRESSURE REDUCING VALVE		MATCH LINE		
DDCV	DUAL CHECK VALVE	PS	PLUMBING STACK			MATCH LINE	
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY	PSI	POUNDS PER SQUARE INCH		SEE SHEET NO. X#.##		
DDCV DF	DOUBLE-DETECTOR CHECK VALVE	ORD					
DFU	DRINKING FOUNTAIN DRAINAGE FIXTURE UNIT	RCP RD	RECIRCULATION PUMP ROOF DRAIN		1		
DIA	DIAMETER	RH	ROOF HYDRANT		1	VIEW REFERENCE	
DN	DOWN	ROB	ROD OUT BASIN				
DS DSN	DOWNSPOUT DOWNSPOUT NOZZLE	RPDA RPM	REDUCED PRESSURE DETECTOR ASSEMBLY REVOLUTIONS PER MINUTE				۴
DT	DRAIN TILE	RPZ	REDUCED PRESSURE ZONE BACKFLOW PREVENTER				
DW	DISHWASHER	S / SAN	SANITARY WASTE		2 VIEW #	SECTION VIEW REFERENCE	
DWH DWS	DOMESTIC WATER HEATER DOMESTIC WATER SOFTENER	SC SE	SITE UTILITY CONTRACTOR		X#,##/		
EC	ELECTRICAL CONTRACTOR	SE SH	SEWAGE EJECTOR SHOWER		SHEET #		
EEW	EMERGENCY EYE AND FACE WASH	SI	SOLIDS INTERCEPTOR		OTILLT //		
EPDM	ETHYLENE PROPYLENE DIENE MONOMER	SK	SINK		(024)	KITCHEN EQUIPMENT TAG	
ET ESH	EXPANSION TANK EMERGENCY SHOWER	SP SQ	SUMP PUMP SQUARE FEET				
ESP	ELEVATOR SUMP PUMP	SS	SERVICE SINK		PLUMBING		
ETR	EXISTING TO REMAIN	S.S.	STAINLESS STEEL				
EWC EWH	ELECTRIC WATER COOLER ELECTRIC WATER HEATER	ST SST	STORM SECONDARY STORM (OVERFLOW)			NEW PIPING	
FCO	FLOOR CLEANOUT	TB	THRUST BLOCK			EXISTING PIPING TO REMAIN	_
FD	FLOOR DRAIN	TD	TRENCH DRAIN				_
FOG FP	FATS, OILS AND GREASE FIRE PROTECTION	TMV TPRV	THERMOSTATIC MIXING VALVE TEMPERATURE AND PRESSURE REDUCING VALVE			EXISTING PIPING TO BE DEMOLISHED	
FPS	FEET PER SECOND	TYP	TYPICAL				
FS	FLOOR SINK	UR	URINAL			NEW PIPE CONNECTION	
FT G	FEET NATURAL GAS	V VB	VENT VACUUM BREAKER				
GC	GENERAL CONTRACTOR	vв VTR	VACOUM BREAKER VENT THRU ROOF		◀	DIRECTION OF FLOW	
GCO	GROUND CLEANOUT	W	WASTE				
GI GPD		WC				DIRECTION OF PIPE PITCH, DOWN	
GPD	GALLONS PER DAY GALLONS PER HOUR	WCO WF	WALL CLEANOUT WASH FOUNTAIN			PIPE CONTINUATION	
GPM	GALLONS PER MINUTE	WH	WALL HYDRANT			PIPE CONTINUATION	
GT	GREASE TRAP	WHA	WATER HAMMER ARRESTOR			DOMESTIC COLD WATER PIPING	
GW HB	GARAGE WASTE HOSE BIBB	WSB WSFU	WALL SUPPLY BOX WATER SUPPLY FIXTURE UNITS				
HD	HEAD	YCO	YARD CLEANOUT			DOMESTIC HOT WATER SUPPLY PIPING	
HP	HORSEPOWER	YH	YARD HYDRANT				
HX IE	HEAT EXCHANGER INVERT ELEVATION					DOMESTIC HOT WATER RETURN PIPING	
IWB	ICE MACHINE/REFRIGERATOR WALL BOX						
						DRAIN TILE PIPING	
			55.44/14/00				
NOTE: NOT	ALL ABBREVIATIONS LISTED ABOVE MAY BE USED OR APPE	AR IN THESE	DRAWINGS.			VENT PIPING	
L				1		CLEANOUT	
						GLANOUT	
						ECCENTRIC PIPE REDUCER	
					· · ·		

EQUIP	. TAG	FIXTURE	SIZE						
ABB.	NO.	FIATORE	SIZE						
WC	1	WATER CLOSET	ELONGATED						
L	1	LAVATORY (ADA)	20-1/2" X 18-1/4"						
НВ	1	EXTERIOR NON-FREEZE HOSE BIBB	6-1/2" X 7-1/2"						
НВ	2	EXTERIOR NON-FREEZE HOSE BIBB	6-1/2" X 7-1/2"						
NOTES:									
1.	PR0\	/IDE WITH BEMIS NO. 1955SSCT, OPEN	FRONT, SELF SUSTAINI						
2.	FIXTU	JRE SHALL BE HANDICAPPED ACCESSI	BLE.						
З.	SENS	OR BATTERY POWERED FLUSHVALVE	(1.6 GPF).						
4.	PR0\	PROVIDE MCGUIRE 155WC STRAINER WITH TAILPIECE.							
5.	INSU	ISULATE SUPPLY AND DRAIN PIPING.							
6.	PR0\	PROVIDE CODE COMPLIANT THERMOSTATIC MIXING VALVE FOR AL							
7.	SENS	ENSOR BATTERY POWRERED LAVATORY FAUCET (0.5 GPM).							
8.	PER I	LLINOIS ACCESSIBILITY ACT, THE HEIG	GHT OF WATER CLOSET						
q			RIES SHALL BE MOUNTED						

SETS SHALL BE 17 IN. TO 19 IN. AFF, MEASURED TO THE TOP OF THE TOILE 9. PER ILLINOIS ACCESSIBIILTY ACT, LAVATORIES SHALL BE MOUNTED WITH THE RIM OR COUNTER SURFACE NO HIGHER THAN 34 IN. AFF. F 10. BACKFLOW PROTECTED BY ASE 1052 DUAL CHECK VALVE, FIELD TESTABLE, DRAINS AUTOMATICALLY WHEN HOSE IS REMOVED. ROUGH B

11.	THIS HOSE BIBB IS MOUNTED INSIDE THE BUILDING; BUT THE BUILDING WILL BE NEED TO BE WINTERIZED SO A NON-FREEZE TYPE HOSE BIE

BETWEEN THE EXPANSION TANK AND THE WATER HEATER.

	EXPANSION TANK SCHEDULE										
ABB.	NO.	SERVICE	LOCATION	MANUFACTURER	MODEL NO.	CAPACITY	WORKING	SIZE (APPROX.)	MAX CAPACITY	NOTES	
ADD.	(GAL) PRESSURE (PSI) WEIGHT (LBS)										
	ET 1 WATER WATER SERVICE AMTROL ST-5C-DD 2.0 150 8"DIA X 14"H 30 1.2.3										
	1	HEATER	ROOM	AWITROL	31-50-00	2.0	150			1,2,3	
NOTES:											
1.	1. THE PLUMBING CONTRACTOR SHALL PROPERLY CHARGE EXPANSION TANK PRIOR TO INSTALLATION PER MANUFACTURER GUIDELINES.										
2.	PROVID	E 4" CONCRET	E PAD FOR FLOOR	MOUNTED EQUIPME	NT.						
3.	THERM	AL EXPANSION	TANK SHALL BE CO	NNECTED TO THE CO	OLD WATER SU	JPPLY TO THE	E WATER HEATER	WITH NO VALVES	OR OTHER DEVICES	S LOCATED	

I	DRAIN SCHEDULE										
EQUIP	. TAG	ТҮРЕ	SIZE	MANUFACTURER	MODEL NO.	TOP FINISH	NOTES				
ABB.	NO.	ITE	JILE	MANUFACIUREN	MODEL NO.		NOTES				
FD	1	FLOOR DRAIN (PUBLIC AREAS)	4"	SMITH	2010-A	NICKEL BRONZE	1				
FD	2	FLOOR DRAIN (MECHANICAL AREAS)	6"	SMITH	2010-A	STANDARD	1				
FCO	2	FLOOR CLEANOUT (MECHANICAL AREAS)	6"	SMITH	4031	STANDARD					
CO(TG)	1	CLEANOUT (TO GRADE)	6"	SMITH	4250	STANDARD					
NOTES:	<u></u>	· · ·					•				
1.	PROVID	E WITH ROUND HEEL-PROOF GRATE.									
		BACKFLOV	V PREVEI	NTER SCHE	DULE						

				OW PREVENTER SCHEDUL	· E_	Т					
EQUIP	. TAG	MANUFACTURER	SERVICE	SIZE	NOTES						
ABB.	ABB. NO.										
BFP	3FP 2 ZURN 350ADA-BF FIRE PROTECTION SERVICE 6" 1, 2, 3, 4, 5, 6, 7, 8, 9										
NOTES:											
1.	1. PROPERLY INSTALL AND SUPPORT PER MANUFACTURER'S INSTRUCTIONS.										
2.	2. PROVIDE APPROPRIATE CLEARANCES IN FRONT AND BACK.										
3.	. ROUTE DISCHARGE TO APPROPRIATE SANITARY RECEPTOR WITH CODE COMPLIANT AIR GAP.										
4.	INCLU	DE INTEGRAL FLOOD SEI	NSOR AND REQUIR	ED CONNECTION KIT TO ALLOW SENSOR TO COM	MUNICATE WITH	DEVICES THAT RECEIVE					
	AND D	ELIVER ALARM MESSAGE	ES.								
5.	VERIF	Y ACCEPTANCE OF MODI	EL WITH AHJ.								
6.	VERIFY ACCEPTANCE WITH PREVENTION BUREAU.										
7.	ADDITIONAL ACCEPTABLE MANUFACTURERS: \WILKENS, CONBRACO.										
8.	FIRE P	PROTECTION CONRACTO	R TO FURNISH FIRE	E PROTECTION BACKFLOW DEVICE; PLUMBING C	ONTACTOR TO INS	STALL.					
9	9. UNIT TO BE FURNISHED WITH BUTTERFLY VALVES WITH INTEGRAL SUPERVISROY SWITCHES										

			PLUMBII	NG FIXTURE SCH	EDULE			
	TYPE	MANUFACTURER	MODEL NO.	COLOR/MATERIAL	TRAP	CARRIER	MOUNTING HEIGHT	S
ED	WALL MOUNTED	AMERICAN STANDARD	AFWALL MILLENNIUM 3352.101 WITH EVERCLEAN	WHITE	INTEGRAL	SMITH SERIES 200	TOP OF TOILET SEAT AT 18" AFF	SLOAN G2
-1/4"	WALL MOUNTED	AMERICAN STANDARD	LUCERNE 0355.012	BY ARCHITECT	MCGUIRE 8902CF	SMITH SERIES 700	RIM AT MAXIMUM OF 34 IN. AFF	SLOAN E
1/2"	WALL MOUNTED	WOODFORD MFG.	B65	BRASS FINISH, FINAL APPROVAL BY ARCHITECT	N/A	N/A	MINIMUM OF 36 IN. AFF	
1/2"	WALL MOUNTED	WOODFORD MFG.	B65	BRASS FINISH, FINAL APPROVAL BY ARCHITECT	N/A	N/A	MINIMUM OF 36 IN. AFF	

TAINING CHECK HINGE SEAT.

OR ALL PUBLIC LAVATORIES.

				PLU	IMBING S	YMBOLS			
TOR	GENER	AL					PIPE RED	UCER/INCREASER	
1		E FLOO	R DRAIN				PIPE TEE	, DOWN	
			R SINK			+X		, 45° HORIZONTAL	
TION SOCIETY			R CLEANOUT			, ↓ ,		, 90° HORIZONTAL	
CLOSED	**		DRAIN				PIPE TEE		
	Ê		GENCY SHUTOFF				PIPE UNI		
	•	POIN	F OF CONNECTION	OF NEW TO EXISTI	NG WORK		THREADE	D HOSE CONNECTION	
		POIN ⁻ EVIATION	FOF DEMOLITION 1	TO EXISTING WORK		ю́	BALL VAL	VE	
			PMENT TAG				BUTTERF	LY VALVE	
E	SR	EVIATION RISEF IUMBER	RTAG		-	↓ <u>↓</u>	CHECK V	ALVE	
	MATCH LINE SEE SHEET N	MATC	HLINE				GAS COC	К	
		- VIEW #	DEEEDENCE				GATE VAI	VE	
ASSEMBLY	X#.## →	- SHEET # VIEW	REFERENCE		ę	td	GLOBE V	ALVE	
KFLOW PREVEN	NTER	VIEW #	ION VIEW REFERE	NCE	-		MANUAL	BALANCING VALVE	
	SHEE	Τ#				i t	NEEDLE	ALVE	
	(024)	> KITCH	IEN EQUIPMENT TA	AG			OS&Y GA	TE VALVE	
	PLUMBI	NG				≹	PRESSUF	RE REDUCING/REGULATI	NG VALVE
)		NEW	PIPING			 کو	PRESSUF	RE/SAFETY RELIEF VALV	E
	VE		ING PIPING TO REI		-		STRAINE	२	
REDUCING VAL			PIPE CONNECTION				STRAINE	R WITH BLOWDOWN VAL	VE
			CTION OF FLOW			<i>"</i> 》 ——		STATIC MIXING VALVE	-
				CH, DOWN				W PREVENTER	
								PIPE CONNECTOR (OR	
	, , , , , , , , , , , , , , , , , , ,		ESTIC COLD WATEF			<u>h</u>	HOSE BIB		CONNECTION)
			ESTIC HOT WATER			₩		D	
						1-1	METER		
				NETURN PIPING			P-TRAP		
	F								
			PIPING						
		CLEA					PIPE SLE		
				JEK			PIPE WEL		
			CE PIPE UNION					RE GAUGE	
		PIPE					PRV STAT	ION	
			ELBOW, 30° HORIZO			LOX -0-	PUMP		
			ELBOW, 45° HORIZO			ť			
	'†		ELBOW, 90° HORIZO				SHOWER		
	c+		ELBOW, TURNED D			¥	TEST PLU		
	+0		ELBOW, TURNED U	OR APPEAR IN THESE		Ū°F	THERMO	METER	
	NG FIXTURE SCH								
L NO.	COLOR/MATERIAL	TRAP	CARRIER	MOUNTING H	EIGHT	SUPPLY FITTING		STOP VALVE	NOTES
NIUM 3352.101 RCLEAN	WHITE	INTEGRAL	SMITH SERIES 200	TOP OF TOILET SEA	T AT 18" AFF S	ELOAN G2 OPTIMA PLUS	8111-1.6	INTEGRAL	1, 2, 3, 8
0355.012	BY ARCHITECT	MCGUIRE 8902CF	SMITH SERIES 700	RIM AT MAXIMUM O	F 34 IN. AFF	SLOAN EBF-650-BAT-0.5	GPM-IR	MCGUIRE H2167CCLK	2, 4, 5, 6, 7, 9
	BRASS FINISH,FINAL APPROVAL BY ARCHITECT	N/A	N/A	MINIMUM OF 36	IN. AFF	INTEGRAL		INTEGRAL	10, 11
	BRASS FINISH,FINAL APPROVAL BY ARCHITECT	N/A	N/A	MINIMUM OF 36	N. AFF	INTEGRAL		INTEGRAL	10

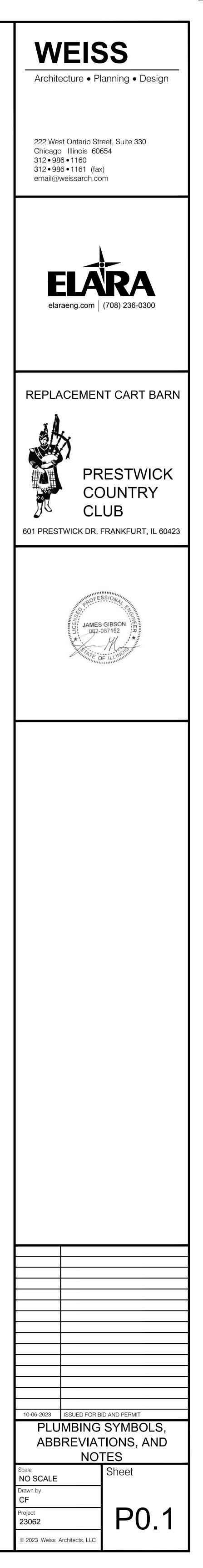
					PUM	/IP (H	CP)							
EQUIP. TAG GENERAL PERFORMANCE ELECTRICAL														
ABB.	NO.	SERVICE	E LOCATION MFR MODEL TYPE GPM HEAD (FT. WC) RPM F.L. AMPS VOLTS PHASE RPM NOTES											
НСР	1	1 HOT WATER RETURN WATER SERVICE ROOM BELL & GOSSETT NBF-25 INLINE 3 10 2,950 1.10 120 1 2,950 1,2,3,4												
NOTES:														
1.	PUMF	MP SHALL BE LEAD-FREE BRONZE CIRCULATOR FOR POTABLE WATER SYSTEMS.												
2.	PROVIDE AQUA-STAT CONTROL.													
3.	CONT	FRACTOR TO IN	ICLUDE TIMER CON	ITROL.										
4	000													

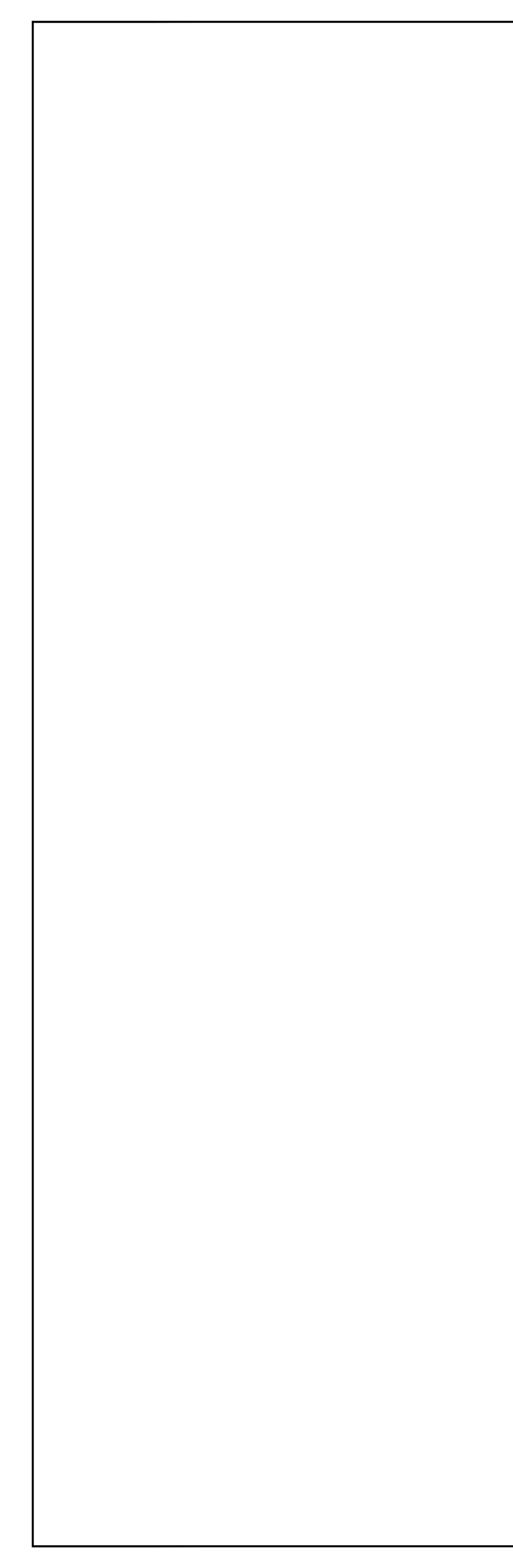
4. COORDINATE ELECTRICAL POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR.

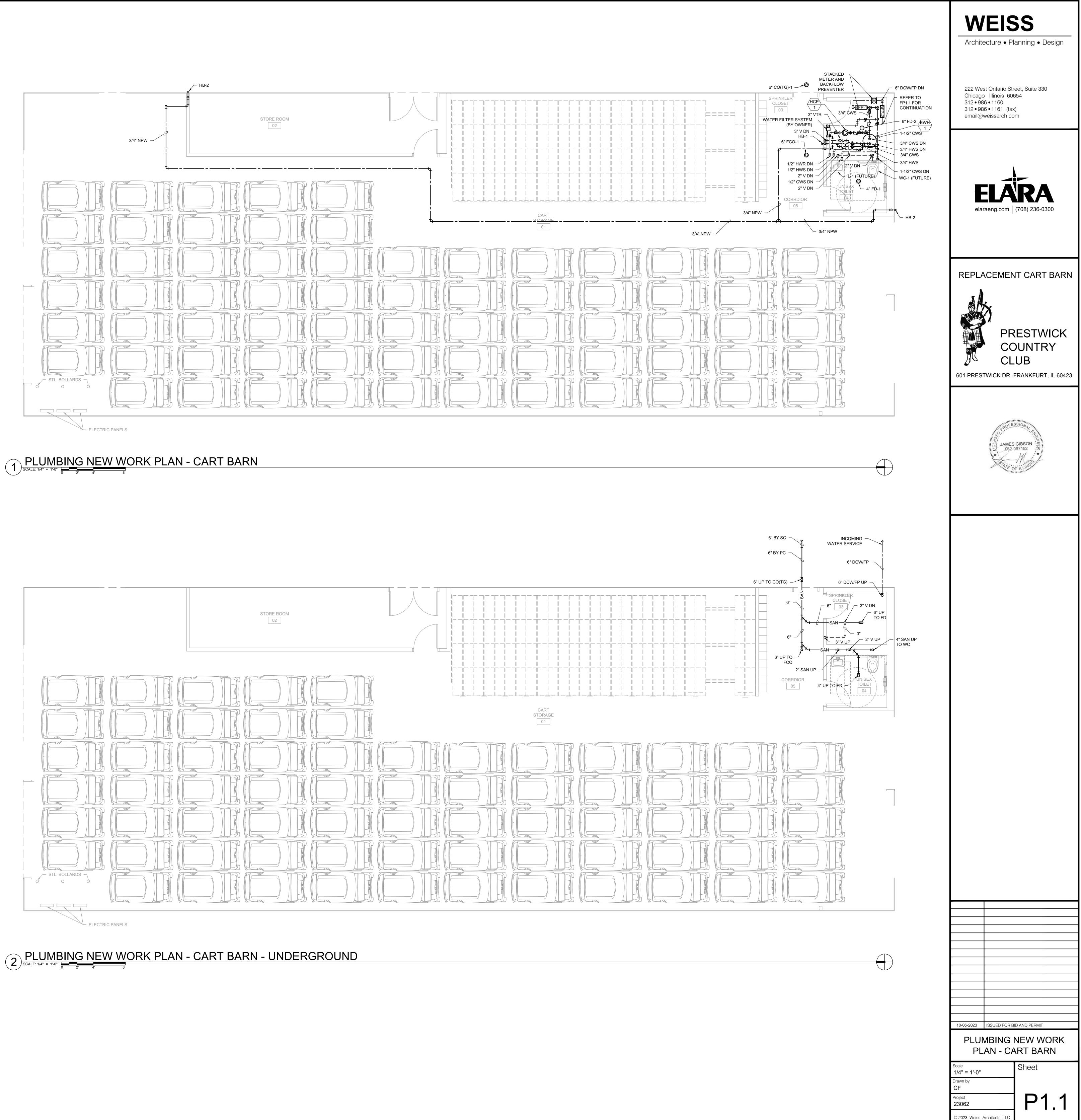
	THERMOSTATIC MIXING VALVE SCHEDULE											
ABB.	NO.	MANUFACTURER	MODEL NO.	MINIMUM FLOW	FLOW AT 10 PSI	DESCRIPTION						
TMV	1	SYMMONS	8-210-CK	0.25 GPM	2.06 GPM	MIXING VALVE WITH INTEGRAL CHECKS (ASSE 1070/1017 AN PROVIDE THERMOSTATIC MIXING VALVE FOR EACH FIXTURE AND/OR RISER DIAGRAM. PROVIDE ACCESS TO DEVICE.						

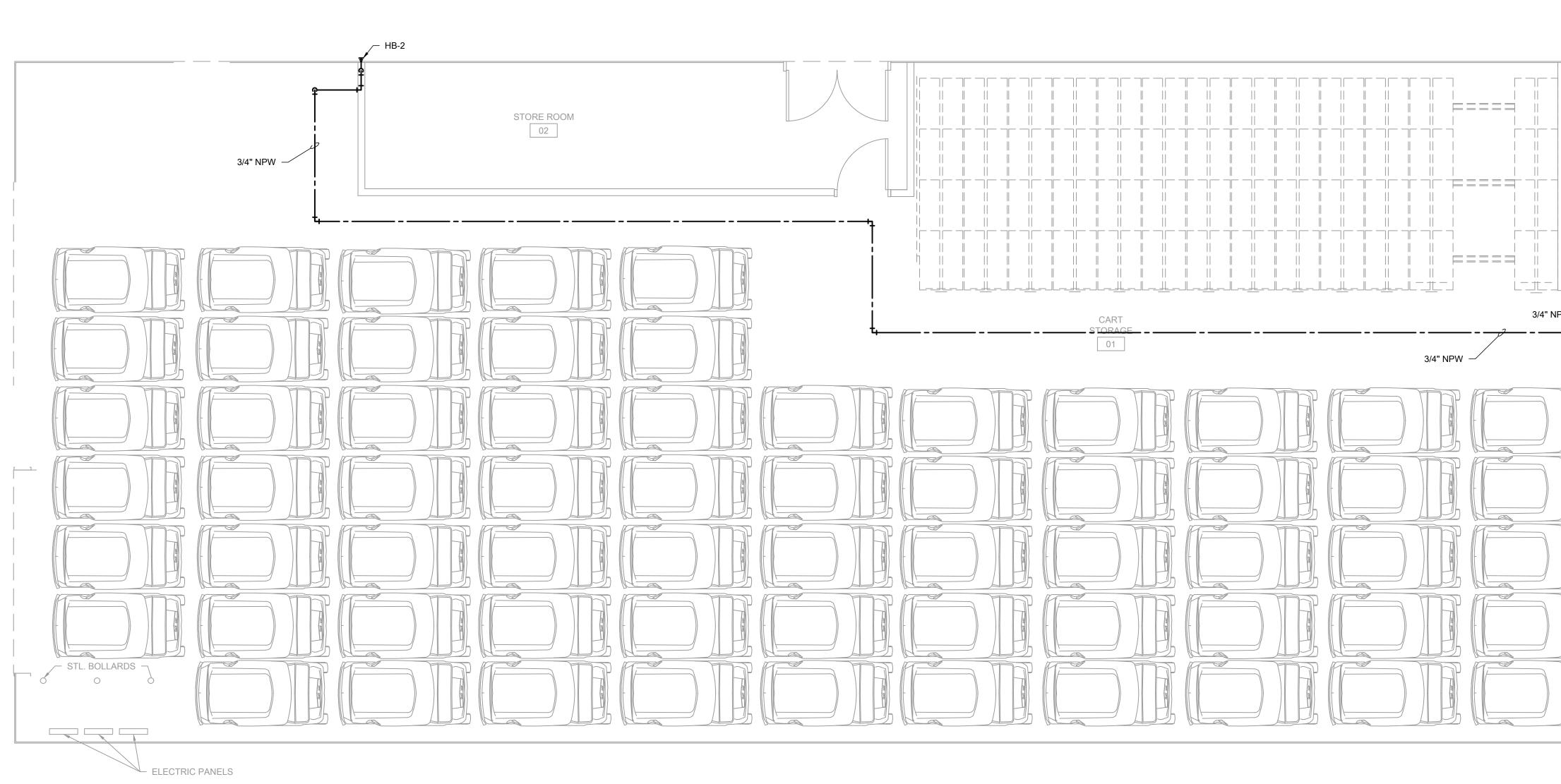
G VALVE SCHEDULE

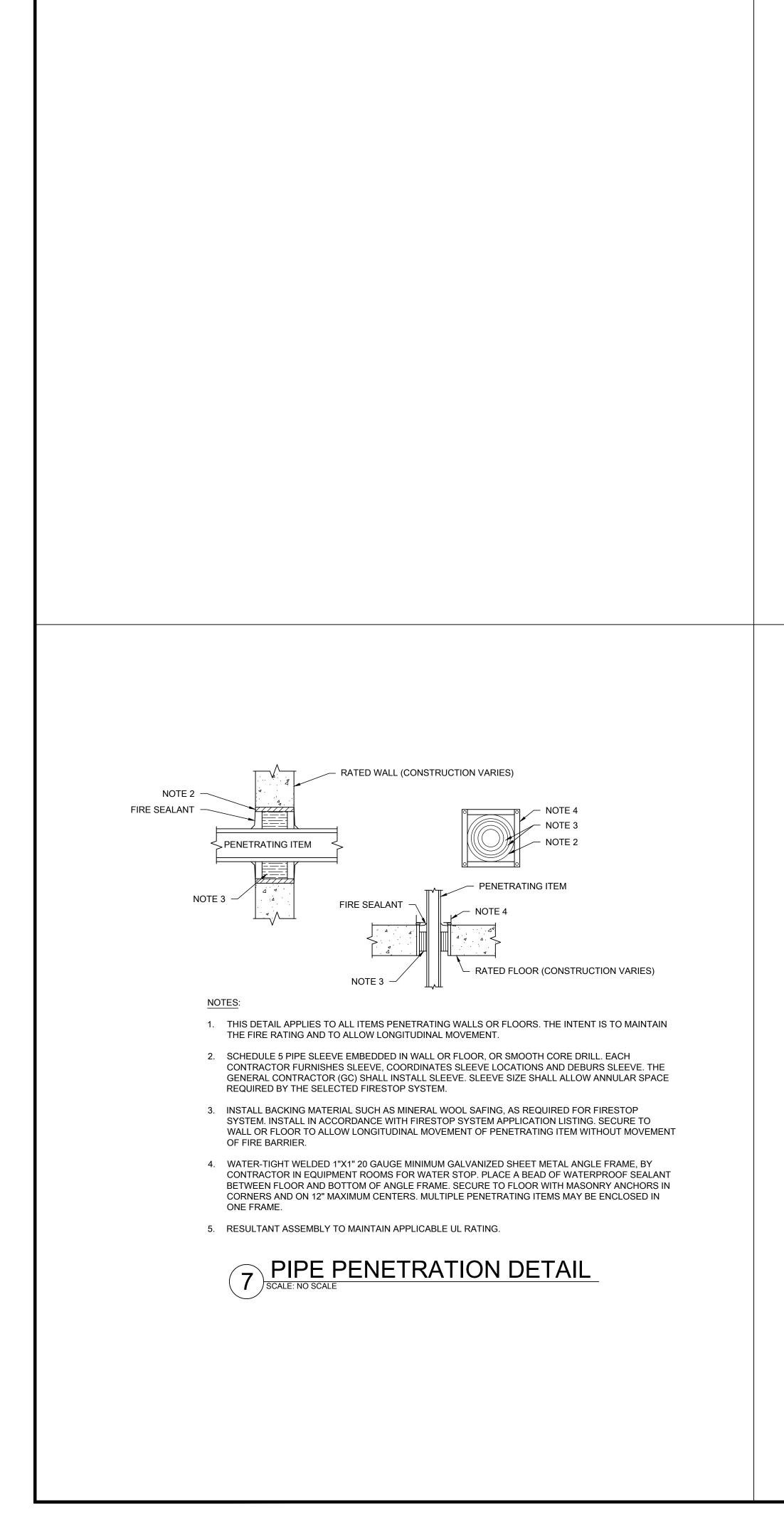
MIXING VALVE WITH INTEGRAL CHECKS (ASSE 1070/1017 AND A112.18.1 CERTIFIED). PROVIDE THERMOSTATIC MIXING VALVE FOR EACH FIXTURE AS INDICATED ON PLANS

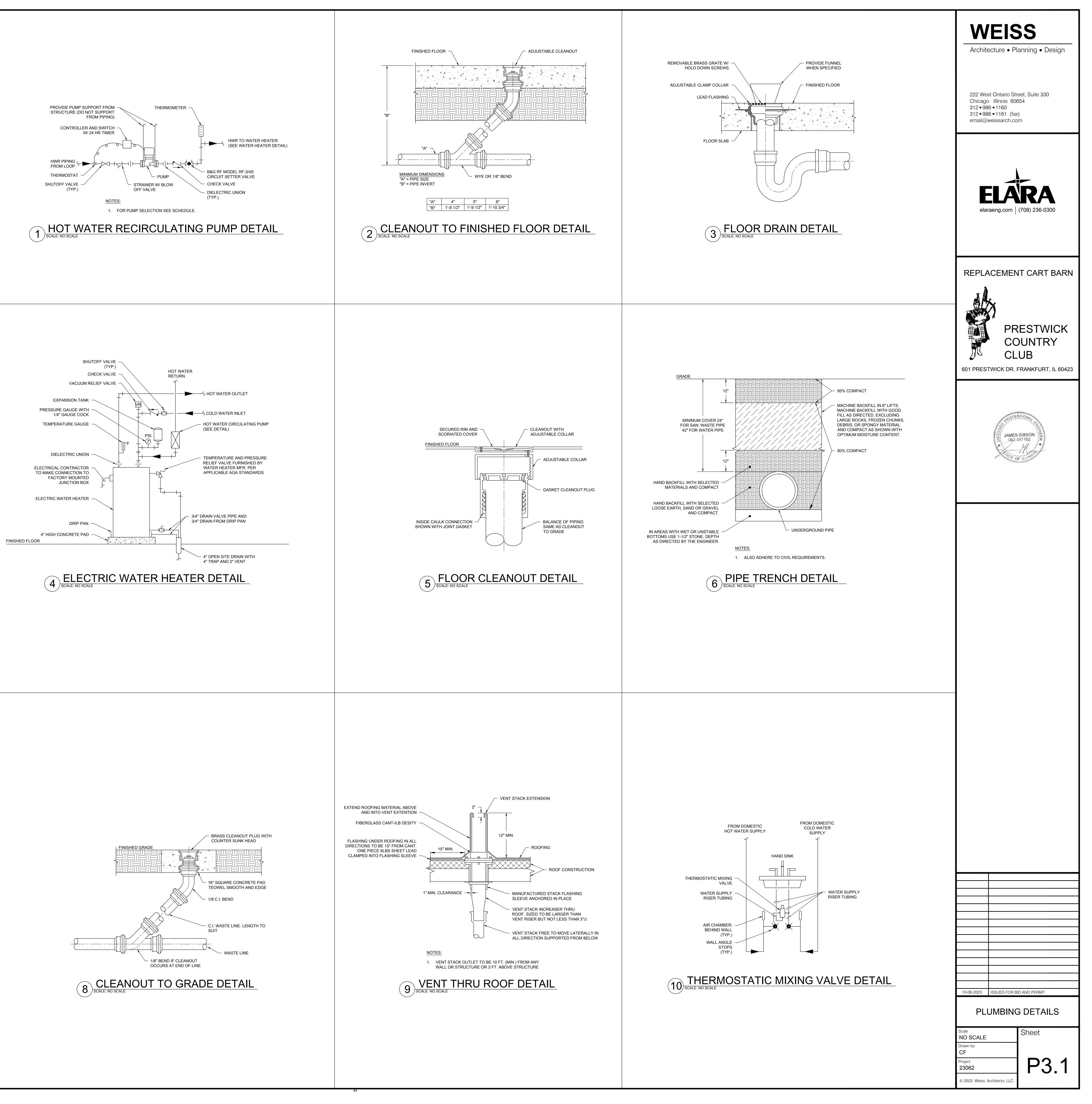


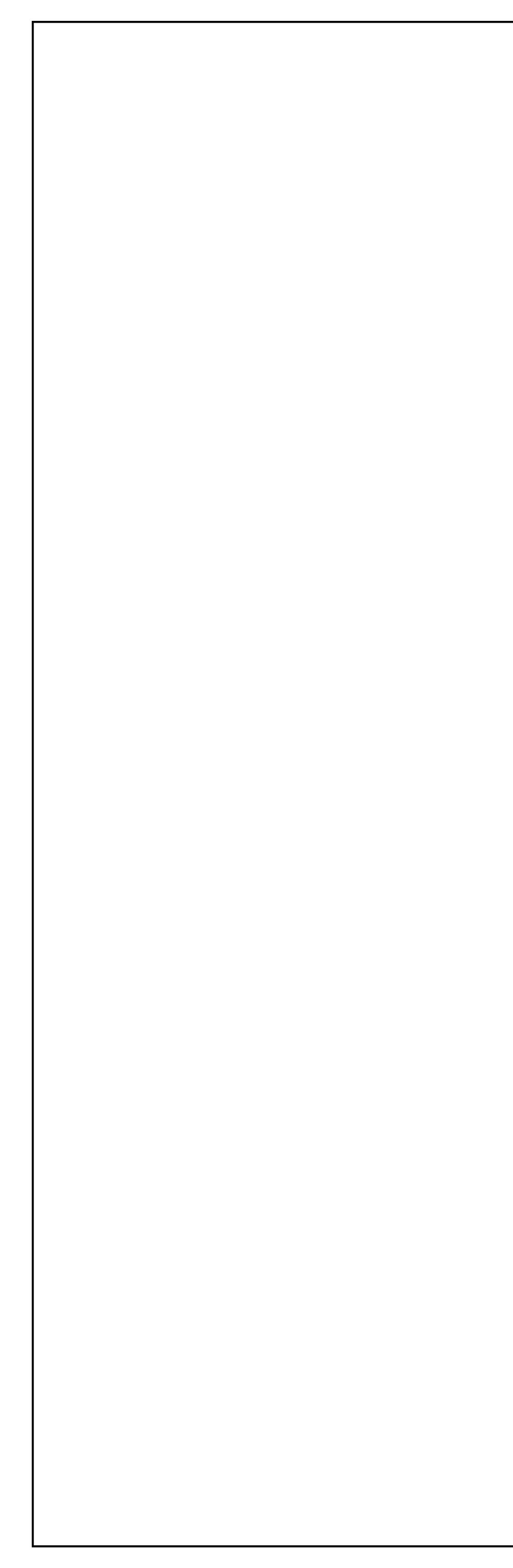












I. GENERAL NOTES

- A. ALL WORK PERFORMED UNDER THIS CONTRACT SHALL BE IN CONFORMANCE WITH ALL GOVERNING NATIONAL, STATE, AND LOCAL CODES HAVING JURISDICTION.
- B. CONTRACTOR SHALL REVIEW THE ENTIRE SET OF CONTRACT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, ALL ARCHITECTURAL, CIVIL, SITE, LANDSCAPING, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS, AS WELL AS ALL SPECIFICATIONS AND INSTRUCTIONS TO BIDDERS. THIS CONTRACTOR SHALL VISIT THE SITE AND MAKE A DETAILED INSPECTION OF THE SPECIFIED WORK TO DEVELOP KNOWLEDGE OF ALL CONDITIONS PERTINENT TO THE COMPLETION OF HIS WORK. THIS CONTRACTOR SHALL FULLY COORDINATE HIS WORK WITH THE WORK PERFORMED BY OTHER TRADES AND/OR CONTRACTORS, AND SHALL MAKE SUCH FIELD ADJUSTMENTS AS ARE REQUIRED TO ACCOMMODATE FIELD CONDITIONS. ALL OF THE ABOVE SHALL BE INCLUDED IN THE SCOPE OF WORK AT NO ADDITIONAL COST TO OWNER.
- . SHOULD CONTRACTOR FIND DISCREPANCIES IN, OR OMISSIONS FROM, THE DRAWINGS SPECIFICATIONS, OR OTHER CONTRACT DOCUMENTS, OR DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THOSE REPRESENTED IN THE DRAWINGS, OR CONFLICTS BETWEEN HIS WORK AND THAT OF OTHER TRADES, OR BE IN DOUBT AS TO THE MEANING OF ANY CONTRACT DOCUMENTS, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER AND THE ENGINEER IN WRITING AND SHALL OBTAIN CLARIFICATION PRIOR TO SUBMITTING ANY BID. LACK OF SUCH NOTIFICATION SHALL BE CONSTRUED AS CONTRACTOR'S REPRESENTATION THAT NO DISCREPANCIES OR CONFLICTS EXIST. ADDITIONAL COMPENSATION WILL NOT BE GRANTED AFTER AWARD OF CONTRACT FOR ANY WORK REQUIRED TO COMPLY WITH THIS REQUIREMENT.
- D. THE DRAWINGS INDICATE DIAGRAMMATICALLY THE INTENT, REQUIREMENTS FOR, AND LOCATION OF THE WORK INCLUDED UNDER THIS CONTRACT. ALL WORK REQUIRED TO AFFECT THE INDICATED DESIGN, INCLUDING DETAILS NOT SHOWN BUT WHOSE INCLUSION WOULD BE DEEMED A REQUIREMENT BY A KNOWLEDGEABLE TRADESMAN, BUILDING ENGINEER, OR TECHNICIAN, SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- E. IT IS THE INTENT OF THESE DOCUMENTS THAT THE CONTRACTOR PROVIDE ALL LABOR, MATERIAL, EQUIPMENT, AND TOOLS FOR THE COMPLETE INSTALLATION OF ALL WORK SHOWN ON THE PLANS AND/OR DESCRIBED HEREIN, INCLUDING ALL DEVICES, CONTROLS, AND APPURTENANCES REQUIRED TO SET THE NEW SYSTEMS INTO OPERATION, UNLESS OTHERWISE NOTED.
- F. CONTRACTOR SHALL VERIFY ALL MOUNTING, ARRANGEMENTS, HEIGHTS, AND LOCATIONS PRIOR TO ROUGH-IN, ANY MENTION OF A SPECIFIC MOUNTING ARRANGEMENT, WEIGHT, OR LOCATION SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO VERIFY SPECIFIC REQUIREMENTS AND BASE HIS WORK ON THEM. THE SAME CARE SHALL BE TAKEN WITH RESPECT TO INFORMATION FURNISHED BY THIS CONTRACTOR TO HIS SUBCONTRACTORS OR TO OTHER CONTRACTORS EMPLOYED BY THE OWNER ON THIS PROJECT. THIS CONTRACTOR SHALL BE FINANCIALLY RESPONSIBLE FOR ANY CHANGE ORDERS NECESSITATED BY INACCURATE OR INCORRECT INFORMATION FURNISHED TO OTHER CONTRACTORS. NO ADDITIONS TO THE CONTRACT AMOUNT WILL BE PERMITTED FOR ITEMS INSTALLED IN WRONG LOCATIONS OR IN CONFLICT WITH OTHER WORK
- G. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING FOR AND OBTAINING ALL APPLICABLE PERMITS. THIS CONTRACTOR SHALL PAY ALL PERMIT FEES, PLAN REVIEW FEES, LICENSE FEES, AND INSPECTIONS APPLICABLE TO HIS WORK, AND SUCH COSTS SHALL BE INCLUDED IN HIS BID UNLESS OTHERWISE NOTED. THIS CONTRACTOR SHALL ALSO INCLUDE IN HIS BID ALL FEES ASSOCIATED WITH THE SERVICES OF A PERMIT EXPEDITER AS MAY BE REQUIRED TO MEET THE PROJECT SCHEDULE.
- H. CONTRACTOR SHALL ESTABLISH SAFE WORKING PROCEDURES FOR THE PROTECTION OF THE WORKMEN IN ALL PHASES OF WORK AND SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE. AND FEDERAL SAFETY LAWS, INCLUDING THE REQUIREMENTS OF OSHA. HE SHALL ALSO PROVIDE ALL NECESSARY SIGNS, LIGHTS, AND BARRICADES REQUIRED FOR THE SAFETY OF ALL OTHER PERSONS WHO MIGHT COME IN CONTACT WITH THE CONSTRUCTION BEING PERFORMED UNDER THIS CONTRACT.
- ALL PUBLIC AND PRIVATE PROPERTY DAMAGED AS A RESULT OF WORK PERFORMED UNDER THIS CONTRACT SHALL BE REPAIRED AND/OR REPLACED TO MATCH EXISTING CONSTRUCTION BY THIS CONTRACTOR AND TO THE SATISFACTION OF THE OWNER AND AUTHORITIES HAVING JURISDICTION.
- J. CONTRACTOR SHALL MAKE ALL ARRANGEMENTS WITH THE BUILDING OWNER'S REPRESENTATIVE REGARDING WORKSITE ACCESS, BUILDING RULES, AND REGULATIONS, INCLUDING WORKING HOURS, REFUSE DISPOSAL, DUMPSTER LOCATION, SECURITY, INTERRUPTIONS OF BUILDING UTILITIES OR FUNCTIONS, OWNERSHIP OF SALVAGED MATERIALS, PARKING, AND ANY OTHER ITEMS DEEMED TO BE OF MUTUAL INTEREST.
- K. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO STORE AND PROTECT FROM DAMAGE ALL EQUIPMENT AND MATERIALS IN A MANNER THAT WILL MAINTAIN AN ORDERLY, CLEAN APPEARANCE. DAMAGED EQUIPMENT AND MATERIAL IS SUBJECT TO REJECTION BY THE OWNER'S REPRESENTATIVE. REPLACEMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- . PROVIDE ALL HOLES, SLEEVES, CUTTING, PATCHING, AND SEALING FOR INSTALLATION OF THIS WORK. SEALING SHALL CONFORM TO THE FIRE RATING OF ALL BUILDING ASSEMBLIES. ALL EXTERIOR PENETRATIONS SHALL BE MADE WEATHER TIGHT. M. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND SCANNING OBSTRUCTIONS/REINFORCEMENTS
- WHERE PENETRATIONS ARE TO BE MADE. ANY DAMAGE RESULTING FROM PENETRATIONS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER. N. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO ANY
- EXCAVATING ACTIVITIES OR UNDERGROUND WORK. PROVIDE SOIL EROSION AND SEDIMENT CONTROL FOR EXCAVATION OF THE AREA ACCORDING TO ALL AUTHORITIES HAVING JURISDICTION. O. CONTRACTOR SHALL NOT MODIFY OR REMOVE ANYTHING FOUND TO BE IN THE PATH OF NEW
- SYSTEMS TO BE INSTALLED WITHOUT PRIOR APPROVAL BY THE ENGINEER. P. ALL ROOFING WORK SHALL BE BY OWNER APPROVED ROOFING CONTRACTOR(S) TO MAINTAIN ROOF WARRANTIES. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE ROOFING
- CONTRACTOR(S) TO ENSURE WEATHER TIGHT CONSTRUCTION AND TIMELY COMPLETION OF ALL WORK Q. THE CONTRACTOR IS RESPONSIBLE FOR THE CONTINUOUS CLEANING OF ALL DUST AND DEBRIS **RESULTING FROM THEIR WORK.**
- R. CONTRACTOR TO DETERMINE REQUIRED SYSTEM SHUTDOWNS. MAXIMUM DURATION OF SYSTEM SHUTDOWN SHALL BE AT THE DISCRETION OF THE OWNER'S REPRESENTATIVE. SHUTDOWN SHALL BE COORDINATED ON THE JOB SITE WITH THE OWNER'S REPRESENTATIVE. CONTRACTOR SHALL PROVIDE A MINIMUM OF ONE (1) WEEK ADVANCE NOTICE OF SYSTEM SHUTDOWNS.
- S. CONTRACTOR AND SUB-CONTRACTORS SHALL BE PROPERLY LICENSED, BONDED, AND INSURED AND CAPABLE OF PERFORMING QUALITY WORKMANSHIP OF THEIR TRADE ON THIS PROJECT.
- T. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, AND SAFETY.
- U. REMOVAL AND RESTORATION OF FINISHED SURFACES AS REQUIRED TO COMPLETE THIS SCOPE OF WORK IS THE RESPONSIBILITY OF THIS CONTRACTOR.
- V. CONTRACTOR SHALL COORDINATE USE OF THE BUILDING ELEVATOR(S) AND DELIVERIES WITH THE
- W. MAINTAIN ALL MANUFACTURER RECOMMENDED AND CODE REQUIRED CLEARANCES. X. CONTRACTOR SHALL PROVIDE TRAINING TO THE OPERATING STAFF FOR NEW SYSTEMS AND EQUIPMENT. REFER TO OWNER TRAINING SPECIFICATION SECTION FOR ADDITIONAL INFORMATION.
- II. GENERAL DEMOLITION NOTES
- A. ALL WORK SHALL BE PERFORMED IN A CLEAN AND WORKMANLIKE MANNER. CARE SHALL BE EXERCISED TO MINIMIZE ANY INCONVENIENCE OR DISTURBANCE TO OTHER AREAS OF THE BUILDING WHICH ARE TO REMAIN IN OPERATION.
- B. ALL DEMOLITION AS CALLED FOR ON THE DEMOLITION DRAWINGS SHALL BE UNDER THIS CONTRACTOR'S WORK.
- C. CONTRACTOR SHALL VISIT THE BUILDING, BEFORE SUBMITTING HIS BID, TO VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS WHICH MAY AFFECT HIS WORK. NOT ALL EXISTING DUCTWORK, PIPING, EQUIPMENT, ETC. MAY BE INDICATED ON DOCUMENTS.
- D. THE INTENT OF THE DEMOLITION IS TO REMOVE THE ITEMS IN THEIR ENTIRETY. THIS INCLUDES ALL ASSOCIATED SUPPORT BASES, ANCHORAGE, HANGERS, CONTROLS INCLUDING WIRING AND CONDUIT EXPOSED IN MECHANICAL ROOMS. PIPING. DUCTWORK. WIRING, ETC. CAP EXISTING SYSTEMS TO REMAIN AT ACTIVE MAINS OR OTHER ACTIVE BRANCH LINES. DEAD END LENGTHS SHALL BE CODE COMPLIANT. LABEL ABANDONED CONTROLS CONDUIT AND WIRE.
- E. BEFORE STARTING ANY DEMOLITION WORK ON EQUIPMENT WHICH HAS AN ELECTRICAL CONNECTION, THE ELECTRICAL CONTRACTOR SHALL DISCONNECT THE POWER AND REMOVE CONDUIT, WIRING, DISCONNECT SWITCHES, AND STARTERS UNDER THIS CONTRACT. F. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTINUOUS CLEANUP THROUGHOUT THE COURSE OF THE DEMOLITION WORK.
- G. ALL EQUIPMENT, MATERIAL, ETC. THAT IS DEMOLISHED SHALL BE REMOVED FROM THE BUILDING SITE BY THIS CONTRACTOR IN A PROPER AND LEGAL MANNER. NO ITEM WHICH IS DEMOLISHED MAY BE REUSED UNLESS SPECIFICALLY NOTED.
- H. ANY CONTROLS HARDWARE OR PROGRAMMING NO LONGER NECESSARY TO ACCOMPLISH THE SEQUENCE OF OPERATIONS SHALL BE DECOMMISSIONED.
- ALL DEMOLITION WORK OF THE EXISTING CONTROLS FOR EQUIPMENT SHOWN ON THE DRAWINGS TO BE DEMOLISHED SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR. THIS CONTRACTOR SHALL MODIFY THE EXISTING CONTROLS AS REQUIRED TO ENSURE OPERATION OF EXISTING EQUIPMENT TO REMAIN. ALL EXISTING CONTROLS SHOWN TO BE DEMOLISHED SHALL BE REMOVED AND TURNED OVER TO THE OWNER.

III. SHOP DRAWINGS, SUBMITTALS, AND AS-BUILTS

- A. CONTRACTOR SHALL SUBMIT TO THE ENGINEER COORDINATED SHOP DRAWINGS. SHOP DRAWINGS SHALL BE 1/4" SCALE AND SHALL INDICATE LAYOUT OF ALL EQUIPMENT, PIPING, GAUGES, SENSORS, GRAPHICS, CONTROLS NETWORK ARCHITECTURE, CONTROL POINTS LIST, OPERATING SEQUENCES, CONTROL DEVICES WITH SETTINGS OR ADJUSTABLE RANGES, ETC. SHOP DRAWINGS SHALL INCLUDE ALL PIPE SIZES, PIPE SLOPES, CAPACITIES, ELEVATIONS, CLEANOUT LOCATIONS, VALVE LOCATIONS, DRAIN DOWN LOCATIONS, ACCESS PANEL LOCATIONS, FIXTURES, DRAINS, UNDERGROUND COMPONENTS, ETC. CONTRACTOR SHALL PROCEED WITH SITE WORK ONLY AFTER RECEIVING SHOP DRAWINGS MARKED REVIEWED.
- B. SHOULD CONDITIONS NECESSITATE ANY REARRANGEMENTS, CONTRACTOR SHALL SUBMIT TO THE ENGINEER SHOP DRAWINGS SHOWING SUCH CHANGES. CONTRACTOR SHALL PROCEED WITH SITE WORK ONLY AFTER RECEIVING SHOP DRAWINGS MARKED REVIEWED.
- C. CONTRACTOR SHALL SUBMIT TO THE ENGINEER MANUFACTURERS' SUBMITTALS FOR ALL EQUIPMENT AND ACCESSORIES. CONTRACTOR SHALL PROCEED WITH PROCUREMENT ONLY AFTER RECEIVING SUBMITTALS MARKED REVIEWED.
- D. CONTRACTOR SHALL SUBMIT TO THE ENGINEER ONE (1) FULL-SIZE PAPER COPY AND AN ELECTRONIC FILE OF THE AS-BUILT DRAWINGS. RECORD LOCATIONS OF CONTROL COMPONENTS, INCLUDING CONTROL UNITS, GAUGES, AND SENSORS. REVISE SHOP DRAWINGS TO REFLECT ACTUAL INSTALLATION AND OPERATING SEQUENCES.
- CONTRACTOR SHALL SUBMIT TO THE ENGINEER ONE (1) PAPER COPY AND AN ELECTRONIC FILE OF ALL EQUIPMENT INFORMATION. INCLUDE OPERATIONAL AND MAINTENANCE INSTRUCTIONS, PARTS LISTS, SUBMITTALS, AND DESCRIPTIVE LITERATURE.

IV. MATERIALS AND EQUIPMENT

- A. ALL MATERIALS AND EQUIPMENT INSTALLED UNDER THIS CONTRACT SHALL BE NEW, UNLESS OTHERWISE STATED IN THESE CONTRACT DOCUMENTS, AND FREE FROM DEFECTS.
- B. ALL MATERIALS AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS' RECOMMENDATIONS.
- C. CONTRACTOR IS REQUIRED TO REVIEW ALL DRAWINGS. MATERIALS AND EQUIPMENT SHOWN ON THE SCHEDULES AND DETAILS SHALL BE INCLUDED IN BASE BID. NO MATERIAL OR EQUIPMENT SUBSTITUTIONS WILL BE CONSIDERED AFTER THE AWARD OF CONTRACT. IF CONTRACTOR DESIRES TO SUBSTITUTE MATERIAL OR EQUIPMENT, CONTRACTOR MUST SUBMIT AS ALTERNATE WITH HIS BASE BID A LIST OF SUCH ITEMS INDICATING ITEM, MANUFACTURER, MODEL NUMBER, AND AMOUNT TO BE ADDED TO OR DEDUCTED FROM THE BASE BID. EACH SUCH MATERIAL OR EQUIPMENT SUBSTITUTION ITEM SHALL BE LISTED SEPARATELY.
- D. CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING THE PURCHASE, DELIVERY, RECEIVING, UNLOADING, UNCRATING, STORING, SETTING IN PLACE, AND PROTECTING OF ALL NEW EQUIPMENT FURNISHED BY THE CONTRACTOR OR PROVIDED TO THE CONTRACTOR BY THE OWNER, AND SHALL SECURE SUCH EQUIPMENT FROM DAMAGE UNTIL TIME OF FINAL ACCEPTANCE BY THE OWNER.
- E. CONTRACTOR SHALL FURNISH AND INSTALL ALL STRUCTURE, SLEEVES, SHIMS, ETC. REQUIRED TO LEVEL AND SUPPORT EQUIPMENT AND MATERIALS. INSTALL NONMETALLIC NON-SHRINK GROUT FOR LEVELING EQUIPMENT BASES.

- F. CONTRACTOR SHALL VERIFY ALL PHYSICAL, ELECTRICAL, INGRESS EQUIPMENT PRIOR TO ORDERING.
- G. CONTRACTOR SHALL SUBMIT TO OWNER THE PROPOSED LABELS/IDE EACH PIECE OF EQUIPMENT PRIOR TO ORDERING. EQUIPMENT LABE
- CONFORM TO THE FOLLOWING: 1. MATERIAL AND THICKNESS: MULTILAYER, MULTICOLOR, PLASTIC ENGRAVING, 1/8 INCH THICK, AND HAVING PREDRILLED HOLES FO
- 2. LETTER COLOR: WHITE. 3. BACKGROUND COLOR: BLUE.
- 4. MAXIMUM TEMPERATURE: ABLE TO WITHSTAND TEMPERATURE
- 5. MINIMUM LABEL SIZE: LENGTH AND WIDTH VARY FOR REQUIRED LESS THAN 2-1/2 BY 3/4 INCH. 6. MINIMUM LETTER SIZE: 1/4 INCH FOR NAME OF UNITS IF VIEWING
- INCHES, 1/2 INCH FOR VIEWING DISTANCES UP TO 72 INCHES, ANI LETTERING FOR GREATER VIEWING DISTANCES. INCLUDE SECO TWO-THIRDS TO THREE-FOURTHS THE SIZE OF PRINCIPAL LETTE
- 7. FASTENERS: STAINLESS-STEEL RIVETS OR SELF-TAPPING SCRE 8. ADHESIVE: CONTACT-TYPE PERMANENT ADHESIVE, COMPATIBL
- SUBSTRATE
- H. EQUIPMENT DATA, LABELS, AND OTHER IDENTIFICATION SHALL NOT I
- I. CONTRACTOR SHALL PROVIDE FILTERS, STRAINER SCREENS, ETC. F DURING CONSTRUCTION. REPLACE FILTERS, STRAINERS SCREENS, STRAINER SCREENS, ETC. AT COMPLETION OF PROJECT AND PRIOR
- J. ALL EQUIPMENT INCLUDING BUT NOT LIMITED TO WATER HEATERS, VALVES, ETC. LOCATED ABOVE FINISHED CEILINGS TO BE PROVIDED PAN. DRAIN PAN DISCHARGE SHALL BE THROUGH AN INDIRECT WAS GAP OR WITH UL508 OVERFLOW SWITCH AND ALARM WHEN MEANS POSSIBLE.
- K. PROVIDE UNIONS OR FLANGES AT ALL PIPING CONNECTIONS TO EQU PRESSURE REDUCING VALVES, BACK FLOW PREVENTION, ETC. ARRA EQUIPMENT SERVED MAY BE REMOVED WITHOUT DISTURBING PIPIN

V. OWNER TRAINING

- A. THE CONTRACTOR SHALL PROVIDE DEMONSTRATION AND TRAINING NEW SYSTEMS AND EQUIPMENT. THE COSTS ASSOCIATED WITH THIS OF THE BASE BID UNLESS OTHERWISE NOTED. B. ALL EQUIPMENT MANUALS, INSTALLATION OPERATION AND MAINTEN
- TURNED OVER TO THE OWNER PRIOR TO COMMENCING OWNER DEM REFER TO PROJECT CLOSEOUT DOCUMENT REQUIREMENTS FOR ADI
- C. CONTRACTOR SHALL PROVIDE A MINIMUM OF 4 HOURS OF TRAINING SITE FOR OWNER PERSONNEL.
- D. OWNER TRAINING SHALL BE CONDUCTED AFTER FUNCTIONAL TESTI BY THE ENGINEER AND (WHERE APPLICABLE) COMMISSIONING AUTH
- E. COORDINATE TRAINING WITH OWNER, ENGINEER & COMMISSIONING

VI. PIPING - POTABLE

A. GENERAL

- 1. COMPLY WITH PROVISIONS OF COPPER DEVELOPMENT ASSOCIATION HANDBOOK". ALL POTABLE WATER PIPING AND SYSTEM COMPONEN NSF/ANSI 61 AND NSF/ANSI 372.
- 2. SYSTEM COMPONENTS WHICH REQUIRE OBSERVATION, OPERATION AS VALVES, GAUGES, CONTROLS, STRAINERS, UNIONS, ETC., SHAL THEY SHALL NOT BE CONCEALED IN CHASES OR ABOVE CEILINGS ACCESS. VALVES WHICH ARE NOT ACCESSIBLE FROM NORMAL WOR INSTALLED WITH CHAIN WHEELS OR EXTENSIONS.
- 3. INSTALL PIPING TO PERMIT COMPLETE SYSTEM DRAINING. 4. INSTALL INTERIOR AND EXTERIOR PIPING AT RIGHT ANGLES OR PA DIAGONAL RUNS ARE PROHIBITED. EXCEPT WHERE INDICATED OR INSTALLATION. RUN PIPING IN WALL CHASES, PIPE SHAFTS, HUNG C AS APPLICABLE. DO NOT RUN SERVICE PIPING IN FLOOR SLAB UNLE DRAWINGS. PIPING SHALL NOT BE COVERED OR CLOSED UNTIL TES
- 5. INSTALL PIPING TO ALLOW APPLICATION OF INSULATION PLUS 1-INC INSULATION.
- 6. MECHANICAL FITTINGS WILL NOT BE ALLOWED. MECHANICAL FITTING ALTERNATE WHERE EXPOSED AND ACCESSIBLE IN MECHANICAL RO B. UNDERGROUND PIPING
- 1. 2 INCH NPS AND SMALLER: TYPE "K" PRE-INSULATED SOFT COPPER ENCLOSED IN PVC SLEEVE WHICH ALLOWS FOR A MINIMUM OF 1" AI COPPER TUBE AND CONFORMING TO ASTM A 674.
- 2. 2 INCH NPS AND SMALLER: COPPER PIPING, TYPE K; WROUGHT-COF PRESSURE FITTINGS; AND SOLDERED JOINTS.
- 3. 3 INCH NPS (DN80) AND LARGER: CLASS 56 CEMENT LINED DUCTILE DUCTILE-IRON FITTINGS; AND RESTRAINED, GASKETED JOINTS. C. ABOVE GROUND PIPING
- 1. ALL PIPE SIZES: ALL PIPING SHALL BE TYPE 'L' HARD COPPER PIPING FITTINGS). INSULATION
- 1. FURNISH AND INSTALL ALL NEW PIPING, VALVES, FITTINGS, ETC. AN INDICATED ON THE DOCUMENTS WITH FIBERGLASS MOLDED PIPE II ALL-SERVICE VAPOR BARRIER JACKET, STAPLED, WITH THE SEAMS PAINTED WITH VAPOR-PROOF MASTIC. ALL INSULATION MATERIALS REQUIRED FLAME SPREAD RATINGS.
- 2. ALL DAMAGED INSULATION (RESULTING FROM IMPLEMENTATION OF EXISTING PIPING TO REMAIN SHALL BE REPLACED.
- MINIMUM INSULATION THICKNESS SHALL BE IN ACCORDANCE WITH T AND ALL APPLICABLE CODES:
- a. DOMESTIC COLD WATER PIPING: 1" b. DOMESTIC HOT WATER PIPING (1.25 NPS AND SMALLER): 1" c. DOMESTIC HOT WATER PIPING (1.5 NPS AND LARGER): 1-1/2" d. TEPID WATER PIPING: 1"
- 4. VAPOR BARRIER JACKET SHALL HAVE FACTORY-APPLIED VAPOR RE WHITE KRAFT FACING REINFORCED WITH GLASS FIBER YARN AND B
- FILM. LAP ADHESIVE SHALL BE COMPATIBLE WITH INSULATION. 5. FURNISH AND INSTALL PVC COVERS FOR ALL VALVES AND ALL PIPE
- 6. FURNISH AND INSTALL ALL EXTERIOR INSULATED PIPING WITH '3M V SERIES' MULTI-LAYERED ALUMINUM LAMINATE, SELF ADHESIVE, JAC WITH EMBOSSED FINISH AND COLOR SELECTED BY OWNER.
- 7. ALL INSULATION SHALL BE APPLIED AFTER SUCCESSFUL PRESSURE E. VALVES
- 1. VALVES SHALL BE INSTALLED AS A MEANS OF ISOLATION FOR ALL E FIXTURES, GROUPING OF FIXTURES, SEPARATE ROOMS, GROUPING THE SYSTEM AND RISERS. EACH INDIVIDUAL BATHROOM AND KITCHE A MEANS OF ISOLATION. ALL REQUIRED VALVES ARE NOT SHOWN O DIAGRAMS.
- 2. LOCATIONS WHERE NEW PIPING IS CONNECTED TO EXISTING SHALL VALVE. PIPING THAT IS UNAFFECTED BY THIS PROJECT SHALL BE EX
- MAKE PROVISIONS FOR DRAINING ALL LOW POINTS OF ALL PIPING SYSTEMS WHETHER INDICATED ON THE DRAWINGS OR NOT, USING A BALL VALVE AND THREADED HOSE
- CONNECTION WITH CAP. DRAINS SHALL NOT BE LESS THAN 3/4".
- POSITION. CONTROL VALVES SHALL BE INSTALLED WITH ACTUATOR UPWARD UNLESS NOTED OTHERWISE. OPEN VALVE HANDLE POSITION SHALL BE IN THE DIRECTION OF FLOW.
- PROVIDE PRESSURE REDUCING VALVES TO NOT EXCEED THE MANUFACTURER RECOMMENDED PRESSURE RATING OF EQUIPMENT OR FIXTURE.
- 6. ISOLATION VALVES SHALL BE MSS SP-61, RATED FOR ZERO LEAKAGE.
- 7. BALL VALVES (4 NPS AND SMALLER)
- a. MSS SP-110 b. 2 PIECE LEAD-FREE BRASS BODY 600# WOG RATED, FULL PORT c. LEAD-FREE FORGED BRASS BALL
- d. MINIMUM 2-1/4" VALVE EXTENSION OR GREATER TO ALLOW OPERATION OF VALVES WITHOUT BREAKING VAPOR SEALS OR DISTURBING INSULATION e. PTFE SEAT AND PACKING f. LEVER HANDLE
- q. THREADED ENDS h. ACCEPTABLE MANUFACTURERS: • APOLLO, LEGEND, MILWAUKEE, NIBCO
- 8. SWING CHECK VALVE (2 NPS AND SMALLER)
- a. MSS SP-80 b. BRONZE BODY, BRONZE TRIM
- c. COMPOSITION SWING DISC THREADED ENDS
- e. ACCEPTABLE MANUFACTURERS: APOLLO, NIBCO, MILWAUKEE
- 12. BALANCING VALVES (3 NPS AND SMALLER)
- a. BRASS BODY ASTM B584-844, BRASS BALL ASTM B16 C36000 b. GLASS AND CARBON FILLED TFE SEAT RINGS c. BRASS WITH EPT CHECK VALVES FOR READOUT VALVES d. EPDM STEM "O" RING
- e. SHALL BE DESIGNED TO PRESET BALANCE POINTS FOR PROPORTIONAL SYSTEM BALANCE PRIOR TO SYSTEM START UP. VALVES TO HAVE MEMORY STOP FEATURE TO ALLOW VALVE TO BE CLOSED FOR SERVICE AND THEN RE-OPENED TO SET POINT WITHOUT DISTURBING THE BALANCE POSITION. f. THREADED CONNECTION
- MAXIMUM WORKING PRESSURE OF 300 PSIG h. ACCEPTABLE MANUFACTURERS: BELL AND GOSSETT OR EQUAL

1. STRAINERS (UP TO AND INCLUDING 3")

c. ACCEPTABLE MANUFACTURERS:

KECKLEY, WATTS, APOLLO, NIBCO

a. THREADED BRASS BODY

F. ACCESSORIES

ETC. REQUIREMENTS FOR ALL		
	 THERMOMETERS a. SELECT INSTRUMENT RANGE SO THE ORDINARY OPERATING CONDITION IS IN THE MIDDLE 	
ENTIFICATION PRODUCT FOR ELS/IDENTIFICATION SHALL	AREA OF THE INSTRUMENT SCALE b. STRAIGHT STEM TYPE IN SEPARABLE WELLS c. SWIVEL MOUNTING SET WITH POSITIVE LOCKING DEVICE, TO BE EASILY READ FROM THE	IX. SUPPORTS, EXPANSION AND SLEEVES
C LABELS FOR MECHANICAL FOR ATTACHMENT HARDWARE.	 d. SIZE: 9" SCALE e. ACCEPTABLE MANUFACTURERS: WATTS, WEISS 	1. PROVIDE THE NECESSARY HANGERS AND ACCESSORIES FOR THE PROPER SUPPORT OF PIPING, EQUIPMENT, ETC.
S UP TO 160 DEG F. D LABEL CONTENT, BUT NOT	 6. AIR VENTS a. MANUAL TYPE: 6" OR LESS SHORT VERTICAL SECTIONS OF PIPE WITH ISOLATING BALL VALVE TO/FROM AIR CHAMBER, WITH 1/8" BRASS NEEDLE VALVE AT TOP OF CHAMBER 	2. ALL NEW HORIZONTAL PIPING SHALL BE SUPPORTED BY STEEL CLEVIS OR TRAPEZE HANGEI OR BRACKETS AT SUFFICIENT INTERVALS TO MAINTAIN A STRAIGHT LINE, BUT NOT TO EXCEI 10 FEET SPACING ON CENTERS OF HANGERS IN ANY CASE, WITH A SEPARATE HANGER FOR EACH BRANCH. HANGERS SHALL BE LOCATED TO AVOID UNDUE STRESS ON JOINTS. SUPPOF ALL HUB AND NO HUB PIPING WITHIN 18" OF BOTH SIDES OF EACH JOINT.
G DISTANCE IS LESS THAN 24	 FLOAT TYPE: CAST IRON BODY, CAST IRON COVER, STAINLESS STEEL SEAT AND FLOAT; SUITABLE FOR SYSTEM OPERATING TEMPERATURE AND PRESSURE; WITH ISOLATING BALL 	 SPRING TYPE HANGERS SHALL BE INSTALLED ON THE FIRST 20 FEET OF HORIZONTAL PIPING BOTH SIDES OF ROTATING EQUIPMENT.
ND PROPORTIONATELY LARGER ONDARY LETTERING ERING.	VALVE c. ACCEPTABLE MANUFACTURERS: • METRAFLEX OR EQUAL	 WHERE INSULATED PIPE IS SUPPORTED, PROVIDE SADDLES, BLOCKS OR OTHER METHOD APPROVED BY ENGINEER TO PROTECT INSULATION FROM BEING CRUSHED.
EWS. LE WITH LABEL AND WITH	 REDUCERS a. IF A REDUCTION IS REQUIRED AT EQUIPMENT OR PIPING ACCESSORY, THE REDUCER SHALL 	5. PIPE SUPPORT SHALL NOT BE FROM DUCTWORK, CONDUIT, OR OTHER PIPING BUT FROM TH PERMANENT BUILDING STRUCTURE.
BE OBSTRUCTED.	 BE INSTALLED ABUTTING THE INLET AND/OR OUTLET OF THE DEVICE. b. USE ECCENTRIC REDUCING FITTINGS OR ECCENTRIC REDUCING COUPLINGS WHERE REQUIRED TO PREVENT POCKETING OF AIR AND LIQUID. 	HANGER RODS SHALL BE FULL-DIAMETER STEEL WITH THREADED ENDS FOR FIELD CUTTING AND THREAD EXTENDING AS REQUIRED.
FOR ALL NEW EQUIPMENT ETC. WITH FINAL FILTERS, TO TEST AND BALANCE.	 c. WHERE ECCENTRIC REDUCERS ARE USED, THE STRAIGHT SIDE SHOULD BE INSTALLED ON TOP FOR PUMP SUCTION AND ON THE BOTTOM FOR ALL OTHER LINES . 8. AIR CHAMBERS 	7. HANGER RODS SHALL NOT BE BENT OR ALTERED IN ANY MATTER AND SHALL BE INSTALLED PLUMB AND TRUE. THE ROD SUPPORTING THE HANGER SHALL BE NO LONGER THAN 1/2" BEL THE LOWER NUT.
PUMPS, PRESSURE REDUCING D WITH A REMOVABLE DRAIN TE PIPE BY MEANS OF AN AIR	 a. PROVIDE MINIMUM 12" LONG AIR CHAMBERS FOR HOT AND COLD WATER CONNECTIONS TO ALL SUPPLY FIXTURES. b. PROVIDE MINIMUM 24" LONG AIR CHAMBERS AT THE TOP OF ALL HOT AND COLD WATER 	8. PROVIDE ROLLER SUPPORTS TO ALLOW FOR PIPE MOVEMENT WHEREVER THE LENGTH OF F AND/OR THE EXPANSION OF THE PIPE REQUIRE. FIXED PIPE SUPPORTS THAT DO NOT ALLOW FOR THE NATURAL MOVEMENT OF PIPING DUE TO EXPANSION ARE NOT ALLOWED UNLESS
OF WASTE PIPE IS NOT	RISERS. 9. WATER HAMMER ARRESTORS	 OTHERWISE NOTED. 9. VERTICAL PIPE RISERS SHALL BE ANCHORED AND EXPANSION COMPENSATION MEANS SHAL BE PROVIDED PER THE DRAWINGS. ALL VERTICAL PIPE RISERS SHALL BE SUPPORTED AT EA EXPORT OF THE DRAWINGS.
UIPMENT, CONTROL VALVES, ANGE CONNECTIONS SO THAT IG OR VALVES.	 a. MAINTENANCE FREE PISTON STYLE b. NPT SOLID HEX BRASS ADAPTOR CONNECTION. c. PDI LISTED - PDI WH201. 	FLOOR BY 1-1/2" X 1/4" BAR CLAMPS ATTACHED TO PIPES AND RESTING ON THE FLOOR CONSTRUCTION.
	 d. ASSE 1010 APPROVED. e. FACTORY PRE-CHARGED WITH AIR AND PERMANENTLY SEALED. f. COPPER BODY, POLYPROPYLENE PISTON, EPDM O-RING. 	 B. PIPE EXPANSION 1. CONTRACTOR TO ACCOUNT FOR THERMAL PIPE EXPANSION AND CONTRACTION TO PREVEN
G TO OWNER'S PERSONNEL FOR	g. PROVIDE ACCESS FOR FUTURE REPLACEMENT.	ADVERSE EFFECTS TO PIPING SYSTEM AND BUILDING. THIS INCLUDES ALL CLEARANCES, ANCHORING, GUIDES, PIPE MOVEMENT, ETC.
S SHALL BE INCLUDED AS PART NANCE MANUALS, ETC. SHALL BE	 INSTALL AIR VENTS AT HIGH POINTS IN ALL PIPING AND AS REQUIRED FOR SYSTEM VENTING. INSTALL DRAIN VALVES AT LOW POINTS IN PIPING AND AS REQUIRED FOR SYSTEM DRAINAGE. DRAINS SHALL NOT BE LESS THAN 3/4". 	2. EFFORT HAS BEEN MADE WITHIN THE CONTRACT DOCUMENTS TO ACCOUNT FOR THERMAL EXPANSION AND CONTRACTION BASED ON THE ENGINEER'S LAYOUT OF THE PIPING SYSTEM THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THE FINAL LOCATIONS, QUANTITIES &
MONSTRATION AND TRAINING. DDITIONAL INFORMATION.	12. RELIEF VALVES SHALL BE OF ASME CODE CONSTRUCTION AND MEET OR EXCEED LOCAL CODES AND ORDINANCES.	DESIGN OF ALL ANCHORS, GUIDES, SUPPORTS, EXPANSION DEVICES, ETC. 3. DESIGN & PRODUCT SUBMITTALS - THE CONTRACTOR SHALL PROVIDE SUBMITTALS TO THE
OVER 1 SEPARATE VISITS ON	 INSTALL UNIONS IN PIPING ADJACENT TO EACH PIECE OF EQUIPMENT HAVING A 4-INCH OR SMALLER PIPE CONNECTION. 	ENGINEER FOR ALL ANCHORS, GUIDES, SUPPORTS, EXPANSION DEVICES, ETC. THESE SUBMITTALS SHALL OUTLINE QUANTITIES, LOCATIONS, ETC THAT REFLECT FIELD CONDITION AND CONTRACTOR'S FINAL LAYOUT OF PIPING EQUIPMENT.
ING IS COMPLETE AS APPROVED HORITY.	14. INSTALL FLANGES IN PIPING ADJACENT TO EACH PIECE OF EQUIPMENT HAVING A 5-INCH OR	C. PIPE SLEEVES
GAUTHORITY.	LARGER PIPE CONNECTION. 15. INSTALL DI-ELECTRIC FITTINGS TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS.	 PROVIDE ALL PIPE OPENINGS THROUGH WALLS, PARTITIONS, SLABS, ETC. WITH SLEEVES HAVING AN INTERNAL DIAMETER AT LEAST 1" LARGER THAN THE OUTSIDE DIAMETER OF THE PIPE AND INSULATION. SET SLEEVES IN PLACE BEFORE POURING CONCRETE.
	 G. PIPE LABELING 1. STENCIL TYPE MARKERS WILL NOT BE PERMITTED. ONLY FACTORY MANUFACTURED MARKERS AS FOLLOWS WILL BE ACCEPTABLE: 	 PROVIDE ESCUTCHEONS FITTING OVER THE SLEEVES ON BOTH SIDES OF THE PENETRATION FOR ALL PIPES EXPOSED TO VIEW PASSING THROUGH WALLS, FLOORS, CEILINGS, PARTITION ETC.
ON'S "COPPER TUBE	a. FOR INDOOR USE, UTILIZE ADHESIVE PIPE MARKERS - LARGEST SIZE POSSIBLE GIVEN THE PIPE OR INSULATION OUTER DIAMETER. WITH BOTH ENDS SECURED WITH ARROW TAPE OF	
NTS SHALL COMPLY WITH	MATCHING SIZE AND COLOR SCHEME. b. FOR OUTDOOR USE, UTILIZE "STRAP AROUND" TYPE SECURED WITH HEAVY DUTY ZIP TIES.	X. FUNCTIONAL TESTING
N, OR MAINTENANCE, SUCH L BE READILY ACCESSIBLE. WITHOUT PROVISION FOR RKING LEVEL SHALL BE	2. IDENTIFICATION MARKERS SHALL BE PLACED ON ALL EXPOSED AND CONCEALED PIPES AT 20'-0" INTERVALS, AT ALL VALVES AND BRANCHES, AND ON BOTH SIDES OF WALLS WHERE PIPES PASS THROUGH. ARROWS OF SAME COLOR AS IDENTIFICATION MARKERS SHALL ALSO BE PLACED ON PIPES POINTING AWAY FROM MARKER INDICATING DIRECTION OF FLOW.	 A. GENERAL 1. CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL LABOR AND MATERIALS REQUIRED T PERFORM FUNCTIONAL TESTING ON THIS PROJECT.
	3. COORDINATE COLOR SCHEME WITH EXISTING PIPING AND SUBMIT TO ENGINEER PRIOR TO	B. PRIME CONTRACTOR DOCUMENTATION:
RALLEL TO BUILDING WALLS.	ORDERING. H. VALVE IDENTIFICATION	 THE FOLLOWING SHALL BE COMPLETED BY THE PRIME CONTRACTOR AND REPORTS SHAL SUBMITTED TO OWNER AND ENGINEER PRIOR TO THE START OF FUNCTIONAL TESTING. OWNER AND ENGINEER RESERVE THE RIGHT TO DELAY FUNCTIONAL TESTING DUE TO THE
APPROVED PRIOR TO CEILINGS, RECESSES, ETC. ESS SPECIFICALLY NOTED ON	1. FURNISH AND INSTALL TAGS FOR ALL NEW VALVES.	INCOMPLETENESS OF ANY OF THE FOLLOWING ITEMS:
STING IS COMPLETED. CH CLEARANCE AROUND	 VALVE TAGS SHALL HAVE UNIQUE NUMBERS AND SHALL BE COORDINATED WITH THE ENGINEER PRIOR TO ORDERING. 	a. LEAKAGE TESTING.b. STARTUP REPORTS.c. DRAFT OF O&M'S.
IGS MAY BE BID AS AN	 VALVE TAGS SHALL BE BRASS MATERIAL AND SHALL BE FASTENED WITH A STURDY CHAIN. VALVE TAG NUMBERS SHALL BE INDICATED ON THE AS-BUILT DRAWINGS. AS-BUILT DRAWINGS 	d. CONTROL PANELS AND WIRING ARE LABELED.
DOMS.	SHALL INCLUDE VALVE SCHEDULE TO BE DISPLAYED WITHIN THE BUILDING.	
TUBING, NO JOINTS,	VII. PIPING - WASTE AND VENT	XII. ELECTRICAL WORK
IR GAP AROUND THE	A. GENERAL	ELECTRICAL CONTRACTOR. B. ALL PANEL BOARDS FURNISHED SHALL BE MAIN CIRCUIT BREAKER OR MLO, COPPER BUS WITH
PPER, SOLDER-JOINT	 COMPLY WITH PROVISIONS OF CAST IRON SOIL PIPE INSTITUTE (CISPI) HANDBOOK, COPPER DEVELOPMENT ASSOCIATION'S "COPPER TUBE HANDBOOK", AND AMERICAN SOCIETY OF TESTING AND MATERIALS (ASTM). 	BOLT-ON STYLE BREAKERS RATED AT 22KA I/C.
IRON, MECHANICAL JOINT,	 SYSTEM COMPONENTS WHICH REQUIRE OBSERVATION, OPERATION, OR MAINTENANCE, SUCH AS VALVES, CLEANOUTS, DRAINS, EQUIPMENT, CONTROLS, UNIONS, ETC., SHALL BE READILY ACCESSIBLE. THEY SHALL NOT BE CONCEALED IN CHASES OR ABOVE CEILINGS WITHOUT 	 C. BREAKERS INSTALLED IN EXISTING PANELS SHALL MATCH EXISTING PANEL MANUFACTURER REQUIREMENTS. D. ALL INDOOR CONDUIT SHALL BE TYPE "EMT" WITH GLAND (COMPRESSION) TYPE CONNECTORS COUPLINGS.
G WITH 95/5 SOLDER JOINT	PROVISION FOR ACCESS.3. INSTALL PIPING WITH SLOPE TO ALLOW FOR PROPER FUNCTIONALITY. PIPING SHALL BE	E. ALL OUTDOOR CONDUIT SHALL BE TYPE "IMC" WITH THREADED COUPLINGS OR RIGID METAL CONDUIT.
	INSTALLED WITH THE MINIMUM FOLLOWING SLOPES OR AS DICTATED ON THE DRAWINGS: a. SANITARY, WASTE, AND VENT PIPING	 F. FINAL CONNECTION TO ALL MOTORS AND MACHINERY SHALL BE VIA A MIN. 5'-0" LENGTH OF FLEXIBLE CONDUIT.
ID EXISTING PIPING AS NSULATION APPLIED WITH AN 5, JOINTS, AND STAPLES	 3" AND SMALLER: 1/4" PER FOOT 4" AND LARGER: 1/8" PER FOOT 5. STORM PIPING 	G. EACH PIECE OF MECHANICAL EQUIPMENT REQUIRING ELECTRICAL POWER SHALL HAVE A LOC
SHALL COMPLY WITH CODE	 ALL SIZES: 1/8" PER FOOT KITCHEN WASTE PIPING ALL SIZES: 1/4" PER FOOT 	DISCONNECT. H. PRIOR TO OPERATING OR FINAL CONNECTION OF ANY WIRED DEVICE, EACH CABLE RUN (NEW
F THIS PROJECT) ON	4. INSTALL INTERIOR AND EXTERIOR PIPING AT RIGHT ANGLES OR PARALLEL TO BUILDING WALLS.	EXISTING) SHALL BE MEGGER TESTED WITH NOT LESS THAN A 1000 VOLT MEGGER. ANY CABLE SHOWN TO BE "CLEAN" SHALL BE REPLACED PRIOR TO ENERGIZING. ALL CABLE SHALL BE STRANDED COPPER, 600 VOLT, TYPE "XHHW" (WET) OR "THHN" (DRY).
THE FOLLOWING SCHEDULE	DIAGONAL RUNS ARE PROHIBITED, EXCEPT WHERE INDICATED OR APPROVED PRIOR TO INSTALLATION. RUN PIPING IN WALL CHASES, PIPE SHAFTS, HUNG CEILINGS, RECESSES, ETC. AS APPLICABLE. DO NOT RUN SERVICE PIPING IN FLOOR SLAB UNLESS SPECIFICALLY NOTED ON DRAWINGS. PIPING SHALL NOT BE COVERED OR CLOSED UNTIL TESTING IS COMPLETED.	I. EC SHALL VERIFY ROTATION, MEASURE VOLTAGE AND THE RUNNING AMPERAGE OF EACH SYS OR EQUIPMENT PROVIDED WITH POWER UNDER THIS CONTRACT AND COMPARE WITH THE NAMEPLATE RATING. PROVIDE REPORT TO OWNER AND ENGINEER.
	 PROVIDE WASTE AND STORM CLEANOUTS AT THE BASE OF RISERS, ENDS OF HORIZONTAL MAINS, CHANGES IN DIRECTION, CODE SPECIFIED INTERVALS OR AS SPECIFIED IN DOCUMENTS. INTENT IS TO ALLOW ALL WASTE AND STORM PIPING TO BE RODDED AFTER INSTALLATION. 	J. STARTERS SHALL BE FULL VOLTAGE ACROSS THE LINE WITH CIRCUIT BREAKERS, OVERLOAD HEATERS, AND CONTROL TRANSFORMER. EC SHALL COORDINATE WITH BASC FOR EXACT CONTROLS REQUIREMENTS. STARTER SHALL BE PROVIDED WITH 'HOA' SWITCH AND RUNNING
ETARDER COMPOSED OF A BONDED TO ALUMINIZED	6. FOR VENTS PENETRATING ROOFS, PROVIDE 24 INCH SQUARE FLASHING AND TURN VENT FLASHING DOWN INTO VENT PIPE.	LIGHTS INDICATING MODE OF OPERATION.
E FITTINGS.	7. INSTALL PIPING TO ALLOW APPLICATION OF INSULATION PLUS 1-INCH CLEARANCE AROUND INSULATION.	
VENTURECLAD PLUS 1579 CKETING SYSTEM. PROVIDE	B. UNDERGROUND PIPING	
E TESTING OF PIPE.	1. ALL PIPE SIZES: SCHEDULE 40 SOLID-WALL PVC PIPING ASTM D 2665 WITH SCHEDULE 40 PVC	
	SOCKET FITTINGS ASTM D 2665, MADE TO ASTM D 3311, ADHESIVE PRIMER ASTM F 656, AND SOLVENT CEMENT ASTM D 2564. PIPING TO COMPLY WITH NSF 14; INCLUDE MARKING WITH "NSF-DWV" FOR PLASTIC DRAIN, WASTE, AND VENT PIPING AND "NSF-SEWER" FOR PLASTIC	
EQUIPMENT, INDIVIDUAL G OF ROOMS, PORTIONS OF HEN SHALL HAVE VALVES AS	SEWER PIPING.	
TEN SHALL HAVE VALVES AS ON FLOOR PLANS OR RISER	1. ALL PIPE SIZES: SCHEDULE 40 SOLID-WALL PVC PIPING ASTM D 2665 WITH SCHEDULE 40 PVC	
L BE PROVIDED WITH A NEW XEMPT.	SOCKET FITTINGS ASTM D 2665, MADE TO ASTM D 3311, ADHESIVE PRIMER ASTM F 656, AND SOLVENT CEMENT ASTM D 2564. PIPING TO COMPLY WITH NSF 14; INCLUDE MARKING WITH "NSF-DWV" FOR PLASTIC DRAIN, WASTE, AND VENT PIPING AND "NSF-SEWER" FOR PLASTIC SEWER PIPING. PVC NOT ALLOWED IN PLENUMS.	

4. INSTALL ALL VALVES WITH STEMS IN EITHER AN UPRIGHT (PREFERRED) OR HORIZONTAL

D. LABELING

ORDERING.

VIII. TESTING AND CLEANING

SYSTEM UNDER TEST.

AT LEAST 15 MINUTES.

C652.

A. TESTING

b. Y PATTERN WITH 20 MESH STAINLESS STEEL PERFORATED SCREEN

5. SUBMIT REPORTS WITHIN 48 HOURS OF TEST DATES TO ENGINEER INDICATING TEST DATE. STARTING AND ENDING TEST PRESSURES OR WATER LEVELS, AND DURATION, AS WELL AS CERTIFICATION OF SUCCESSFUL TEST. 6. PIPING SHALL NOT BE CONCEALED, BACKFILLED, INSULATED, OR SIMILAR UNTIL PRESSURE

4. ALL PIPING SYSTEMS SHALL BE TESTED. IF LEAKS OCCUR, THE PIPE OR FITTING SHALL BE

1. UN-INSULATED PIPING: CLEAN PIPE WHICH COULD IMPAIR BOND AS REQUIRED TO ADHERE

LARGEST SIZE POSSIBLE GIVEN THE PIPE OUTSIDE DIAMETER.

MANUFACTURED MARKERS AS FOLLOWS WILL BE ACCEPTABLE:

MATCHING SIZE AND COLOR SCHEME.

STENCIL TYPE MARKERS SPRAY PAINTED WITH EXTERIOR GLOSS ACRYLIC ENAMEL, UTILIZE

2. INSULATED STORM PIPING: STENCIL TYPE MARKERS WILL NOT BE PERMITTED. ONLY FACTORY

a. FOR INDOOR USE, UTILIZE ADHESIVE PIPE MARKERS - LARGEST SIZE POSSIBLE GIVEN THE PIPE OR INSULATION OUTER DIAMETER, WITH BOTH ENDS SECURED WITH ARROW TAPE OF

3. IDENTIFICATION MARKERS SHALL BE PLACED ON ALL EXPOSED AND CONCEALED PIPES AT 20'-0"

INTERVALS, AT ALL VALVES AND BRANCHES, AND ON BOTH SIDES OF WALLS WHERE PIPES PASS THROUGH. ARROWS OF SAME COLOR AS IDENTIFICATION MARKERS SHALL ALSO BE

1. PRIOR TO ANY TESTING, ALL NEW WATER PIPING SYSTEMS SHALL BE FLUSHED USING WATER.

SUBJECT ALL CLOSED SYSTEMS OPERATING UNDER PRESSURE TO HYDROSTATIC PRESSURE

MAXIMUM PRESSURE RATING FOR ANY VESSEL, PUMP, VALVE, OR OTHER COMPONENT IN

3. ALL OPEN SYSTEMS, SEWERS, ETC., SHALL BE TESTED WITH WATER AT A MINIMUM OF TEN (10)

TESTS THAT IS NOT LESS THAN 80 PSIG AND 1.5 TIMES THE SYSTEM'S WORKING PRESSURE FOR

A MINIMUM OF 1 HOUR OR AS SPECIFICALLY INDICATED. TEST PRESSURE SHALL NOT EXCEED

FOOT OF HEAD; THE WATER LEVEL SHALL BE MAINTAINED IN THE PORTION BEING TESTED FOR

LOW POINT DRAINS SHALL BE OPENED AND THE SYSTEMS PROVED TO BE DRAINABLE.

PLACED ON PIPES POINTING AWAY FROM MARKER INDICATING DIRECTION OF FLOW.

4. COORDINATE COLOR SCHEME WITH EXISTING PIPING AND SUBMIT TO ENGINEER PRIOR TO

TESTING IS COMPLETE AND REVIEWED. B. CLEANING

REMOVED AND REPLACED AND THE SYSTEM RETESTED.

- 1. AFTER SUCCESSFUL TESTING OF THE PIPING SYSTEMS, FLUSH AND DRAIN AT A MINIMUM OF 3 FEET PER SECOND NEW PIPING AND PARTS OF EXISTING PIPING THAT HAVE BEEN ALTERED, EXTENDED, OR REPAIRED USING CLEAN POTABLE WATER UNTIL NO DIRTY WATER APPEARS AT THE OUTLET.
- AFTER FLUSHING, USE PURGING AND DISINFECTING PROCEDURES PRESCRIBED BY AUTHORITIES HAVING JURISDICTION. IF PROCEDURES ARE NOT PRESCRIBED BY THE AUTHORITY, USE PROCEDURES IN ANSI/AWWA STANDARD C651 AND/OR ANSI/AWWA STANDARD
- 3. IF WATER IS NOT CHLORINATED, DISINFECTION OF PIPING SHALL BE PER THE AUTHORITY HAVING JURISDICTION.

XPANSION AND SLEEVES

W HORIZONTAL PIPING SHALL BE SUPPORTED BY STEEL CLEVIS OR TRAPEZE HANGERS ACKETS AT SUFFICIENT INTERVALS TO MAINTAIN A STRAIGHT LINE, BUT NOT TO EXCEED SPACING ON CENTERS OF HANGERS IN ANY CASE, WITH A SEPARATE HANGER FOR RANCH. HANGERS SHALL BE LOCATED TO AVOID UNDUE STRESS ON JOINTS. SUPPORT IB AND NO HUB PIPING WITHIN 18" OF BOTH SIDES OF EACH JOINT. TYPE HANGERS SHALL BE INSTALLED ON THE FIRST 20 FEET OF HORIZONTAL PIPING ON

AND TRUE. THE ROD SUPPORTING THE HANGER SHALL BE NO LONGER THAN 1/2" BELOW WER NUT. DE ROLLER SUPPORTS TO ALLOW FOR PIPE MOVEMENT WHEREVER THE LENGTH OF PIPE THE EXPANSION OF THE PIPE REQUIRE. FIXED PIPE SUPPORTS THAT DO NOT ALLOW

AL TESTING

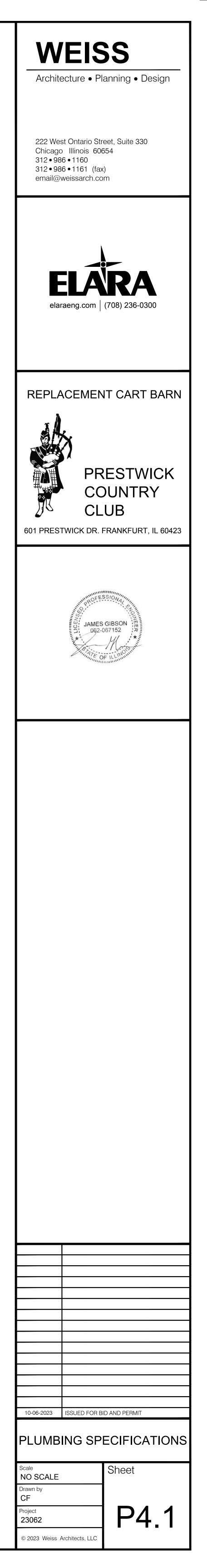
FOLLOWING SHALL BE COMPLETED BY THE PRIME CONTRACTOR AND REPORTS SHALL BE 3MITTED TO OWNER AND ENGINEER PRIOR TO THE START OF FUNCTIONAL TESTING. VER AND ENGINEER RESERVE THE RIGHT TO DELAY FUNCTIONAL TESTING DUE TO THE MPLETENESS OF ANY OF THE FOLLOWING ITEMS:

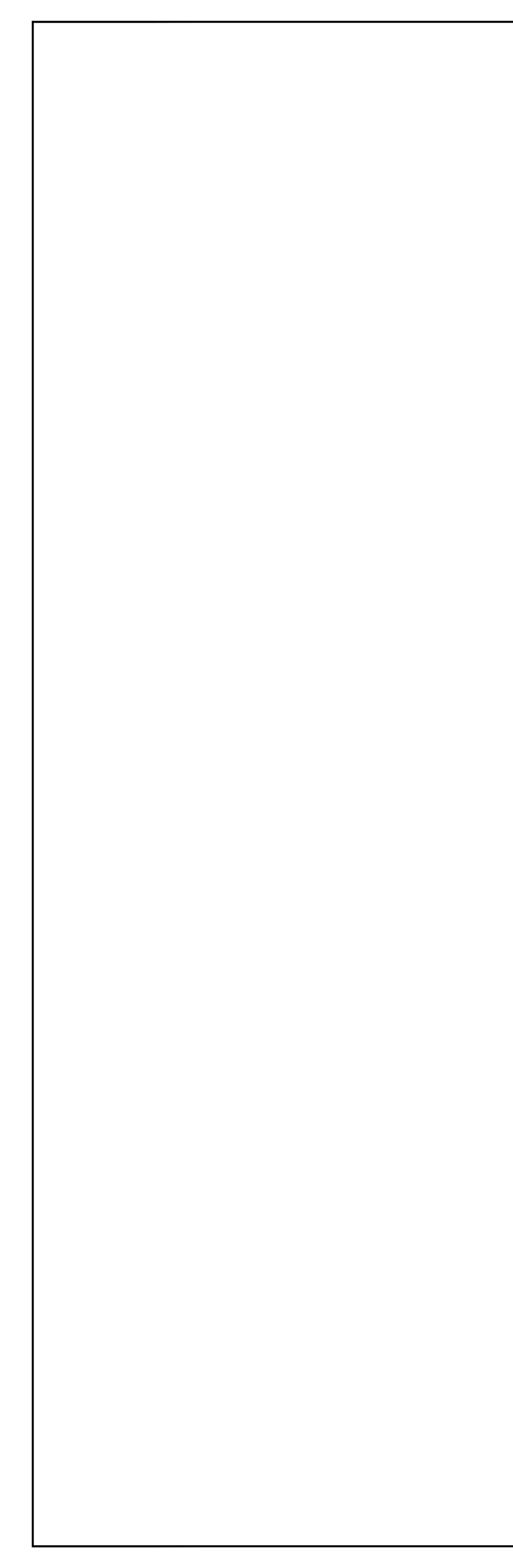
AL WORK

RS INSTALLED IN EXISTING PANELS SHALL MATCH EXISTING PANEL MANUFACTURER OR CONDUIT SHALL BE TYPE "EMT" WITH GLAND (COMPRESSION) TYPE CONNECTORS AND

OPERATING OR FINAL CONNECTION OF ANY WIRED DEVICE, EACH CABLE RUN (NEW OR) SHALL BE MEGGER TESTED WITH NOT LESS THAN A 1000 VOLT MEGGER. ANY CABLE NOT TO BE "CLEAN" SHALL BE REPLACED PRIOR TO ENERGIZING. ALL CABLE SHALL BE ED COPPER, 600 VOLT, TYPE "XHHW" (WET) OR "THHN" (DRY).

VERIFY ROTATION, MEASURE VOLTAGE AND THE RUNNING AMPERAGE OF EACH SYSTEM MENT PROVIDED WITH POWER UNDER THIS CONTRACT AND COMPARE WITH THE TE RATING. PROVIDE REPORT TO OWNER AND ENGINEER.



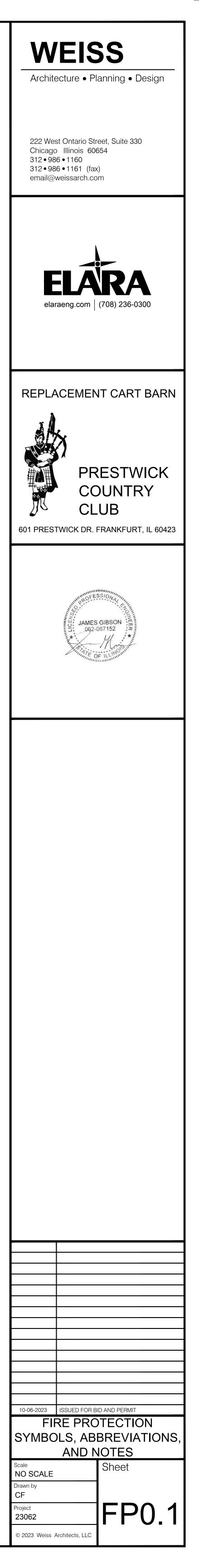


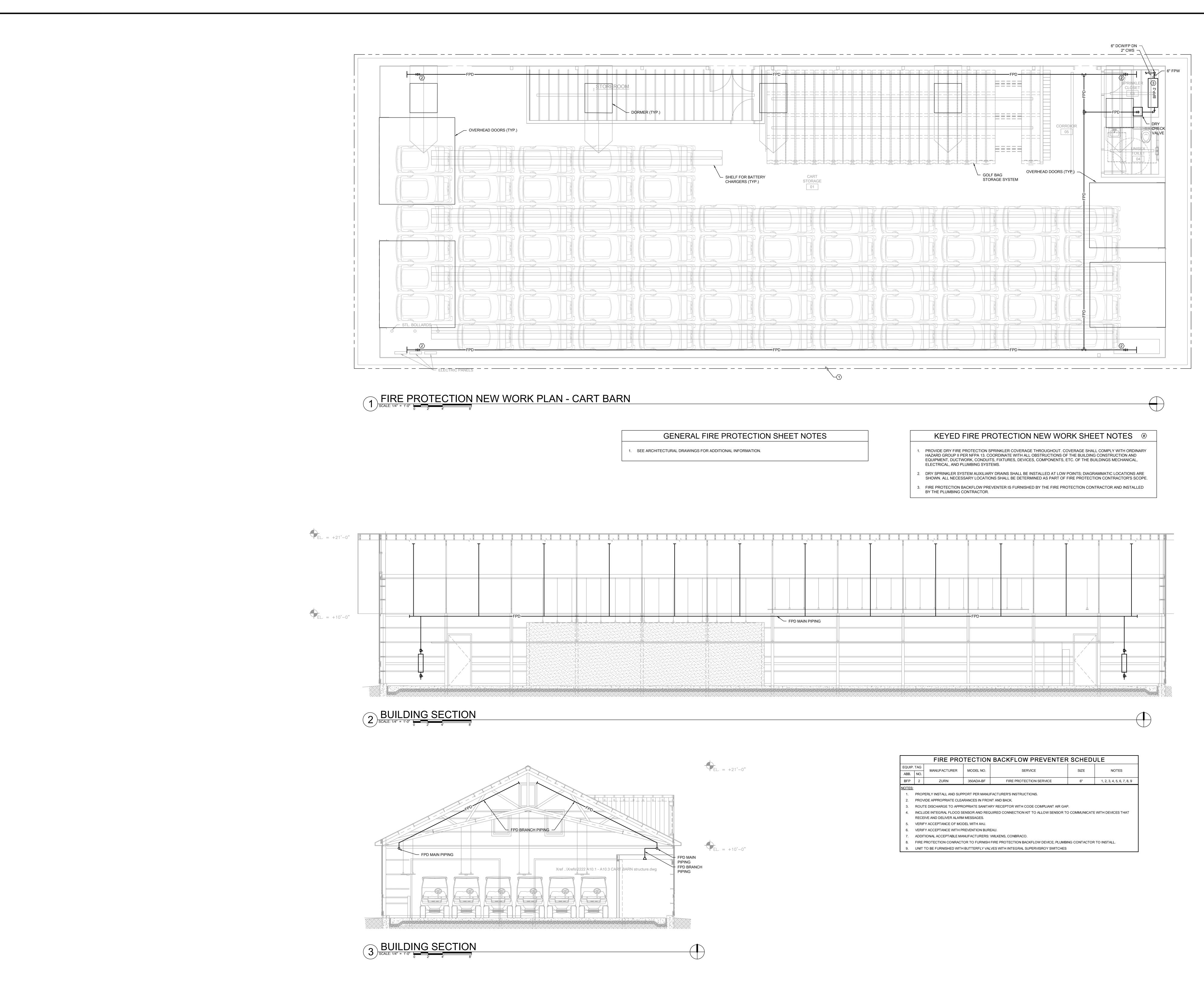
	ABBREV	IATIO	NS			
AD	AREA DRAIN	HP	HORSEPOWER		GENERAL	
AFC	APPROVED FOR CONSTRUCTIO	IE	INVERT ELEVATION			
AFF		ISO	INTERNATIONAL STANDARDS ASSOCIATION			F
AKA API	ALSO KNOWN AS AMERICAN PETROLEUM INSTITUTE	ITC IS&Y	INSPECTORS TEST CONNECTION INSIDE SCREW AND YOKE			
AMP	AMPERE	ITP	INSIDE SCREW AND TOKE INSPECTION TEST PLAN		0	F
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	JP	JOCKEY PUMP			
AP	ACCESS PANEL	JPC	JOCKEY PUMP CONTROLLER		\otimes	F
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	KW	KITCHEN WASTE OR KILOWATT			
ASME ASSE	AMERICAN SOCIETY OF MECHANICAL ENGINEERS AMERICAN SOCIETY OF SAFETY ENGINEERS	MC MFG	MECHANICAL CONTRACTOR MANUFACTURER		*	R
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MSS	MANUFACTURERS STANDARDIZATION SOCIETY			
BASC	BUILDING AUTOMATION SYSTEMS CONTRACTOR	NC	NORMALLY CLOSED		오 (11) 11 11 11 11 11 11 11 11 11 11 11 11	E
BB	BOLTED BONNET	NDT	NON-DESTRUCTIVE TESTING			
BFP	BACKFLOW PREVENTER	NIC			•	Р
BOP BOS	BOTTOM OF PIPE BOTTOM OF STEEL	NICET	NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES			
BSP	BLACK STEEL PIPE	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION			Р
BW	BUTT WELD	NPS	NOMINAL PIPE SIZE		_	
CA	COMPRESSED AIR	NPW	NON POTABLE WATER			
CFPS	CERTIFIED FIRE PROTECTION SPECIALIST	NO	NORMALLY OPEN			Е
CI CISPI	CAST IRON CAST IRON SOIL PIPE INSTITUTE	NS NSF	NOT SPRINKLERED NATIONAL SCIENCE FOUNDATION			
CLG	CEILING	NTS	NOT TO SCALE			
CO	CLEANOUT	OD	OVERFLOW DRAIN			
CONN	CONNECTION	OSD	OPEN SITE DRAIN		SR	R
DAC	DRY AIR SYSTEM COMPRESSOR	OS&Y	OUTSIDE STEM AND YOKE			
DBCV DCV	DOUBLE CHECK VALVE DUAL CHECK VALVE	P PA	PUMP PIPE ANCHOR			
DCV DCW	DOMESTIC COLD WATER	PA PC			MATCH LINE	
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY	PD	PUMP DISCHARGE		—	– M
DDCV	DOUBLE-DETECTOR CHECK VALVE	PDI	PLUMBING & DRAINAGE INSTITUTE		SEE SHEET NO. X#.##	
DFP		PE	PROFESSIONAL ENGINEER			
DFU DIA	DRAINAGE FIXTURE UNIT DIAMETER	PH PI	PHASE PRESSURE INDICATOR			
DIA DN	DOWN	PI	PRESSURE INDICATOR POST INDICATOR VALVE		1	
DPV	DRY PIPE ASSEMBLY	PPM	PARTS PER MILLION			π
DT	DRAIN TILE	PRV	PRESSURE REDUCING VALVE			
E	EXISTING TO REMAIN	PS	PLUMBING STACK			
EC E.C.	EXTENDED COVERAGE ELECTRICAL CONTRACTOR	PSI PSIG	POUNDS PER SQUARE INCH		VIEW #	
E.C. ECC	ECCENTRICAL CONTRACTOR	ORD	POUNDS PER SQUARE INCH IN GAUGE OVERFLOW ROOF DRAIN		2	S
EPDM	ETHYLENE PROPYLENE DIENE MONOMER	RCP	RECIRCULATION PUMP		X#,##	
ESP	ELEVATOR SUMP PUMP	RD	ROOF DRAIN		SHEET #	
ETR	EXISTING TO REMAIN	RH	ROOF HYDRANT			
FA FACP	FIRE ALARM FIRE ALARM CONTROL PANEL	ROB	ROD OUT BASIN		FIRE PROTECT	ΓΙΟΝ
FACP	FIRE PROTECTION CONTRACTOR	RPDA RPM	REDUCED PRESSURE DETECTOR ASSEMBLY REVOLUTIONS PER MINUTE			
FCA	FLOOR CONTROL ASSEMBLY	RPZ	REDUCED PRESSURE ZONE BACKFLOW PREVENTER			Ν
FCIA	FIRESTOP CONTRACTORS INTERNATIONAL	RTG	RATING			
	ASSOCIATION	SC	SITE UTILITY CONTRACTOR			E
FCO	FLOOR CLEANOUT FLOOR DRAIN	SCV	SUPERVISED CONTROL VALVE			
FD FDC	FLOOR DRAIN FIRE DEPARTMENT CONNECTION	SFPE SP	SOCIETY OF FIRE PROTECTION ENGINEERS SUMP PUMP			E
FDV	FIRE DEPARTMENT VALVE	SQ	SQUARE FEET			
FDVC	FIRE DEPARTMENT VALVE CABINET	SS	SERVICE SINK			Ν
FE	FIRE EXTINGUISHER	S.S.	STAINLESS STEEL			
FEC	FIRE EXTINGUISHER CABINET	TB				D
FP FPC	FIRE PROTECTION FIRE PUMP CONTROLLER	TBE TD	THREADED BOTH ENDS TRENCH DRAIN			
FPD	FIRE PROTECTION DRY PIPING	TMV	THERMOSTATIC MIXING VALVE		<u> </u>	D
FPS	FEET PER SECOND	TOS	TOP OF STEEL			
FPW	FIRE PROTECTION WET PIPING	TPRV	TEMPERATURE AND PRESSURE REDUCING VALVE			Р
FS F.S.	FLOOR SINK FLOW SWITCH					
F.S. FT	FLOW SWITCH FEET	TYP UL	TYPICAL UNDERWRITERS LABORATORY			С
GALV	GALVANIZED	UNO	UNLESS NOTED OTHERWISE			
GC	GENERAL CONTRACTOR	VB	VACUUM BREAKER			E
GCO	GROUND CLEANOUT	WCO	WALL CLEANOUT			
GPD	GALLONS PER DAY	WH				0
GPH GPM	GALLONS PER HOUR GALLONS PER MINUTE	WHA WSB	WATER HAMMER ARRESTOR WALL SUPPLY BOX			
HB	HOSE BIBB	WSFU	WALL SUPPLY BOX WATER SUPPLY FIXTURE UNITS			Р
HD	HEAD	WT	WALL THICKNESS			
		YCO	YARD CLEANOUT			Р
		YH	YARD HYDRANT			
					X	Р
				4	1	

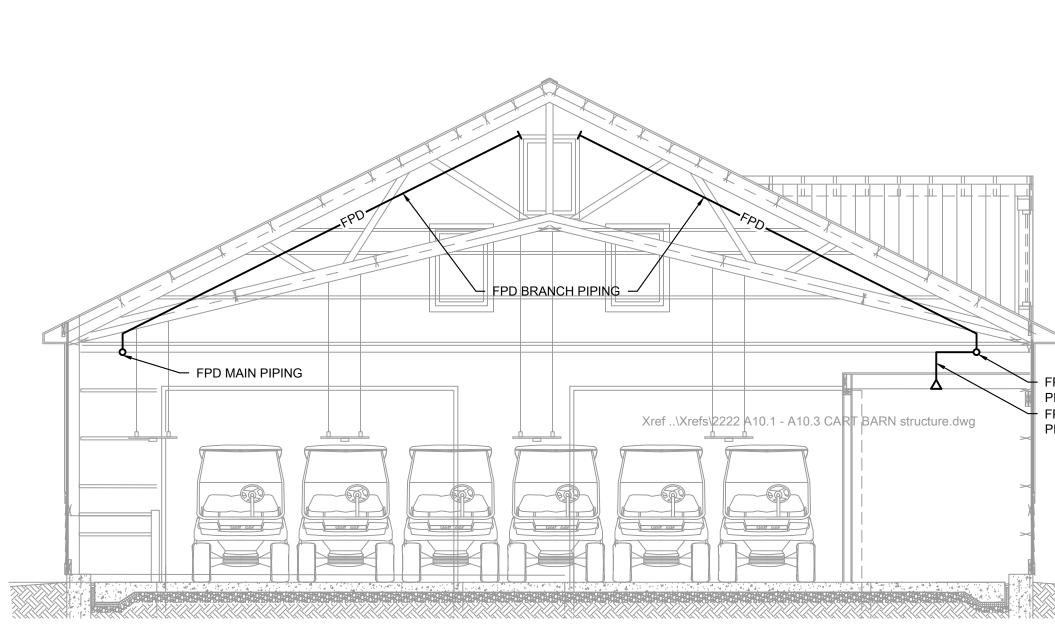
NOTE: NOT ALL ABBREVIATIONS LISTED ABOVE MAY BE USED OR APPEAR IN THESE DRAWINGS.

CENERAL Internet value C Internet val		FIRE PROTEC	TION SYMBOL	S
B FLOOR SUMA FLOOR SUMA B FLOOR SUMA FLOOR SUMA B FLOOR SUMA FLOOR SUMA C FLOOR SUMA FLOOR SUMA	GENERAL			BUTTERELY VALVE
0 FLODE CLEANAULT Image: Clean Cleanault Image: Cleanault 0 FLODE CLEANAULT Image: Cleanault Image: Cleanault Image: Cleanault 0 FLODE CLEANAULT Image: Cleanault Image: Cleanault Image: Cleanault 1 FLODE CLEANAULT Image: Cleanault Image: Cleanault Image: Cleanault 1 FLODE CLEANAULT Image: Cleanault Image: Cleanault Image: Cleanault 1 FLODE CLEANAULT Image: Cleanault Image: Cleanault Image: Cleanault 1 FLODE CLEANAULT Image: Cleanault Image: Cleanault Image: Cleanault 1 FLODE CLEANAULT Image: Cleanault Image: Cleanault Image: Cleanault 1 FLODE CLEANAULT Image: Cleanault Image: Cleanault Image: Cleanault 1 FLODE CLEANAULT Image: Cleanault Image: Cleanault Image: Cleanault Image: Cleanault 1 FLODE CLEANAULT Image: Cleanault Image: Cleanault Image: Cleanault Image: Cleanault Image: Cleanault 1 FLODE CLEANAULT Image: Cleanault Image: Cleanault Image: Cleanault Image: C	e E	FLOOR DRAIN	U ''	
COOR CLEARAUT COURT CLEARAUT COURT CAN COURT CAN COURT CA	O	FLOOR SINK		CHECK VALVE
Additional Procession of New York Existing WORK Prove Connection of New York Prove Connection of	\otimes	FLOOR CLEANOUT		
EXERCISENCY SHUTOPF POINT OF CONSCIONCY OF ANY TO EXISTING WORK POINT OF DEMOLITION POINT OF DEMOLITION TO EXISTING WORK POINT OF DEMOLITION POINT OF DEMOLITION TO EXISTING WORK POINT OF DEMOLITION POINT OF DEMOLITICATION POI	*	ROOF DRAIN	Ă. →≫–	GATE VALVE
POWT OF DEMONTION TO FXISTING WORK POW POWT OF DEMONTION TO FXISTING WORK POW POWT OF DEMONTION OF XISTING WORK POW POWT POWT TAG POWT TA	全	EMERGENCY SHUTOFF		
AMMERICATION FOULPERINT TAG PRE ALGOMENT GUIDE AMMERICATION REFE TAG PRE PROTECTION REFERENCE PRE PROTECTION REFERENCE AMERICATION REFE TAG PRE PROTECTION REFERENCE PRE PROTECTION REFERENCE AMERICATION REFERENCE BER PROTECTION REFERENCE PRE PROTECTION REFERENCE PRE PROTECTION REFERENCE AMERICATION REFERENCE BER PROTECTION REFERENCE PRE PROTECTION REFERENCE PRE PROTECTION REFERENCE BER PROTECTION FREE DUDING BER PROTECTION REFERENCE BER PROTECTION REFERENCE PRE PROTECTION REFERENCE BER PROTECTION BER PROTECTION REFERENCE BER PROTECTION REFERENCE PRE PROTECTION<	Ð	POINT OF CONNECTION OF NEW TO EXISTING WORK		BACKFLOW PREVENTER
AGE AGE ALLER AGENERATION REFET AG PPE ACHOR SEE SHEET INC XMM MATCH LINE PPE ACHOR AGENERATION MATCH LINE PPE ACHOR SEE SHEET INC XMM MATCH LINE PPE ACHOR AGENERATION MATCH LINE PPE ACHOR SEE SHEET INC XMM REFERENCE PRE PROTECTION NEER - WET SEE STING PERMIN FRE PROTECTION NEER - WET TROUBLE RELL FIRE PROTECTION FRE PROTECTION NEER - WET FRE PROTECTION NEER - WET SECONTRUCTOR OF DED COMMANTOR FRE PROTECTION NEER - WET FRE PROTECTION SECONTRUCTOR OF PRE PROVE FRE PROTECTION FRE PROTECTION SECONTRUCTOR OF PRE PROVE FRE PROTECTION FRE PROTECTION		POINT OF DEMOLITION TO EXISTING WORK	XXX	FLEXIBLE PIPE CONNECTOR (OR CONNECTION)
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→ DIRECTION OF FLOW FI → DIRECTION OF PIPE PITCH, DOWN FHVC □ HOSE VALVE CABINET → PIPE CONTINUATION → FIRE DEPARTMENT VALVE → CLEANOUT → FIRE DEPARTMENT VALVE → CLEANOUT → INSPECTOR'S TEST CONNECTION → CLEANOUT → INSPECTOR'S TEST CONNECTION → ORIFICE PIPE UNION FIRE DESIGNATION: NO TEST · WET → ORIFICE PIPE UNION ↓ → DOESIGNATION → PIPE CAP ↓ OCINCEALED DOESIGNATION: → PIPE CAP ↓ OCINCEALED DOESIGNATION: → PIPE ELBOW, 30' HORIZONTAL → CONCEALED DOESIGNATION → PIPE ELBOW, 45' HORIZONTAL → PENDENT PENDENT → PIPE ELBOW, TURNED DOWN → PENDENT ON DROP NIPPLE → PIPE ELBOW, TURNED UP ● PENDENT ON DROP NIPPLE → PIPE ELBOW, TURNED UP ● PENDENT ON DROP NIPPLE → PIPE TEE, 90' HORIZONTAL × SIDEWALL		NEW PIPE CONNECTION		
Image: Pipe continuation Image: Pipe con	4	DIRECTION OF FLOW		FIRE DEPARTMENT CONNECTION
CLEANOUT →S□ INSPECTORS TEST CONNECTION Image: CLEANOUT ECCENTRIC PIPE REDUCER SPRINKLERS Image: CLEANOUT ORIFICE PIPE UNION Image: CLEANOUT Image: CLEANOUT ORIFICE PIPE UNION SPRINKLER DESIGNATIONS: NO TEXT · WET D · DRY G · GUARD Image: CLEANOUT PIPE CAP Image: CONCEALED Image: CLEANOUT PIPE ELBOW, 30° HORIZONTAL Image: CONCEALED Image: CLEANOUT Image: PIPE ELBOW, 45° HORIZONTAL Image: CONCEALED Image: PIPE ELBOW, 45° HORIZONTAL Image: PIPE ELBOW, 50° HORIZONTAL Image: CONCEALED Image: PIPE ELBOW, 50° HORIZONTAL Image: PIPE ELBOW, 50° HORIZONTAL Image: PIPE ELBOW Image: PIPE ELBOW, 50° HORIZONTAL Image: PIPE ELBOW, 50° HORIZONTAL Image: PIPE ELBOW Image: PIPE ELBOW, 50° HORIZONTAL Image: PIPE ELBOW, 50° HORIZONTAL Image: PIPE ELBOW, 50° HORIZONTAL Image: PIPE TEE, 45° HORIZONTAL Image: PIPE TEE, 45° HORIZONTAL Image: PIPE TEE, 50° HORIZONTAL Image: PIPE TEE, 45° HORIZONTAL Image: PIPE TEE, 45° HORIZONTAL Image: PIPE TEE, 45° HORIZONTAL Image: PIPE TEE, 45° HORIZONTAL Image: PIPE TEE, 45° HORIZONTAL Image: PIPE TEE, 45° HORIZONTAL Image: PIPE TEE, 45° HORIZONTAL Image: PIPE TEE, 45° HO	<u> </u>	DIRECTION OF PIPE PITCH, DOWN	FHVC	HOSE VALVE CABINET
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Image: Pipe elbow, 90° HORIZONTAL Image: Pendent Image: Pipe elbow, 70RNed DOWN Image: Pendent - Extended Image: Pipe elbow, 70RNed UP Image: Pendent on DROP NiPPle Image: Pipe reducer/increaser Image: Pendent on DROP NiPPle - Extended Image: Pipe tee, DOWN Image: Pendent on DROP NiPPle - Extended Image: Pipe tee, 45° HORIZONTAL Image: Pipe tee, 45° HORIZONTAL Image: Pipe tee, 90° HORIZONTAL Image: Pipe tee, 90° HORIZONTAL Image: Pipe tee, UP Image: Pipe tee, UP		PIPE ELBOW, 30° HORIZONTAL	\$	CONCEALED
→→ PIPE ELBOW, TURNED DOWN →★ PENDENT - EXTENDED →→ PIPE ELBOW, TURNED UP ●● PENDENT ON DROP NIPPLE →+→ PIPE REDUCER/INCREASER ●● PENDENT ON DROP NIPPLE - EXTENDED →+→ PIPE TEE, DOWN □▼ SIDEWALL →+→ PIPE TEE, 45° HORIZONTAL ▼ SIDEWALL - EXTENDED →+→ PIPE TEE, 90° HORIZONTAL ○ UPRIGHT →+→ PIPE TEE, UP ○ UPRIGHT - EXTENDED	t-x,	PIPE ELBOW, 45° HORIZONTAL	¢	CONCEALED ON SPRIG
→o PIPE ELBOW, TURNED UP →● PENDENT ON DROP NIPPLE → + → PIPE REDUCER/INCREASER →● PENDENT ON DROP NIPPLE - EXTENDED → + → PIPE TEE, DOWN → SIDEWALL → + → PIPE TEE, 45° HORIZONTAL → SIDEWALL - EXTENDED → + → PIPE TEE, 90° HORIZONTAL → UPRIGHT → + → PIPE TEE, 90° HORIZONTAL → UPRIGHT	' 7	PIPE ELBOW, 90° HORIZONTAL	—	PENDENT
→ ↓↓ PIPE REDUCER/INCREASER → PENDENT ON DROP NIPPLE - EXTENDED → ↓↓ PIPE TEE, DOWN → SIDEWALL → ↓↓ PIPE TEE, 45° HORIZONTAL → SIDEWALL - EXTENDED → ↓↓ PIPE TEE, 90° HORIZONTAL → UPRIGHT → ↓↓ PIPE TEE, UP → UPRIGHT - EXTENDED	tə	PIPE ELBOW, TURNED DOWN	—— — —	PENDENT - EXTENDED
→ ISH PIPE TEE, DOWN □ □ SIDEWALL → ✓ SIDEWALL - EXTENDED → ↓ PIPE TEE, 90° HORIZONTAL □ ○ UPRIGHT → ↓ PIPE TEE, UP □ ○ UPRIGHT - EXTENDED	——ю	PIPE ELBOW, TURNED UP	@	PENDENT ON DROP NIPPLE
PIPE TEE, 45° HORIZONTAL ŠIDEWALL PIPE TEE, 90° HORIZONTAL UPRIGHT PIPE TEE, 90° HORIZONTAL O UPRIGHT PIPE TEE, UP Q UPRIGHT - EXTENDED		PIPE REDUCER/INCREASER	`@	PENDENT ON DROP NIPPLE - EXTENDED
Image: Pipe Tee, 45 HORIZONTAL Image: Sidewall - extended Image: Pipe Tee, 90° HORIZONTAL Image: Operation of the state of the st		PIPE TEE, DOWN	▽	SIDEWALL
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	u	THREADED HOSE CONNECTION	``````	UPRIGHT ON SPRIG - EXTENDED
——→δ→—— BALL VALVE ——───────────────────────────────────	ю	BALL VALVE	O	WINDOW

NOTE: NOT ALL SYMBOLS LISTED ABOVE MAY BE USED OR APPEAR IN THESE DRAWINGS.



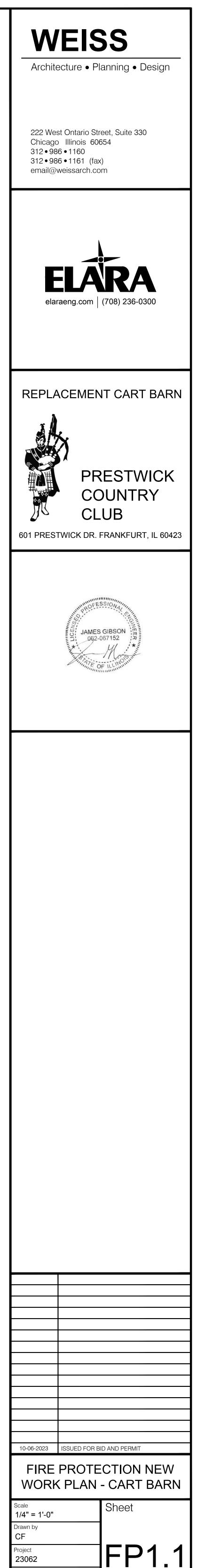


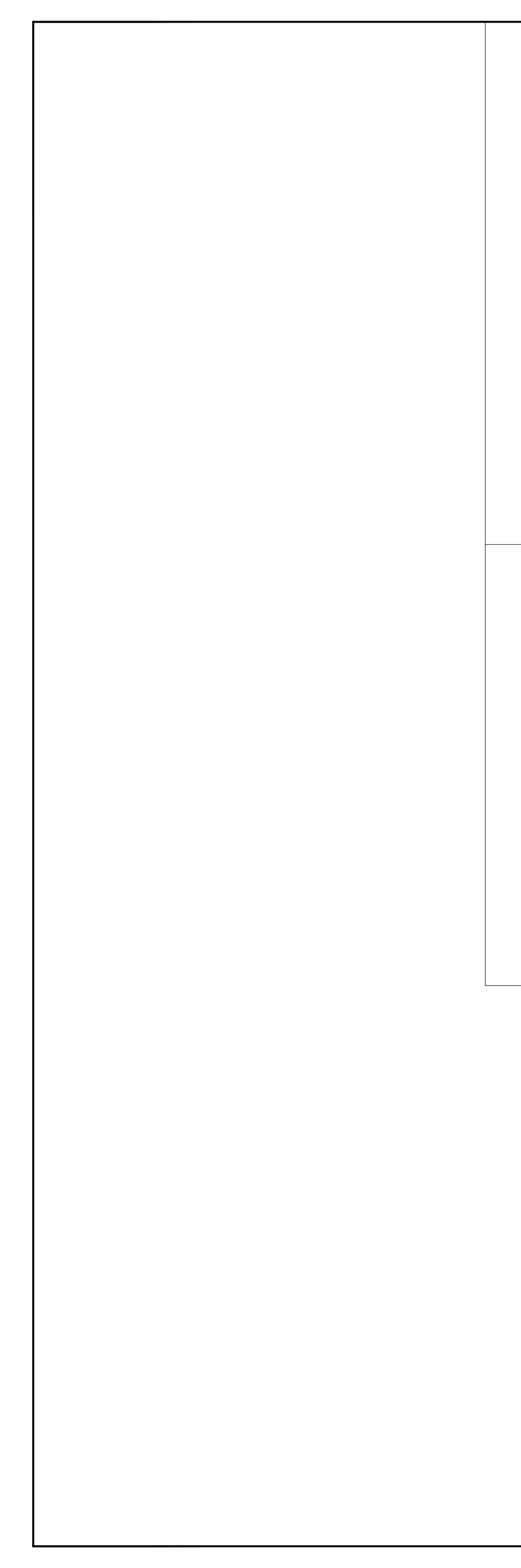


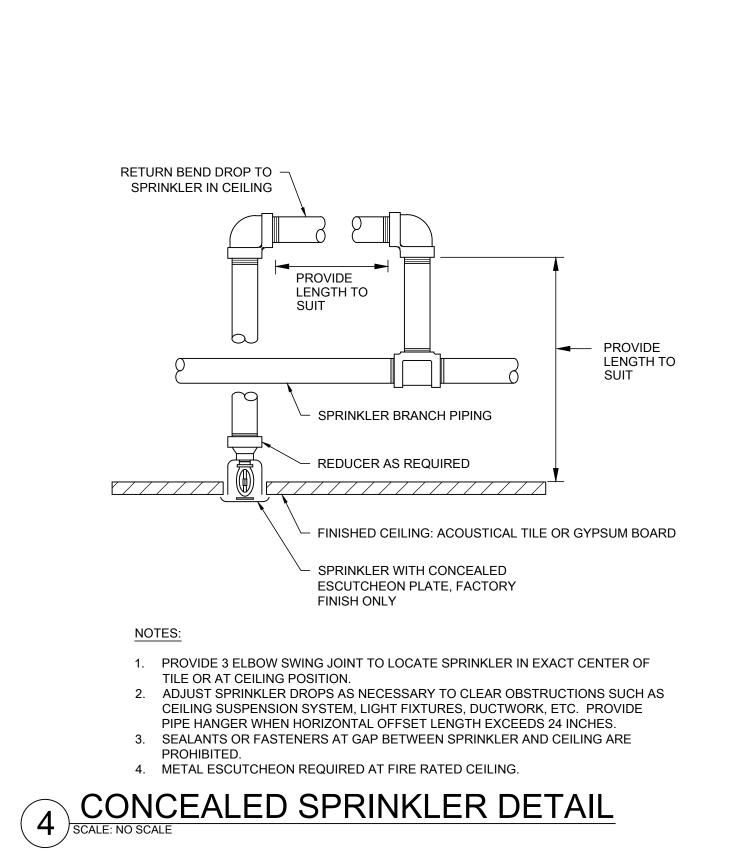


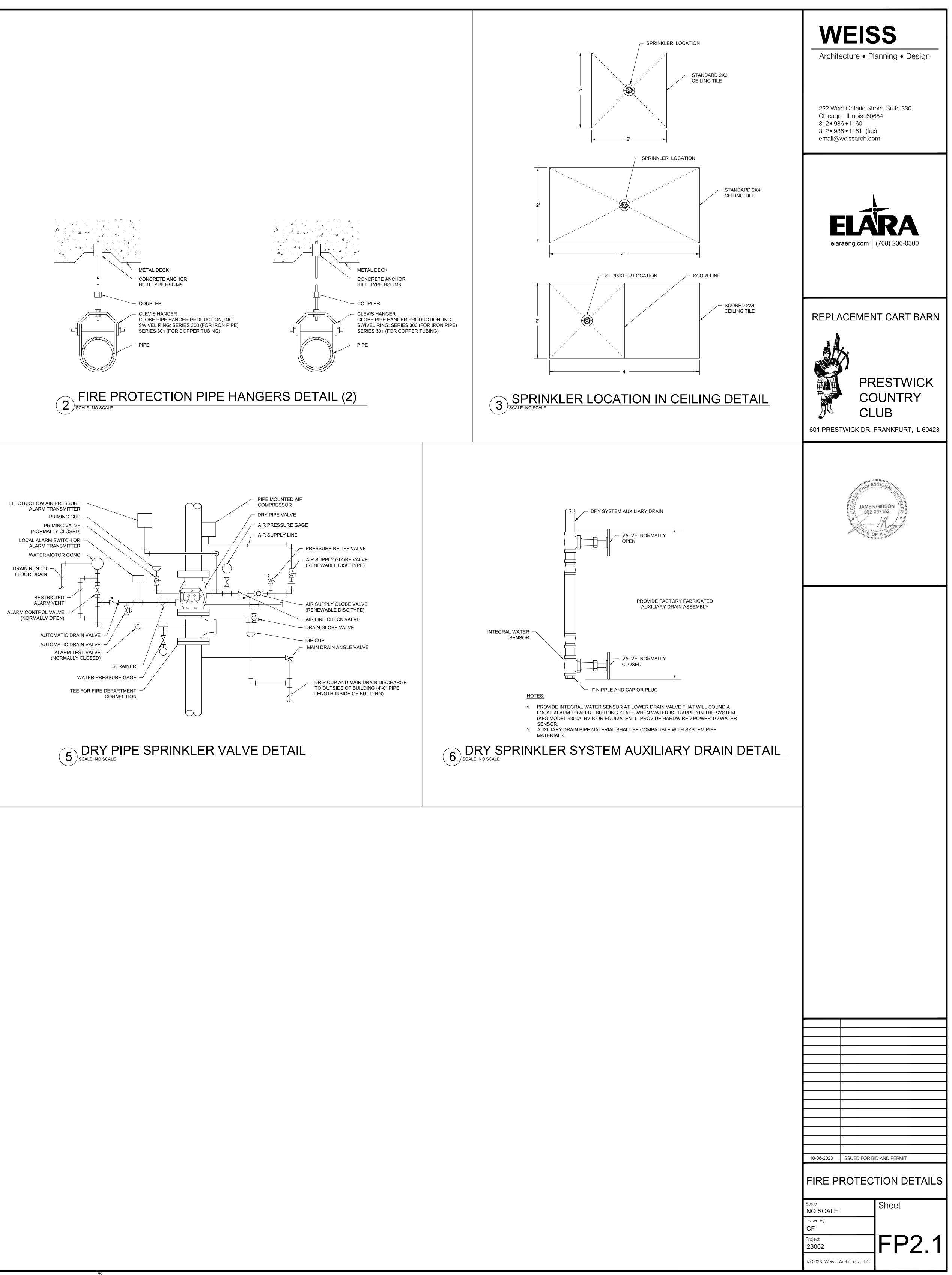
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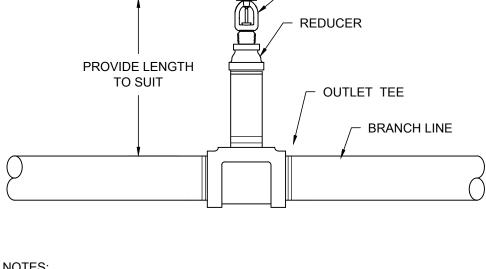
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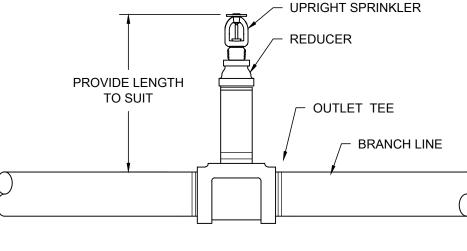


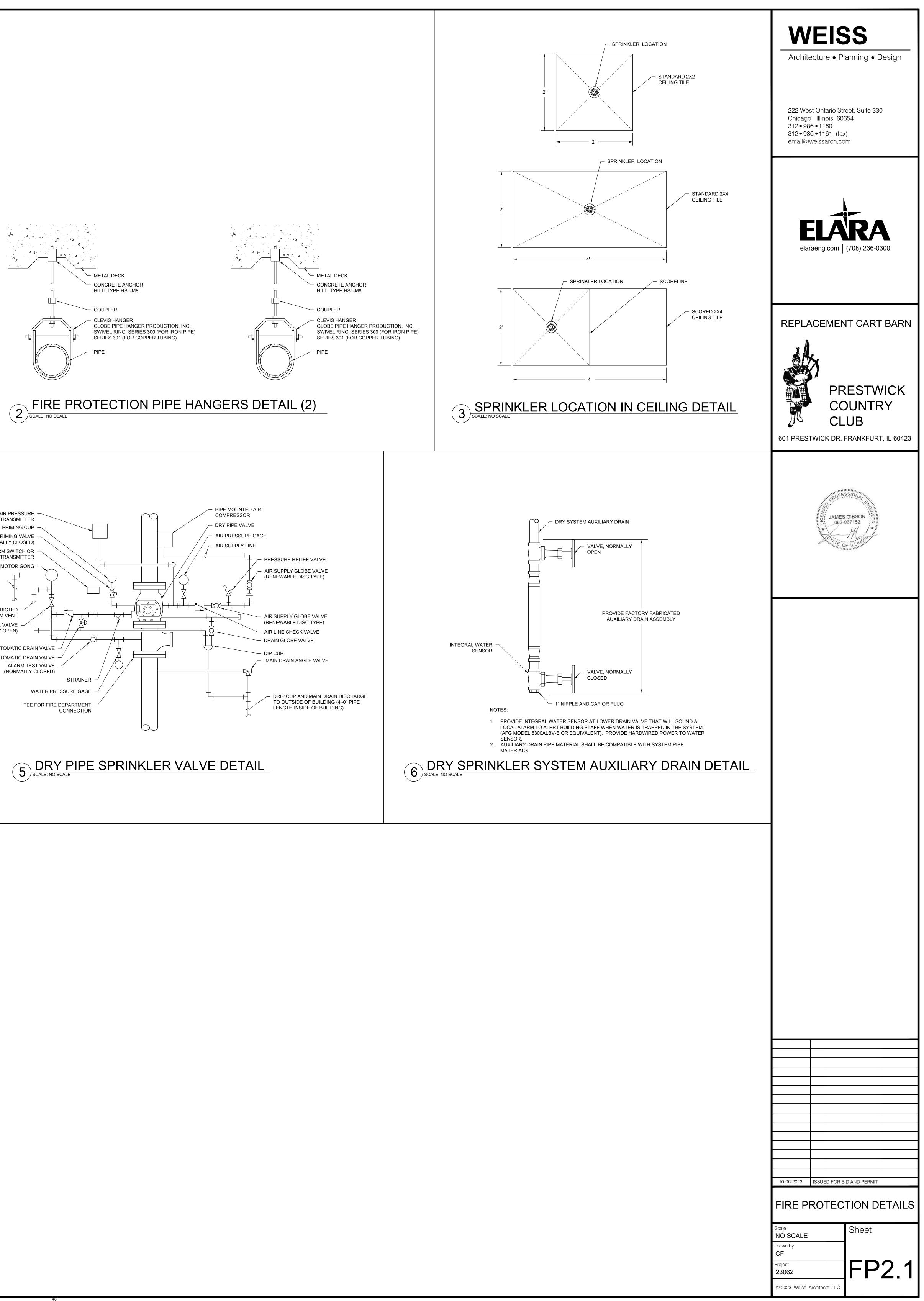




NOTES: 1. PROVIDE HEAD GUARD WHEN SPECIFIED TO PROTECT SPRINKLER FROM DAMAGE. 2. ADJUST SPRINKLER HEIGHT AS NECESSARY TO CLEAR OBSTRUCTIONS SUCH AS PIPING, STRUCTURE, CONDUIT, LIGHT FIXTURES, DUCTWORK, ETC.

1) UPRIGHT SPRINKLER DETAIL SCALE: NO SCALE





- C. CONTRACTOR SHALL REVIEW THE ENTIRE SET OF CONTRACT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, ALL ARCHITECTURAL, CIVIL, SITE, LANDSCAPING, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS, AS WELL AS ALL SPECIFICATIONS A INSTRUCTIONS TO BIDDERS. THIS CONTRACTOR SHALL VISIT THE SITE AND MAKE A DETAILED INSPECTION OF THE SPECIFIED WORK TO DEVELOP KNOWLEDGE OF ALL CONDITIONS PERTINEN TO THE COMPLETION OF HIS WORK. THIS CONTRACTOR SHALL FULLY COORDINATE HIS WORK V THE WORK PERFORMED BY OTHER TRADES AND/OR CONTRACTORS, AND SHALL MAKE SUCH FIE ADJUSTMENTS AS ARE REQUIRED TO ACCOMMODATE FIELD CONDITIONS. ALL OF THE ABOVE SH BE INCLUDED IN THE SCOPE OF WORK AT NO ADDITIONAL COST TO OWNER.
- D. SHOULD CONTRACTOR FIND DISCREPANCIES IN, OR OMISSIONS FROM, THE DRAWINGS, SPECIFICATIONS, OR OTHER CONTRACT DOCUMENTS, OR DISCREPANCIES BETWEEN ACTUAL F CONDITIONS AND THOSE REPRESENTED IN THE DRAWINGS, OR CONFLICTS BETWEEN HIS WORK AND THAT OF OTHER TRADES, OR BE IN DOUBT AS TO THE MEANING OF ANY CONTRACT DOCUMENTS, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER AND THE ENGINEER IN WRITING AND SHALL OBTAIN CLARIFICATION PRIOR TO SUBMITTING ANY BID. LACK OF SUCH NOTIFICATION SHALL BE CONSTRUED AS CONTRACTOR'S REPRESENTATION THAT NO DISCREPANCIES OR CONFLICTS EXIST. ADDITIONAL COMPENSATION WILL NOT BE GRANTED AFT AWARD OF CONTRACT FOR ANY WORK REQUIRED TO COMPLY WITH THIS REQUIREMENT.
- E. THE DRAWINGS INDICATE DIAGRAMMATICALLY THE INTENT, REQUIREMENTS FOR, AND LOCATIC OF THE WORK INCLUDED UNDER THIS CONTRACT. ALL WORK REQUIRED TO AFFECT THE INDICATION OF THE WORK INCLUDED UNDER THIS CONTRACT. DESIGN, INCLUDING DETAILS NOT SHOWN BUT WHOSE INCLUSION WOULD BE DEEMED A REQUIREMENT BY A KNOWLEDGEABLE TRADESMAN, BUILDING ENGINEER, OR TECHNICIAN, SHAL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- F. IT IS THE INTENT OF THESE DOCUMENTS THAT THE CONTRACTOR PROVIDE ALL LABOR, MATERIA EQUIPMENT. AND TOOLS FOR THE COMPLETE INSTALLATION OF ALL WORK SHOWN ON THE PLAN AND/OR DESCRIBED HEREIN, INCLUDING ALL DEVICES, CONTROLS, AND APPURTENANCES REQUIRED TO SET THE NEW SYSTEMS INTO OPERATION, UNLESS OTHERWISE NOTED.
- G. CONTRACTOR SHALL VERIFY ALL MOUNTING, ARRANGEMENTS, HEIGHTS, AND LOCATIONS PRIO TO STARTING ANY WORK, ANY MENTION OF A SPECIFIC MOUNTING ARRANGEMENT, WEIGHT, OR LOCATION SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO VERIFY SPECIFIC REQUIREMENTS AND BASE HIS WORK ON THEM. THE SAME CARE SHALL BE TAKEN WITH RESPECT TO INFORMATION FURNISHED BY THIS CONTRACTOR TO HIS SUBCONTRACTORS OR TO OTHER CONTRACTORS EMPLOYED BY THE OWNER ON THIS PROJECT. THIS CONTRACTOR SHALL BE FINANCIALLY RESPONSIBLE FOR ANY CHANGE ORDERS NECESSITATED BY INACCURATE OR INCORRECT INFORMATION FURNISHED TO OTHER CONTRACTORS, NO ADDITIONS TO THE CONTRACT AMOUNT WILL BE PERMITTED FOR ITEMS INSTALLED IN WRONG LOCATIONS OR IN CONFLICT WITH OTHER WORK.
- H. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING FOR AND OBTAINING ALL APPLICABLE PERMITS. THIS CONTRACTOR SHALL PAY ALL PERMIT FEES, PLAN REVIEW FEES, LICENSE FEES, AND INSPECTIONS APPLICABLE TO HIS WORK, AND SUCH COSTS SHALL BE INCLUDED IN HIS BID UNLESS OTHERWISE NOTED. THIS CONTRACTOR SHALL ALSO INCLUDE IN HIS BID ALL FEES ASSOCIATED WITH THE SERVICES OF A PERMIT EXPEDITER AS MAY BE REQUIRED TO MEET THE PROJECT SCHEDULE.
- I. CONTRACTOR SHALL ESTABLISH SAFE WORKING PROCEDURES FOR THE PROTECTION OF THE WORKMEN IN ALL PHASES OF WORK AND SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, FEDERAL SAFETY LAWS. INCLUDING THE REQUIREMENTS OF OSHA, HE SHALL ALSO PROVIDE AL NECESSARY SIGNS, LIGHTS, AND BARRICADES REQUIRED FOR THE SAFETY OF ALL OTHER PERSONS WHO MIGHT COME IN CONTACT WITH THE CONSTRUCTION BEING PERFORMED UNDER THIS CONTRACT.
- J. ALL PUBLIC AND PRIVATE PROPERTY DAMAGED AS A RESULT OF WORK PERFORMED UNDER THI CONTRACT SHALL BE REPAIRED AND/OR REPLACED TO MATCH EXISTING CONSTRUCTION BY TH CONTRACTOR AND TO THE SATISFACTION OF THE OWNER AND AUTHORITIES HAVING JURISDICTION.
- K. CONTRACTOR SHALL MAKE ALL ARRANGEMENTS WITH THE BUILDING OWNER'S REPRESENTATIV REGARDING WORKSITE ACCESS, BUILDING RULES, AND REGULATIONS, INCLUDING WORKING HOURS, REFUSE DISPOSAL, DUMPSTER LOCATION, SECURITY, INTERRUPTIONS OF BUILDING UTILITIES OR FUNCTIONS, OWNERSHIP OF SALVAGED MATERIALS, PARKING, AND ANY OTHER IT DEEMED TO BE OF MUTUAL INTEREST.
- .. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO STORE AND PROTECT FROM DAMAGE ALL EQUIPMENT AND MATERIALS IN A MANNER THAT WILL MAINTAIN AN ORDERLY, CLEAN APPEARAM DAMAGED EQUIPMENT AND MATERIAL IS SUBJECT TO REJECTION BY THE OWNER'S REPRESENTATIVE. REPLACEMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- M. PROVIDE ALL HOLES, SLEEVES, CUTTING, PATCHING, AND SEALING FOR INSTALLATION OF THIS WORK. SEALING SHALL CONFORM TO THE FIRE RATING OF ALL BUILDING ASSEMBLIES. ALL EXTERIOR PENETRATIONS SHALL BE MADE WEATHER TIGHT.
- N. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND SCANNING OBSTRUCTIONS/REINFORCEMEN WHERE PENETRATIONS ARE TO BE MADE. ANY DAMAGE RESULTING FROM PENETRATIONS IS TH SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPAIRED AT NO ADDITIONAL COST THE OWNER.
- O. CONTRACTOR SHALL NOT MODIFY OR REMOVE ANYTHING FOUND TO BE IN THE PATH OF NEW SYSTEMS TO BE INSTALLED WITHOUT PRIOR APPROVAL BY THE ENGINEER.
- RESULTING FROM THEIR WORK. Q. CONTRACTOR TO DETERMINE REQUIRED SYSTEM SHUTDOWNS, MAXIMUM DURATION OF SYSTEM SHUTDOWN SHALL BE AT THE DISCRETION OF THE OWNER'S REPRESENTATIVE. SHUTDOWN SHA BE COORDINATED ON THE JOB SITE WITH THE OWNER'S REPRESENTATIVE. CONTRACTOR SHALL PROVIDE A MINIMUM OF ONE (1) WEEK ADVANCE NOTICE OF SYSTEM SHUTDOWNS. CONTRACTO SHALL COORDINATE WITH THE OWNER'S REPRESENTATIVE ALL REQUIREMENTS FOR APPLICABL
- FIRE WATCH RESULTING FROM THIS WORK. R. CONTRACTOR AND SUB-CONTRACTORS SHALL BE PROPERLY LICENSED, BONDED, AND INSUREI
- AND CAPABLE OF PERFORMING QUALITY WORKMANSHIP OF THEIR TRADE ON THIS PROJECT. S. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUE
- AND SAFETY. T. REMOVAL AND RESTORATION OF FINISHED SURFACES AS REQUIRED TO COMPLETE THIS SCOPE WORK IS THE RESPONSIBILITY OF THIS CONTRACTOR.
- U. CONTRACTOR SHALL COORDINATE USE OF THE BUILDING ELEVATOR(S), ACCESS PATHS, AND DELIVERIES WITH THE OWNER. V. MAINTAIN ALL MANUFACTURER RECOMMENDED AND CODE REQUIRED CLEARANCES.
- W. CONTRACTOR SHALL PROVIDE TRAINING TO THE OPERATING STAFF FOR NEW SYSTEMS AND EQUIPMENT. REFER TO OWNER TRAINING SPECIFICATION SECTION FOR ADDITIONAL INFORMATION

- A. ALL WORK SHALL BE PERFORMED IN A CLEAN AND WORKMANLIKE MANNER. CARE SHALL BE EXERCISED TO MINIMIZE ANY INCONVENIENCE OR DISTURBANCE TO OTHER AREAS OF THE BUILDING WHICH ARE TO REMAIN IN OPERATION.
- B. ALL DEMOLITION AS CALLED FOR ON THE DEMOLITION DRAWINGS SHALL BE UNDER THIS CONTRACTOR'S WORK.
- C. CONTRACTOR SHALL VISIT THE BUILDING, BEFORE SUBMITTING THEIR BID, TO VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS WHICH MAY AFFECT HIS WORK. NOT ALL EXISTING DUCTWORK, PIPING, EQUIPMENT, ETC. MAY BE INDICATED ON DOCUMENTS.
- D. THE INTENT OF THE DEMOLITION IS TO REMOVE THE ITEMS IN THEIR ENTIRETY UNLESS OTHERW NOTED. THIS INCLUDES ALL ASSOCIATED SUPPORT BASES, ANCHORAGE, HANGERS, CONTROLS INCLUDING WIRING AND CONDUIT EXPOSED, PIPING, DUCTWORK, ETC. MODIFY EXISTING SYSTEM TO REMAIN CODE COMPLIANT AND FUNCTIONAL. DEAD END PIPING SHALL BE REMOVED IN ITS ENTIRETY. LABEL ABANDONED CONDUIT AND WIRE.
- E. BEFORE STARTING ANY DEMOLITION WORK ON EQUIPMENT WHICH HAS AN ELECTRICAL CONNECTION. THE ELECTRICAL CONTRACTOR SHALL DISCONNECT THE POWER AND REMOVE CONDUIT, WIRING, DISCONNECT SWITCHES, AND STARTERS UNDER THIS CONTRACT. F. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTINUOUS CLEANUP THROUGHOUT THE COURSE
- THE DEMOLITION WORK. G. ALL EQUIPMENT, MATERIAL, ETC. THAT IS DEMOLISHED SHALL BE REMOVED FROM THE BUILDIN SITE BY THIS CONTRACTOR IN A PROPER AND LEGAL MANNER. NO ITEM WHICH IS DEMOLISHED
- MAY BE REUSED UNLESS SPECIFICALLY NOTED. H. ANY CONTROLS HARDWARE OR PROGRAMMING NO LONGER NECESSARY TO ACCOMPLISH LIFE SAFETY REQUIREMENTS SHALL BE DECOMMISSIONED.
- I. ALL DEMOLITION WORK OF THE EXISTING LIFE SAFETY SYSTEMS FOR EQUIPMENT SHOWN ON TH DRAWINGS TO BE DEMOLISHED SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR. THIS CONTRACTOR SHALL MODIFY THE EXISTING LIFE SAFETY SYSTEMS AS REQUIRED TO ENSURE OPERATION OF EXISTING EQUIPMENT TO REMAIN. ALL EXISTING LIFE SAFETY SYSTEMS SHOWN BE DEMOLISHED SHALL BE REMOVED AND TURNED OVER TO THE OWNER.

	III. SHOP DRAWINGS, SUBMITTALS, AND AS-BUILTS
 A. ALL WORK PERFORMED UNDER THIS CONTRACT SHALL BE IN CONFORMANCE WITH ALL GOVERNING NATIONAL, STATE, AND LOCAL CODES HAVING JURISDICTION INCLUDING ALL APPLICABLE NFPA STANDARDS AND INSURANCE UNDERWRITER REQUIREMENTS. B. PROVIDE COMPLETE HYDRAULICALLY DESIGNED FIRE PROTECTION SYSTEM. 	A. CONTRACTOR SHALL SUBMIT TO THE ENGINEER COORDINATED SHOP DRAWINGS. ENGINEER REVIEWED SHOP DRAWINGS SHALL BE SUBMITTED TO ALL AUTHORITIES HAVING JURISDICTION INCORPORATING ALL ENGINEER'S COMMENTS. WORK ON SITE SHALL NOT COMMENCE UNTIL ALL APPLICABLE PERMITS HAVE BEEN OBTAINED AND SHOP DRAWINGS HAVE BEEN APPROVED BY ALL AUTHORITIES HAVING JURISDICTION.
C. CONTRACTOR SHALL REVIEW THE ENTIRE SET OF CONTRACT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, ALL ARCHITECTURAL, CIVIL, SITE, LANDSCAPING, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS, AS WELL AS ALL SPECIFICATIONS AND INSTRUCTIONS TO BIDDERS. THIS CONTRACTOR SHALL VISIT THE SITE AND MAKE A DETAILED INSPECTION OF THE SPECIFIED WORK TO DEVELOP KNOWLEDGE OF ALL CONDITIONS PERTINENT	B. SHOP DRAWINGS SHALL INCLUDE DRAWINGS, PRODUCT DATA AND HYDRAULIC CALCULATIONS AS REQUIRED BY THE ENGINEER AND ALL AUTHORITIES HAVING JURISDICTION. PARTIAL SUBMITTALS ARE NOT ACCEPTABLE, ALL INFORMATION SHALL BE PROVIDED IN ONE COMPREHENSIVE PACKAGE. ALL CALCULATIONS AND SHOP DRAWINGS SHALL HAVE CORRESPONDING AND COORDINATED NODE INDICATORS.
 TO THE COMPLETION OF HIS WORK. THIS CONTRACTOR SHALL FULLY COORDINATE HIS WORK WITH THE WORK PERFORMED BY OTHER TRADES AND/OR CONTRACTORS, AND SHALL MAKE SUCH FIELD ADJUSTMENTS AS ARE REQUIRED TO ACCOMMODATE FIELD CONDITIONS. ALL OF THE ABOVE SHALL BE INCLUDED IN THE SCOPE OF WORK AT NO ADDITIONAL COST TO OWNER. D. SHOULD CONTRACTOR FIND DISCREPANCIES IN, OR OMISSIONS FROM, THE DRAWINGS, 	C. SHOP DRAWINGS SHALL BE SCALED AND INDICATE LAYOUT OF ALL EQUIPMENT, PIPING, GAUGES, SENSORS, GRAPHICS, FIRE ALARM SYSTEM MODIFICATIONS, CONTROL DEVICES, ETC. SHOP DRAWINGS SHALL INCLUDE ALL PIPE SIZES, PIPE SLOPES, CAPACITIES, ELEVATIONS, SECTIONS, DETAILS, VALVE LOCATIONS, DRAIN DOWN LOCATIONS, ACCESS PANEL LOCATIONS, SPRINKLER HEADS, FIRE DEPARTMENT CONNECTIONS, UNDERGROUND COMPONENTS, ETC.
SPECIFICATIONS, OR OTHER CONTRACT DOCUMENTS, OR DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THOSE REPRESENTED IN THE DRAWINGS, OR CONFLICTS BETWEEN HIS WORK AND THAT OF OTHER TRADES, OR BE IN DOUBT AS TO THE MEANING OF ANY CONTRACT DOCUMENTS, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER AND THE ENGINEER IN WRITING AND SHALL OBTAIN CLARIFICATION PRIOR TO SUBMITTING ANY BID. LACK OF SUCH NOTIFICATION SHALL BE CONSTRUED AS CONTRACTOR'S REPRESENTATION THAT NO	D. SHOP DRAWINGS SHALL BE COORDINATED TO INCLUDE ALL OTHER TRADES THAT ARE IMPACTED BY OR IMPACTS THIS SCOPE OF WORK. SHOP DRAWINGS SHALL INDICATE LOCATIONS OF ASSOCIATED LIGHTING, DIFFUSERS, DUCTWORK, IT EQUIPMENT, A/V EQUIPMENT, FIRE ALARM DEVICES, SIGNAGE, ARCHITECTURAL CONDITIONS, ETC.
 DISCREPANCIES OR CONFLICTS EXIST. ADDITIONAL COMPENSATION WILL NOT BE GRANTED AFTER AWARD OF CONTRACT FOR ANY WORK REQUIRED TO COMPLY WITH THIS REQUIREMENT. E. THE DRAWINGS INDICATE DIAGRAMMATICALLY THE INTENT, REQUIREMENTS FOR, AND LOCATION OF THE WORK INCLUDED UNDER THIS CONTRACT. ALL WORK REQUIRED TO AFFECT THE INDICATED DESIGN, INCLUDING DETAILS NOT SHOWN BUT WHOSE INCLUSION WOULD BE DEEMED A 	 E. SHOULD CONDITIONS NECESSITATE ANY REARRANGEMENTS, CONTRACTOR SHALL SUBMIT TO THE ENGINEER SHOP DRAWINGS SHOWING SUCH CHANGES. CONTRACTOR SHALL PROCEED WITH SITE WORK AFTER RECEIVING SHOP DRAWINGS APPROVED BY ALL AUTHORITIES HAVING JURISDICTION. F. CONTRACTOR SHALL SUBMIT TO THE ENGINEER MANUFACTURERS' SUBMITTALS FOR ALL EQUIPMENT AND ACCESSORIES. CONTRACTOR SHALL PROCEED WITH PROCUREMENT ONLY AFTER
 REQUIREMENT BY A KNOWLEDGEABLE TRADESMAN, BUILDING ENGINEER, OR TECHNICIAN, SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER. F. IT IS THE INTENT OF THESE DOCUMENTS THAT THE CONTRACTOR PROVIDE ALL LABOR, MATERIAL, EQUIPMENT, AND TOOLS FOR THE COMPLETE INSTALLATION OF ALL WORK SHOWN ON THE PLANS 	RECEIVING SUBMITTALS AS APPROVED BY ALL AUTHORITIES HAVING JURISDICTION. G. ALL COMPONENT IDENTIFICATION SHALL BE INDICATED ON THE AS-BUILT DRAWINGS. INCLUDE VALVE SCHEDULE AND DISPLAY WITHIN BUILDING. G.
 AND/OR DESCRIBED HEREIN, INCLUDING ALL DEVICES, CONTROLS, AND APPURTENANCES REQUIRED TO SET THE NEW SYSTEMS INTO OPERATION, UNLESS OTHERWISE NOTED. G. CONTRACTOR SHALL VERIFY ALL MOUNTING, ARRANGEMENTS, HEIGHTS, AND LOCATIONS PRIOR TO STARTING ANY WORK. ANY MENTION OF A SPECIFIC MOUNTING ARRANGEMENT, WEIGHT, OR LOCATION SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO VERIFY SPECIFIC REQUIREMENTS AND BASE HIS WORK ON THEM. THE SAME CARE SHALL BE TAKEN WITH RESPECT 	H. CONTRACTOR SHALL SUBMIT TO THE OWNER'S REPRESENTATIVE ONE ELECTRONIC FILE CONTAINING THE FINAL AS-BUILT PACKAGE. THE AS-BUILT PACKAGE SHALL INCLUDE REVISED SHOP DRAWINGS TO REFLECT ACTUAL INSTALLATION AND OPERATING SEQUENCES ALONG WITH ALL PRODUCT DATA AND HYDRAULIC CALCULATIONS. INCLUDE OPERATIONAL AND MAINTENANCE INSTRUCTIONS, PARTS LISTS, SUBMITTALS, AND DESCRIPTIVE LITERATURE.
TO INFORMATION FURNISHED BY THIS CONTRACTOR TO HIS SUBCONTRACTORS OR TO OTHER CONTRACTORS EMPLOYED BY THE OWNER ON THIS PROJECT. THIS CONTRACTOR SHALL BE FINANCIALLY RESPONSIBLE FOR ANY CHANGE ORDERS NECESSITATED BY INACCURATE OR INCORRECT INFORMATION FURNISHED TO OTHER CONTRACTORS. NO ADDITIONS TO THE CONTRACT AMOUNT WILL BE PERMITTED FOR ITEMS INSTALLED IN WRONG LOCATIONS OR IN CONFLICT WITH OTHER WORK.	IV. MATERIALS AND EQUIPMENT A. ALL MATERIALS AND EQUIPMENT INSTALLED UNDER THIS CONTRACT SHALL BE NEW, UNLESS OTHERWISE STATED IN THESE CONTRACT DOCUMENTS, AND FREE FROM DEFECTS. B. ALL MATERIALS AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE
 H. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING FOR AND OBTAINING ALL APPLICABLE PERMITS. THIS CONTRACTOR SHALL PAY ALL PERMIT FEES, PLAN REVIEW FEES, LICENSE FEES, AND INSPECTIONS APPLICABLE TO HIS WORK, AND SUCH COSTS SHALL BE INCLUDED IN HIS BID UNLESS OTHERWISE NOTED. THIS CONTRACTOR SHALL ALSO INCLUDE IN HIS BID ALL FEES ASSOCIATED WITH THE SERVICES OF A PERMIT EXPEDITER AS MAY BE REQUIRED TO MEET THE PROJECT SCHEDULE. I. CONTRACTOR SHALL ESTABLISH SAFE WORKING PROCEDURES FOR THE PROTECTION OF THE 	 MANUFACTURERS' RECOMMENDATIONS. C. CONTRACTOR IS REQUIRED TO REVIEW ALL DRAWINGS. MATERIALS AND EQUIPMENT SHOWN ON THE SCHEDULES AND DETAILS SHALL BE INCLUDED IN BASE BID. NO MATERIAL OR EQUIPMENT SUBSTITUTIONS WILL BE CONSIDERED AFTER THE AWARD OF CONTRACT. IF CONTRACTOR DESIRES TO SUBSTITUTE MATERIAL OR EQUIPMENT, CONTRACTOR MUST SUBMIT AS ALTERNATE WITH HIS BASE BID A LIST OF SUCH ITEMS INDICATING ITEM, MANUFACTURER, MODEL NUMBER, AND AMOUNT TO BE ADDED TO OR DEDUCTED FROM THE BASE BID. EACH SUCH MATERIAL OR EQUIPMENT SUBSTITUTION ITEM SHALL BE LISTED SEPARATELY.
WORKMEN IN ALL PHASES OF WORK AND SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY LAWS, INCLUDING THE REQUIREMENTS OF OSHA. HE SHALL ALSO PROVIDE ALL NECESSARY SIGNS, LIGHTS, AND BARRICADES REQUIRED FOR THE SAFETY OF ALL OTHER PERSONS WHO MIGHT COME IN CONTACT WITH THE CONSTRUCTION BEING PERFORMED UNDER THIS CONTRACT.	 D. CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING THE PURCHASE, DELIVERY, RECEIVING, UNLOADING, UNCRATING, STORING, SETTING IN PLACE, AND PROTECTING OF ALL NEW EQUIPMENT FURNISHED BY THE CONTRACTOR OR PROVIDED TO THE CONTRACTOR BY THE OWNER, AND SHALL SECURE SUCH EQUIPMENT FROM DAMAGE UNTIL TIME OF FINAL ACCEPTANCE BY THE OWNER.
J. ALL PUBLIC AND PRIVATE PROPERTY DAMAGED AS A RESULT OF WORK PERFORMED UNDER THIS CONTRACT SHALL BE REPAIRED AND/OR REPLACED TO MATCH EXISTING CONSTRUCTION BY THIS CONTRACTOR AND TO THE SATISFACTION OF THE OWNER AND AUTHORITIES HAVING JURISDICTION.	 E. CONTRACTOR SHALL FURNISH AND INSTALL ALL STRUCTURE, SLEEVES, SHIMS, ETC. REQUIRED TO LEVEL AND SUPPORT EQUIPMENT AND MATERIALS. INSTALL NONMETALLIC NON-SHRINK GROUT FOR LEVELING EQUIPMENT BASES. F. CONTRACTOR SHALL VERIFY ALL PHYSICAL, ELECTRICAL, INGRESS, ETC. REQUIREMENTS FOR ALL
K. CONTRACTOR SHALL MAKE ALL ARRANGEMENTS WITH THE BUILDING OWNER'S REPRESENTATIVE REGARDING WORKSITE ACCESS, BUILDING RULES, AND REGULATIONS, INCLUDING WORKING HOURS, REFUSE DISPOSAL, DUMPSTER LOCATION, SECURITY, INTERRUPTIONS OF BUILDING UTILITIES OR FUNCTIONS, OWNERSHIP OF SALVAGED MATERIALS, PARKING, AND ANY OTHER ITEMS DEEMED TO BE OF MUTUAL INTEREST.	EQUIPMENT PRIOR TO ORDERING. G. CONTRACTOR SHALL SUBMIT TO OWNER THE PROPOSED LABELS/IDENTIFICATION PRODUCT FOR EACH PIECE OF EQUIPMENT PRIOR TO ORDERING. EQUIPMENT LABELS/IDENTIFICATION SHALL MEET NFPA REQUIREMENTS AND CONFORM TO THE FOLLOWING:
L. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO STORE AND PROTECT FROM DAMAGE ALL EQUIPMENT AND MATERIALS IN A MANNER THAT WILL MAINTAIN AN ORDERLY, CLEAN APPEARANCE. DAMAGED EQUIPMENT AND MATERIAL IS SUBJECT TO REJECTION BY THE OWNER'S REPRESENTATIVE. REPLACEMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.	 MATERIAL AND THICKNESS: MULTILAYER, MULTICOLOR, PLASTIC OR METALLIC LABELS FOR J. MECHANICAL ENGRAVING, 1/8 INCH THICK, AND HAVING PREDRILLED HOLES FOR ATTACHMENT HARDWARE. LETTER COLOR: WHITE. BACKGROUND COLOR: RED.
 M. PROVIDE ALL HOLES, SLEEVES, CUTTING, PATCHING, AND SEALING FOR INSTALLATION OF THIS WORK. SEALING SHALL CONFORM TO THE FIRE RATING OF ALL BUILDING ASSEMBLIES. ALL EXTERIOR PENETRATIONS SHALL BE MADE WEATHER TIGHT. N. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND SCANNING OBSTRUCTIONS/REINFORCEMENTS 	 MAXIMUM TEMPERATURE: ABLE TO WITHSTAND TEMPERATURES UP TO 160 DEG F. MINIMUM LABEL SIZE: LENGTH AND WIDTH VARY FOR REQUIRED LABEL CONTENT, BUT NOT LESS THAN 2-1/2 BY 3/4 INCH.
 WHERE PENETRATIONS ARE TO BE MADE. ANY DAMAGE RESULTING FROM PENETRATIONS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER. O. CONTRACTOR SHALL NOT MODIFY OR REMOVE ANYTHING FOUND TO BE IN THE PATH OF NEW 	 MINIMUM LETTER SIZE: 1/4 INCH FOR NAME OF UNITS IF VIEWING DISTANCE IS LESS THAN 24 INCHES, 1/2 INCH FOR VIEWING DISTANCES UP TO 72 INCHES, AND PROPORTIONATELY LARGER LETTERING FOR GREATER VIEWING DISTANCES. INCLUDE SECONDARY LETTERING TWO-THIRDS TO THREE-FOURTHS THE SIZE OF PRINCIPAL LETTERING. FASTENERS: STAINLESS-STEEL RIVETS OR SELF-TAPPING SCREWS.
SYSTEMS TO BE INSTALLED WITHOUT PRIOR APPROVAL BY THE ENGINEER. P. THE CONTRACTOR IS RESPONSIBLE FOR THE CONTINUOUS CLEANING OF ALL DUST AND DEBRIS RESULTING FROM THEIR WORK.	 8. ADHESIVE: CONTACT-TYPE PERMANENT ADHESIVE, COMPATIBLE WITH LABEL AND WITH SUBSTRATE. H. EQUIPMENT DATA, LABELS, AND OTHER IDENTIFICATION SHALL NOT BE OBSTRUCTED.
Q. CONTRACTOR TO DETERMINE REQUIRED SYSTEM SHUTDOWNS. MAXIMUM DURATION OF SYSTEM SHUTDOWN SHALL BE AT THE DISCRETION OF THE OWNER'S REPRESENTATIVE. SHUTDOWN SHALL BE COORDINATED ON THE JOB SITE WITH THE OWNER'S REPRESENTATIVE. CONTRACTOR SHALL PROVIDE A MINIMUM OF ONE (1) WEEK ADVANCE NOTICE OF SYSTEM SHUTDOWNS. CONTRACTOR SHALL COORDINATE WITH THE OWNER'S REPRESENTATIVE ALL REQUIREMENTS FOR APPLICABLE FIRE WATCH RESULTING FROM THIS WORK.	 I. CONTRACTOR SHALL PROVIDE FILTERS, STRAINER SCREENS, ETC. FOR ALL NEW EQUIPMENT DURING CONSTRUCTION. REPLACE FILTERS, STRAINERS SCREENS, ETC. WITH FINAL FILTERS, STRAINER SCREENS, ETC. AT COMPLETION OF PROJECT AND PRIOR TO TEST AND BALANCE. J. PROVIDE MEANS OF MECHANICAL DISCONNECT AT ALL PIPING CONNECTIONS TO EQUIPMENT,
 R. CONTRACTOR AND SUB-CONTRACTORS SHALL BE PROPERLY LICENSED, BONDED, AND INSURED AND CAPABLE OF PERFORMING QUALITY WORKMANSHIP OF THEIR TRADE ON THIS PROJECT. S. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, AND SAFETY. 	CONTROL VALVES, BACK FLOW PREVENTION, ETC. ARRANGE CONNECTIONS SO THAT EQUIPMENT SERVED MAY BE REMOVED WITHOUT DISTURBING PIPING OR VALVES.
 T. REMOVAL AND RESTORATION OF FINISHED SURFACES AS REQUIRED TO COMPLETE THIS SCOPE OF WORK IS THE RESPONSIBILITY OF THIS CONTRACTOR. U. CONTRACTOR SHALL COORDINATE USE OF THE BUILDING ELEVATOR(S), ACCESS PATHS, AND 	 A. CONTRACTOR SHALL PROVIDE DEMONSTRATION AND TRAINING TO OWNER'S PERSONNEL FOR NEW SYSTEMS AND EQUIPMENT. THE COSTS ASSOCIATED WITH THIS SHALL BE INCLUDED AS PART OF THE BASE BID UNLESS OTHERWISE NOTED. B. ALL EQUIPMENT MANUALS, INSTALLATION OPERATION AND MAINTENANCE MANUALS, ETC. SHALL BE TURNED OVER TO THE OWNER DEMONSTRATION AND TRAINING.
DELIVERIES WITH THE OWNER.V. MAINTAIN ALL MANUFACTURER RECOMMENDED AND CODE REQUIRED CLEARANCES.W. CONTRACTOR SHALL PROVIDE TRAINING TO THE OPERATING STAFF FOR NEW SYSTEMS AND	TURNED OVER TO THE OWNER PRIOR TO COMMENCING OWNER DEMONSTRATION AND TRAINING. REFER TO PROJECT CLOSEOUT DOCUMENT REQUIREMENTS FOR ADDITIONAL INFORMATION. C. CONTRACTOR SHALL PROVIDE A MINIMUM OF 2 HOURS OF TRAINING OVER 1 VISIT ON SITE FOR OWNER PERSONNEL.
EQUIPMENT. REFER TO OWNER TRAINING SPECIFICATION SECTION FOR ADDITIONAL INFORMATION.	 D. OWNER TRAINING SHALL BE CONDUCTED AFTER APPROVAL BY THE LOCAL AUTHORITIES HAVING JURISDICTION. E. COORDINATE TRAINING WITH OWNER, ENGINEER & COMMISSIONING AUTHORITY. <u>VI. PIPING</u>
II. GENERAL DEMOLITION NOTES	 A. GENERAL 1. COMPLY WITH PROVISIONS OF NFPA 13, 20 AND 25, AS REFERENCED BY THE CHICAGO BUILDING CODE.
 A. ALL WORK SHALL BE PERFORMED IN A CLEAN AND WORKMANLIKE MANNER. CARE SHALL BE EXERCISED TO MINIMIZE ANY INCONVENIENCE OR DISTURBANCE TO OTHER AREAS OF THE BUILDING WHICH ARE TO REMAIN IN OPERATION. B. ALL DEMOLITION AS CALLED FOR ON THE DEMOLITION DRAWINGS SHALL BE UNDER THIS 	 ALL GROOVES SHALL BE DIMENSIONALLY COMPATIBLE WITH COUPLINGS. COUPLING MANUFACTURER'S LOCAL REPRESENTATIVE SHALL PROVIDE INSPECTION OF COUPLINGS WITH NO ADDITIONAL CHARGE TO THE CLIENT, CONTRACTOR SHALL CORRECT ANY DEFICIENCIES NOTED.
CONTRACTOR'S WORK. C. CONTRACTOR SHALL VISIT THE BUILDING, BEFORE SUBMITTING THEIR BID, TO VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS WHICH MAY AFFECT HIS WORK. NOT ALL EXISTING DUCTWORK, PIPING, EQUIPMENT, ETC. MAY BE INDICATED ON DOCUMENTS.	 SYSTEM COMPONENTS WHICH REQUIRE OBSERVATION, OPERATION, OR MAINTENANCE, SUCH AS VALVES, GAUGES, CONTROLS, ETC., SHALL BE READILY ACCESSIBLE. THEY SHALL NOT BE CONCEALED IN CHASES OR ABOVE CEILINGS WITHOUT PROVISION FOR ACCESS. PROVIDE IDENTIFICATION FOR ALL CONCEALED ITEMS TO SATISFY NFPA STANDARDS.
D. THE INTENT OF THE DEMOLITION IS TO REMOVE THE ITEMS IN THEIR ENTIRETY UNLESS OTHERWISE NOTED. THIS INCLUDES ALL ASSOCIATED SUPPORT BASES, ANCHORAGE, HANGERS, CONTROLS INCLUDING WIRING AND CONDUIT EXPOSED, PIPING, DUCTWORK, ETC. MODIFY EXISTING SYSTEMS TO REMAIN CODE COMPLIANT AND FUNCTIONAL. DEAD END PIPING SHALL BE REMOVED IN ITS ENTIRETY. LABEL ABANDONED CONDUIT AND WIRE.	 INSTALL PIPING TO PERMIT COMPLETE SYSTEM DRAINING TO ACCOMMODATE ALL MAINTENANCE, REPAIR, LOW POINTS AND INSPECTIONS. EXTEND DRAIN LINES AS REQUIRED TO TERMINATE TO OUTSIDE OF BUILDING, AT FLOOR DRAIN, OR IN MOP SINK. INSTALL INTERIOR AND EXTERIOR PIPING AT RIGHT ANGLES OR PARALLEL TO BUILDING WALLS. DIAGONAL RUNS ARE PROHIBITED, EXCEPT WHERE INDICATED OR APPROVED PRIOR TO
 E. BEFORE STARTING ANY DEMOLITION WORK ON EQUIPMENT WHICH HAS AN ELECTRICAL CONNECTION, THE ELECTRICAL CONTRACTOR SHALL DISCONNECT THE POWER AND REMOVE CONDUIT, WIRING, DISCONNECT SWITCHES, AND STARTERS UNDER THIS CONTRACT. F. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTINUOUS CLEANUP THROUGHOUT THE COURSE OF 	 INSTALLATION. RUN PIPING IN WALL CHASES, PIPE SHAFTS, HUNG CEILINGS, RECESSES, ETC. AS APPLICABLE. DO NOT RUN SERVICE PIPING IN FLOOR SLAB UNLESS SPECIFICALLY NOTED ON B. DRAWINGS. PIPING SHALL NOT BE COVERED OR CLOSED UNTIL TESTING IS COMPLETED. B. ABOVE GROUND WET PIPING
THE DEMOLITION WORK. G. ALL EQUIPMENT, MATERIAL, ETC. THAT IS DEMOLISHED SHALL BE REMOVED FROM THE BUILDING SITE BY THIS CONTRACTOR IN A PROPER AND LEGAL MANNER. NO ITEM WHICH IS DEMOLISHED	 FOR 2 INCH AND SMALLER: ALL PIPING SHALL BE BLACK STEEL SCHEDULE 40 WITH THREADED MALLEABLE FITTINGS. FOR 2-1/2 INCH AND LARGER: ALL PIPING SHALL BE BLACK STEEL SCHEDULE 10 WITH GROOVED MECHANICAL COURLINGS.
MAY BE REUSED UNLESS SPECIFICALLY NOTED. H. ANY CONTROLS HARDWARE OR PROGRAMMING NO LONGER NECESSARY TO ACCOMPLISH LIFE SAFETY REQUIREMENTS SHALL BE DECOMMISSIONED.	MECHANICAL COUPLINGS. D. ABOVE GROUND DRY PIPING
SAFETY REQUIREMENTS SHALL BE DECOMMISSIONED. I. ALL DEMOLITION WORK OF THE EXISTING LIFE SAFETY SYSTEMS FOR EQUIPMENT SHOWN ON THE DRAWINGS TO BE DEMOLISHED SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR. THIS CONTRACTOR SHALL MODIFY THE EXISTING LIFE SAFETY SYSTEMS AS REQUIRED TO ENSURE	 FOR 2 INCH AND SMALLER: ALL PIPING SHALL BE BLACK STEEL SCHEDULE 40 WITH THREADED MALLEABLE FITTINGS. FOR 2-1/2 INCH AND LARGER: ALL PIPING SHALL BE BLACK STEEL SCHEDULE 10 WITH CUT
OPERATION OF EXISTING EQUIPMENT TO REMAIN. ALL EXISTING LIFE SAFETY SYSTEMS SHOWN TO BE DEMOLISHED SHALL BE REMOVED AND TURNED OVER TO THE OWNER.	GROOVED MECHANICAL COUPLINGS. E. VALVES

E. VALVES

1. VALVES SHALL BE INSTALLED AS A MEANS OF ISOLATION FOR ALL EQUIPMENT, ZONING AND AS REQUIRED. EACH FLOOR SHALL HAVE VALVES AS A MEANS OF ISOLATION. ALL REQUIRED VALVES ARE NOT SHOWN ON FLOOR PLANS OR SCHEMATICS.

INSTALL ALL VALVES WITH STEMS IN EITHER AN UPRIGHT (PREFERRED) OR HORIZONTAL OTHERWISE. OPEN VALVE HANDLE POSITION SHALL BE IN THE DIRECTION OF FLOW.

- 3. VALVES SHALL BE UL LISTED AND FM APPROVED. 4. ALL VALVES SHALL MEET THE PRESSURE REQUIREMENTS OF THE SYSTEM.
- 5. MANUFACTURERS SHALL BE NATIONALLY RECOGNIZED AND HAVE A MINIMUM OF 5 YEARS IN THE FIRE PROTECTION INDUSTRY. THE CONTRACTOR SHALL ONLY INSTALL PRODUCTS

WHEREVER POSSIBLE. SPRINKLER HEADS

- 1. SPRINKLER HEADS SHALL BE INSTALLED IN LOCATIONS SHOWN AND WHERE REQUIRED FOR
- COMPLETE COVERAGE.
- IN THE CORRESPONDING ORIENTATION.
- 3. SPRINKLER HEAD AND COVER PLATE FINISHES SHALL BE APPROVED BY ENGINEER. 4. EXACT SPRINKLER HEAD LOCATIONS SHALL BE APPROVED BY ENGINEER.
- 5. SPRINKLER HEADS SHALL BE UL LISTED AND FM APPROVED.
- 6. ALL SPRINKLER HEADS SHALL MEET THE PRESSURE REQUIREMENTS OF THE SYSTEM.
- 7. MANUFACTURERS SHALL BE NATIONALLY RECOGNIZED AND HAVE A MINIMUM OF 5 YEARS IN THE FIRE PROTECTION INDUSTRY. THE CONTRACTOR SHALL ONLY INSTALL PRODUCTS SOURCE WHEREVER POSSIBLE.
- G. SENSORS AND SWITCHES
- INSTALLED AS REQUIRED. 2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE FINAL COORDINATION OF ELECTRICAL
- REQUIREMENTS FOR ALL COMPONENTS WITH ALL OTHER TRADES.
- ALL COMPONENTS REQUIRING ELECTRICAL CONNECTIONS PRIOR TO PURCHASING. H. ACCESSORIES
- 1. ALL REQUIRED ACCESSORIES SHALL BE INSTALLED IN LOCATIONS SHOWN AND WHERE REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
- 2. FIRE DEPARTMENT CONNECTIONS SHALL BE MAINTAINED THROUGHOUT THE PROJECT AS REQUIRED BY THE LOCAL JURISDICTION HAVING AUTHORITY.
- 3. EXPOSED ACCESSORIES SHALL BE APPROVED AND COORDINATED WITH ENGINEER.
- 4. NON EXPOSED ACCESSORIES REQUIRING ACCESS SHALL BE COORDINATED WITH THE ENGINEER.
- 5. MANUFACTURERS SHALL BE NATIONALLY RECOGNIZED AND HAVE A MINIMUM OF 5 YEARS IN THE FIRE PROTECTION INDUSTRY. THE CONTRACTOR SHALL ONLY INSTALL PRODUCTS SUCCESSFULLY UTILIZED ON PREVIOUS PROJECTS. ALL ACCESSORIES SHALL BE SINGLE SOURCE WHEREVER POSSIBLE.
- SUPPORTS
- EQUIPMENT, ETC IN ACCORDANCE AND LISTED WITH NFPA 13.
- PERMANENT BUILDING STRUCTURE.
- PLUMB AND TRUE.
- PIPE SLEEVES
- 1. PROVIDE PIPE SLEEVES THROUGH WALLS, PARTITIONS, SLABS, ETC, SIZED AND INSTALLED IN ACCORDANCE WITH NFPA 13 AND FIRESTOPPING REQUIREMENTS. SET SLEEVES IN PLACE BEFORE POURING CONCRETE.
- 2. PROVIDE ESCUTCHEONS FITTING OVER THE SLEEVES ON BOTH SIDES OF THE PENETRATION ETC
- K. PIPE LABELING 1. STENCIL TYPE MARKERS WILL NOT BE PERMITTED. ONLY FACTORY MANUFACTURED MARKERS AS FOLLOWS WILL BE ACCEPTABLE:
 - a. FOR INDOOR USE, UTILIZE ADHESIVE PIPE MARKERS LARGEST SIZE POSSIBLE GIVEN THE PIPE OR INSULATION OUTER DIAMETER, WITH BOTH ENDS SECURED WITH ARROW TAPE OF MATCHING SIZE AND COLOR SCHEME.
- IDENTIFICATION MARKERS SHALL BE PLACED ON ALL EXPOSED AND CONCEALED MAIN PIPES AT 20'-0" INTERVALS, AT ALL VALVES AND BRANCHES, AND ON BOTH SIDES OF WALLS WHERE PIPES PASS THROUGH, ARROWS OF SAME COLOR AS IDENTIFICATION MARKERS SHALL ALSO BE
- PLACED ON PIPES POINTING AWAY FROM MARKER INDICATING DIRECTION OF FLOW. 3. LABELS SHALL INDICATE ZONE AND TYPE.
- 4. COORDINATE COLOR SCHEME WITH EXISTING PIPING AND SUBMIT TO ENGINEER PRIOR TO ORDERING
- 5. CONTRACTOR SHALL PAINT ALL NEW EXPOSED PIPING, CONDUIT, AND ASSOCIATED COMPONENTS RED.
- COMPONENT IDENTIFICATION
- 1. FURNISH AND INSTALL IDENTIFICATION FOR ALL NEW AND EXISTING COMPONENTS AS REQUIRED.
- 2. IDENTIFICATION SHALL BE REVIEWED AND APPROVED BY LOCAL AUTHORITY HAVING JURISDICTION.

VII. PUMPS AND CONTROLLERS

- A. GENERAL CODE.
- IDENTIFICATION FOR ALL CONCEALED ITEMS TO SATISFY NFPA STANDARDS.
- 3. MAINTAIN EQUIPMENT CLEARANCES REQUIRED BY NFPA 20 AND NFPA 72. 4. MAINTAIN THE REQUIRED FIRE RATING OF THE FIRE PUMP ROOM. REPAIR ANY AND ALL
- OF THE PROJECT.
- DRAIN.
- WITH THE EXISTING WORKING PRESSURES.
- 9. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH THESE DOCUMENTS, INDUSTRY STANDARDS, AND THE MANUFACTURER'S WRITTEN INSTRUCTIONS. B. FIRE PUMP
- 1. PROVIDE A COMPLETE AND OPERATIONAL FIRE PUMP AND FIRE PUMP CONTROLLER AS
- 2. PROVIDE A NEW PUMP PAD FOR MOUNTING THE FIRE PUMP AND EQUIPMENT MEETING THE REQUIREMENTS OF NFPA 20.
- SHALL BE PROVIDED WITH THE FIRE PUMP. BOTH THE FIRE PUMP AND MOTOR SHALL BE UL

LISTED AND FM APPROVED.

C. FIRE PUMP CONTROLLER IX. COMMISSIONING POSITION. CONTROL VALVES SHALL BE INSTALLED WITH ACTUATOR UPWARD UNLESS NOTED 1. THE FIRE PUMP CONTROLLER SHALL BE LOCATED IN A SIMILAR LOCATION TO THE EXISTING A. GENERAL CONTROLLER; AS CLOSE AS IS PRACTICAL AND WITHIN SIGHT OF THE MOTOR. 2. THE CONTROLLER SHALL BE WYE DELTA TYPE AND SHALL BE EQUIPPED WITH AN AUTOMATIC JURISDICTION AND NFPA 3. TRANSFER SWITCH. 3. THE FIRE PUMP CONTROLLER SHALL BE UL LISTED AND FM APPROVED FOR AUTOMATIC AND MANUAL START. THE FIRE PUMP CONTROLLER SHALL BE FACTORY ASSEMBLED, WIRED, AND SUCCESSFULLY UTILIZED ON PREVIOUS PROJECTS. ALL VALVES SHALL BE SINGLE SOURCE TESTED AND SHALL CONFORM TO NFPA 20, NFPA 70, AND UL 508. AMMETER TEST LINKS AND VOLTMETER TEST STUDS SHALL BE PROVIDED IN THE ENCLOSURE AND A PUSH-BUTTON ENGINEER/OWNER. MARKED "START-STOP" AND AN EMERGENCY START HANDLE SHALL BE PROVIDED ON THE ENCLOSURE. 4. FIRE PUMP TO BE REPLACED IS THE LOW ZONE FIRE PUMP, AND IS IN SERIES WITH THE HIGH ZONE FIRE PUMP. PROVIDE PRESSURE CONTROL AND SENSORS AS REQUIRED TO ENSURE THAT THE FIRE PUMP WILL START IN SERIES WITH THE EXISTING HIGH ZONE FIRE PUMP. 2. INSTALL THE APPROPRIATE TYPE OF SPRINKLER HEAD FOR THE APPLICABLE CEILING TYPE AND D. JOCKEY PUMP AND CONTROLLER 1. PROVIDE A COMPLETE AND OPERATIONAL ELECTRIC DRIVEN FIRE JOCKEY PUMP AND JOCKEY PUMP CONTROLLER AS SPECIFIED, SCHEDULED AND SHOWN ON THE DRAWINGS. 2. PROVIDE PUMP CHECKOUT, START-UP, TESTING AND ADJUSTING OF THE SYSTEM COMPONENTS AND PERFORM FIELD CERTIFICATION TESTING ON THE INSTALLED JOCKEY PUMP. FOLLOWING ITEMS: F. FIRE ALARM 1. COORDINATE WITH BUILDING ENGINEER AND MANAGEMENT TO TAKE FIRE ALARM DEVICES AND SENSORS OUT OF SERVICE TO COMPLETE ALL INSTALLATION WORK. SUCCESSFULLY UTILIZED ON PREVIOUS PROJECTS. ALL SPRINKLER HEADS SHALL BE SINGLE 2. PROVIDE ALL SENSORS AND CONTROLS REQUIRED TO ENSURE THAT ALL REMOTE ANNUNCIATOR PANELS AND FIRE ALARM CONTROLS RECEIVE FIRE PUMP CONTROLLER COMMISSIONING REPORTS: INFORMATION. ANNUNICATORS SHALL READ FROM THE NEW FIRE PUMP "FIRE PUMP RUNNING", "LOSS OF MAIN POWER", "PHASE REVERSAL" AND "LOW DISCHARGE PRESSURE". ALL REMOTE 1. ALL SENSORS AND SWITCHES SHALL BE COMPATIBLE WITH FIRE ALARM SYSTEM AND SHALL BE ALARMS AND ANNUNCIATORS SHALL MEET THE EXISTING BUILDING STANDARD AND MIRROR THOSE BY THE EXISTING SYSTEM. 3. ALL SENSORS AND SWITCHES SHALL BE COMPATIBLE WITH FIRE ALARM SYSTEM AND SHALL BE INSTALLED AS REQUIRED. 3. CONTRACTOR SHALL PROVIDE TO THE ELECTRICAL CONTRACTOR MANUFACTURER DATA FOR 4. CONTRACTOR SHALL BE RESPONSIBLE FOR THE FINAL COORDINATION OF ELECTRICAL REQUIREMENTS FOR ALL COMPONENTS WITH ALL OTHER TRADES. X. ELECTRICAL WORK 5. CONTRACTOR SHALL PROVIDE TO THE ELECTRICAL CONTRACTOR MANUFACTURER DATA FOR ALL COMPONENTS REQUIRING ELECTRICAL CONNECTIONS PRIOR TO PURCHASING. ELECTRICAL CONTRACTOR. G. ALIGNMENT 1. ALIGN PIPING CONNECTIONS. 2. AFTER ALIGNMENT IS CORRECT, TIGHTEN ANCHOR BOLTS EVENLY. FILL BASEPLATE BREAKERS INSTALLED IN EXISTING PANELS SHALL MATCH EXISTING PANEL MANUFACTURER COMPLETELY WITH GROUT, WITH METAL BLOCKS AND SHIMS OR WEDGES IN PLACE. TIGHTEN REQUIREMENTS. ANCHOR BOLTS AFTER GROUT HAS HARDENED. CHECK ALIGNMENT AND MAKE REQUIRED CORRECTIONS. COUPLINGS. 3. ALIGN PUMP AND DRIVER SHAFTS FOR ANGULAR AND PARALLEL ALIGNMENT ACCORDING TO TOLERANCES SPECIFIED BY MANUFACTURER. CONDUIT H. ACCESSORIES FLEXIBLE CONDUIT. 1. ALL REQUIRED ACCESSORIES SHALL BE INSTALLED IN LOCATIONS SHOWN AND WHERE REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM. G. EACH PIECE OF MECHANICAL EQUIPMENT REQUIRING ELECTRICAL POWER SHALL HAVE A LOCAL 1. PROVIDE LISTED HANGERS AND ACCESSORIES FOR THE PROPER SUPPORT OF PIPING, DISCONNECT. 2. FIRE DEPARTMENT CONNECTIONS SHALL BE MAINTAINED THROUGHOUT THE PROJECT AS REQUIRED BY THE LOCAL JURISDICTION HAVING AUTHORITY. 2. PIPE SUPPORT SHALL NOT BE FROM DUCTWORK, CONDUIT, OR OTHER PIPING BUT FROM THE 3. MANUFACTURERS SHALL BE NATIONALLY RECOGNIZED AND HAVE A MINIMUM OF 5 YEARS IN THE FIRE PROTECTION INDUSTRY. THE CONTRACTOR SHALL ONLY INSTALL PRODUCTS SUCCESSFULLY UTILIZED ON PREVIOUS PROJECTS. ALL ACCESSORIES SHALL BE SINGLE 3. HANGER RODS SHALL NOT BE BENT OR ALTERED IN ANY MATTER AND SHALL BE INSTALLED SOURCE WHEREVER POSSIBLE. I. TESTING 1. TEST THE FIRE PUMP AND CONTROLLER AS A UNIT. THE TESTS REQUIRED BY NFPA 20 AND 25 SHALL BE PERFORMED, INCLUDING THE FOLLOWING: 1.1. AFTER INSTALLING COMPONENTS, ASSEMBLIES, AND EQUIPMENT, INCLUDING CONTROLLER, TEST FOR COMPLIANCE WITH REQUIREMENTS. TEST ACCORDING TO NFPA 20 FOR ACCEPTANCE AND PERFORMANCE TESTING. FOR ALL PIPES EXPOSED TO VIEW PASSING THROUGH WALLS, FLOORS, CEILINGS, PARTITIONS, LEAK TEST: AFTER INSTALLATION, CHARGE SYSTEM AND TEST FOR LEAKS. REPAIR LEAKS 1.3. AND RETEST UNTIL NO LEAKS EXIST.

1.4. OPERATIONAL TEST: AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, START UNITS

1.5. TEST AND ADJUST CONTROLS AND SAFETIES. REPLACE DAMAGED AND MALFUNCTIONING

2. CONTRACTOR SHALL PROVIDE NECESSARY TOOLS, HOSES, ETC IN NUMBER, SIZE, AND LENGTH

REQUIRED TO REACH STORM DRAIN OR OTHER ACCEPTABLE LOCATION TO DISPOSE OF

FIRE-PUMP TEST WATER. HOSES ARE FOR TESTS ONLY AND DO NOT CONVEY TO OWNER.

3. COMPONENTS, ASSEMBLIES, AND EQUIPMENT WILL BE CONSIDERED DEFECTIVE IF THEY DO

4. PREPARE TEST AND INSPECTION REPORTS AND PROVIDE TO THE ENGINEER AND OWNER.

10. PUMPS AND CONTROLLERS SHALL HAVE ENGRAVED IDENTIFYING NAMEPLATES.

1. PIPING SHALL NOT BE CONCEALED, BACKFILLED, OR SIMILAR UNTIL CONTRACTOR TESTING IS

2. PRIOR TO ANY TESTING, ALL NEW WATER PIPING SYSTEMS SHALL BE FLUSHED USING WATER.

JURISDICTION. CONTRACTOR TO RETEST UNTIL ALL COMPONENTS ARE CERTIFIED TO MEET

TESTING, THE CONTRACTOR SHALL RETEST. CONTRACTOR SHALL PROVIDE ALL MATERIALS,

CODE REQUIREMENTS. IF ANY MODIFICATIONS ARE MADE TO THE PIPING SYSTEM AFTER

LOW POINT DRAINS SHALL BE OPENED AND THE SYSTEMS PROVED TO BE DRAINABLE.

EQUIPMENT, AND PERSONNEL REQUIRED TO CONDUCT ALL TESTS, INCLUDING THOSE

5. CONTRACTOR SHALL PROVIDE WRITTEN CERTIFICATION THAT ALL CONTRACTOR TESTING HAS

6. CONTRACTOR SHALL PROCEED WITH FINAL ACCEPTANCE TESTING WITH APPROVAL FROM

LOCAL AUTHORITY. CONTRACTOR SHALL PROVIDE THEIR FINAL ACCEPTANCE TESTING

SUBMITTAL TO THE LOCAL AUTHORITY FOR APPROVAL AND REVIEW. CONTRACTOR TO

PROVIDE A RECORD OF ACCEPTANCE BY THE LOCAL AUTHORITY TO THE OWNER AND

BEEN SUCCESSFULLY COMPLETED. WRITTEN CERTIFICATION SHALL INCLUDE A DESCRIPTION OF ALL TESTS PERFORMED, RESULTS OF THOSE TESTS, AND RESULTS OF ANY RETESTING

REQUIRED. WRITTEN CERTIFICATION TO BE PROVIDED AFTER ALL CONTRACTOR TESTS ARE

4. THE FIRE PUMP ACCEPTANCE TEST SHALL BE CONDUCTED BY THE MANUFACTURERS

CERTIFIED REPRESENTATIVE AT NO ADDITIONAL COST TO THE OWNER.

PASSED AT LEAST 48 HOURS PRIOR TO THE FINAL ACCEPTANCE TESTING.

3. TEST PER NFPA 13, NFPA 20, NFPA 25, AND PERFORM TESTING REQUIRED BY THE LOCAL

11. IDENTIFICATION SHALL BE REVIEWED AND APPROVED BY LOCAL AUTHORITY HAVING

TO CONFIRM PROPER MOTOR ROTATION AND UNIT OPERATION.

CONTROLS AND EQUIPMENT.

NOT PASS TESTS AND INSPECTIONS.

REQUIRED TO GAIN ACCESS, MEASURE OR OBSERVE.

L. IDENTIFICATION

VIII. TESTING AND CLEANING

ENGINEER.

A. TESTING

JURISDICTION.

COMPLETE AND REVIEWED.

1. COMPLY WITH PROVISIONS OF NFPA 13, 20 AND 25, AS REFERENCED BY THE CHICAGO BUILDING 2. SYSTEM COMPONENTS WHICH REQUIRE OBSERVATION, OPERATION, OR MAINTENANCE, SUCH AS VALVES, GAUGES, CONTROLS, ETC., SHALL BE READILY ACCESSIBLE. THEY SHALL NOT BE

CONCEALED IN CHASES OR ABOVE CEILINGS WITHOUT PROVISION FOR ACCESS. PROVIDE

FEATURES IMPACTED BY THE INSTALLATION OF THE FIRE PUMP. ALL PENETRATIONS TO THE FIRE PUMP ROOM SHALL BE FIRESTOPPED TO MATCH THE RATING OF THE FIRE PUMP ROOM. 5. ENSURE THE ROOM IS COMPLETELY FREE OF ALL STORAGE AND DEBRIS AT THE COMPLETION

6. PROVIDE A DRAIN LINE (3/4" MINIMUM) FOR EACH PUMP DRIP BASE TO THE NEAREST FLOOR 7. PROVIDE POSITIVE ELECTRICAL PUMP AND MOTOR GROUNDING IN ACCORDANCE WITH NFPA 70.

8. ALL PUMPS, CASINGS, FLANGES AND MECHANICAL SEALS SHALL BE RATED FOR OPERATION

SPECIFIED, SCHEDULED AND SHOWN ON THE DRAWINGS.

3. THE FIRE PUMP SHALL BE AN ELECTRIC HORIZONTAL SPLIT CASE FIRE PUMP. THE FIRE PUMP MOTOR SHALL BE COMPLETELY ASSEMBLED, WIRED, AND TESTED BY THE MANUFACTURER AND 1. THE COMMISSIONING PERFORMED MUST MEET THE REQUIREMENTS OF THE CODES HAVING

2. THE CONTRACTOR IS RESPONSIBLE FOR SUBCONTRACTING A REGISTERED DESIGN PROFESSIONAL OR APPROVED AGENCY TO ACT AS THE COMMISSIONING AUTHORITY AND PROVIDE EVIDENCE OF THE COMMISSIONING PROCESS. THE COMMISSIONING AUTHORITY SHALL NOT BE AFFILIATED WITH THE CONTRACTOR AND SHALL BE APPROVED BY THE

3. CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL LABOR AND MATERIALS REQUIRED TO PERFORM COMMISSIONING ON THIS PROJECT.

4. COMMISSIONING AUTHORITY SHALL SUBMIT ALL FUNCTIONAL TESTING PROCEDURES TO THE OWNER AND ENGINEER PRIOR TO FUNCTIONAL TESTING COMMENCING. B. PRIME CONTRACTOR DOCUMENTATION:

1. THE FOLLOWING SHALL BE COMPLETED BY THE PRIME CONTRACTOR AND REPORTS SHALL BE SUBMITTED TO OWNER, ENGINEER, AND COMMISSIONING AUTHORITY PRIOR TO THE START OF FUNCTIONAL TESTING. OWNER, ENGINEER, AND COMMISSIONING AUTHORITY RESERVE THE RIGHT TO DELAY FUNCTIONAL TESTING DUE TO THE INCOMPLETENESS OF ANY OF THE

a. WRITTEN CERTIFICATION OF REQUIRED CONTRACTOR TESTING COMPLETION PER NFPA. b. MEGGER TESTING

c. THERMAL SCANS OF ELECTRICAL EQUIPMENT. d. DRAFT OF O&M'S. e. FIRE ALARM SYSTEM HAS BEEN CONFIGURED; PROVIDE PROOF ALARMS ARE FUNCTIONAL.

PREPARE PRELIMINARY COMMISSIONING REPORT THAT INCLUDES ISSUES IDENTIFIED DURING TESTING AND ALSO INDICATES WHICH TESTING IS DEFERRED. 2. FINAL COMMISSIONING REPORT SHALL BE PROVIDED TO THE OWNER WITHIN 90 DAYS OF THE LOCAL AUTHORITY APPROVAL

A. ALL ELECTRICAL WORK FOR THIS PROJECT SHALL BE FURNISHED AND INSTALLED BY AN

B. ALL PANEL BOARDS FURNISHED SHALL BE MAIN CIRCUIT BREAKER OR MLO, COPPER BUS WITH BOLT-ON STYLE BREAKERS RATED AT 22KA I/C.

D. ALL INDOOR CONDUIT SHALL BE TYPE "EMT" WITH GLAND (COMPRESSION) TYPE CONNECTORS AND

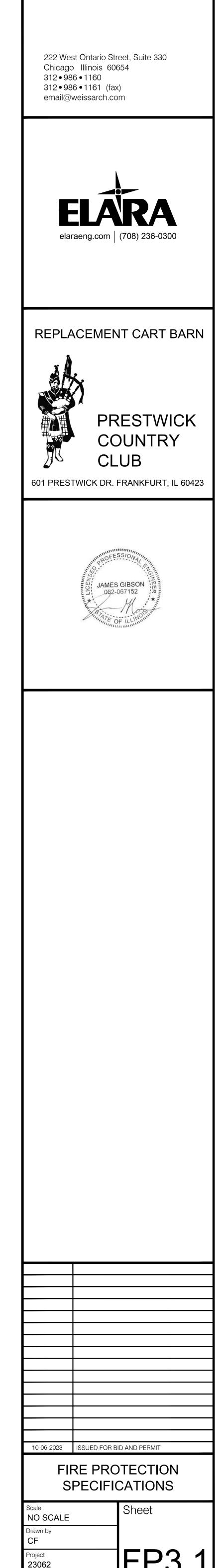
E. ALL OUTDOOR CONDUIT SHALL BE TYPE "IMC" WITH THREADED COUPLINGS OR RIGID METAL

F. FINAL CONNECTION TO ALL MOTORS AND MACHINERY SHALL BE VIA A MIN. 5'-0" LENGTH OF

H. PRIOR TO OPERATING OR FINAL CONNECTION OF ANY WIRED DEVICE, EACH CABLE RUN (NEW OR EXISTING) SHALL BE MEGGER TESTED WITH NOT LESS THAN A 1000 VOLT MEGGER. ANY CABLE NOT SHOWN TO BE "CLEAN" SHALL BE REPLACED PRIOR TO ENERGIZING. ALL CABLE SHALL BE STRANDED COPPER, 600 VOLT, TYPE "XHHW" (WET) OR "THHN" (DRY).

I. EC SHALL VERIFY ROTATION, MEASURE VOLTAGE AND THE RUNNING AMPERAGE OF EACH SYSTEM OR EQUIPMENT PROVIDED WITH POWER UNDER THIS CONTRACT AND COMPARE WITH THE NAMEPLATE RATING. PROVIDE REPORT TO OWNER AND ENGINEER.

J. STARTERS SHALL BE FULL VOLTAGE ACROSS THE LINE WITH CIRCUIT BREAKERS, OVERLOAD HEATERS, AND CONTROL TRANSFORMER, EC SHALL COORDINATE WITH BASC FOR EXACT CONTROLS REQUIREMENTS. STARTER SHALL BE PROVIDED WITH 'HOA' SWITCH AND RUNNING LIGHTS INDICATING MODE OF OPERATION.



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I. GENERAL CONDITIONS AND REQUIREMENTS	

A. ALL ELECTRICAL WORK INCLUDING BUT NOT LIMITED TO INSTALLATION, GROUNDING, EQUIPMENT, AND DEVICES SHALL CONFORM TO THE REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION AND APPLICABLE NATIONAL, STATE, CITY, AND MUNICIPAL BUILDING CODES.

- B. ALL ELECTRICAL WORK SHALL CONFORM TO NATIONAL AND LOCAL STANDARDS AND GUIDELINES INCLUDING BUT NOT LIMITED TO THE LATEST VERSIONS OF THE FOLLOWING: 1. ANSI - AMERICAN NATIONAL STANDARDS INSTITUTE
- 2. ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IES)
- 3. NATIONAL ELECTRICAL SAFETY CODE (NESC)
- 4. NFPA NATIONAL FIRE PROTECTION ASSOCIATION: STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE (NFPA 70E)
- 5. UNDERWRITERS LABORATORY (OR OTHER RECOGNIZED INSPECTING AGENCY) C. ALL MATERIALS SHALL BE LISTED BY AN APPROVED LABORATORY AND SHALL BE NEW AND THE BEST OF THEIR RESPECTIVE KINDS AND SHALL BE INSTALLED AND APPLIED AS INTENDED AND REQUIRED BY THE MANUFACTURER.
- D. ELECTRICAL WORK SHALL INCLUDE, BUT NOT BE LIMITED TO:
- 1. ALL MATERIALS
- 2. EQUIPMENT, TOOLS, AND LABOR REQUIRED FOR A COMPLETE AND CODE COMPLIANT SYSTEM.
- ANY OSHA REQUIREMENTS THAT MAY APPLY TO THE WORK UNDER THIS CONTRACT INCLUDING BUT NOT LIMITED TO SAFETY MEETINGS, STRICT LOCK/OUT/TAG/OUT
- PROCEDURES, AND PROPER PROTECTIVE EQUIPMENT. . LABOR AND SPECIALTY MODELING SOFTWARE REQUIRED FOR INTERDISCIPLINARY
- COORDINATION AND FAMILIARIZATION WITH SITE CONDITIONS. 5. TRAINING AND GATHERING OF DOCUMENTATION FOR CLOSEOUT PROCEDURES.
- E. THE DRAWINGS AND SPECIFICATIONS SHALL BE UNDERSTOOD TO COVER COMPLETE SYSTEMS ACCORDING TO THEIR INTENT AND MEANING AS DESCRIBED HEREIN. THIS SPECIFICATION IS INCLUSIVE FOR EACH ITEM, REQUIRING ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO PROPERLY INSTALL, ALTER, ADJUST AND PUT IN OPERATION THE COMPLETE ELECTRICAL SYSTEM.
- F. THIS CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING ALL ELECTRICAL COMPONENTS AND SYSTEMS AS REQUIRED FOR A FULLY FUNCTIONAL SYSTEM AND AS DESCRIBED HEREIN. ALL EQUIPMENT AND DEVICES SPECIFIED AND ADDITIONALLY REQUIRED WILL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. IT WILL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO PURCHASE ALL EQUIPMENT AND FURNISH LABOR AND EQUIPMENT FOR A COMPLETE CODE COMPLIANT OPERATING ELECTRICAL SYSTEM.
- G. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER LAYOUT AND CONSTRUCTION OF THE WORK INCLUDED IN THIS CONTRACT, INSTALLED ACCORDING TO THE APPLICABLE BUILDING CODES.
- H. SPECIFIC VOLTAGE AND CURRENT REQUIREMENTS ON THE ELECTRICAL DRAWINGS SHALL NOT RELIEVE THIS CONTRACTOR OF THE RESPONSIBILITY TO VERIFY THE VOLTAGE PRIOR TO PURCHASING OR ROUGH-IN WORK. THIS CONTRACTOR SHALL REVIEW ALL DEVICES AND EQUIPMENT FURNISHED BY HIS/HER CONTRACT AND THOSE FURNISHED BY OTHER CONTRACTORS ARE IN AGREEMENT WITH THE DATA SHOWN ON THE DRAWINGS. THE E.C. SHALL PROVIDE FEEDERS, CABLE AND DEVICES THAT ARE IN ACCORDANCE WITH CODE.
- ITEMS, ACCESSORIES, AND DEVICES REASONABLY INFERABLE AS NECESSARY FOR THE COMPLETE AND PROPER OPERATION OF ANY SYSTEM SHALL BE PROVIDED BY THE CONTRACTOR FOR SUCH SYSTEM(S), WHETHER THEY ARE SPECIFICALLY CALLED FOR BY THE DRAWINGS AND/OR SPECIFICATIONS OR NOT.
- THE DRAWINGS MAY NOT SHOW COMPLETE OR ACCURATE DETAILS OF THE EXISTING FACILITY IN EVERY RESPECT. EXACT LOCATIONS AND RELATIONS ARE TO BE DETERMINED IN THE FIELD AND SHALL BE TO THE SATISFACTION OF THE OWNER. THIS CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL FIELD MEASUREMENTS AND EXACT EQUIPMENT LOCATIONS.
- K. DRAWINGS ARE GENERALLY DIAGRAMMATIC. ROUTING OF CONDUIT AND RACEWAYS ARE SHOWN FOR CONCEPT. BUT DO NOT INTEND TO SHOW EVERY RISE, DROP, OFFSET, FITTING, NOR EVERY STRUCTURAL ELEMENT THAT MAY BE ENCOUNTERED DURING THE INSTALLATION OF THIS WORK. CONTRACTOR SHALL MAKE ANY REQUIRED CHANGES FROM THE GENERAL ROUTING SHOWN ON THESE DRAWINGS, SUCH AS OFFSETS, BENDS OR CHANGES IN ELEVATION DUE TO COORDINATION WITH THE WORK OF OTHER TRADES AND BUILDING CONSTRUCTION. ALL CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER OR DELAY IN COMPLETION DATE OF THE PROJECT.
- . IT IS INTENDED THAT EQUIPMENT SHALL BE LOCATED SYMMETRICALLY WITH THE ARCHITECTURAL ELEMENTS OF THE BUILDING, NOTWITHSTANDING THE FACT THAT LOCATIONS INDICATED BY THESE DRAWINGS MAY BE DISTORTED FOR CLEARNESS OF PRESENTATION. ENGINEER HAS RIGHT TO MOVE ANY EQUIPMENT OR DEVICE BY 10 FEET WITHOUT ANY ADDITIONAL COST TO OWNER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO ROUGH-IN
- M. CONTRACTOR SHALL BE RESPONSIBLE AND PAY FOR ALL X-RAY IMAGING, CORING, CUTTING, PATCHING, REPAIRING AND REFINISHING OF BUILDING CONSTRUCTION REQUIRED TO ACCOMMODATE THE INSTALLATION OF THEIR WORK. ALL PATCHING, REPAIRING AND REFINISHING WORK SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE AND SHALL MATCH THE NEW CONSTRUCTION AS CLOSELY AS POSSIBLE. CARE SHALL BE TAKEN SO AS NOT TO DAMAGE ANY EXISTING BUILDING CONSTRUCTION OR ITEMS THAT ARE TO REMAIN. ANY EXISTING FINISHES THAT ARE DAMAGED DURING THE INSTALLATION OF NEW WORK SHALL BE REPAIRED. REPLACED AND PAID FOR BY THE INSTALLING CONTRACTOR, TO THE SATISFACTION OF THE ENGINEER AND OWNER.
- N. THIS CONTRACTOR IS RESPONSIBLE FOR SCHEDULING DELIVERY, RECEIVING, UNLOADING, UNCRATING, STORING, SETTING IN PLACE, AND PROTECTING FROM DAMAGE, VANDALISM, THEFT OR WEATHER ALL NEW EQUIPMENT FURNISHED BY THIS CONTRACTOR FOR THE ENTIRETY OF CONSTRUCTION. THIS REQUIREMENT ALSO APPLIES TO ITEMS FURNISHED BY THE OWNER TO THE ELECTRICAL CONTRACTOR. THIS CONTRACTOR SHALL COORDINATE THE DELIVERY TO MEET THE PROJECT COMPLETION DATES AS ESTABLISHED BY THE OWNER.
- D. REFER TO ARCHITECTURAL DRAWINGS FOR EXISTING BUILDING CONSTRUCTION THAT IS TO REMAIN AND, THEREFORE, SUBJECT TO PATCHING, REPAIRING, AND REFINISHING.
- P. ANY ITEMS AND EQUIPMENT SCHEDULED TO BE REMOVED THAT THE OWNER WANTS TO RETAIN SHALL BE REMOVED CAREFULLY (SO AS NOT TO DAMAGE THEM) AND TURNED OVER TO THE OWNER. ALL OTHER ITEMS TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED FROM THE SITE.
- Q. CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR OWN CLEANUP DURING CONSTRUCTION. IF CONTRACTOR FAILS TO PROVIDE SUCH CLEANUP, THE ENGINEER WILL DIRECT ANOTHER CONTRACTOR TO PERFORM THE CLEAN-UP AND THE NEGLIGENT CONTRACTOR SHALL PAY THE ASSOCIATED BACK-CHARGES AS DEEMED APPROPRIATE BY THE ENGINEER.
- R. ACCESS TO WORK AREAS, INCLUDING WORK SCHEDULED THEREIN, MUST HAVE PRIOR APPROVAL OF THE OWNER. ALL WORK AREAS WILL BE KEPT CLEAN BY THIS CONTRACTOR WITH THOROUGH CLEAN UP AT END OF EACH DAY'S WORK. ALL EXISTING ELECTRIC SERVICE EQUIPMENT IS TO REMAIN OPERATIONAL DURING THE CONSTRUCTION PERIOD. ANY TEMPORARY WIRING OR REROUTING OF CIRCUITRY TO ACHIEVE THIS IS BY THE ELECTRICAL CONTRACTOR.
- S. CONTRACTOR SHALL FURNISH MATERIALS AND USE INSTALLATION METHODS SUITABLE FOR THE ENVIRONMENTAL CONDITIONS OF THE AREA IN WHICH EQUIPMENT, FIXTURES AND DEVICES ARE INSTALLED. T. CONTRACTOR SHALL PROVIDE SLEEVES IN BEAMS, FLOORS, COLUMNS AND WALLS, AS REQUIRED
- BY JOB SITE CONDITIONS, AND/OR AS SPECIFIED, WHEN INSTALLING THEIR WORK. ALL BEAMS AND COLUMNS WHICH ARE REQUIRED TO BE SLEEVED SHALL BE CUT AND REINFORCED AS REQUIRED BY FIELD CONDITIONS AND LOCATIONS AND SIZES SHALL BE CHECKED AND APPROVED BY ENGINEER BEFORE CONTRACTOR CUTS ANY BUILDING STRUCTURAL MEMBER.
- U. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL AND STRUCTURAL CONTRACT DRAWINGS (BEFORE SUBMITTING THEIR BIDS) TO FAMILIARIZE THEMSELVES WITH THE EXTENT OF THE GENERAL CONTRACTORS WORK, CEILING HEIGHTS AND CLEARANCE FOR INSTALLING THEIR
- V. CONTRACTOR SHALL STORE ALL MATERIALS AND EQUIPMENT SHIPPED TO THE SITE IN A PROTECTED AREA. IF MATERIAL IS STORED OUTSIDE OF THE BUILDING, IT MUST BE STORED OFF THE GROUND A MINIMUM OF SIX INCHES (6") ON 6' x 6' PLANKS AND/OR WOOD PALLETS. ALL PIPING AND DUCTWORK WILL HAVE THE ENDS CLOSED TO KEEP OUT DIRT AND OTHER DEBRIS. NO EQUIPMENT SHALL BE STORED ON THE SITE UNLESS IT IS SITTING ON WOOD PLANKS AND COMPLETELY PROTECTED WITH WEATHERPROOF COVERS. ALL MATERIALS AND EQUIPMENT MUST BE COMPLETELY COVERED WITH WATERPROOF TARPS OR VISQUIN.
- W. ELECTRICAL CONTRACTOR SHALL COORDINATE ALL NON-ACCESSIBLE SYSTEM DEVICES, PULL BOXES AND EQUIPMENT, ETC. TO ACCESSIBLE CEILING AREAS. E.C. SHALL INCLUDE ALL COMPLETE COSTS FOR RELOCATION AND VERIFY SUCH CONDITIONS WITH ARCHITECTURAL CEILING PLANS PRIOR TO FINAL BID.
- X. ELECTRICAL CONTRACTOR SHALL FOLLOW NEMA NO. PB-1.1 1979 PUBLICATION, PART V PROCEDURES PRIOR TO ENERGIZATION OF ANY SWITCHGEAR. THE ELECTRICAL CONTRACTOR SHALL USE ONLY TRAINED AND AUTHORIZED PROFESSIONAL ELECTRICAL CRAFT PERSONS. THE E.C. SHALL FURNISH ANY PERSONNEL SAFETY EQUIPMENT, LADDERS, MAN-LIFTS, AND POWERED HAND TOOLS THAT MAY BE REQUIRED. ALL POWERED TOOLS SHALL BE IN GOOD CONDITION WITH ALL GROUND CONDUCTOR IN PROPER OPERATION.
- Y. VERIFY CODE CLEARANCES FOR ALL NEW ELECTRICAL WORK BEFORE PROCEEDING WITH CONSTRUCTION. PROVIDE ADEQUATE WORKING CLEARANCES. DEDICATED EQUIPMENT SPACE. AND LEAK PROTECTION SYSTEMS AS REQUIRED BY APPLICABLE ELECTRICAL CODES. COORDINATE USAGE OF AVAILABLE SPACE WITH ALL TRADES. IN THE EVENT OF CONFLICTS, NOTIFY THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- **II. CONFLICT IN DOCUMENTS**
- A. GENERALLY, THE DRAWINGS ESTABLISH THE LOCATION, QUANTITY AND RELATIONSHIP OF THE PARTS OF THE WORK, AND THE SPECIFICATIONS DEFINE THE TYPE AND QUALITY OF MATERIALS AND WORKMANSHIP. WORK SHOWN IN THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS, OR REQUIRED BY THE SPECIFICATIONS AND NOT SHOWN ON THE DRAWINGS. SHALL BE PROVIDED AS IF FULLY PROVIDED FOR IN BOTH. IN THE CASE OF CONFLICTS BETWEEN THE DRAWINGS AND SPECIFICATIONS, OR WITHIN EITHER DOCUMENT, THE ENGINEER SHALL DETERMINE THE INTENT. IN SUCH CASES, IN GENERAL, THE MORE STRINGENT REQUIREMENT CONCERNING GREATER QUANTITY, QUALITY AND/OR RESULTING IN A HIGHER COST SHALL GOVERN WITHOUT FURTHER COST TO THE OWNER.
- III. SHUT-DOWN OF SYSTEM
- A. COORDINATE AND SEQUENCE DEMOLITION SO AS NOT TO CAUSE SHUTDOWN OF OPERATION OF SURROUNDING AREAS. B. SHUT-DOWN PERIODS:
- 1. ARRANGE TIMING OF SHUT-DOWN PERIODS OF SYSTEM, SERVICE WITH OWNER, DO NOT SHUT DOWN ANY SERVICE, WITHOUT PRIOR WRITTEN APPROVAL. PROVIDE NOTICE MINIMUM 15 WORKING DAYS IN ADVANCE.
- KEEP SHUT-DOWN PERIOD TO MINIMUM OR USE INTERMITTENT PERIOD AS DIRECTED BY THE
- MAINTAIN LIFE-SAFETY SYSTEM IN FULL OPERATION IN OCCUPIED FACILITIES, OR PROVIDE NOTICE MINIMUM 15 WORKING DAYS IN ADVANCE.
- 4. THE SYSTEM SHUT-DOWN SHALL BE DONE DURING OFF-BUSINESS HOURS.

IV. VISIT TO SITE

- A. THIS CONTRACTOR SHALL CAREFULLY EXAMINE THE ENTIRE SET OF CONTRACT DOCUMENTS, VISIT THE SITE, AND FULLY FAMILIARIZE HIMSELF/HERSELF AS TO ALL CONDITIONS AND MATTERS THAT CAN AFFECT THE WORK OR THE COST THEREOF. THIS CONTRACTOR IS RESPONSIBLE FOR NOTIFYING ENGINEER IN WRITING, AND PRIOR TO BID, OF DISCREPANCIES OR OMISSIONS FROM THE DRAWINGS, SPECIFICATIONS OR OTHER DOCUMENTS. OBTAIN CLARIFICATION PRIOR TO SUBMITTING ANY BID. LACK OF NOTIFICATION SHALL BE INTERPRETED TO INDICATE NO DISCREPANCIES OR CONFLICTS EXIST AND ADDITIONAL COMPENSATION WILL NOT BE GRANTED AFTER AWARD OF CONTRACT FOR ANY WORK REQUIRED TO COMPLY WITH THESE REQUIREMENTS OR INTENT.
- B. SUBMISSION OF PROPOSALS SHALL BE CONSIDERED EVIDENCE THAT THE CONTRACTOR HAS VISITED AND EXAMINED THE SITE.
- C. NO EXTRA PAYMENT WILL BE ALLOWED THE CONTRACTOR FOR EXTRA WORK CAUSED BY FAILURE TO VISIT, EXAMINE AND VERIFY.

- NOT A GUARANTOR OF THE CONTRACTOR'S WORK, RESPONSIBLE FOR JOBSITE SAFETY, OF THE WORK. THE ENGINEER IS NOT RESPONSIBLE FOR SAFETY OR ADEQUACY OF ANY SHIPMENT, BUILDING, SCAFFOLDING, FORMS OR OTHER WORK AIDS USED.
- V. LAWS, ORDINANCES, AND REGULATIONS
- SHALL APPLY. B. THE CONTRACTOR SHALL PAY ALL FEES AND OBTAIN AND PAY FOR ALL PERMITS AND
- WORK.
- APPROVAL, AS WELL AS THOSE SEALS OF ALL MUNICIPALITIES HAVING JURISDICTION. CERTIFICATES TO THIS AFFECT TO BE FURNISHED TO ARCHITECT UPON REQUEST.
- GOVERNING BODIES TO OPERATE AS AN ELECTRICAL CONTRACTOR FOR THIS PROJECT.

VI. WORKMANSHIP

- WORK TO WHICH THEY ARE USED.
- IN FIRST-CLASS CONDITION. ALL VERTICAL CONDUITS SHALL BE PLUMB.
- C. THE COMPLETE SYSTEM SHALL MEET THE REQUIREMENTS OF THE LOCAL ELECTRICAL CODE AND AS MAY BE MODIFIED BY LOCAL AMENDMENTS. THE WORKING CREW AND NON-WORKING OCCUPANTS IN ALL PHASES OF WORK, COMPLYING
- SHALL NOT BE DONE ON ENERGIZED CIRCUITS.

VII. MATERIALS AND EQUIPMENT

- MADE AVAILABLE TO THE PUBLIC AND IN EFFECT AT THE TIME OF OPENING OF BIDS.
- B. EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS FOR TYPE AND CAPACITY OF EACH PIECE OF EQUIPMENT USED, UNLESS ARE ENCOUNTERED OR SUSPECTED THE CONTRACTOR SHALL NOT DISTURB THEM AND SHALL CONTACT THE ENGINEER IMMEDIATELY.
- C. ALL INSTRUMENTS, APPARATUS AND EQUIPMENT SHALL BE TESTED AND PROVED TO BE CABLES, EQUIPMENT OR APPARATUS NECESSARY FOR MAKING ALL TESTS SHALL BE FURNISHED AND PROVIDED BY THIS CONTRACTOR. ANY TESTING OR EQUIPMENT MUST CONFORM TO OSHA REQUIREMENTS.

VIII. COORDINATION WITH OTHER TRADES

- STIPULATION AS CALLED FOR IN THE SPECIFICATION AND/OR AS DIRECTED.
- MODELING REQUIREMENTS PRIOR TO BID.
- PROPERLY AND WITHOUT DELAY.
- BEFORE INSTALLING THEIR WORK.
- EQUIPMENT LOCATIONS, LOADS, AND ADDITIONAL REQUIREMENTS.
- G. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION OF HVAC EQUIPMENT TO BE WIRED PRIOR TO ROUGH-IN.
- H. THE EC SHALL REVIEW AND BE FAMILIAR WITH THE MECHANICAL DRAWINGS AND SCHEDULES FOR
- BEFORE STARTING ANY DEMOLITION ON HVAC EQUIPMENT WHICH HAS AN ELECTRICAL EQUIPMENT TO BE DEMOLISHED.

IX. SUBMITTALS

- RECEIVED AND REVIEWED BY THE ENGINEER. THE ENGINEER WILL PROVIDE WRITTEN REVIEW OF THE CONTRACT RECORD DOCUMENTS.
- DEVICES, EMERGENCY GENERATOR, PIPING MATERIALS, VALVES, ETC.
- POWER, SIGNAL, AND CONTROL WIRING.
- DEVICES. E. PROVIDE SHOP DRAWINGS FOR CONDUITS LARGER THAN 1" AND ALL EXPOSED RACEWAYS.

X. IDENTIFICATION

- A. IN ADDITION TO THE REQUIREMENTS OF THE ELECTRICAL CODE AND OSHA, INSTALL AN SAFETY SWITCHES, CONTROL DEVICES AND OTHER SIGNIFICANT EQUIPMENT. NAMEPLATES SHALL BE LAMINATED BLACK PHENOLIC RESIN WITH A WHITE CORE WITH ENGRAVED LETTERING. A MINIMUM OF 6 MM (1/4_INCH) HIGH.
- B. PROVIDE PANELBOARD AND CIRCUIT NUMBER TAG ON EACH RECEPTACLE.

XI. FIRESTOPPING

OF ASSEMBLY.

XII. CLOSEOUT PROCEDURES

- A. TESTING
- ELECTRICAL INSPECTIONS.
- 3. FUNCTIONALLY TEST EQUIPMENT TO ENSURE IT IS INSTALLED PER DESIGN.
- 4. PROVIDE OPERATIONAL TEST AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, CONFIRM PROPER OPERATION.
- 5. PROVIDE WRITTEN REPORT OF THE RESULTS OF TESTS AND INSPECTIONS.
- B. GUARANTEE
- INVOLVED IN HIS CONTRACT DURING THIS GUARANTEE PERIOD.
- ADJACENT WORK THAT MUST BE DISTURBED IN FULFILLING THIS GUARANTEE.
- CONVENIENCE OF THE DEVELOPER AND TENANT.

D. THE ENGINEER WILL MAKE PERIODIC VISITS TO THE JOBSITE TO OBSERVE THE PROGRESS OF THE WORK AND TO OBSERVE ITS ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE ENGINEER IS RESPONSIBLE FOR SUPERINTENDING, OR IN CHARGE OF THE ERECTION AND/OR CONSTRUCTION

A. ALL SYSTEMS SHALL CONFORM IN FULL AND/OR PART SHALL CONFORM TO ALL PERTINENT LAWS, ORDINANCES AND REGULATIONS OF ALL BODIES HAVING JURISDICTION AT ALL GOVERNING LEVELS, NOTWITHSTANDING ANYTHING IN THESE DRAWINGS OR SPECIFICATIONS TO THE CONTRARY. IN CASE OF CONFLICT BETWEEN GOVERNING LEVELS, THE MORE STRINGENT LAWS

INSPECTIONS REQUIRED BY ANY AUTHORITY HAVING JURISDICTION IN CONNECTION WITH HIS

WHERE APPLICABLE, ALL NEW MATERIAL SHALL BEAR THE UNDERWRITER'S (UL) SEAL OF

D. THE ELECTRICAL CONTRACTOR SHALL SECURE AND PAY FOR ALL LICENSES REQUIRED BY THE

A. ALL WORK TO BE PERFORMED SHALL BE DONE BY QUALIFIED MECHANICS. ALL MECHANICS IN THE EMPLOY OF THIS CONTRACTOR ON THIS PROJECT SHALL BE SKILLED IN THE PHASES OF THE

B. ALL WORK MUST BE DONE IN WORKMANLIKE MANNER TO THE COMPLETE SATISFACTION OF THE ENGINEER. ALL MATERIAL SHALL BE NEW, OF THE QUALITY SPECIFIED, FREE FROM DEFECTS AND

D. THIS CONTRACTOR SHALL ESTABLISH SAFE WORKING PROCEDURES FOR THE PROTECTION OF

WITH THE APPLICABLE PROVISIONS OF ALL CITY, STATE AND FEDERAL SAFETY LAWS (OSHA). THIS SHALL INCLUDE "LOCK-OUT/TAG-OUT" AND REQUIRED GROUNDING. WORK UNDER THIS CONTRACT

A. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL CONFORM TO THE GRADE, QUALITY AND STANDARD SPECIFIED HEREIN. ALL EQUIPMENT OFFERED UNDER THESE SPECIFICATIONS SHALL BE LIMITED TO PRODUCTS REGULARLY PRODUCED AND RECOMMENDED FOR SERVICE, IN ACCORDANCE WITH ENGINEERING DATA, RATINGS OR OTHER COMPREHENSIVE LITERATURE

INDICATED OTHERWISE. THE ENGINEER MAKES NO REPRESENTATION AS TO WHETHER OR NOT ANY HAZARDOUS OR CONTAMINATED MATERIALS (INCLUDING BUT NOT LIMITED TO ASBESTOS, PCB'S, CONTAMINATED SOILS, ETC.) ARE PRESENT WITHIN THE EXISTING BUILDING OR ON THE SITE. WORK SHOWN ON THE DRAWINGS AND/OR INDICATED IN THE SPECIFICATIONS SHALL NOT BE CONSTRUED TO CALL FOR CONTACT WITH ANY OF THESE MATERIALS. IF THESE MATERIALS

ELECTRICALLY AND MECHANICALLY WITHOUT DEFECTS. THE ELECTRICAL SYSTEM SHALL BE TESTED FOR GROUNDS OR SHORTS. IF THE TROUBLE IS WITHIN THE CIRCUIT WIRING, ALL SHORTED OR GROUNDED WIRES SHALL BE REPLACED AND THEN RE-TESTED. ALL METERS,

A. THE SEQUENCE FOR THE INSTALLATION OF ALL WORK SHALL BE COORDINATED BETWEEN ALL CONTRACTORS ON THE PROJECT AND IN STRICT ACCORDANCE WITH ENGINEER AND OWNERS

THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE LABOR AND SOFT MATERIALS REQUIRED FOR COORDINATING CONSTRUCTION INSTALLATION ELECTRONICALLY WITH OTHER TRADES USING CURRENT SOFTWARE AND MODELING SYSTEMS. THE CONTRACTOR SHALL CONFIRM

C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH THAT WORK OF THE OTHER TRADES. CONTRACTOR IS COMPLETELY RESPONSIBLE IF FAILURE ON HIS PART TO COORDINATE EFFORTS RESULTS IN EXTRA WORK HAVING TO BE DONE TO COMPLETE A TASK. AS SUCH, HIS FAILURE SHALL NOT BE THE BASIS FOR ANY EXTRA CHARGE AGAINST THE OWNER.

D. CONTRACTOR SHALL CHECK DRAWINGS OF OTHER TRADES TO VERIFY THAT SPACES IN WHICH THEIR WORK WILL BE INSTALLED IS CLEAR OF OBSTRUCTIONS. WORK SHALL BE INSTALLED TO MAINTAIN MAXIMUM HEADROOM AND SPACE CONDITION AT ALL POINTS IN THE BUILDING. WHERE HEADROOM OR SPACE CONDITIONS APPEAR INADEQUATE. CONTRACTOR SHALL NOTIFY ENGINEER BEFORE PROCEEDING WITH THE INSTALLATION OF THEIR WORK. CONTRACTOR SHALL FURNISH OTHER TRADES ADVANCE INFORMATION AND/OR SHOP DRAWINGS ON LOCATIONS AND SIZES OF CONDUITS, RACEWAYS, EQUIPMENT, FRAMES, BOXES, SLEEVES AND OPENINGS, ETC. NEEDED FOR THEIR WORK TO PERMIT OTHER TRADES AFFECTED TO INSTALL THEIR WORK

WHERE THERE IS EVIDENCE THAT WORK OF ONE TRADE WILL INTERFERE WITH WORK OF OTHER TRADES, ALL TRADES SHALL MEET ON JOB SITE TO WORK OUT SPACE CONDITIONS, AND MAKE SATISFACTORY ADJUSTMENTS TO INSTALLATION OF THE NEW WORK. CONTRACTOR SHALL VERIFY EXACT LOCATIONS OF ALL ELECTRICAL DEVICES AND EQUIPMENT PRIOR TO ROUGH-IN WITH FIELD CONDITIONS, SHOP DRAWINGS AND WORK OF OTHER TRADES. EACH CONTRACTOR SHALL BE RESPONSIBLE, AT THEIR OWN EXPENSE, FOR THE REMOVAL AND REINSTALLATION OF ANY PART OF THEIR WORK IF SAME WAS INSTALLED WITHOUT CONSULTING WITH OTHER TRADES

F. REFER TO THE ARCHITECTURAL, MECHANICAL AND PLUMBING SHEETS AND SPECIFICATIONS FOR

FINAL EQUIPMENT SELECTION. THE EC SHALL VERIFY HORSEPOWER, VOLTAGE, PHASES. AMPACITY, AND SPECIAL MOUNTING BEFORE SUBMITTING HIS BID. ANY SPECIAL CONDITIONS OR CONFLICTS MUST BE INDICATED IN WRITING TO THE ENGINEER PRIOR TO OR AT THE TIME OF BID.

CONNECTION. THE MECHANICAL CONTRACTOR SHALL MEET WITH THE ELECTRICAL CONTRACTOR TO IDENTIFY ALL SUCH EQUIPMENT. THE ELECTRICAL CONTRACTOR WILL DISCONNECT THE POWER TO EACH UNIT, REMOVE CONDUIT, WIRING, DISCONNECT SWITCHES, AND STARTERS UNDER HIS CONTRACT. MECHANICAL CONTRACTOR WILL REMOVE ALL EQUIPMENT, ELECTRICAL TEMPERATURE CONTROL AND WIRING UNDER HIS CONTRACT. MECHANICAL CONTRACTOR SHALL NOT START DEMOLITION UNTIL ALL ELECTRICAL POWER HAS BEEN SAFELY DISCONNECTED FROM

A. THE CONTRACTOR SHALL PROVIDE COMPLETE SHOP DRAWINGS INDICATING EQUIPMENT. DEVICE. AND RACEWAY LOCATIONS, INVERTS FOR OUTDOOR DEVICES, AND COMPLETE INSTALLATION DRAWINGS. THE DRAWINGS SHALL BE MAINTAINED AT THE JOB SITE AND SHALL BE UPDATED AND MAINTAINED IN AS NEAR AS POSSIBLE TO THE "AS INSTALLED" STATUS OF THE PROJECT AND SHALL BE KNOWN AS "CONTRACT RECORD DOCUMENTS". THE DRAWINGS SHALL BE REVISED IN AN AUTOCAD FORMAT AND SUBMITTED TO THE ENGINEER FOR REVIEW. THE FINAL ELECTRICAL PAYOUT SHALL NOT BE MADE TO THE EC UNTIL THE CONTRACT RECORD DOCUMENTS HAVE BEEN

CONFIRMATION TO THE OWNER AND GENERAL CONTRACTOR FOR FINAL PAYOUT BASED ON THE B. PROVIDE PRODUCT DATA FOR ALL EQUIPMENT AND DEVICES SUCH AS PANELBOARDS, DISCONNECT SWITCHES, CONDUIT & JUNCTION BOXES, WIRING, GROUNDING MATERIALS, WIRING

PROVIDE DIMENSIONAL DRAWINGS, MANUFACTURERS' TECHNICAL DATA, PERFORMANCE, ELECTRICAL CHARACTERISTICS, RATINGS, AND FINISHES. INCLUDE WIRING DIAGRAMS FOR

D. PROVIDE OPERATION AND MAINTENANCE DATA FOR ALL EQUIPMENT AND DEVICES INCLUDING MANUFACTURER'S WRITTEN INSTRUCTIONS FOR TESTING AND ADJUSTING EQUIPMENT AND

IDENTIFICATION SIGN WHICH CLEARLY INDICATES INFORMATION REQUIRED FOR USE AND MAINTENANCE OF ITEMS SUCH AS PANELBOARDS, MOTOR CONTROLLERS (VFD, STARTERS, ETC.),

A. APPLY UL LISTED FIRE STOPPING TO PENETRATIONS OF FIRE-RATED FLOOR AND WALL ASSEMBLIES FOR ELECTRICAL INSTALLATIONS TO RESTORE ORIGINAL FIRE-RESISTANCE RATING

B. PROVIDE FIRE PUTTY TO MEET FIRE RATED ENCLOSURE UL LISTING REQUIREMENTS ON ALL ELECTRICAL BOXES INSTALLED ON THE FIRE RATED WALLS AND CEILINGS.

1. PERFORM TESTS RECOMMENDED BY MANUFACTURER INCLUDING VISUAL, MECHANICAL, AND

2. PERFORM INSULATION-RESISTANCE TESTS IN ACCORDANCE WITH IEEE 43.

6. PERFORM EMERGENCY SYSTEM (GENERATOR, TRANSFER SWITCH, EMERGENCY LIGHTING, BATTERIES, ETC.) TESTS RECOMMENDED BY MANUFACTURER INCLUDING VISUAL AND MECHANICAL AND ELECTRICAL INSPECTIONS. FUNCTIONALLY TEST EQUIPMENT TO ENSURE IT IS INSTALLED PER DESIGN INCLUDING EMERGENCY LIGHTING BLACKOUT TEST. PROVIDE OPERATIONAL TEST AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, CONFIRM PROPER OPERATION. PROVIDE WRITTEN REPORT OF THE RESULTS OF TESTS AND INSPECTIONS.

1. THIS CONTRACTOR SHALL UNCONDITIONALLY GUARANTEE IN WRITING ALL MATERIAL, EQUIPMENT AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE BY OWNER. THE CONTRACTOR SHALL PROVIDE FREE SERVICE FOR ALL EQUIPMENT

2. THE GUARANTEE SHALL INCLUDE RESTORATION TO ITS ORIGINAL CONDITION OF ALL

3. ALL SUCH REPAIRS AND/OR REPLACEMENTS SHALL BE MADE WITHOUT DELAY AND AT THE

C. WARRANTY

- 1. INSTALLER AND MANUFACTURERS AGREE TO REPAIR OR REPLACE MATERIALS OR WORKMANSHIP THAT FAIL WITHIN SPECIFIED WARRANTY PERIOD. WARRANTY PERIOD SHALL BE ONE YEAR FROM DATE OF SUBSTANTIAL COMPLETION.
- D. INSPECTION 1. ALL ELECTRICAL WORK IS TO BE INSPECTED AND APPROVED BY THE AUTHORIZED REPRESENTATIVE BEFORE THE SYSTEM IS ENERGIZED. DUPLICATE CERTIFICATES OF THIS
- APPROVAL SHALL BE DELIVERED TO THE ENGINEER. . ALL FEES FOR THIS INSPECTION AND APPROVAL SHALL BE BORNE BY THE CONTRACTOR AND ARE TO BE INCLUDED IN HIS/HER BID. NO EXTRA COMPENSATION SHALL BE ALLOWED FOR THIS SERVICE.
- E. CLOSEOUT DOCUMENT AND EQUIPMENT TURNOVER
- 1. PROVIDE FINAL AS-BUILT DRAWINGS IN ELECTRONIC PDF FORMAT TO OWNER AND ENGINEER SHOWING FINAL INSTALLED CONDITIONS AND BEFORE FINAL PAYMENT WILL BE ISSUED. 2. THE AS-BUILT DRAWINGS SHALL DIAGRAMMATICALLY INDICATE THE INSTALLED CONDITION, CIRCUIT NUMBERS, AND LOCATION OF THE DEVICES FOR ALL WORK. THESE DRAWINGS SHALL
- BE CONSIDERED CONTRACT RECORD DOCUMENTS AND SHALL ACCURATELY REFLECT THE ACTUAL INSTALLATION OF THE ELECTRICAL COMPONENTS AND CONDUITS. 3. PROVIDE ALL EQUIPMENT INSTALLATION, MAINTENANCE, AND INSTRUCTION MANUALS.
- 4. TURN OVER ALL KEYS, SPARE MATERIALS, STOCK ITEMS, AND OTHER EQUIPMENT PURCHASED AS PART OF THE CONTRACT AND BELONGING TO THE OWNER.

XV. WIRE AND WIRING METHOD

- A. ALL CONDUCTORS SHALL BE COPPER IN SIZES AS SHOWN OR REQUIRED BY LOADS SERVED. ALL CABLE SHALL BE 600/VOLT INSULATION RATED AT 75 DEGREES C, WITH TERMINATIONS AND LOADS SERVED RATED AT 75 DEGREES C. INDOOR DRY LOCATIONS SHALL BE TYPE "THHN" AND WET LOCATIONS (EXPOSED, BELOW THE SLAB, AND BELOW GRADE) SHALL BE TYPE "XHHW".
- B. A SEPARATE NEUTRAL CONDUCTOR AND GREEN GROUND WIRE SHALL BE INSTALLED FOR EACH FEEDER AND BRANCH CIRCUIT.
- C. EACH BRANCH CIRCUIT SHALL HAVE A DEDICATED NEUTRAL WIRE. A SHARED NEUTRAL IS NOT ALLOWED. . MINIMUM SIZE CONDUCTOR SHALL BE #12 EXCEPT FOR CONTROL, FIRE ALARM AND SIGNAL
- CABLES. CONDUCTORS AND ASSOCIATED RACEWAYS SHALL BE INCREASED FOR VOLTAGE DROP COMPENSATION AS CALCULATED ACCORDING TO ELECTRICAL CODE REQUIREMENTS. E. THE E.C. SHALL FURNISH AND INSTALL LUG KITS TO MATCH THE CABLE SIZES AS SHOWN ON THE DRAWINGS. TYPICAL FOR ALL ELECTRICAL AND MECHANICAL EQUIPMENT. ANY AND ALL REQUIRED
- LUG KITS SHALL BE INCLUDED IN THE BASE BID. CABLE SIZE REDUCING PINS SHALL NOT BE AN ACCEPTABLE ALTERNATIVE TO LUG KITS. F. REMOVE ALL UNUSED AND ABANDONED WIRING, INCLUDING LOW VOLTAGE, COMPLETELY BACK
- TO SOURCE. G. ALL COMMUNICATION CABLING INSTALLED IN PLENUM AIR SPACES SHALL BE IN CONDUIT,
- WITHOUT ANY EXCEPTIONS.
- H. ALL PLENUM AIR SPACES AREA SHALL BE IN CONDUIT WITH PLENUM RATED BOX. I. E.C SHALL PROVIDE ALL FEEDER & BRANCH CIRCUITS SIZED BASED ON VOLTAGE DROP REQUIRED PER LOCAL CODE.
- J. CONDUCTOR SPLICING 1. SPLICING WIRES SHALL BE DONE ONLY IN ACCESSIBLE OUTLET JUNCTION OR PULL BOXES
- 2. SPLICES SHALL BE MADE STRICTLY IN ACCORDANCE WITH THE INSTRUCTIONS OF THE CABLE MANUFACTURER USING THE METHODS AND MATERIALS RECOMMENDED BY HIM.
- FOR #10 AND #12 WIRE SPLICES SHALL BE MADE WITH SCOTCH-LOK CONNECTORS. 4. WIRE #6 AND LARGER SHALL BE CONNECTED WITH BURNDY OR EQUAL SOLDERLESS
- MECHANICAL LUG AND PAINTED WITH INSULATING VARNISH.
- 5. ALL CONNECTIONS SHALL BE PROPERLY TAPED WITH SCOTCH ELECTRICAL TAPE #22, #33 OR APPROVED EQUAL. 6. ALL GROUND SPLICES AND GROUND CONNECTIONS TO DEVICES WITHIN METALLIC BOXES

SHALL BE BONDED TO BOX USING APPROPRIATELY SIZED PIGTAIL CONNECTIONS OR OTHER

XVI. GROUNDING AND BONDING

UL APPROVED BONDING METHOD.

A. EQUIPMENT GROUNDING CONDUCTORS SHALL BE UL 83 INSULATED STRANDED COPPER, UNLESS OTHERWISE INDICATED ON THE DRAWINGS. INSULATION COLOR SHALL BE CONTINUOUS GREEN FOR ALL EQUIPMENT GROUNDING CONDUCTORS. BONDING CONDUCTORS SHALL BE ASTM B8 BARE STRANDED COPPER, EXCEPT THAT SIZES NO. 10 AWG AND SMALLER SHALL BE ASTM B1 SOLID BARE COPPER WIRE. CONDUCTOR SIZES SHALL NOT BE LESS THAN WHAT IS SHOWN ON THE DRAWINGS AND NOT LESS THAN REQUIRED BY THE NEC, WHICHEVER IS GREATER. A GROUND CONDUCTOR SHALL BE INSTALLED IN EVERY RACEWAY AND BONDED TO ALL BOXES AND ENCLOSURES EXCEPT FOR THE SERVICE LATERALS. THE GROUND CONDUCTOR SHALL BE BONDED IN EVERY ENCLOSURE.

XX. PANELBOARDS

- A. PROVIDE PANELBOARDS WITH ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGENCY, MARKED FOR INTENDED LOCATION AND APPLICATION AND THAT COMPLY WITH NEMA PB 1.
- B. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PANELBOARDS BY:
- 1. SQUARE D
- 2. SIEMENS
- 3. GENERAL ELECTRIC 4. EATON
- 5. APPROVED EQUAL
- SURFACE MOUNTED (AS SHOWN IN PLAN), DEAD-FRONT CABINETS RATED FOR ENVIRONMENTAL CONDITIONS AT INSTALLED LOCATION.
- D. PANELBOARD TRIM AND FRONT COVER SHALL BE HINGED DOOR-IN-DOOR SYLE.
- E. INDOOR DRY AND CLEAN LOCATIONS: NEMA 250, TYPE 1). PROVIDE GALVANIZED STEEL CABINETS TO HOUSE PANELBOARDS FLUSH AND SURFACE-MOUNTED, DEAD-FRONT CABINETS.
- F. FACTORY FINISHED WITH MANUFACTURER'S STANDARD TWO-COAT, BAKED-ON FINISH.
- G. PROVIDE DIRECTORY CARD WITH TRANSPARENT COVER PERMANENTLY MOUNT ON INSIDE OF DOORS.
- H. PHASE, NEUTRAL, AND GROUND BUSES AND BARS SHALL BE TINNED COPPER MATERIAL AND BUS SHALL BE FULLY RATED THE ENTIRE LENGTH OF ENCLOSURE. PROVIDE FULL-SIZED NEUTRAL WITH FULL-CAPACITY BONDING STRAP FOR SERVICE ENTRANCE APPLICATIONS. MAIN AND NEUTRAL LUGS SHALL BE MECHANICAL TYPE, WITH A LUG ON THE NEUTRAL BAR FOR EACH POLE IN THE PANELBOARD AND WITH A LUG ON THE GROUND BAR FOR EACH POLE IN THE PANELBOARD.
- PANELBOARDS SHALL BE STANDARD MANUFACTURED PRODUCTS. ALL COMPONENTS WITHIN ONE ASSEMBLY SHALL BE OF THE SAME MANUFACTURER. ALL PANELBOARDS SHALL BE DEAD FRONT TYPE. ALL PANELBOARDS SHALL BE COMPLETELY FACTORY ASSEMBLED WITH MOLDED CASE CIRCUIT BREAKERS AND ARRANGED SO THAT IT WILL BE POSSIBLE TO SUBSTITUTE A 2 POLE BREAKER FOR TWO SINGLE POLE BREAKERS, AND A 3_POLE BREAKER FOR THREE SINGLE POLE BREAKERS, WHEN TRIP IS 30 AMPS OR LESS AND FRAME SIZE IS 100 AMPERES OR LESS, WITHOUT HAVING TO DRILL AND TAP THE MAIN BUS BARS AT BUS STRAPS.CIRCUIT BREAKERS SHALL BE BOLT-ON CONNECTED TO THE PANELBOARD, MINIMUM INTERRUPTING CAPACITY SHALL BE 14,000 AIC FOR 277/480 VOLT CIRCUIT BREAKERS AND 10,000 AIC FOR 120/208 VOLT CIRCUIT BREAKERS. PLUG-IN CIRCUIT BREAKERS ARE NOT APPROVED.
- J. PANELBOARD FAULT WITHSTAND RATING SHALL BE INCREASED BY THE ELECTRICAL CONTRACTOR AS A RESULT OF SHORT-CIRCUIT STUDY RESULTS AT NO ADDITIONAL COST TO
- PROJECT K. ALL NEW CIRCUIT BREAKERS FOR THE EXISTING PANELBOARDS SHALL BE COMPATIBLE WITH THE
- EXISTING EQUIPMENT. AIC RATINGS SHALL MATCH THE ORIGINAL EQUIPMENT AIC RATINGS.
- L. CIRCUIT BREAKERS SERVING HAND DRYERS AND WATER COOLERS SHALL BE GFCI TYPE, WHERE APPLICABLE.
- M. CIRCUIT BREAKERS SERVING EMERGENCY LIGHTING, FIRE PUMPS, FIRE ALARM, EXIT SIGNS, AND SIMILAR EMERGENCY/LIFE-SAFETY LOADS SHALL BE PROVIDED WITH RED LOCK-ON DEVICES.
- N. PROVIDE A TYPEWRITTEN DIRECTORY OF ALL CIRCUITS IN THE PANELBOARD

XXII. WIRING DEVICES

A. LIST OF APPROVED MANUFACTURERS SHALL BE THE FOLLOWING OR AS OTHERWISE NOTED ON DESIGN DRAWINGS:

- 1. POWER DEVICES:
- a. LEVITON b. HUBBELL c. LEGRAND
- 2. LIGHTING DEVICES
- a. LEVITON b. HUBBELL
- c. LEGRAND d. ACUITY BRANDS (LIGHTING CONTROLS)
- B. GFCI, WEATHER RESISTANT, AND OTHER SPECIALTY TYPE RECEPTACLES SHALL BE PROVIDED WHERE REQUIRED BY CODE AND THE CONSTRUCTION DOCUMENTS. C. DUPLEX RECEPTACLES SHALL BE SINGLE PHASE, 20 AMPERE, 120 VOLTS, 2 POLE, 3 WIRE, AND
- CONFORM TO STANDARD NEMA WD 1 HEAVY DUTY TYPE. THE UNGROUNDED POLE OF EACH RECEPTACLE SHALL BE PROVIDED WITH A SEPARATE TERMINAL. ALL OUTDOOR RECEPTACLES SHALL HAVE METALIC LOCKABLE WHILE IN USE COVERS. COLOR SHALL BE SELECTED BY ENGINEER.
- D. GROUND FAULT INTERRUPTER DUPLEX RECEPTACLES SHALL BE AN INTEGRAL UNIT SUITABLE FOR MOUNTING IN A STANDARD OUTLET BOX. GROUND FAULT INTERRUPTERS SHALL BE PREMIUM GRADE AND CONSIST OF A DIFFERENTIAL CURRENT TRANSFORMER, SOLID STATE SENSING CIRCUITRY AND A CIRCUIT INTERRUPTER SWITCH. IT SHALL BE RATED FOR OPERATION ON A 60 HZ, 120 VOLT, 20-AMPERE BRANCH CIRCUIT. DEVICES SHALL MEET UL 943.
- E. TOGGLE SWITCHES SHALL BE SINGLE UNIT TOGGLE, BUTT CONTACT, QUIET AC TYPE, HEAVY DUTY GENERAL-PURPOSE USE WITH AN INTEGRAL SELF GROUNDING MOUNTING STRAP, LISTED BY UNDERWRITERS LABORATORIES, INC., AND MEET THE REQUIREMENTS OF NEMA WD 1, HEAVY_DUTY AND UL 20 RATED FOR 20 AMPERES AT 120-277 VOLTS AC.
- F. WIRING DEVICES SHALL BE PROVIDED AS FOLLOWS OR EQUAL, UNLESS NOTED OTHERWISE 1. DUPLEX RECEPTACLE - LEVITON # BR20.
- 2. SIMPLEX RECEPTACLE LEVITON # 8310-B
- 3. GFCI RECEPTACLE LEVITON # N7599-HG
- 4. ALL OUTDOOR RECEPTACLES SHALL HAVE IN-USE COVERS AS MANUFACTURED BY TAYMAC OR APPROVED EQUAL.

G. WALL PLATES FOR SWITCHES AND RECEPTACLES SHALL BE TYPE 302 BRUSHED STAINLESS STEEL IN PUBLIC AREAS AND GALVANIZED STEEL IN MAINTENANCE AREAS. ALL DEVICES MOUNTED EXPOSED TO WEATHER SHALL BE MOUNTED IN CAST ALUMINUM ENCLOSURES THAT ARE NEMA RATED 3R OR 4. WIRE DEVICES MANUFACTURERS LEVITON, HUBBELL OR APPROVED EQUAL. H. REFER TO ARCHITECTURAL DRAWINGS FOR ELECTRICAL WIRING DEVICE MOUNTING AND ELEVATION FINAL INFORMATION.

I. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ENGINEER/OWNER FOR EXACT LOCATION OF LIGHT SWITCHES. STANDARD MOUNTING LOCATION SHALL BE ON DOOR LOCK STILE SIDE, MOUNTED AT A CONSISTENT HEIGHT FROM FLOOR, AND MOUNTED A CONSISTENT DISTANCE FROM DOOR JAMB.

XXIII. LIGHTING FIXTURES

A. LIGHT FIXTURES SHALL BE PROVIDED AS SPECIFIED ON DRAWINGS. ALL FIXTURES SHALL BE MOUNTED IN PLACE, PROPERLY WIRED, TESTED AND LEFT READY FOR OPERATION BY THE ELECTRICAL CONTRACTOR.

B. HANGING DEVICES, BRACKETS, ENCLOSURES AND OTHER ACCESSORIES SHALL BE PROVIDED FOR A COMPLETE INSTALLATION AND SHALL BE INSTALLED BY THE ELECTRICAL CONTRACTOR. C. LIGHT FIXTURES SHALL BE AIRCRAFT CABLE OR ROD SUPPORTED FROM THE STRUCTURE. D. FLEXIBLE CONDUIT CONNECTIONS TO RECESSED LIGHTING FIXTURES SHALL BE MADE WITH FLEXIBLE STEEL CONDUIT, 3/8 INCH MINIMUM.

E. THE CONTRACTOR SHALL VERIFY THE CEILING CONSTRUCTION TYPE BEFORE ORDERING LIGHTING FIXTURES WITH ARCHITECTURAL DETAILS TO CONFIRM PROPER MOUNTING. F. FOR EXACT LOCATION OF LIGHTING FIXTURES REFER TO ARCHITECTURAL REFLECTED CEILING PLANS AND ELEVATIONS. WHERE CONFLICTS EXIST BETWEEN ARCHITECTURAL AND ELECTRICAL DRAWINGS, COORDINATE WITH ARCHITECT IN FIELD PRIOR TO ROUGH-IN.

XXIV. FIRE ALARM SYSTEM

A. ELECTRICAL CONTRACTOR TO HIRE A LICENSED FIRE ALARM CONTRACTOR TO DESIGN AND INSTALLALL FIRE ALARM DEVICES IN ACCORDANCE WITH THE LOCAL FIRE CODE AND NEPA 72 AS REQUIRED. THIS LICENSED INDIVIDUAL SHALL BE CERTIFIED BY THE NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGY (NICET). THE FIRE ALARM SYSTEM SHALL COMPLY WITH REQUIREMENTS FOR THE OCCUPANCY AND BUILDING TYPE AS STATED ON THE ARCHITECTURAL DRAWINGS.

B. THE FIRE ALARM CONTACTOR / DESIGNER SHALL SUBMIT PLANS TO THE LOCAL FIRE C. DEPARTMENT AND THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO PERFORMING ANY FIRE ALARM SYSTEM WORK. UPON COMPLETION OF THE INSTALLATION, A LICENSED INDIVIDUAL WITH SPECIFIC AUTHORITY GIVEN BY LOCAL

D. FIRE DEPARTMENT SHALL PERFORM AN ON-SITE INSPECTION AND CERTIFY IN WRITING THAT THE INSTALLATION MEETS THE STANDARDS PROVIDED BY LAW AND IS IN COMPLIANCE WITHT THE PLANS OF THE LICENSED FIRE ALARM PLANNING SUPERINTENDENT.

E. PROVIDE NOTIFICATION APPLIANCE CONTROL PANEL (NAC) AS REQUIRED FOR NEW FIRE ALARM NOTIFICATION DEVICES. FURNISH AND INSTALL NEW FIRE ALARM CABLE TO CONNECT TO NEW FACP. FURNISH AND INSTALL A 120V 20A DEDICATED POWER CONNECTION FROM THE NEAREST PANELBOARD. PROVIDE A SMOKE DETECTOR ABOVE THE NAC PANEL.

F. ALL NEW INITIATION DEVICES SHALL BE ADDRESSABLE TYPE ONLY. G. EACH DEVICE SHALL BE PROGRAMMED WITH DEDICATED ADDRESS

H. ALL VISUAL DEVICES SHALL BE SYNCHRONIZED.

I. ALL FIRE ALARM DEVICES AND BOXES SHALL BE RED IN COLOR.

J. IF LOCAL CODE ALLOWED THEN INSTALL ALL FIRE ALARM CABLE IN FREE AIR ABOVE THE ACCESSIBLE CEILING. OTHERWISE, COMPLETE CONDUIT SYSTEM SHALL BE INSTALLED

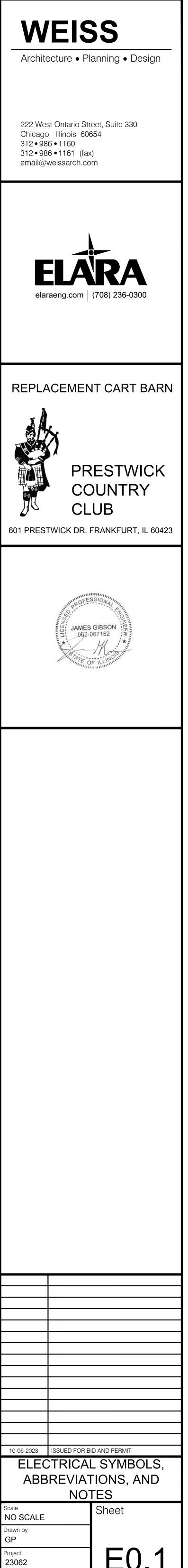
K. FURNISH AND INSTALL NEW NOTIFICATION APPLIANCE CIRCUIT PANEL WITH BATTERY BACKUP AS REQUIRED.

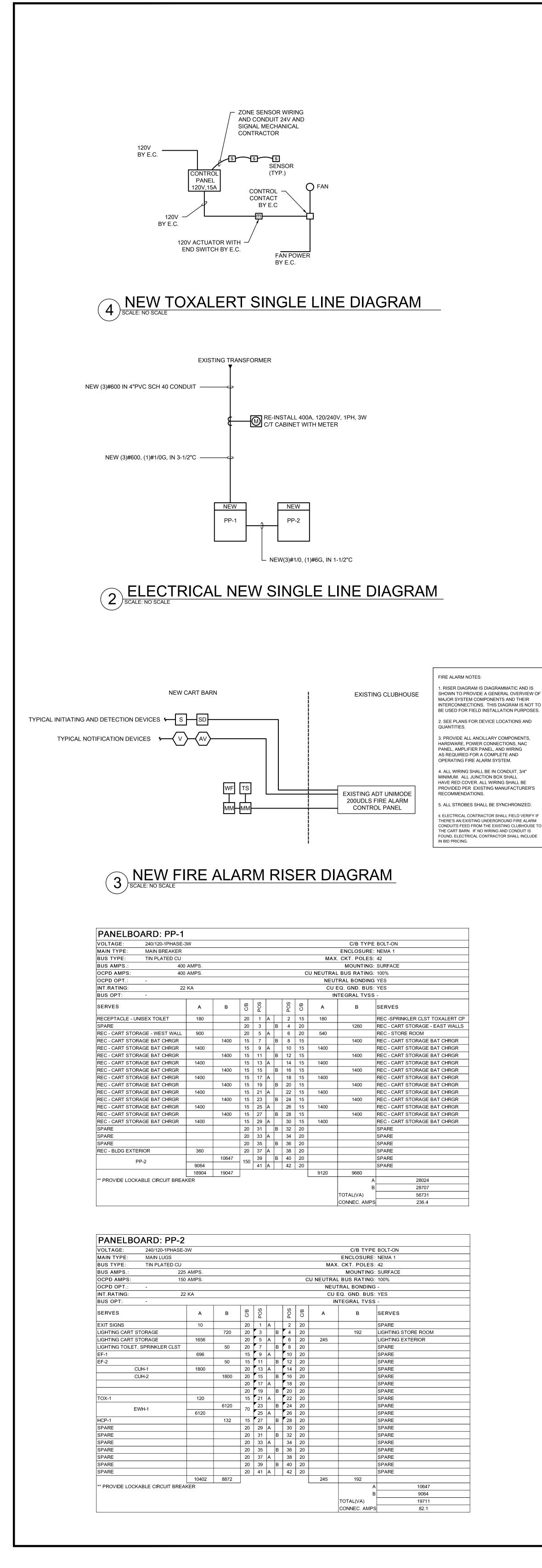
L. FURNISH AND INSTALL 120V DEDICATED POWER TO NOTIFICATION APPLIANCE CIRCUIT PANEL, AMPLIFIER PANEL, FACP, AND FAAP FROM THE NEAREST EMERGENCY PANELBOARD.

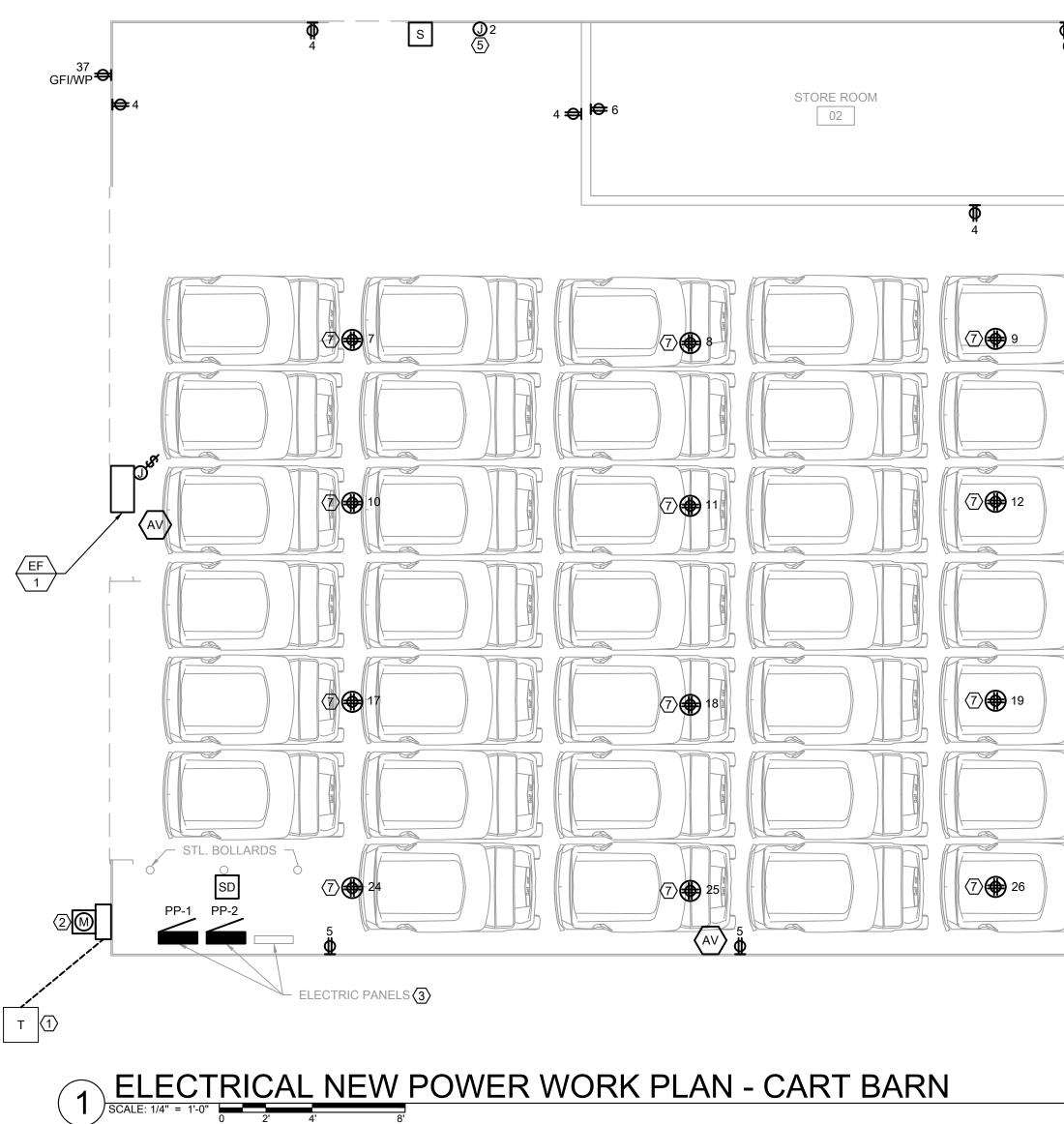
GENERAL - ABBREVIATION ∖ 1-√ NUMBER (024) MATCHLINE SEE SHEET NO. X#.## X#.##- SHEE └─ SHEET # POWER LIGHTING

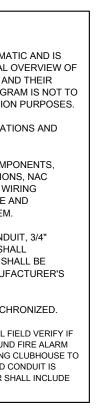
NOTE: NOT ALL SYMBOL

		\$	WALL MOUNTED SWITCH SWITCH DESIGNATIONS:	
EQUIPME	ENT TAG		 LOWERCASE LETTER INDICATES SWITCH LEG. UPPERCASE LETTER INDICATES SWITCH TYPE: NONE STANDARD OS OCCURANCY SENSOR 	
KITCHEN	I EQUIPMENT TAG	\$a;	a3 - THREE WAYVS - VACANCY SENSOR4 - FOUR WAYSH - MOTORIZED SHADE	222
MATCH L	INF		K - KEYED P - MOTORIZED SCREEN D - DIMMER	Ch 312
		EMERGE	ENCY LIGHTING	312 em
VIEW RE	FERENCE		EXIT SIGN DESIGNATIONS: 1. SHADED QUADRANTS INDICATE DIRECTION OF LIGHTED FACES	
		┝ᢒ↓≉	 4XX 2. ARROWS INDICATE DIRECTION DESIGNATED 3. "#XX" INDICATES INSCRIPTION, ARROWS, AND SINGLE OR DOUBLE FACED: 	
SECTION	N VIEW REFERENCE		SINGLE OR DOUBLE FACED. SINGLE FACE DOUBLE FACE #2 STAIRWAY #14 TRIANGLE	
		#XX	#3 EXIT #17 STAIRWAY #5 STAIRWAY — #18 EXIT #6 EXIT — #20 STAIRWAY =	
			#8 STAIRWAY #21 EXIT == #9 EXIT	
UTILITY	METER		#11 STAIRWAY → → #24 EXIT ≠≠ #12 EXIT → →	
JUNCTIO	ON BOX	2	WALLPACK EMERGENCY LIGHTING	
	ON BOX WITH SWITCH			
	SED DISCONNECT SWITCH	FIRE ALA	VISUAL ALARM	
PANELBO			HORN AND VISUAL COMBO ALARM	
WALL RE	ECEPTACLE - DUPLEX	SD	SMOKE DETECTOR	
WALL RE	ECEPTACLE - DUPLEX ABOVE COUNTER	S	MANUAL PULL STATION	RE
CEILING	RECEPTACLE - QUAD	WF	SPRINKLER WATER FLOW SWITCH	
		TS	SPRINKLER SUPERVISORY (TAMPER) SWITCH	
		MM	MONITOR MODULE	
TED ABOV	/E MAY BE USED OR APPEAR IN THESE DRAWINGS.			
				¥۲
	ABBRE			2
ÅBV	AMPERE ABOVE ALTERNATING CURRENT	JB KEC KO	JUNCTION BOX KITCHEN EQUIPMENT CONTRACTOR KNOCKOUT	601 F
ACL ACT	ACROSS THE LINE ACOUSTICAL CEILING TILE	KS KVA	KEYED SWITCH KILOVOLT-AMPERE	
ADA ADJ	ACCESS DOOR AMERICANS WITH DISABILITIES ACT ADJUSTABLE	KW KWH L#	KILOWATT KILOWATT-HOUR LINE	
AFF AFCI	ABOVE FINISHED FLOOR ARC FAULT CIRCUIT INTERRUPTER AMP FUSE	LCD LED LS	LIQUID CRYSTAL DISPLAY LIGHT EMITTING DIODE LOUD SPEAKER	1
AHJ AIC	AUTHORITY HAVING JURISDICTION AMPERES INTERRUPTING CAPACITY	LTG LV	LIGHTING LOW VOLTAGE	
4L	AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS ALUMINUM ALARM	MAG MAN MAT	MAGNETIC MANUAL MATERIAL	
ALT ANN	ALTERNATE ANNUNCIATOR AMP SWITCH	MAX MC MCA	MAXIMUM MECHANICAL CONTRACTOR MINIMUM CIRCUIT AMPS	
AT ATS	AMP TRIP AUTOMATIC TRANSFER SWITCH	MCB MCC	MAIN CIRCUIT BREAKER MOTOR CONTROL CENTER	
AVC	AUTOMATIC ABOVE COUNTER AMERICAN WIRE GAUGE	MCCB MCM MCS	MOLDED CASE CIRCUIT BREAKER THOUSAND CIRCULAR MILLS MOLDED CASE SWITCH	
BAL BASC	BALLAST BUILDING AUTOMATION SYSTEM CONTRACTOR	MECH MFR	MECHANICAL MANUFACTURER	
3HP 3KR	BUILDING GROUND BOX BREAK HORSEPOWER BREAKER	MH MICRO MIN	METAL HALIDE MICROWAVE MINIMUM	
CAB	CONDUIT CABINET CATALOG	MISC MOCP MTD	MISCELLANEOUS MAXIMUM OVER CURRENT PROTECTION MOUNTED	
C.B.	CABLE TELEVISION CIRCUIT BREAKER CHICAGO BUILDING CODE	MTR MTS MV	MOTOR MANUAL TRANSFER SWITCH	
CCTV CCW	CLOSED CIRCUIT TELEVISION COUNTERCLOCKWISE	N,NEUT NAC	MERCURY VAPOR NEUTRAL NOTIFICATION APPLIANCE CIRCUITS	
CECO	CANDELA COMMONWEALTH EDISON COMPANY CABLE IN CONDUIT	NC NEC NEMA	NORMALLY CLOSED NATIONAL ELECTRICAL CODE NATIONAL ELECTRICAL MANUFACTURERS'	
CKT CL	CIRCUIT CENTER LINE	NIC	ASSOCIATION NOT IN CONTRACT	
CLK CLO	CEILING CLOCK CLOSET	NL NO NTS	NIGHT LIGHT NORMALLY OPENED NOT TO SCALE	
COAX	CLOSED COAXIAL COLUMN	OCP OL OVHD	OVER CURRENT PROTECTION OVERLOAD OVERHEAD	
COM COMED	COMMON COMED COMPANY	P PA	POLES PUBLIC ADDRESS	
CT CU	CONCRETE CURRENT TRANSFORMER COPPER	PB PE PCU	PULL BOX PROFESSIONAL ENGINEER PACKAGED CONTROL UNIT	
CUH	COEFFICIENT OF UTILIZATION CABINET UNIT HEATER CLOCKWISE	PH PL PNL	PHASE PROPERTY LINE PANEL	
DB DC	DECIBEL DIRECT CURRENT	PRI PROT.	PRIMARY PROTECTION OR PROTECTIVE	
DEMO	DEGREE DEMOLITION DOWN	PT PTD PVC	POTENTIAL TRANSFORMER PAINTED POLYVINYL CHLORIDE (ELECTRIC GRADE)	
DO DPDT	DRAW OUT DOUBLE POLE DOUBLE THROW DOUBLE POLE SINGLE THROW	PWR QTY R	POWER QUANTITY RESISTANCE	
DS DT	DISCONNECT SWITCH DUST TIGHT	RC RCP	REMOTE CONTROL REFLECTED CEILING PLAN	
owg Elara	DISHWASHER DRAWING ELARA ENGINEERING	REF REV RECP	REFRIGERATOR REVERSE OR REVISION RECEPTACLE	
A C	EACH ELECTRICAL CONTRACTOR EXHAUST FAN	RM RMC RMS	ROOM RIGID METAL CONDUIT (GALVANIZED) ROOT MEAN SQUARE	
HD LEC	ELECTRIC HAND DRYER ELECTRIC	RT RTG	RAIN TIGHT RATING	
EM	ELEVATOR EMERGENCY ELECTRIC METALLIC TUBING (THIN WALL CONDUIT)	RVNR RVR S	REDUCED VOLTAGE NON-REVERSING REDUCED VOLTAGE REVERSING SWITCH	
ENG EP	ENGINEER EXPLOSION PROOF ELECTRIC POWER OFF	SEC SC SCH	SECONDARY SHORT CIRCUIT SCHEDULE	
EQ ER#	EQUIPMENT EXISTING TO RELOCATE	SF SP	SQUARE FOOT SINGLE POLE	
WC WH	ELECTRIC UNIT HEATER ELECTRIC WATER COOLER ELECTRIC WALL HEATER	SPC SPDT SPEC	SINGLE POINT CONNECTION SINGLE POLE DOUBLE THROW SPECIFICATION	
EX EXT	EXISTING TO REMAIN EXTERIOR FUSE	SPKR SPST SS	SPEAKER SINGLE POLE SINGLE THROW STAINLESS STEEL	
A B	FIRE ALARM FLOOR BOX	STA STD	STATION STANDARD	
DC	FOOTCANDLE FIRE DEPARTMENT CONNECTION FEEDER	SW SWBD SWGR	SWITCH SWITCHBOARD SWITCHGEAR	
F IXT	FINISHED FLOOR LIGHT FIXTURE	SYM SYM SYS T	SYMMETRICAL SYSTEM TRIP	
LUOR PB	FULL LOAD AMPS FLUORESCENT FAN POWERED BOX	TC TEL	TERMINAL CABINET TELEPHONE	
S T	FUSED SWITCH FEET FURNITURE	TEL.CL. TEMP TERM.	TELEPHONE CLOSET TEMPORARY TERMINAL	
VNR VR	FULL VOLTAGE NON-REVERSING FULL VOLTAGE REVERSING	TL TRF	TWIST LOCK TRANSFORMER	
GRD GALV	FORWARD GROUND GALVANIZED	TS TTC TV	TIME SWITCH TELEPHONE TERMINAL CABINET TELEVISION	┣
BEN	GENERAL CONTRACTOR GENERATOR GROUND FAULT CIRCUIT INTERRUPTER	TVSS TYP UG	TRANSIENT VOLTAGE SURGE SUPPRESSION TYPICAL UNDERGROUND	
SHW I	GALVANIZED HEAVY WALL STEEL CONDUIT HOT	UH UL	UNIT HEATER UNDERWRITER'S LABORATORIES	
IDCP IGB	HEAVY DUTY HANDICAPPED HOGAN GROUND BOX	UNG UNO UPS	UNGROUNDED UNLESS NOTED OTHERWISE UNINTERRUPTIBLE POWER SUPPLY	
IID IOA	HIGH INTENSITY DISCHARGE HANDS-OFF-AUTO HORSEPOWER	V VA VFD	VOLT VOLT-AMPERE VARIABLE FREQUENCY DRIVE	
IPS ITR	HIGH PRESSURE SODIUM HEATER	VIF VP	VERIFY IN FIELD VAPOR PROOF	
ΗZ	HIGH VOLTAGE HERTZ (CYCLES/SECOND) CURRENT	VT W W/D	VAPOR TIGHT WATT OR WIRE (DEPENDING ON CONTEXT) WASHER DRYER	
C G	INTERRUPTING CAPACITY ISOLATED GROUND	W/D WG W/O WP	WIRE GUARD WITHOUT	
N NC	INTERMEDIATE GRADE CONDUIT INCH INCANDESCENT	WT X	WEATHERPROOF WATER TIGHT DEMOLISH EXISTING	
NFO NSUL	INFORMATION INSULATION INSTANTANEOUS SHORT CIRCUIT	XFMR YR	TRANSFORMER YEAR	10-06-
	ALL ABBREVIATIONS LISTED ABOVE MAY BE USED OR APP	LEAR IN THESE	DRAWINGS.	10-06-
<u>)TE:</u> NOT /			I I	









TAG	DESCRIPTION		PHASE		LOA	D		OC	PD	FEED	FROM	FEEDER/BRANCH WIRING						EQUIPMENT CONTROLLER								
TAG	DESCRIPTION	VOLT	PHASE	HP	KW	FLA	MCA	SIZE	POLE	PANEL	CKT.	SETS	NO.	SIZE	GND.	CONDUIT	P.B	F.B	I.B	SIZE	TYPE	DISC. SW	OCPD	POLE	ENC	
EF-1	EXHAUST FAN	120	1	1/4	-	5.8	-	15	1	PP-2	9	1	2	12	12	3/4"	-	-	-	-	-	-	-	- 1	-	
EF-2	EXHAUST FAN	120	1	-	-	0.18	-	15	1	PP-2	11	1	2	12	12	3/4"	-	-	-	-	-	-	-	- 1	-	
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	_	-		-	
CUH-1	CABINET UNIT HEATER	120	1	-	1.8	-	-	20	1	PP-2	13	1	2	12	12	3/4"	-	-	-	-	-	-	-		-	
CUH-2	CABINET UNIT HEATER	120	1	-	1.8	-	-	20	1	PP-2	15	1	2	12	12	3/4"	-	-	-	-	-	-	-	-	-	
		-	-	-	-	-	-	-	-	* _	-	-	-	-	-	-	-	-	-	-	-	_	-	-	-	
TOX-1	TOXALERT PANEL	120	1	-	-	1	-	15	1	PP-2	21	1	2	12	12	3/4"	-	-	-	-	-	-	-		-	
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	'	-	
EWH-1	ELECTRIC WATER HEATER	240	1	-	12.3	51	-	70	2	PP-2	23,25	1	2	4	8	3/4"	-	-	-	-	-	_	-	-	-	
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
HCP-1	PUMPS	120	1	-	-	1.1	-	15	1	PP-2	27	1	2	12	12	3/4"	-	-	-	-	-	_	-		-	
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	_	-	-	-	-	-	_	-		-	
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GENERAL NOTES:

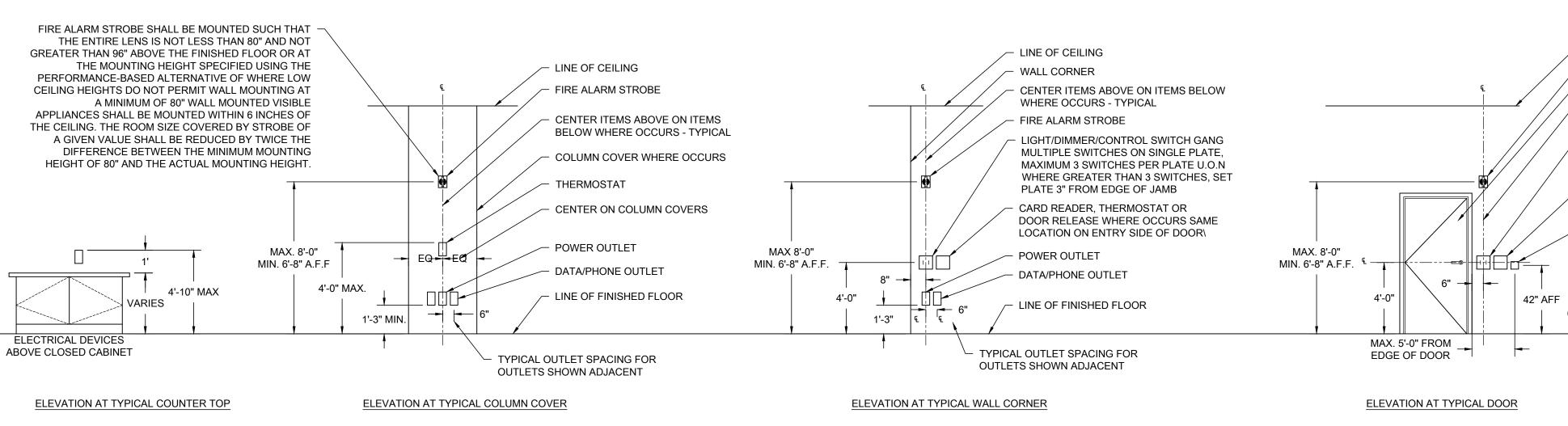
4

1 E.C. SHALL REVIEW THE ARCHITECTURAL, MECHANICAL, PLUMBING, AND FIRE PROTECTION CONT DOCUMENTS, AND SHOP DRAWINGS FOR FINAL EQUIPMENT LOCATION, ELEVATION, AND POWER REQUIREMENTS PRIOR TO INSTALLING CONDUITS. E.C. SHALL REVIEW THE LOAD REQUIREMENTS WITH THE OEM PRIOR TO INSTALLING CONDUIT.

E.C. SHALL VEFIRY IN THE FIELD THE OCPD REQUIREMENTS WITH THE OEM PRIOR TO INSTALLING OCPD RATINGS ARE DERIVED FROM THE OEM'S SPECIFICATIONS. E.C. SHALL VERIFY IN THE FIELD THE CONTACTOR/STARTER/VFD/PRMS/OEM CONTROLLER/DISCON RATINGS WITH THE OEM PRIOR TO INSTALLING CONDUIT. E.C. SHALL VERIFY IN THE FIELD THE THERMAL OVERLOAD RATINGS WITH THE OEM.

PROVIDE OVERLOADS PER OEM RECOMMENDATIONS. 6 E.C. SHALL VERIFY IN THE FIELD WITH THE OEM PRIOR TO INSTALLING CONDUIT.

E.C. SHALL LOCATE THE DISCONNECT SWITCH WITHIN 5FT AND WITHIN SIGHT OF THE EQUIPMENT E.C. SHALL PROVIDE CONNECTIONS TO MOTOR/LISTED EQUIPMENT. PROVIDE A Cu EQUIPMENT G FROM THE DISCONNECT SWITCH TO THE MOTOR/LISTED EQUIPMENT CONNECTION POINT/JUNCTIC



DRAWINGS.



4 ELECTRICAL AND FIRE ALARM MOUNTING HEIGHT DETAIL

3. ALL ABOVE HEIGHT DIMENSIONS ARE FOR REFERENCE ONLY AND SUBJECT TO APPROVAL BY THE LOCAL AUTHORITY HAVING JURISDICTION AND ARCHITECT

2. NOT ALL ABOVE DEVICES AND DIMENSIONS MAY BE USED OR APPEAR IN THE DESIGN

NOTES: 1. REFER TO ARCHITECTURAL DRAWINGS FOR ADA ROOM HEIGHT REQUIREMENTS

-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P-2	23,25	1	2	4	8	3/4"	-	-	-	-	-	-	-	-	-	-	E.C	-	-	-	NON-FUSE	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P-2	27	1	2	12	12	3/4"	-	-	-	-	-	-	-	-	-	-	E.C	-	-	-	TS	1	NEMA 1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CONN IENT. IT GR	CONDUIT.	>)	PB: FB: IB: ENCL.: HWC: FWC: CPC: FVNR: VFD: TS: FUSE NON-FU		FURNIS INSTAL NEMA I HARD V FLEXIA CORD A FULL V VARIAE TOGGL FUSE I	DED BY (F SHED BY LED BY ENCLOSUI WIRE CON BLE WHIF AND PLUG OLTAGE N BLE FREQ E SWITCH DISCONNE JSED DISC	RE INECTIONE CONE CONNION-RE UENCY	ON DUIT ECTIOI VERSI CONTI	N NG MAG ROLLER		C STARTE	٦	NOTE # NOTE # NOTE # NOTE # NOTE #	#2 #3 #4	E.C. SHAI E.C. SHAI E.C. SHAI E.C. SHAI E.C. SHAI E.C. SHAI E.C. SHAI E.C. SHAI ALL DISC AND SHAI MAXIMUW E.C. SHAI REPRESE E.C. SHAI EQUIPME VERIFY A E.C SHAL	L PROVIDE L PROVIDE L PROVIDE L PROVIDE L PROVIDE L PROVIDE L PROVIDE L PROVIDE ONNECT SW L NOT EXC I HEIGHT AF L VERIFY M INTATIVE PF L PROVIDE NT FLEX WH LL CPC NEM L PROVIDE	THERM TWO S 120Vac 24Vac MOUNT TE SOLI FOUR S OEM S MOUNT /ITCHES EED A I F OF DI MOTOR F COIR TO GROUN HIPS SH MA CON USER T	IAL O ETS C CONT CONT CONT ING/R ID STA SETS TART- TING/R S SHA MAXIM ISCON ROTAT ENEF VDING IALL N NECTI OGGL	/ERLO/ DF FOR TROL C ROL C ACKIN TE OV OF FOF UP ANI ACKIN LL BE 10M DI INECT 10N AN RGIZINC AND E IOT EX ONS V E/KEY	ADS FI M "C" OIL FO OIL FO IG FOF (ERLO/ RM "C" D COM IG FOF WITHII STANC SWITC MOTION SONDIN CEED VITH TI SWITC	R STARTER TY OR STARTERS AUX CONTACTOR OR STARTERS OR POWER REL VARIABLE FE ADS PER OEM AUX CONTACTOR MISSIONING (DISCONNECTOR N SIGHT OF TH CE OF 5 FEET CH HANDLE SH ERATION WITH OR(S)/EQUIPM NG PER THE O 72" MAXIMUM HE OEM PRIOF CH @ 48" AFF CONTROLLER	FPER TS FOF TYPE LAYS/N EQUEN /FIELD TS WI OF VFE T SWIT HE MO FROM HALL N H THE EM SP LENG R TO IN	DEM/FIELE R ALL STAI S (FVNR, F MANUAL S CY CONTF VERIFICA THIN THE D PRIOR TO THES TOR/EQUIF THE MOTO OT EXCEE DEM ECIFICAT TH

CONDUIT, UNLESS NOTED OTHERWISE.

MECHANICAL, PLUMBING, AND FIRE PROTECTION EQUIPMENT.

PROGRAMMING AS REQUIRED.

AND PROGRAMMING AS REQUIRED. ARCHITECTURAL SHEET A10.4, DETAIL #12.

LOCAL DISCONNECT SWITCH

1. EXISTING TRANSFORMER TO REMAIN.

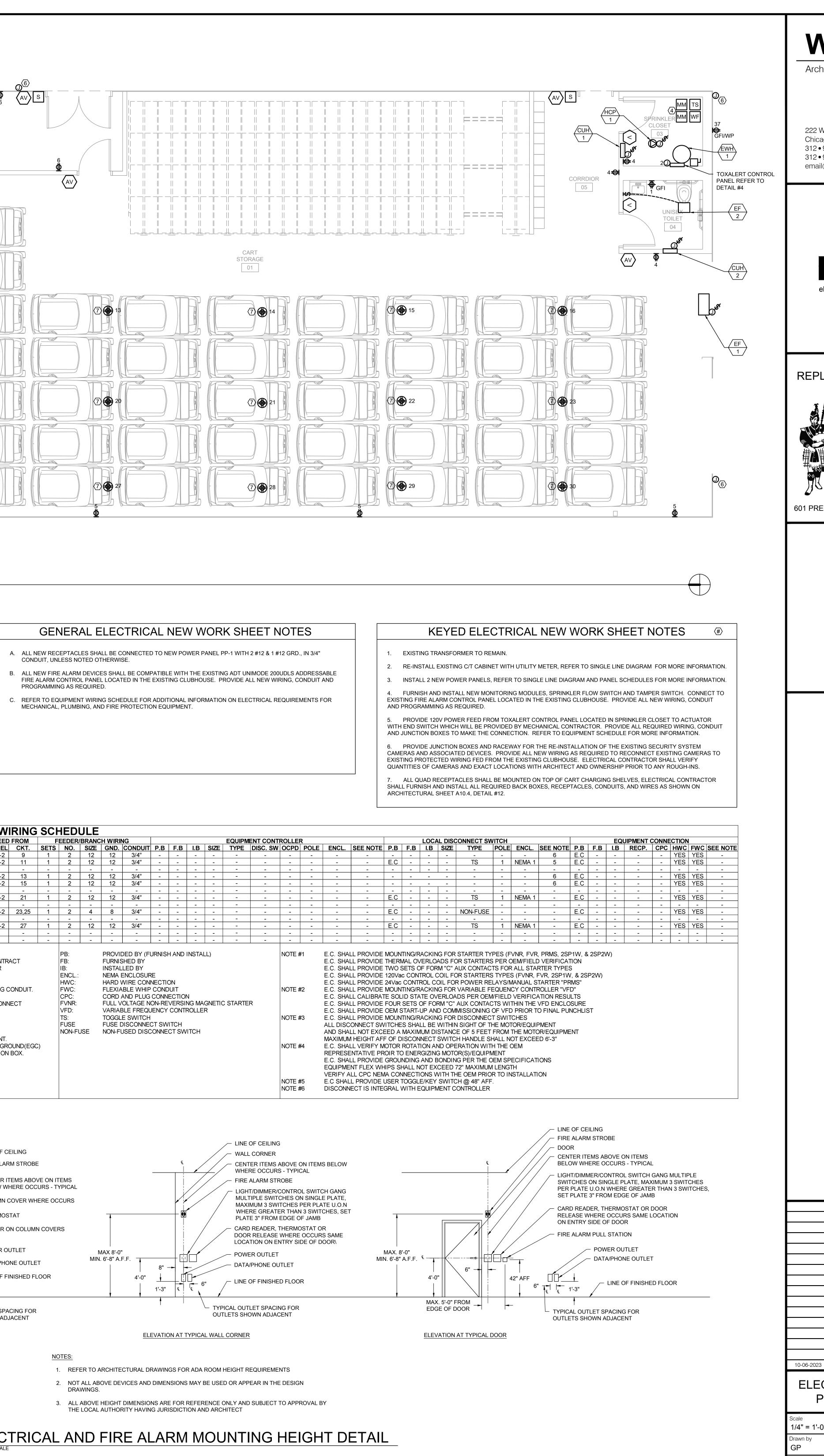
B. ALL NEW FIRE ALARM DEVICES SHALL BE COMPATIBLE WITH THE EXISTING ADT UNIMODE 200UDLS ADDRESSABLE FIRE ALARM CONTROL PANEL LOCATED IN THE EXISTING CLUBHOUSE. PROVIDE ALL NEW WIRING, CONDUIT AND

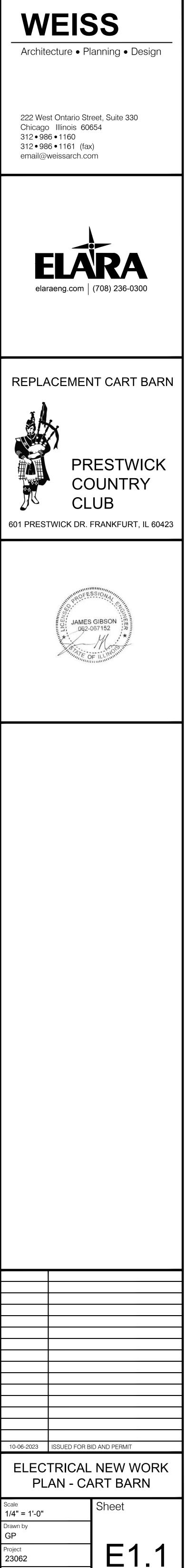
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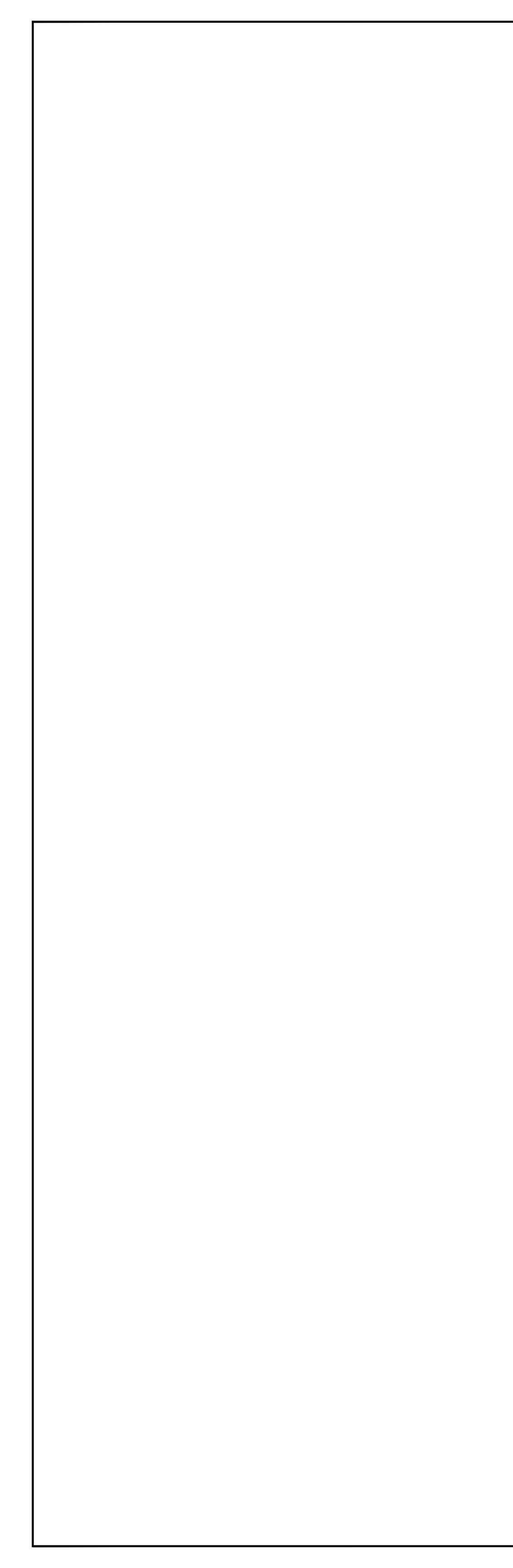
GENERAL ELECTRICAL NEW WORK SHEET NOTES

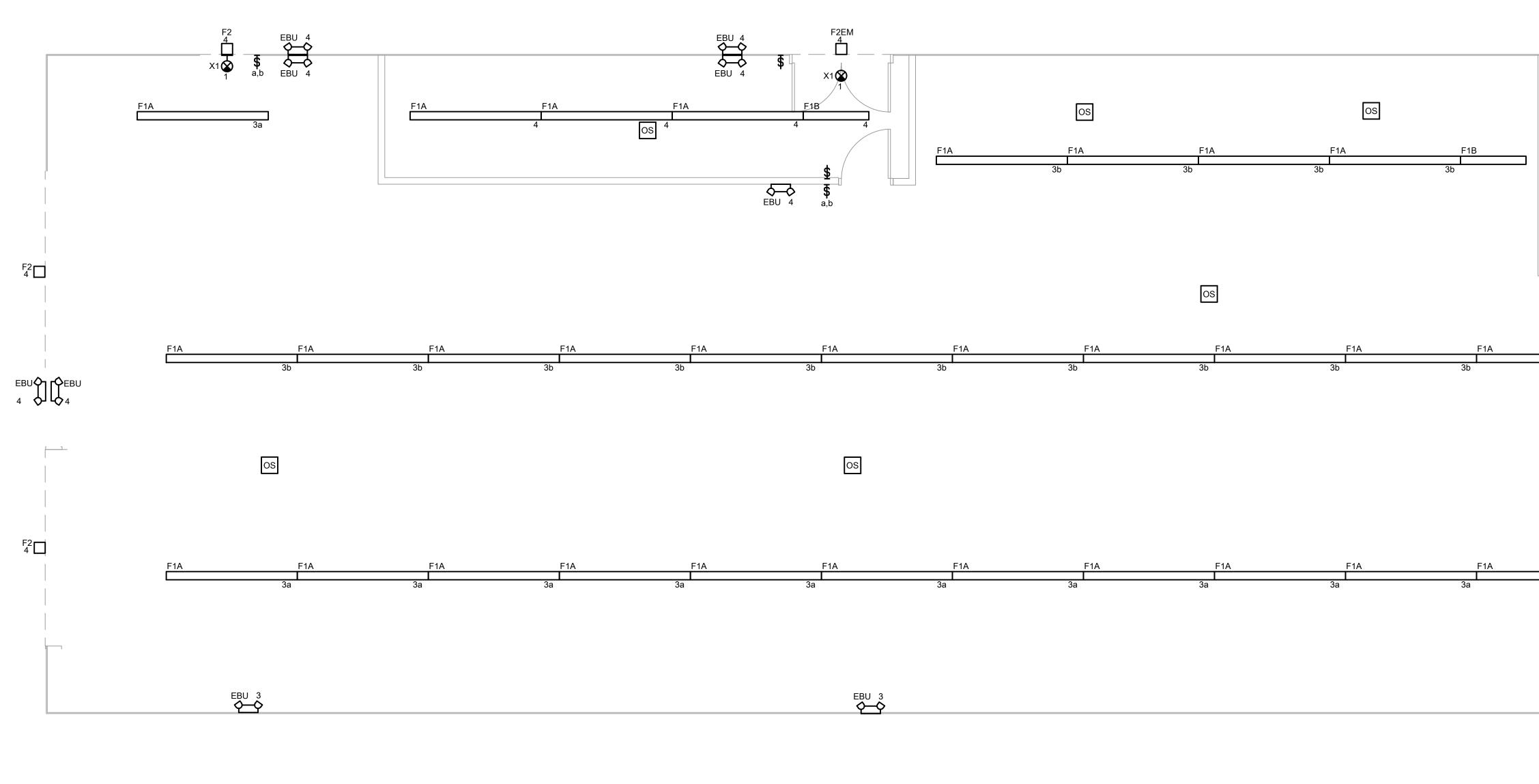
A. ALL NEW RECEPTACLES SHALL BE CONNECTED TO NEW POWER PANEL PP-1 WITH 2 #12 & 1 #12 GRD., IN 3/4"

C. REFER TO EQUIPMENT WIRING SCHEDULE FOR ADDITIONAL INFORMATION ON ELECTRICAL REQUIREMENTS FOR



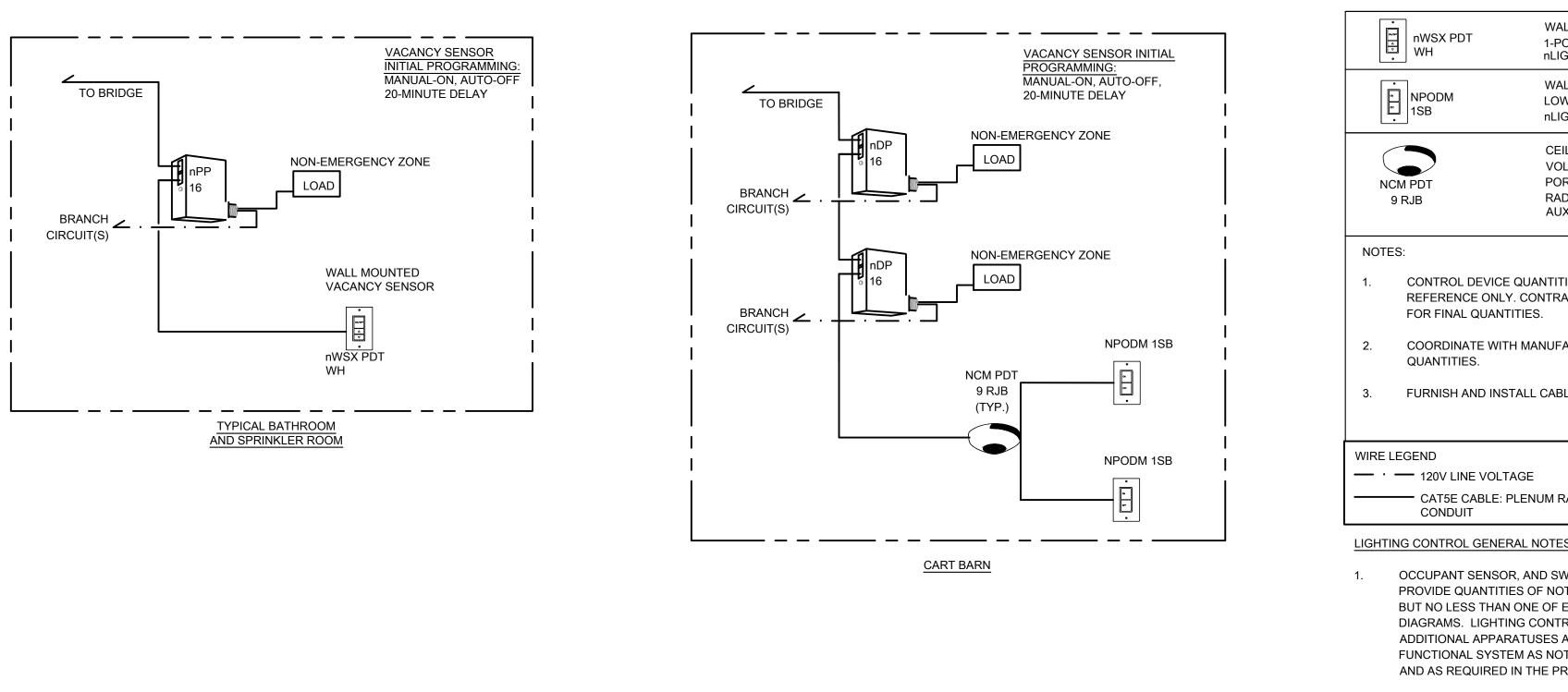






DELECTRICAL NEW LIGHTING WORK PLAN - CART BARN

TAG	MANUFACTURER	MODEL	LAMP SOURCE & DRIVER	DIMMING	COLOR TEMP	CRI (MIN.)	LUMENS	WATTS	VOLTAGE
F1A	COLUMBIA LIGHTING	MPS8-35XW-CW-E	LED	-	3500K	80	5000	36	UNV
F1B	COLUMBIA LIGHTING	MPS4-35VW-CW-E	LED	-	3500K	80	2500	18	UNV
F2	EXO LIGHTING	LNC2-48L-45-4K7-4W-UNV-PC	LED	-	4000K	70	5500	45	UNV
X1	PARAFLEX	PFX5504-1-R-W	LED	N/A	RED	N/A	N/A	3.72	UNV
EBU1	COOPER LIGHTING	SELDWTA	LED	N/A	-	-	-	5	UNV
3 4 5	· · · · · · · · · · · · · · · · · · ·	NUFACTURER) OR INLINE FUSE (BY ELECTRICAL CO XIT SIGN IS MOUNT ON CEILNG, UNLESS NOTED OT TH OF LIGHT FIXTURE.	,	HALL BE 125% OF F	ULL LOAD AMPS OF LIGHT	FIXTURE OR NEXT S	TANDARD SIZE.		
5									
6 7		ER AND MODEL NUMBER AS NOTED, OR SUBMIT E , AND NRTL LISTINGS. STYLE MUST INCLUDE HOUS			ROVE EQUALITY BY SUBMIT	TING PHOTOMETRIC	S SPECIFIC TO PROJEC	T AND MATCH THE	FOLLOWING: LUN
8	EMERGENCY UNIT BATTERIES INTENDE	ED FOR OUTDOOR USE MUST HAVE BATTERIES MC	UNTED INDOOR WHERE TEMPERATURE	S DO NOT DROP BEL	OW MANUFACTURER'S REC	COMMENDATIONS. P	ROVIDE DUAL REMOTE	HEADS AT EXTER	IOR LOCATION.
9	FURNISH RECESSED MOUNT WHERE E	XIT SIGN IS MOUNT ON CEILNG, UNLESS NOTED OT	HERWISE ON DRAWINGS.						
10	PROVIDE LIGHT FIXTURE WITH 90-MINUTE BATTERY BACKUP, TEST SWITCH, AND PILOT LIGHT.								



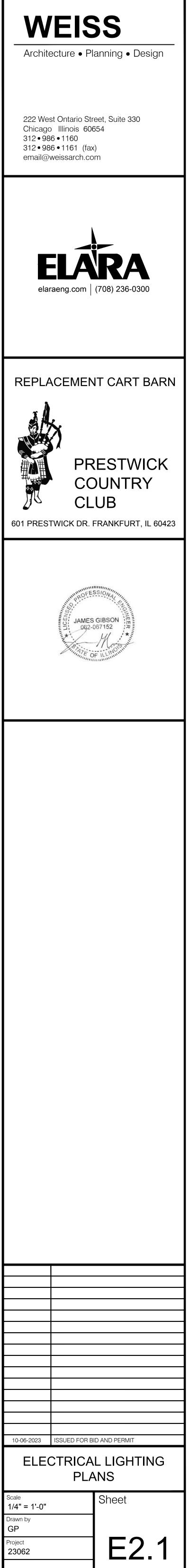
2 ELECTRICAL LIGHTING DETAILS

GENERAL ELECTRICAL

- A. ALL NEW LIGHTING FIXTURES, EXIT SIGNS AND EMERG POWER PANEL PP-2 WITH 2 #12 & 1 #12 GRD., IN 3/4" CC
- B. ALL EMERGENCY AND EXIT WIRING SHALL BE INSTALL NORMAL POWER CIRCUIT.
- C. ELECTRICAL CONTRACTOR SHALL VERIFY ALL LIGHTIN LOCATIONS WITH ARCHITECT AND OWNERSHIP PRIOR

- 2. LIGHTING VENDOR TO CONF PACKS REQUIRED MEET PRO DRAWINGS. ALL LAYOUTS S MUST BE EXPANDED TO APP
- 3. PROVIDE CAT-5 INTERCONNI NLIGHT CONTROL SYSTEMS NETWORKING.

	\$a,b X F1A F1A	F_{4}^{2} F_{1B}^{1}	F ²
	OS		
	F1B J 3a	 3a	□F2 4
E	ви з 2—->		
MERGEN /4" CONE STALLED GHTING F	CY BATTERY UNITS DUIT, UNLESS NOTED	SHEET NOTES (EBU) SHALL BE CONNECTED TO NEW O OTHERWISE. NDUIT. DO NOT COMBINE WITH THE HEIGHTS AND EXACT MOUNTING	
LTAGE UNV	MOUNTING	NOTES 1,2,3,5,6,7	
UNV UNV UNV UNV	SURFACE SURFACE RECESSED SURFACE	1,2,3,5,6,7 1,2,3,7 9,10 10	
WING: LUM ATION.	ENS, WATTAGE, VOLTAG	GE, MOUNTING, LAMP COLOR SOURCE	
1-POLE nLIGHT WALLF LOW V nLIGHT CEILIN VOLTA PORT RADIU	POD: PUSH BUTTON E, LOW VOLTAGE, W F #nWSX PDT WH POD: 2 ZONE PUSH E OLTAGE F #nPODM WH IG MOUNTED, DUAL- AGE OCCUPANT SEN CONNECTION, SMAL S). nLIGHT #nCM PD ONTACT	ITH OCCUPANCY SENSOR BUTTON ON/OFF TECH, LOW ISOR WITH REAR LL MOTION (12'-0"	
	SHOWN IN THIS DIA FOR SHALL REFER T		
	FURER FOR DEVICES	S MODEL # AND RER REQUIREMENTS.	
E NUM RAT	ED OR INSTALLED IN	N COMPLETELY ENCLOSED	
DF NOTE E OF EAC CONTROI JSES ANI AS NOTE HE PRO. CONFIRM T PROJE JTS SHO D APPLY	CH DEVICE INDICATE LS VENDOR MUST PI D DEVICES REQUIRE D ON THIS SHEET, O IECT SPECIFICATION I QUANTITIES AND T CT SPECIFICATIONS W MINIMUM NUMBER TO EACH SPACE WI	ROVIDE ALL ED FOR A FULLY N THE DRAWING SET, N BOOK. YPE OF RELAY POWER S AND DESIGN R OF DEVICES AND THIN PROJECT. PLE SPACES FOR ALL	
	PROVIDE FLEXIBILIT		





Memo

To:	Plan Commission/Zoning Board of Appeals					
From:	Christopher Gruba, Senior Planner					
Date:	October 26, 2023					
Re :	Text Amendment - Accessory Structures, Revisited (sliding scale)					

At the Village Board meeting on July 24, 2023, a resident raised the topic of accessory structure size and some discussion by the Board followed. In particular, it was noted that the current maximum size of 250 square feet for certain accessory structures (including pool cabanas but not including sheds) may be too restrictive. A "sliding scale" was discussed that could permit certain accessory structures to exceed 250 square feet, based on lot size. In other words, larger residential properties could be permitted to have larger pool cabanas, gazebos and pergolas.

This topic was also previously raised at the Committee of the Whole meeting on July 12th, which provided staff with direction:

"There was general discussion regarding the Village's current zoning regulations for pergolas and pool cabanas which allows accessory structures, including arbors, trellises, pergolas, gazebos, and pool cabanas, up to 250 square feet in size. Members felt a sliding scale based on lot size or a ratio determined by the area of a lot may be more appropriate. Staff was asked to review regulations of accessory structures further and present at a future Committee of the Whole meeting."

The Village Board last adopted a text amendment to the Zoning Ordinance regarding accessory structures on March 7, 2022. Since that time, staff has noticed a few minor errors within the recently adopted language and would like to take this opportunity to fix these errors. These errors are noted on Attachment item #1.

During the PC/ZBA workshop held on September 28, 2023, the Commission offered the following comments, which staff has summarized:

- 1. The text amendment would <u>only</u> apply to pool cabanas, gazebos, pergolas, arbors and trellises (the last three are used somewhat interchangeably, but all five have at least one open side).
- 2. It would be better to limit the size of these types of structures to 1.7% of the total area of the lot, instead of 2%. This would permit a typical R-2 zoned 15,000 square foot lot to have a 255 square foot accessory structure of this type, which is closer to the existing regulation of a 250 square foot maximum.
- 3. The Commission requested data on previously approved pool cabanas, gazebos and pergolas. In response, staff has provided a list of all properties that requested variations for size from October 2020 until the present (four properties total). Staff has also

provided a list of all gazebos and pergolas that were permitted in the year 2023 (no pool cabanas were issued permits this year).

4. The Commission did not want to set a limit on the number of accessory structures per lot. Rather, the number of accessory structures would be limited by other factors including lot coverage, impervious lot coverage, setbacks for accessory structures and minimum separation distances between accessory structures.

The following bullet points summarize the proposed text amendment, which has been revised since the PC/ZBA workshop:

- The sliding scale would only apply to pool cabanas, gazebos, pergolas, arbors and trellises, (as illustrated on page 183 of the Zoning Ordinance).
- For all residential lots, these accessory structures may be at least 250 square feet. This does not negate the need for any other variations that may be needed for lot coverage, impervious lot coverage, setbacks, etc.
- For larger residential lots, these accessory structures may be up to 1.7% of the total lot area, but in no instance shall such a structure exceed 1,000 square feet. This does not negate the need for any other variations that may be needed for lot coverage, impervious lot coverage, setbacks, etc.

As a further point of reference, a typical new house in Frankfort is approximately 3,500 square feet in gross livable area, according to the Building Department.

Attachments -

- 1. Draft changes to pages 104-109 of the Zoning Ordinance, including a strikeout version and a "clean" version.
- 2. Table of all variation requests for pool cabanas and pergolas since October 2020. This table notes the original size request of the variation, if it was granted and its percentage of lot coverage. The table also notes the maximum size of this type of structure if the sliding scale of 1.7% of lot area were implemented.
- 3. Table of all building permits issued in 2023 for gazebos and pergolas. This table notes the size of each accessory structure and its percentage of lot coverage. The table also notes the maximum size of this type of structure if the sliding scale of 1.7% of lot area were implemented.
- 4. A table illustrating five (5) specific residential lots within the Village and how the proposed text amendment would affect them. These examples were chosen because they range in size from very small lots to very large lots.

Section D: Accessory Uses and Structures

Part 1: General Requirements

- Accessory uses and structures, as defined in Article 12, are permitted in the E-R, R-1, R-2, R-3, R-4, H-R and A-G districts. Accessory uses and structures, as defined in Article 12, are permitted in the H-1 zone district when the property is used for single-family residential.
- b. Accessory uses and structures, as defined in Article 12, in the B-1, B-2, B-3, B-4, O-R, I-1, I-2 and H-1 when the property is not used for single-family residential, must be approved during the site plan review process (as described in Article 3, Section H).
- c. Residential accessory uses and structures shall not involve the conduct of any business, trade, or industry.
- d. Accessory uses and structures must be in connection with a principal use which is permitted within such district.
- e. Each accessory structure and use shall comply with the use limitations applicable in the zoning district in which it is located.
- f. No accessory structure shall be constructed or occupied on any lot prior to the completion of the principal structure to which it is an accessory.
- g. Pole barns, silos and other accessory farm structures shall be permitted only within the A-G zone district.
- h. Any structure with a roof and attached to the primary structure shall be considered part of the primary structure and shall abide by the requirements for primary structures in that zone district.
- h.j. Any exterior wall of an accessory structure shall not exceed 35' of uninterrupted wall length. For the purposes of this section an interruption shall be defined as an offset in a wall plane and underlying foundation measuring a minimum of one (1) foot.

Part 2: Bulk Regulations

- a. Location:
 - 1. Accessory structures shall only be permitted within side and rear yards, except within the A-G zone district.
 - Accessory structures shall be located behind the front of the primary structure along a front yard or corner side yard, except within the A-G zone district.

September 17, 2001

104

Formatted: List Paragraph

Village of Frankfort

	Article 5: Use Regulations	
3.	Accessory structures shall be set back at least ten (10) feet from any lot line, except for the A-G zone district, in which they must meet the required front, side and rear setbacks for the primary structure.	
<u>4</u> .	Accessory structures, except for open patios, open terraces, open decks and similar structures at or near grade without a roof, shall maintain a separation minimum distance of ten (10) feet between other accessory structures and from the primary structure.	
5.	Accessory structures, including open patios, open terraces, open decks and similar structures at or near grade without a roof, shall not have any separation requirement from other accessory structures or the primary structure, except for raised decks which must be attached to the primary structure or separated from it by at least ten (10) feet.	Formatted: List Paragraph, No bullets or numbering
<u>6.</u>	Swimming pools shall be set back at least ten (10) feet from the primary structure. A minimum separation is not required from a swimming pool to an open patio, open terrace, open deck or similar structures without a roof.	Formatted: List Paragraph, No bullets or numbering
b. Si	ze:	
1.	Accessory structures, <u>only</u> including arbors, trellises, pergolas, gazebos and pool cabanas <u>may be two hundred fifty (250) square feet or 1.7% of the area of the parcel</u> , whichever is greater, but in no instance shall they exceed one thousand (1,000) square feet. shall not exceed two hundred fifty (250) square feet in size.	
<u>2.</u>	Accessory structures, including sheds, child playhouses, permanently affixed outdoor fireplaces and stoves, greenhouses, laundry drying equipment and trash enclosures shall not exceed one hundred forty-four (144) square feet in size. Sheds within manufactured home parks shall not exceed two hundred twenty-five (225) square feet in size.	
<u>3.</u>	 There shall be no size limitation for swimming pools, open patios, open terraces, or open decks except as restricted by the other regulations of this Ordinance. 	Formatted: List Paragraph, No bullets or numbering
2.	4. Detached garages in manufactured home parks shall not exceed six hundred (600) square feet.	
<u>5.</u>	Detached garages not located in manufactured home parks shall not exceed the area of the footprint of the primary structure, except within the A-G zone district.	
3.	6. There shall be no size limitation for farm structures, except as restricted by other regulations of this Ordinance.	Formatted: List Paragraph, No bullets or numbering
4.	7. All other accessory structures not specifically listed within this subsection shall not exceed one hundred forty-four (144) square feet in size.	
September 17, 200	105	

- <u>5-8.</u> Each accessory structure and use shall otherwise comply with the bulk regulations applicable in the district in which it is located, including maximum lot coverage, maximum impervious coverage and maximum rear yard coverage (Article 6, Section B, Part 1).
- c. Height:

- 1. All accessory structures, except farming structures including pole barns, silos and similar structures, shall not exceed fifteen (15) feet in height.
- 2. Accessory farming structures shall not exceed thirty-five (35) feet in height.
- d. Measurement of area:
 - 1. For structures that have walls, measurement shall be made from the exterior walls.
 - 2. For structures that have posts but no walls, measurement shall be made from the exterior edges of the posts.

Part 3: Garage Provisions

- a. A maximum of one (1) detached garage per zoning lot is permitted.
- b. All garages greater than three-cars in size must be side-loaded in orientation and driveways shall have a minimum 26' turning radius.
- c. Architecture of garages shall be similar and compatible to the primary structure, including building materials and the roof pitch.
- d. All garages must be constructed as enclosed buildings.
- e. All garages must be constructed on a concrete pad.

Part 4: Recreational Equipment/Vehicle and/or Construction/Commercial Equipment Provisions

- a. Outdoor parking of recreational equipment/vehicle and/or construction/commercial related vehicles, provided that:
 - If the owner is actively involved in maintenance, loading or unloading the equipment, it may be parked on a residential driveway, however duration does not exceed fortyeight (48) hours;
 - The Code Official may issue a Special Permit for out-of-town visitor parking for Recreational Vehicles parked on a driveway for a period not to exceed fifteen (15) days. Not more than six (6) such permits may be issued in any calendar year;

- 3. Equipment/vehicle is parked on an approved paved surface;
- No part of storage area for vehicles is located in any required front, side, or rear setback, as defined by the provisions of this Code;
- The front of the vehicle does not extend in front of the front façade of the primary structure;
- Construction or commercial vehicles or equipment are not loaded or containing product or material, unless wholly enclosed or actively involved in a project within the lot;
- Vehicle does not exceed an empty weight of four (4) tons or height in excess of ninety (90) inches;
- 8. Equipment/vehicle is screened from view from the public street by a fence or landscaping.

Part 5: Swimming Pool Provisions

- a. Fencing. Every outdoor swimming pool, whether above ground or level with the ground, having a maximum depth of over two (2) feet, shall be completely surrounded by a fence not less than four (4) feet, nor more than five (5) feet in height. A building, existing wall, or pool wall may be used as part of such enclosure as long as the barrier requirements are met as required by the building code. Such required fence shall comply with all requirements of other Village ordinances pertaining to fences, and the provisions of this Section shall not be construed to require or permit any fence heights greater than permitted by such other ordinances. (Am. Ord. 1887, passed 04.15.02) (Am. Ord. 2230, passed 10.17.05)
- b. Gates or Doors. All gates or doors opening through the required fence shall be designed for security, in accordance with the Building Code of the Village of Frankfort.
- c. Screening. If the fencing provided is anything other than solid fencing, the pool shall be effectively screened from view from outside the lot by densely-planted compact trees or hedges, providing at least fifty percent opacity when viewed between two (2) feet and five (5) feet above ground.
- d. Setback Requirements. All outdoor swimming pools are considered accessory structures, and shall meet minimum setback requirements, in addition thereto, shall be set back an additional two (2) feet for each one (1) foot of structure height exceeding five (5) feet. For the purpose of this section, the words "structure height" shall include any railings or other projections above the pool surface.
- e. Water Discharge. The water discharged from a swimming pool shall be drained into the sanitary sewer or storm water system, as approved by the Village.

Part 6: Other Provisions

- a. One parabolic satellite dish-type antenna per zoning lot, which is not more than two (2) feet in diameter. All roof-mounted antenna shall not exceed the maximum building height permitted in that zoning district. All satellite antenna facilities shall be located away from the street right-of-way, or otherwise screened from view from any street by an opaque fence, wall, or hedge of a minimum of 6 feet in height. (Am. Ord. 1887, passed 04.15.02) All ground-mounted antenna shall abide by the regulations for a typical accessory structure.
- b. Storage of wood or any other combustible material which could be used in fireplaces, stoves or any other equipment for heating are not to exceed five (5) cords per zoning lot, one (1) cord being a cubic area of 128 cubic feet (4' x 4' x 8'). Firewood shall be used exclusively by dwelling occupants and stored in the rear yard. Material must be stacked in rear yard in cord measurements and must be a minimum of four (4) inches off the ground. No storage is permitted within the 100-year flood zone as defined by FEMA Maps.

Part 7: Prohibited Accessory Uses or Structures (Am Ord #2312, passed 8.21.06)

None of the following shall be permitted accessory uses or structures:

- a. Outdoor storage or overnight parking of trucks with an empty weight in excess of four (4) tons, or height in excess of ninety (90) inches in residential district; construction or commercial vehicles or equipment, loaded or containing product or material, unless wholly enclosed, unless actively involved in a project within the lot; or buses designed for more than eleven (11) passengers during normal school year vacation periods in a residence district;
- b. Any other outdoor storage, except as specifically permitted elsewhere in this Ordinance;
- c. Manufactured homes;
- d. Windmill towers, in excess of twelve (12) feet in height;
- e. Cargo Containers, as defined by Article 12 of this ordinance shall be considered a form of outdoor storage that is strictly prohibited in all zones, except whereas:
 - Existing cargo containers located on properties with an approved special use for outdoor storage are a legal non-conforming use during an amortization period of one (1) year, after which the containers are considered illegal non-conforming and must be removed. No additional containers shall be added to the property during the amortization period, or;
 - A temporary permit is issued by the Village for the purpose of moving or relocating, either permanently or temporarily, personal or business property, subject to the following conditions:

- a. In the E-R, R-1, R-2, R-3, R-4 and HR Districts, there shall be a fifteen dollar (\$15) temporary permit fee. No more than one (1) temporary cargo container shall be permitted, and said container must be removed from the premises within thirty (30) days;
- b. In the B-2, B-3, B-4, H-1, O-R, I-1, and I-2 Districts, there shall be a ninety dollar (\$90) temporary permit fee. No more than three (3) temporary cargo containers shall be permitted, and said containers(s) must be removed from the premises within ninety (90) days;
- c. One (1) extension period equal to the corresponding time restriction in 2.a) or 2.b) may be permitted if extenuating circumstances are determined by the Code Official.
- d. No more than two (2) temporary permits may be granted for the same property during a calendar year. If an extension is granted during a calendar year, the extension period shall constitute a second temporary permit.

Or:

e. The cargo container is used for the purpose of a construction project duly proceeding toward completion. Upon completion of the construction activity that the container supports, the container must be promptly removed from the site.

And;

- f. At all times, any and all cargo containers must be maintained in a like-new condition.
- f. Stand-alone Automated Teller Machines (ATM) not associated with a permitted drive-up facility. (Am. Ord. 2495, passed 08.04.08)
- g. Outdoor vending machines. (Am. Ord. 2495, passed 08.04.08)

Section E: Temporary Uses

The following uses of land are permitted in Commercial, Office, or Industrial districts (unless specifically restricted to a particular zoning district), subject to the specific regulations and time limits as described herein and to the other applicable regulations of the district or districts in which they are located. Such uses must be approved by the Code Official through issuance of a permit. The temporary use permit shall specify the location of the building, yard, or use, and the area of the permitted operation. Temporary uses must satisfy the applicable conditions as follows:

Section D: Accessory Uses and Structures

Part 1: General Requirements

- a. Accessory uses and structures, as defined in Article 12, are permitted in the E-R, R-1, R-2, R-3, R-4, H-R and A-G districts. Accessory uses and structures, as defined in Article 12, are permitted in the H-1 zone district when the property is used for single-family residential.
- b. Accessory uses and structures, as defined in Article 12, in the B-1, B-2, B-3, B-4, O-R, I-1, I-2 and H-1 when the property is not used for single-family residential, must be approved during the site plan review process (as described in Article 3, Section H).
- c. Residential accessory uses and structures shall not involve the conduct of any business, trade, or industry.
- d. Accessory uses and structures must be in connection with a principal use which is permitted within such district.
- e. Each accessory structure and use shall comply with the use limitations applicable in the zoning district in which it is located.
- f. No accessory structure shall be constructed or occupied on any lot prior to the completion of the principal structure to which it is an accessory.
- g. Pole barns, silos and other accessory farm structures shall be permitted only within the A-G zone district.
- h. Any structure with a roof and attached to the primary structure shall be considered part of the primary structure and shall abide by the requirements for primary structures in that zone district.
- i. Any exterior wall of an accessory structure shall not exceed 35' of uninterrupted wall length. For the purposes of this section an interruption shall be defined as an offset in a wall plane and underlying foundation measuring a minimum of one (1) foot.

Part 2: Bulk Regulations

- a. Location:
 - 1. Accessory structures shall only be permitted within side and rear yards, except within the A-G zone district.
 - 2. Accessory structures shall be located behind the front of the primary structure along a front yard or corner side yard, except within the A-G zone district.

- 3. Accessory structures shall be set back at least ten (10) feet from any lot line, except for the A-G zone district, in which they must meet the required front, side and rear setbacks for the primary structure.
- 4. Accessory structures, except for open patios, open terraces, open decks and similar structures at or near grade without a roof, shall maintain a separation minimum distance of ten (10) feet between other accessory structures and from the primary structure.
- 5. Accessory structures, including open patios, open terraces, open decks and similar structures at or near grade without a roof, shall not have any separation requirement from other accessory structures or the primary structure, except for raised decks which must be attached to the primary structure or separated from it by at least ten (10) feet.
- 6. Swimming pools shall be set back at least ten (10) feet from the primary structure. A minimum separation is not required from a swimming pool to an open patio, open terrace, open deck or similar structures without a roof.
- b. Size:
 - 1. Accessory structures, only including arbors, trellises, pergolas, gazebos and pool cabanas may be two hundred fifty (250) square feet or 1.7% of the area of the parcel, whichever is greater, but in no instance shall they exceed one thousand (1,000) square feet.
 - 2. Accessory structures, including sheds, child playhouses, permanently affixed outdoor fireplaces and stoves, greenhouses, laundry drying equipment and trash enclosures shall not exceed one hundred forty-four (144) square feet in size. Sheds within manufactured home parks shall not exceed two hundred twenty-five (225) square feet in size.
 - 3. There shall be no size limitation for swimming pools, open patios, open terraces, or open decks except as restricted by the other regulations of this Ordinance.
 - 4. Detached garages in manufactured home parks shall not exceed six hundred (600) square feet.
 - 5. Detached garages not located in manufactured home parks shall not exceed the area of the footprint of the primary structure, except within the A-G zone district.
 - 6. There shall be no size limitation for farm structures, except as restricted by other regulations of this Ordinance.
 - 7. All other accessory structures not specifically listed within this subsection shall not exceed one hundred forty-four (144) square feet in size.

- 8. Each accessory structure and use shall otherwise comply with the bulk regulations applicable in the district in which it is located, including maximum lot coverage, maximum impervious coverage and maximum rear yard coverage (Article 6, Section B, Part 1).
- c. Height:
 - 1. All accessory structures, except farming structures including pole barns, silos and similar structures, shall not exceed fifteen (15) feet in height.
 - 2. Accessory farming structures shall not exceed thirty-five (35) feet in height.
- d. Measurement of area:
 - 1. For structures that have walls, measurement shall be made from the exterior walls.
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Part 3: Garage Provisions

- a. A maximum of one (1) detached garage per zoning lot is permitted.
- b. All garages greater than three-cars in size must be side-loaded in orientation and driveways shall have a minimum 26' turning radius.
- c. Architecture of garages shall be similar and compatible to the primary structure, including building materials and the roof pitch.
- d. All garages must be constructed as enclosed buildings.
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Part 4: Recreational Equipment/Vehicle and/or Construction/Commercial Equipment Provisions

- a. Outdoor parking of recreational equipment/vehicle and/or construction/commercial related vehicles, provided that:
 - 1. If the owner is actively involved in maintenance, loading or unloading the equipment, it may be parked on a residential driveway, however duration does not exceed forty-eight (48) hours;
 - 2. The Code Official may issue a Special Permit for out-of-town visitor parking for Recreational Vehicles parked on a driveway for a period not to exceed fifteen (15) days. Not more than six (6) such permits may be issued in any calendar year;

- 3. Equipment/vehicle is parked on an approved paved surface;
- 4. No part of storage area for vehicles is located in any required front, side, or rear setback, as defined by the provisions of this Code;
- 5. The front of the vehicle does not extend in front of the front façade of the primary structure;
- 6. Construction or commercial vehicles or equipment are not loaded or containing product or material, unless wholly enclosed or actively involved in a project within the lot;
- 7. Vehicle does not exceed an empty weight of four (4) tons or height in excess of ninety (90) inches;
- 8. Equipment/vehicle is screened from view from the public street by a fence or landscaping.

Part 5: Swimming Pool Provisions

- a. Fencing. Every outdoor swimming pool, whether above ground or level with the ground, having a maximum depth of over two (2) feet, shall be completely surrounded by a fence not less than four (4) feet, nor more than five (5) feet in height. A building, existing wall, or pool wall may be used as part of such enclosure as long as the barrier requirements are met as required by the building code. Such required fence shall comply with all requirements of other Village ordinances pertaining to fences, and the provisions of this Section shall not be construed to require or permit any fence heights greater than permitted by such other ordinances. (Am. Ord. 1887, passed 04.15.02) (Am. Ord. 2230, passed 10.17.05)
- b. Gates or Doors. All gates or doors opening through the required fence shall be designed for security, in accordance with the Building Code of the Village of Frankfort.
- c. Screening. If the fencing provided is anything other than solid fencing, the pool shall be effectively screened from view from outside the lot by densely-planted compact trees or hedges, providing at least fifty percent opacity when viewed between two (2) feet and five (5) feet above ground.
- d. Setback Requirements. All outdoor swimming pools are considered accessory structures, and shall meet minimum setback requirements, in addition thereto, shall be set back an additional two (2) feet for each one (1) foot of structure height exceeding five (5) feet. For the purpose of this section, the words "structure height" shall include any railings or other projections above the pool surface.
- e. Water Discharge. The water discharged from a swimming pool shall be drained into the sanitary sewer or storm water system, as approved by the Village.

Part 6: Other Provisions

- a. One parabolic satellite dish-type antenna per zoning lot, which is not more than two (2) feet in diameter. All roof-mounted antenna shall not exceed the maximum building height permitted in that zoning district. All satellite antenna facilities shall be located away from the street right-of-way, or otherwise screened from view from any street by an opaque fence, wall, or hedge of a minimum of 6 feet in height. (Am. Ord. 1887, passed 04.15.02) All ground-mounted antenna shall abide by the regulations for a typical accessory structure.
- b. Storage of wood or any other combustible material which could be used in fireplaces, stoves or any other equipment for heating are not to exceed five (5) cords per zoning lot, one (1) cord being a cubic area of 128 cubic feet (4' x 4' x 8'). Firewood shall be used exclusively by dwelling occupants and stored in the rear yard. Material must be stacked in rear yard in cord measurements and must be a minimum of four (4) inches off the ground. No storage is permitted within the 100-year flood zone as defined by FEMA Maps.

Part 7: Prohibited Accessory Uses or Structures (Am Ord #2312, passed 8.21.06)

None of the following shall be permitted accessory uses or structures:

- Outdoor storage or overnight parking of trucks with an empty weight in excess of four (4) tons, or height in excess of ninety (90) inches in residential district; construction or commercial vehicles or equipment, loaded or containing product or material, unless wholly enclosed, unless actively involved in a project within the lot; or buses designed for more than eleven (11) passengers during normal school year vacation periods in a residence district;
- b. Any other outdoor storage, except as specifically permitted elsewhere in this Ordinance;
- c. Manufactured homes;
- d. Windmill towers, in excess of twelve (12) feet in height;
- e. Cargo Containers, as defined by Article 12 of this ordinance shall be considered a form of outdoor storage that is strictly prohibited in all zones, except whereas:
 - Existing cargo containers located on properties with an approved special use for outdoor storage are a legal non-conforming use during an amortization period of one (1) year, after which the containers are considered illegal non-conforming and must be removed. No additional containers shall be added to the property during the amortization period, or;
 - 2. A temporary permit is issued by the Village for the purpose of moving or relocating, either permanently or temporarily, personal or business property, subject to the following conditions:

- a. In the E-R, R-1, R-2, R-3, R-4 and HR Districts, there shall be a fifteen dollar (\$15) temporary permit fee. No more than one (1) temporary cargo container shall be permitted, and said container must be removed from the premises within thirty (30) days;
- b. In the B-2, B-3, B-4, H-1, O-R, I-1, and I-2 Districts, there shall be a ninety dollar (\$90) temporary permit fee. No more than three (3) temporary cargo containers shall be permitted, and said containers(s) must be removed from the premises within ninety (90) days;
- c. One (1) extension period equal to the corresponding time restriction in 2.a) or
 2.b) may be permitted if extenuating circumstances are determined by the Code Official.
- d. No more than two (2) temporary permits may be granted for the same property during a calendar year. If an extension is granted during a calendar year, the extension period shall constitute a second temporary permit.

Or:

e. The cargo container is used for the purpose of a construction project duly proceeding toward completion. Upon completion of the construction activity that the container supports, the container must be promptly removed from the site.

And;

- f. At all times, any and all cargo containers must be maintained in a like-new condition.
- f. Stand-alone Automated Teller Machines (ATM) not associated with a permitted drive-up facility. (Am. Ord. 2495, passed 08.04.08)
- g. Outdoor vending machines. (Am. Ord. 2495, passed 08.04.08)

Section E: Temporary Uses

The following uses of land are permitted in Commercial, Office, or Industrial districts (unless specifically restricted to a particular zoning district), subject to the specific regulations and time limits as described herein and to the other applicable regulations of the district or districts in which they are located. Such uses must be approved by the Code Official through issuance of a permit. The temporary use permit shall specify the location of the building, yard, or use, and the area of the permitted operation. Temporary uses must satisfy the applicable conditions as follows:

Variation Requests since 2020										
Address	Name	Category	PC Date	Action	Structure Size Requested (SF)	Lot Size	% of Lot	Max size per ordinance at the time	If it were 1.7%	
10650 Yankee Ridge	Murphy	Pool Cabana	6/24/21	tabled	288	24,343	1.18%	144		
10650 Yankee Ridge	Murphy	Pool Cabana	7/22/21	tabled	288	24,343	1.18%	144	414	
10650 Yankee Ridge	Murphy	Pool Cabana	8/12/21	approved	255	24,343	1.05%	144		
10677 Yankee Ridge	Morgan	Pergola	4/14/22	tabled	288	20,024	1.44%	250	340	
10677 Yankee Ridge	Morgan	Pergola	6/22/23	denied	288	20,024	1.44%	250	540	
11258 York	Wagner	Pool Cabana	6/24/21	tabled	360	18,034	2.00%	144	307	
11258 York	Wagner	Pool Cabana	8/12/21	approved	240	18,034	1.33%	144	507	
11195 Siena	Hampton	Pergola	10/14/21	approved	215	21,792	0.99%	144	370	

	Pergolas & Gazebos approved in 2023									
Address	Permit #	Category	Structure Size Approved	Lot Size	% of Lot	Max size per ordinance at the time (SF)	If it were 1.7%			
22402 Hughes	PGP23-0001	Gazebo	171	21,455	0.80%	250	365			
21203 N. Old Church	PGP23-0004	Pergola	256	17,811	1.44%	250	303			
8795 Chilton	PGP23-0005	Pergola	192	24,970	0.77%	250	424			
11835 Jennifer	PGP23-0006	Gazebo	192	15,000	1.28%	250	255			
22661 Frontier	PGP23-0007	Gazebo	140	16,172	0.87%	250	275			
22516 Parkview	PGP23-0008	Pergola	252	15,008	1.68%	250	255			
8595 High Stone	PGP23-0009	Pergola	130	22,004	0.59%	250	374			
22460 Blarney	PGP23-0010	Pergola	225	23,304	0.97%	250	396			
10580 Lexington	PGP23-0016	Gazebo	240	15,932	1.51%	250	271			
21399 Ginger	PGP23-0018	Pergola	256	15,469	1.65%	250	263			
21420 Breton	PGP23-0011	Pergola (attached)	546	13,817	3.95%	250	235			
482 Pleasant Hill	PGP23-0012	Pergola (attached)	323	17,219	1.88%	250	293			
22385 Misty Falls	PGP23-0015	Gazebo (attached)	441	16,972	2.60%	250	289			
22013 Coriander	PGP23-0017	Gazebo (attached)	319	15,488	2.06%	250	263			

	Small-Large Lot Comparison								
	Address	Subdivision	Lot area (SF)	Pool cabana size if 1.7% scale implemented (SF)	Notes				
		Original Village of			Not possible without variations for				
Very Small	143 Kansas	Frankfort	4,902	250	lot coverage, setbacks, etc.				
Small	170 Vail	Creekview	14,410	250	Possible without variations				
Typical Size	22398 Jeanette	Misty Falls	15,000	255	Possible without variations				
Large	22985 Landcaster	Crystal Brook	35,065	596	Possible without variations				
					1.7% of lot area is 1,120 SF, but the				
Very Large	23359 Sunburst	Five Oaks	65,877	1,000	cap of 1,000 SF supersedes				