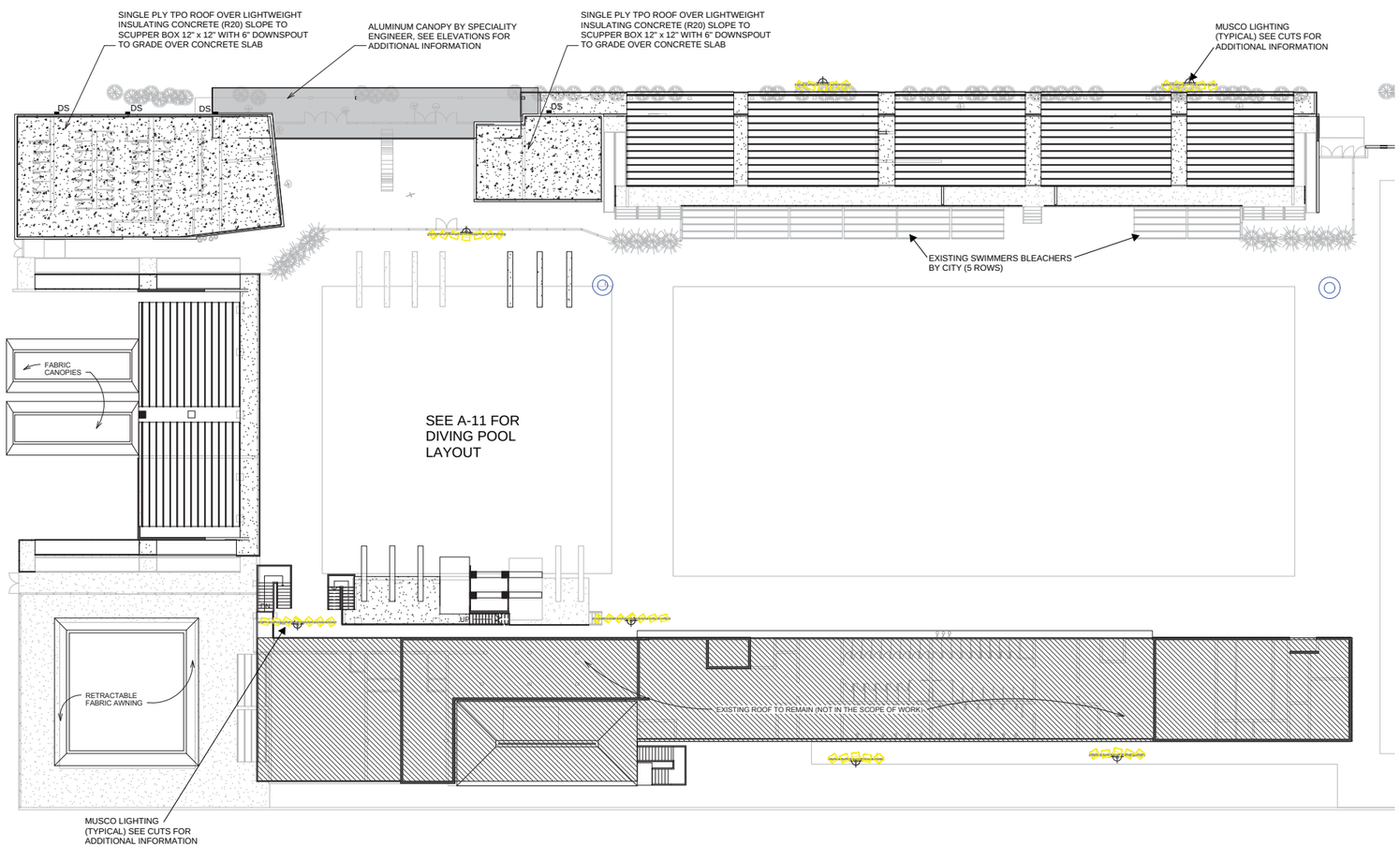
DESIGN DRAWINGS - A-5 - Roof Plan



1 ROOF PLAN
1/16" = 1'-0"

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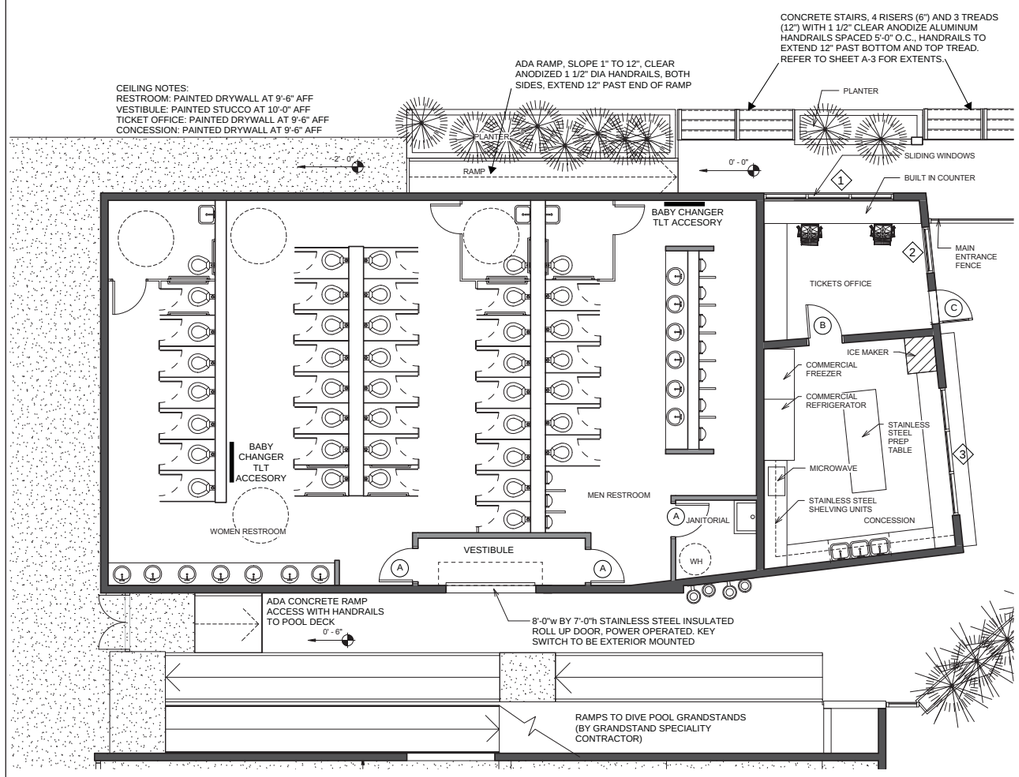
REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS
ROOF PLAN
501 SEABREEZE BLVD. FT LAUDERDALE

SHEET NO. A-5 X
TOTAL: X
CAD FILE: 12072-183-TBLK
DRAWING FILE NO. X-XXX-X

DESIGN DRAWINGS - A-6 - Enlarged Restroom / Concession Plan & Schedule



1 ENLARGED BATHROOMS
3/16" = 1'-0"

WINDOW SCHEDULE: RESTROOM BUILDING / CLEAR ANODIZE FRAME / IMPACT RATED
TYPE 1 - 10'-0" WIDE / 4'-0" HIGH / SILL @ 36" AFF / OUTSIDE LITES OPERABLE - SLIDER, CENTER LITE FIXED
TYPE 2 - 4'-0" WIDE / 6'-0" HIGH / SILL @ 12" AFF / FIXED
TYPE 3 - 12'-0" WIDE / 4'-0" HIGH / SILL @ 36" AFF / 3 SINGLE HUNG OPERABLE SECTIONS

DOOR SCHEDULE: RESTROOM BUILDING
TYPE A - 3o7o HM DOOR AND FRAME / G90 COATED / FLUSH / PAINTED
TYPE B - 3o7o HM DOOR AND FRAME / NARROW LITE / PAINTED
TYPE C - 3o7o ALUMINUM STOREFRONT / FULL GLASS

ROOM SCHEDULE- AREAS

Number	Name	Area	Wall type	Wall Finish	Floor Finish	Base Finish	Ceiling Finish
001	POOL FILTRATION ROOM	2024 SF	8" CMU	PAINTED	SEALED CONCRETE	RUBBER BASE	EXPOSED STRUCTURE
002	STORAGE	806 SF	8" CMU	PAINTED	SEALED CONCRETE	RUBBER BASE	EXPOSED STRUCTURE
003	POOL FILTRATION ROOM	1440 SF	8" CMU	PAINTED	SEALED CONCRETE	RUBBER BASE	EXPOSED STRUCTURE
004	POOL FILTRATITON ROOM	750 SF	8" CMU	PAINTED	SEALED CONCRETE	RUBBER BASE	EXPOSED STRUCTURE
005	DIVE DRYLAND	1752 SF					
006	FUTURE DIVE FITNESS	1579 SF					
100	RECEPTION	289 SF	8" CMU-GYP. FURRING	PAINTED	LVT	RUBBER BASE	SUSPENDED GYP. BOARD
102	ELECTRICAL ROOM	526 SF	8" CMU	PAINTED	SEALED CONCRETE		PAINTED SUSPENDED GYP. BOARD
103	WOMEN	1091 SF	8" CMU	PAINTED	EPOXY	EPOXY COVE	PAINTED SUSPENDED GYP. BOARD
104	MEN	550 SF	8" CMU	PAINTED	EPOXY	EPOXY COVE	PAINTED SUSPENDED GYP. BOARD
105	JANITORIAL	49 SF	8" CMU	PAINTED	LVT	RUBBER BASE	PAINTED SUSPENDED GYP. BOARD
106	TICKETS BOOTH	177 SF	8" CMU-GYP. FURRING	PAINTED	EPOXY	EPOXY COVE	PAINTED SUSPENDED GYP. BOARD
107	CONCESSION	316 SF	8" CMU	PAINTED	EPOXY	EPOXY COVE	PAINTED SUSPENDED GYP. BOARD
108	CHEMICAL ROOM	199 SF	8" CMU	PAINTED	SEALED CONCRETE	RUBBER BASE	EXPOSED STRUCTURE
109	CHEMICAL ROOM	221 SF	8" CMU	PAINTED	SEALED CONCRETE	RUBBER BASE	EXPOSED STRUCTURE
P007	DIVE POOL	6730 SF	CONCRETE	DIAMOND BRITE-CERAMIC TILE	DIAMOND BRITE-CERAMIC TILE		
P008	COMPETITION POOL	14436 SF	CONCRETE	DIAMOND BRITE-CERAMIC TILE	DIAMOND BRITE-CERAMIC TILE		
P009	TRAINING POOL	12400 SF	CONCRETE	DIAMOND BRITE-CERAMIC TILE	DIAMOND BRITE-CERAMIC TILE		
P010	TEACHING POOL	1480 SF	CONCRETE	DIAMOND BRITE-CERAMIC TILE	DIAMOND BRITE-CERAMIC TILE		
P011	SPA POOL	120 SF	CONCRETE	DIAMOND BRITE-CERAMIC TILE	DIAMOND BRITE-CERAMIC TILE		
P012	POOL DECK	Not Enclosed	CONCRETE	BROOM FINISHED CONCRETE	SEALED CONCRETE		

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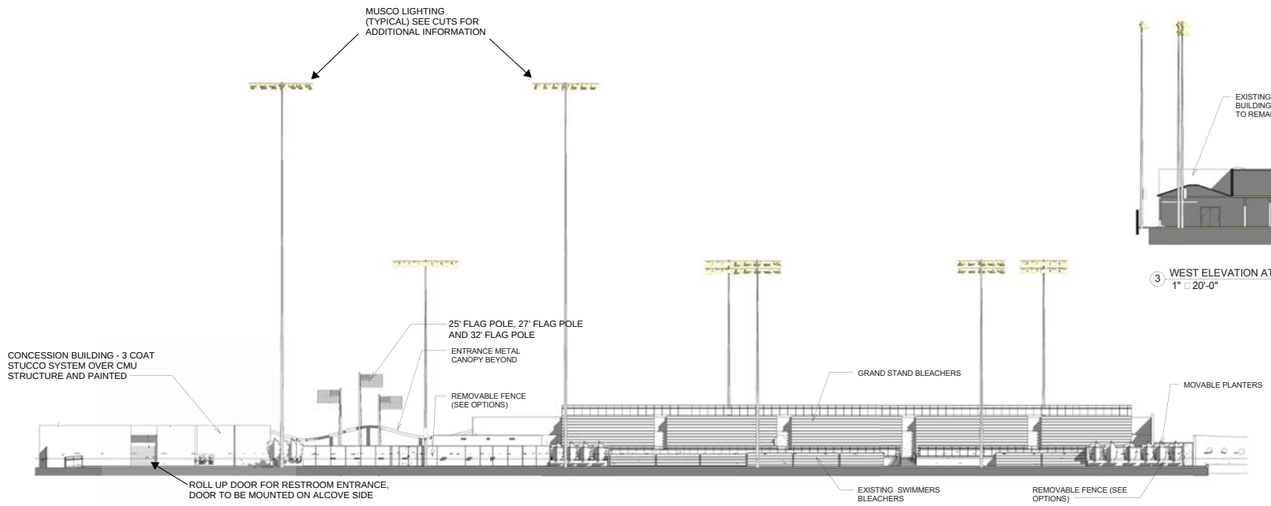
PRICING SET

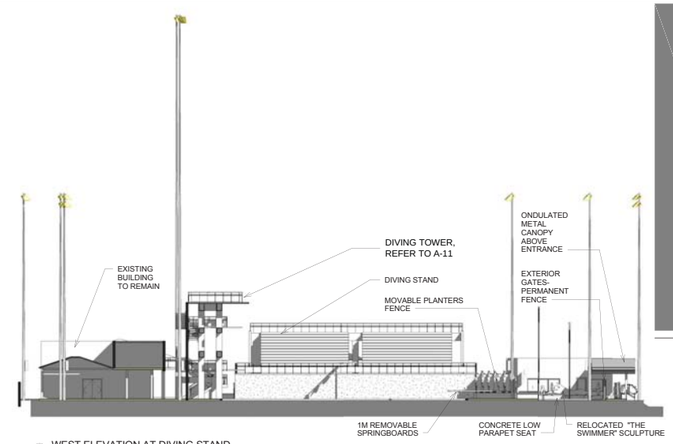
PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS
ENLARGED RESTOOMS / FINISH SCHEDULE
501 SEABREEZE BLVD. FT LAUDERDALE

SHEET NO. A-6 | X
TOTAL: X
CAD FILE: 12072-183-TBLK
DRAWING FILE NO. X-XXX-X

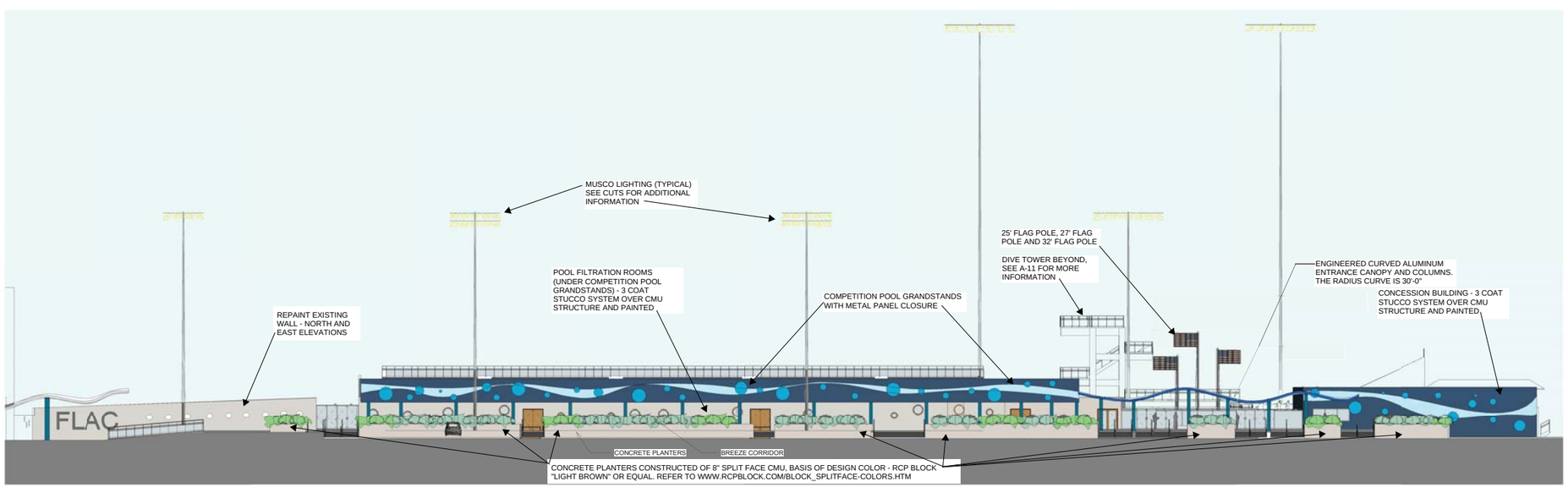
DESIGN DRAWINGS - A-7 - North Elevation Rendered / West & South



2 GRAND STAND ELEVATION
1" = 20'-0"



3 WEST ELEVATION AT DIVING STAND
1" = 20'-0"



1 NORTH ELEVATION
1/16" = 1'-0"

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REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS
NORTH ELEVATION - RENDERED
501 SEABREEZE BLVD. FT LAUDERDALE

SHEET NO. A-7 X
TOTAL: X
CAD FILE: 12072-183-TBLK
DRAWING FILE NO. X-XXX-X

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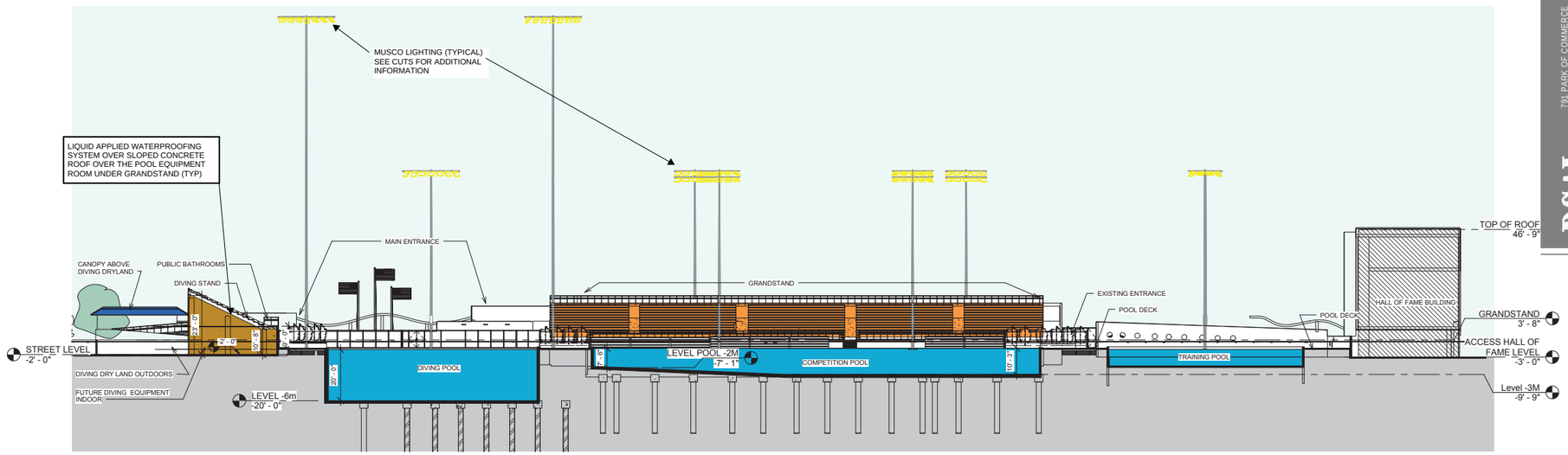
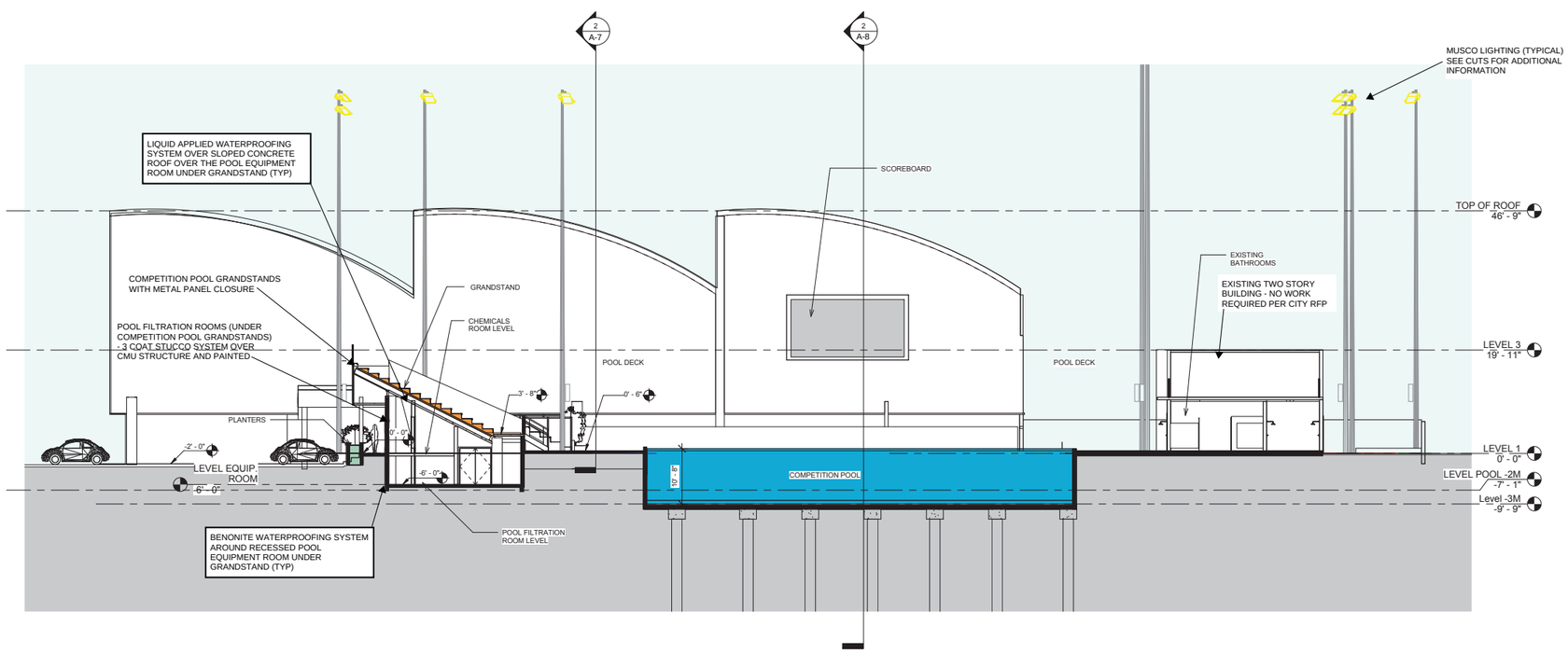
DESIGN DRAWINGS - A-8 - Site Sections



2 EAST - WEST SECTION
1" = 20'-0"



1 NORTH - SOUTH SECTION
3/32" = 1'-0"

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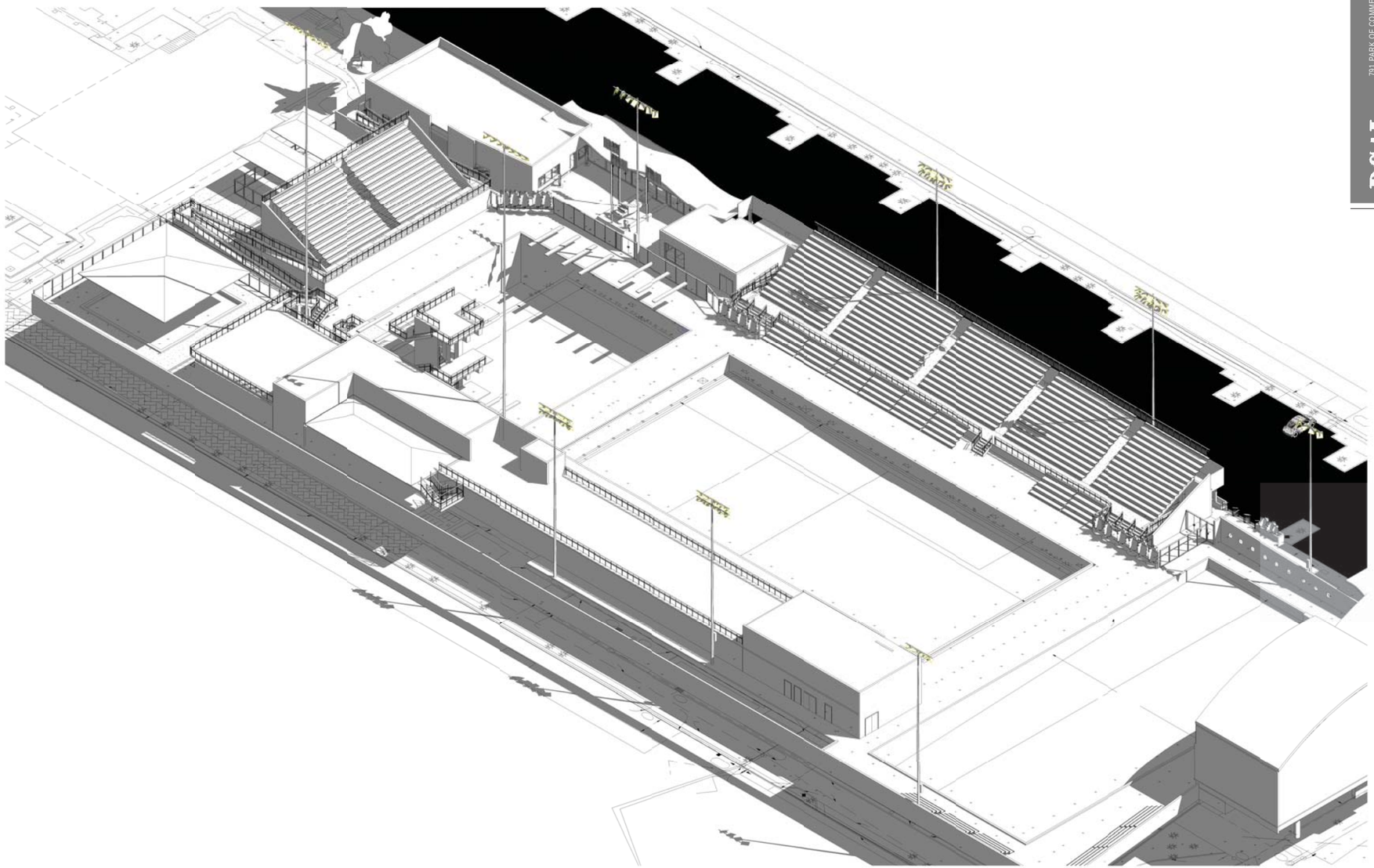
PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS
SITE SECTIONS
501 SEABREEZE BLVD. FT LAUDERDALE

SHEET NO. A-8 X
TOTAL: X
CAD FILE: 12072-183-TBLK
DRAWING FILE NO. X-XXX-X

DESIGN DRAWINGS - A-9 - Aerial View



1 AERIAL VIEW

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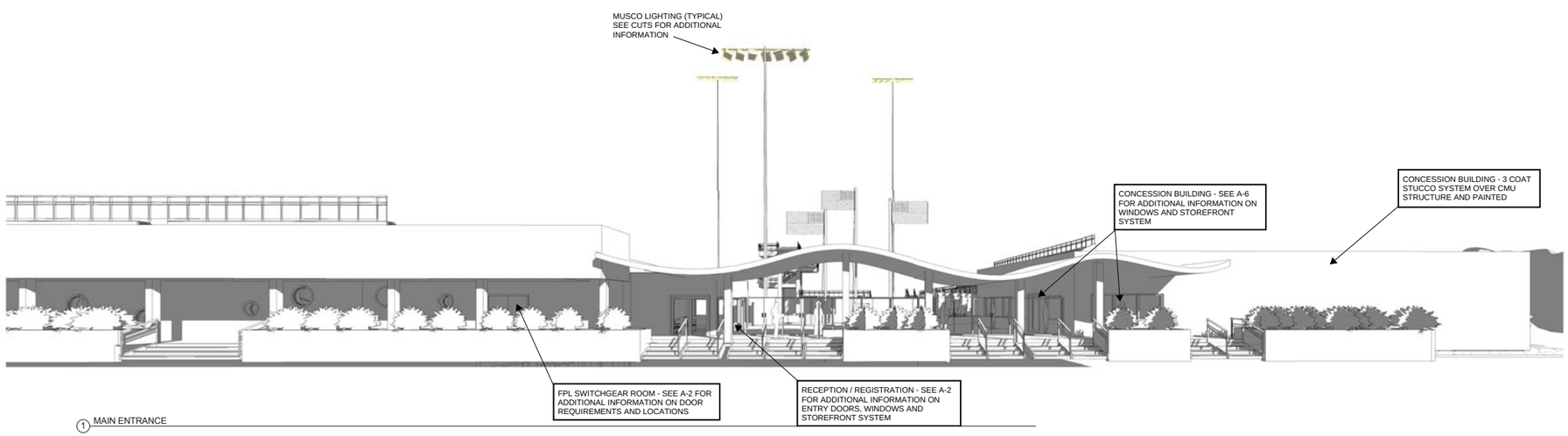
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS
AERIAL VIEW
501 SEABREEZE BLVD. FT LAUDERDALE

SHEET NO. A-9 X
TOTAL: X
CAD FILE: 12072-183-TBLK
DRAWING FILE NO. X-XXX-X

DESIGN DRAWINGS - A-10 - Entry Perspective



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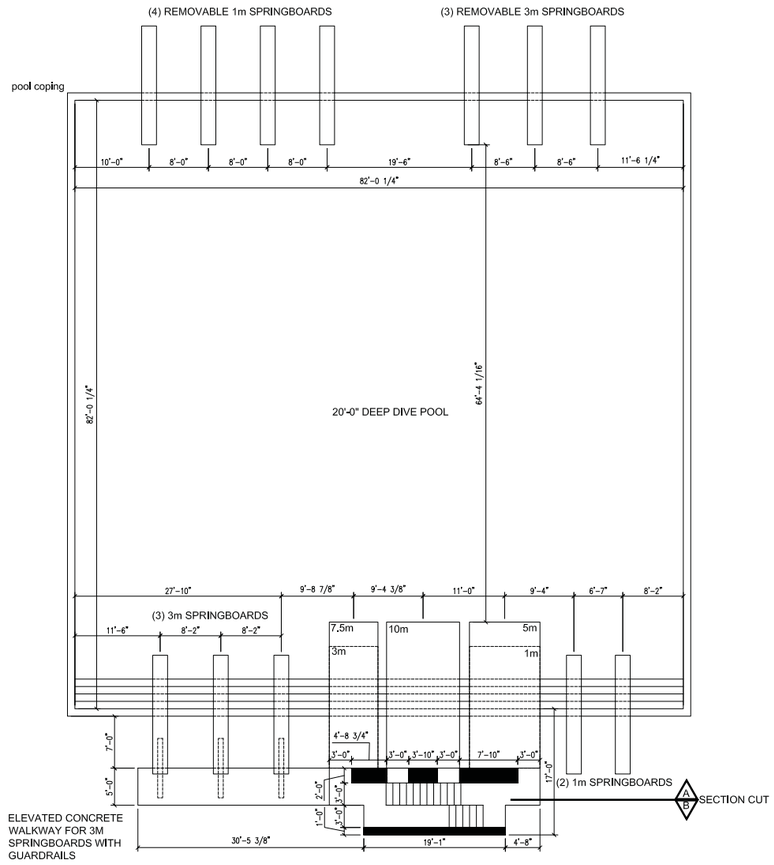
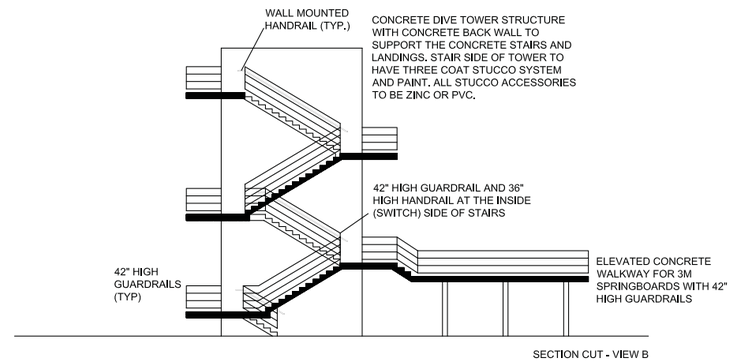
NO.	DATE	BY	CHKD	DESCRIPTION

PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS
NEW ENTRY PERSPECTIVE
501 SEABREEZE BLVD. FT LAUDERDALE

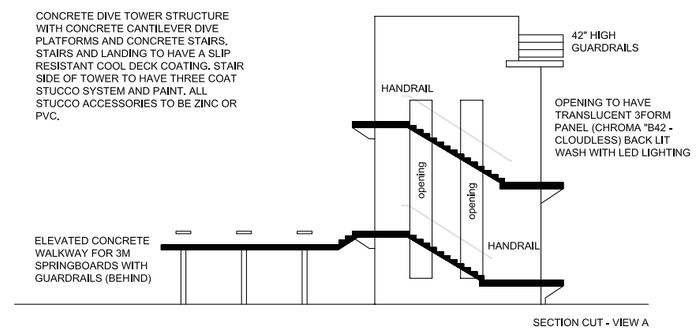
SHEET NO. A-10 X
TOTAL: X
CAD FILE: 12072-183-TBLK
DRAWING FILE NO. X-XXX-X

DESIGN DRAWINGS - A-11 - Dive Pool and Dive Tower

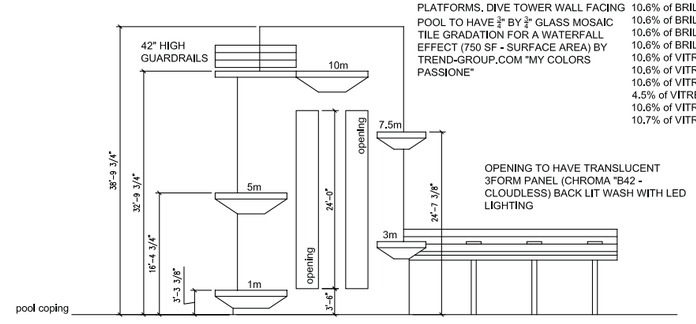




SECTION CUT - VIEW B



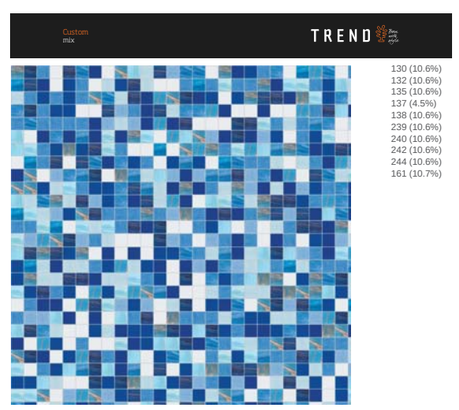
SECTION CUT - VIEW A



CONCRETE DIVE TOWER STRUCTURE WITH CONCRETE CANTILEVER DIVE PLATFORMS. DIVE TOWER WALL FACING POOL TO HAVE ¾" BY ¾" GLASS MOSAIC TILE GRADATION FOR A WATERFALL EFFECT (750 SF - SURFACE AREA) BY TREND-GROUP.COM "MY COLORS PASSIONE"

MOSAIC TILE BLEND: WAVY
10.6% of BRILLANTE 239
10.6% of BRILLANTE 240
10.6% of BRILLANTE 242
10.6% of BRILLANTE 244
10.6% of VITREO 130
10.6% of VITREO 132
10.6% of VITREO 135
4.5% of VITREO 137
10.6% of VITREO 138
10.7% of VITREO 161

OPENING TO HAVE TRANSLUCENT 3FORM PANEL (CHROMA "B42 - CLOUDLESS) BACK LIT WASH WITH LED LIGHTING



130 (10.6%)
132 (10.6%)
135 (10.6%)
137 (4.5%)
138 (10.6%)
239 (10.6%)
240 (10.6%)
242 (10.6%)
244 (10.6%)
161 (10.7%)

USA
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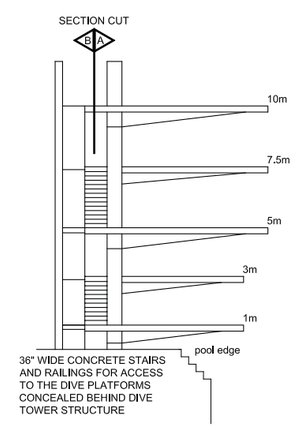
Miramar, FL 33025 · USA
phone +1 863 655 0164
toll free +1 866 508 7363
info-us@trend-group.com



36" WIDE CONCRETE STAIRS AND RAILINGS FOR ACCESS TO THE DIVE PLATFORMS CONCEALED BEHIND DIVE TOWER STRUCTURE

N

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

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100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

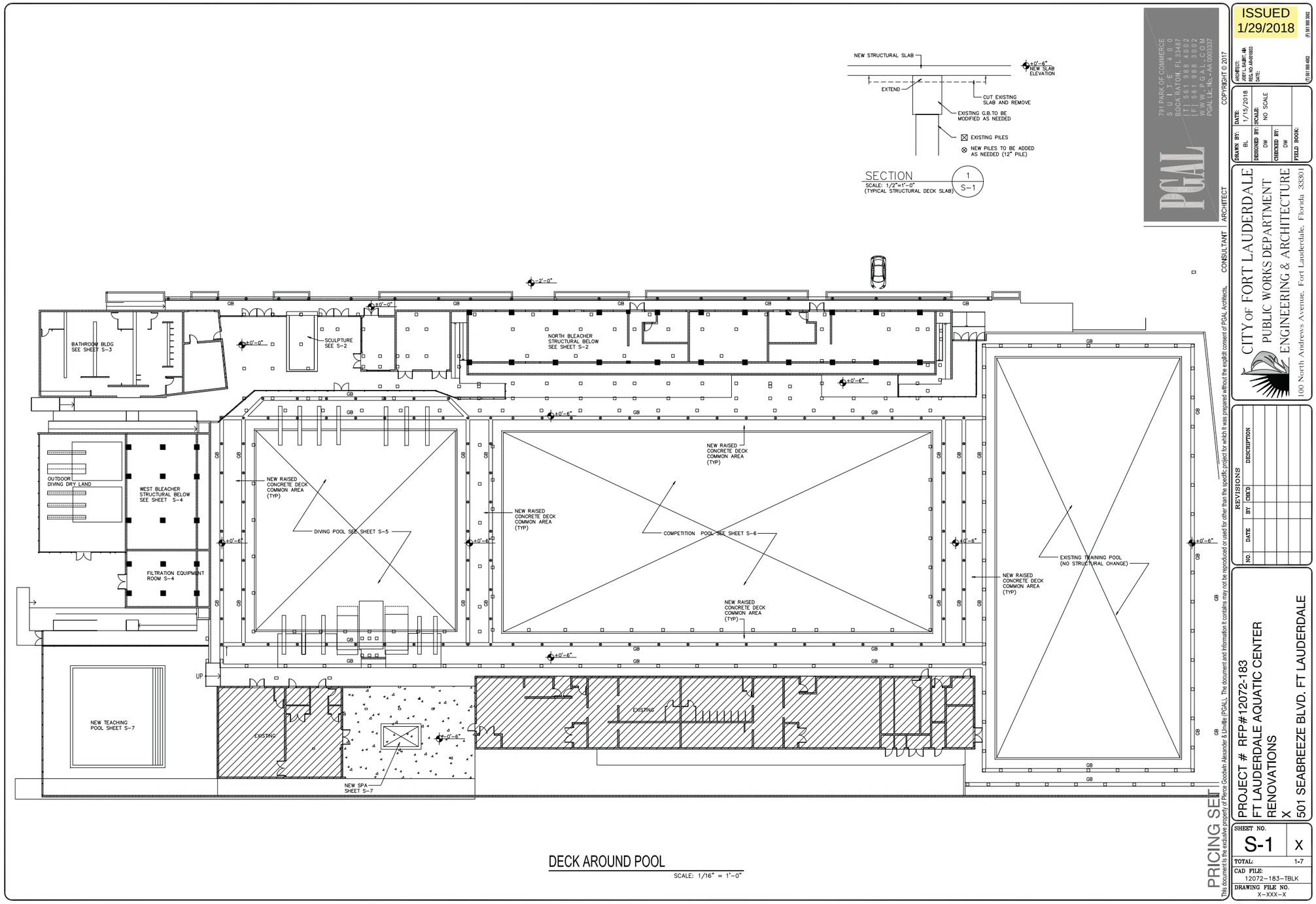
NO.	DATE	BY	CHKD	DESCRIPTION

PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS
DIVE POOL AND DIVE TOWER
501 SEABREEZE BLVD. FT LAUDERDALE

PRICING SET

SHEET NO. A-11 X
TOTAL: X
CAD FILE: 12072-183-TBLK
DRAWING FILE NO. X-XXX-X

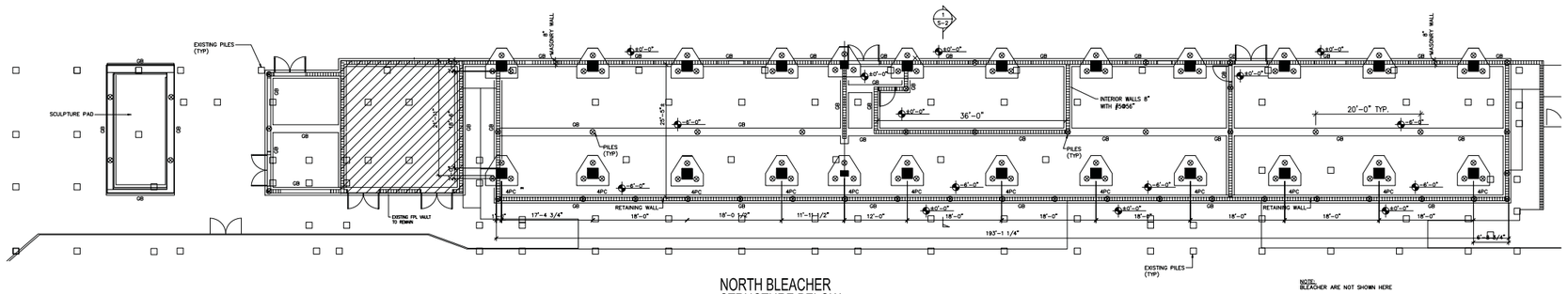
DESIGN DRAWINGS - S-1 - Pool Deck Plan



DECK AROUND POOL

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

DESIGN DRAWINGS - S-2 - North Bleacher Structure



NORTH BLEACHER STRUCTURE BELOW

SCALE:3/32" = 1'-0"

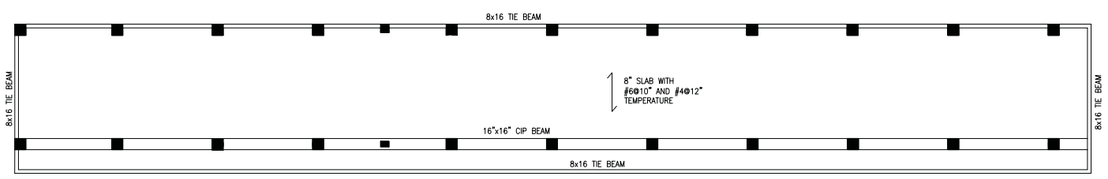
EXISTING PILES
- EXISTING PILES TO BE REMOVED A MINIMUM OF 1'-0" BELOW THE BOTTOM OF NEW PILE CAPS/GRADE BEAMS

NEW PILES
(LOCATION IS CONCEPTUAL TO HELP WITH PRELIMINARY BUDGET)
- 12"ø PILES REINFORCED WITH 6#7 VERTICALS AND #3 TIES @12".
- THE BLEACHER FRAMING AND SUPPORT SHALL BE INDEPENDENTLY DESIGNED AND SUPPORTED BY SPECIALITY ENGINEER (FRAMING, COLUMNS AND FOOTING)

NOTE:
BLEACHER ARE NOT SHOWN HERE

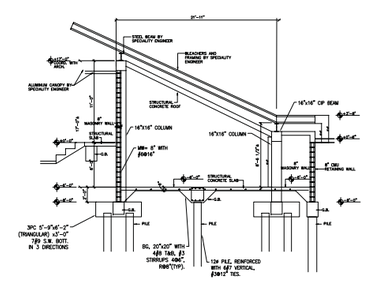
BLEACHER ARE TO BE DESIGNED BY SPECIALITY ENGINEER AND ARE SELF SUPPORTED AND INDEPENDENT OF THIS STRUCTURE

16"x16" CIP COLUMN WITH 8 VERTICAL, 1 TIE AND 2 HAIRPINS #3@7".



NORTH BLEACHER ROOF PLAN

SCALE:3/32" = 1'-0"



SECTION 1/S-2

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

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NO.	DATE	BY	CHKD	DESCRIPTION

PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS
X
501 SEABREEZE BLVD. FT LAUDERDALE

SHEET NO. S-2 X
TOTAL: 2-7
CAD FILE: 12072-183-TBLK
DRAWING FILE NO. X-XXX-X

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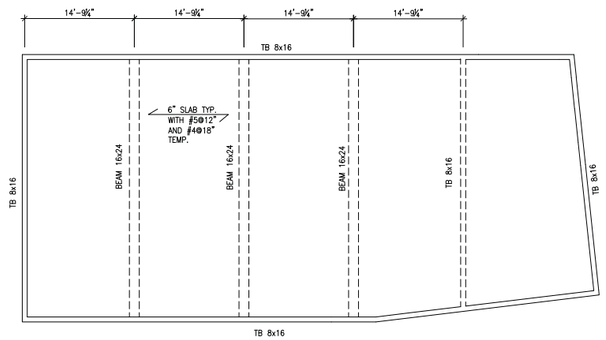
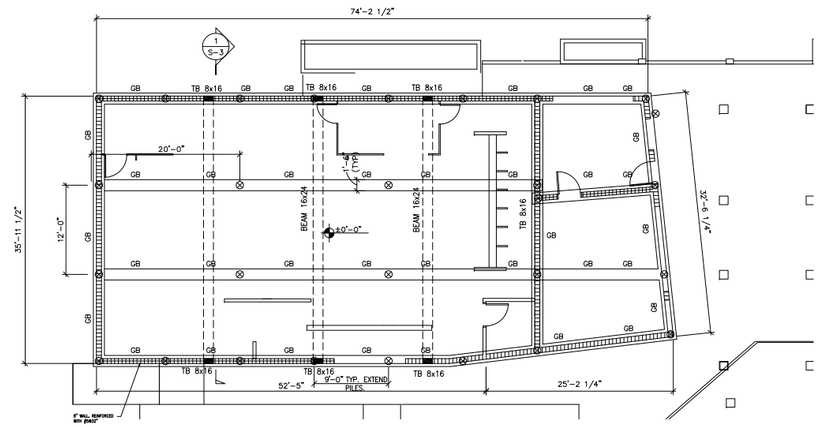
DESIGN DRAWINGS - S-3 - Concession Building



CONCESSION RESTROOM BLDG ROOF

SCALE: 1/8" = 1'-0"



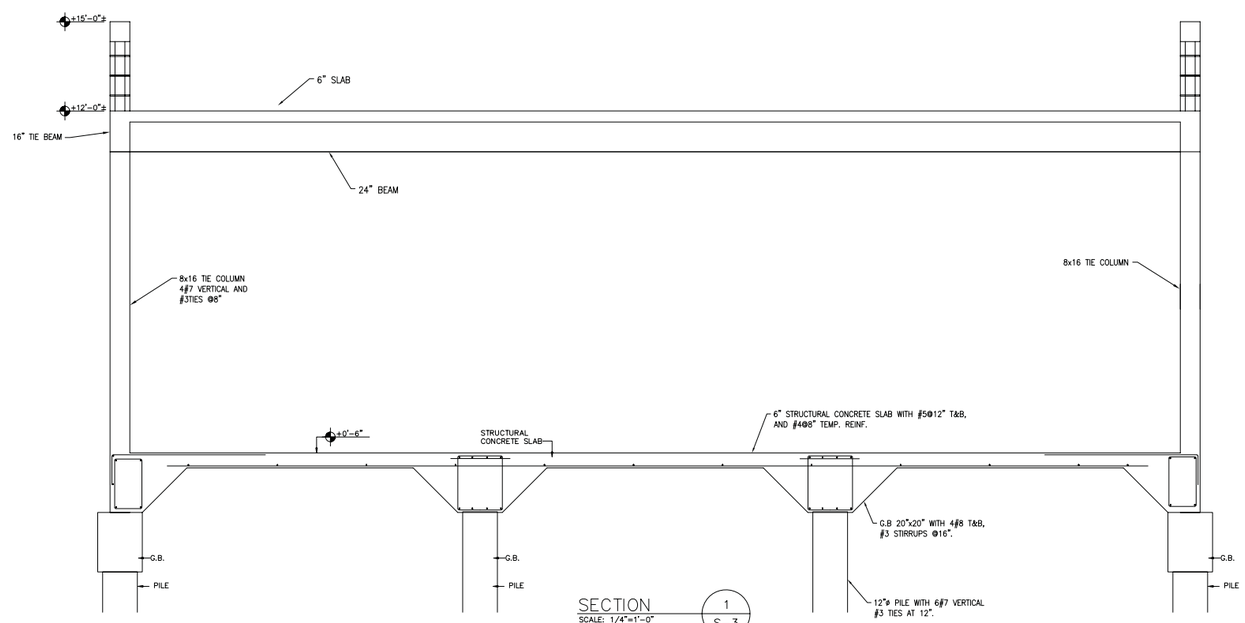
CONCESSION RESTROOM BLDG FOUNDATION

SCALE: 1/8" = 1'-0"

NOTE:
BLEACHER ARE NOT SHOWN HERE

BLEACHER ARE TO BE DESIGNED BY SPECIALITY ENGINEER AND ARE SELF SUPPORTED AND INDEPENDENT OF THIS STRUCTURE

⊕ INDICATES 14"ø PILES WITH 6#7 VERTICALS AND #3@12" TIES



SECTION 1/S-3

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

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REVISIONS

NO.	DATE	BY	CHKD	DESCRIPTION

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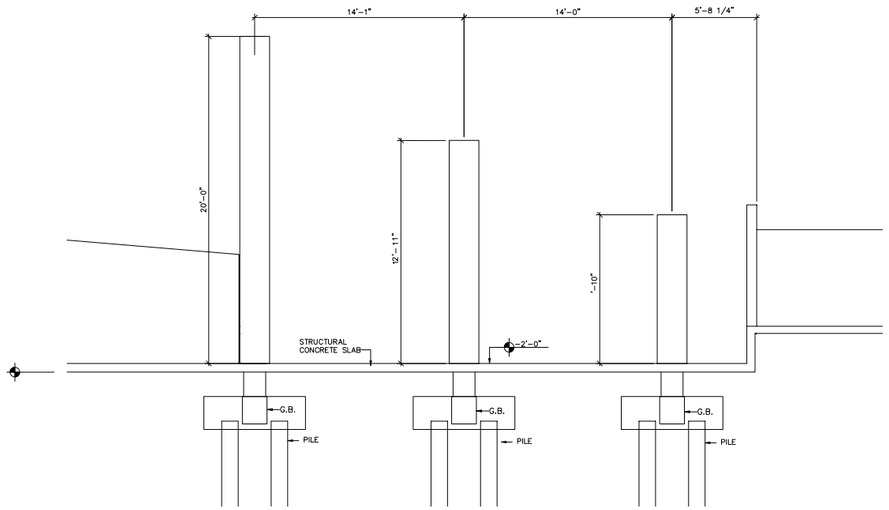
PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS
X
501 SEABREEZE BLVD. FT LAUDERDALE

SHEET NO. S-3 X
TOTAL: 3-7
CAD FILE: 12072-183-TBLK
DRAWING FILE NO. X-XXX-X

DESIGN DRAWINGS - S-4 - Dive Stand Section



2 S- SECTION
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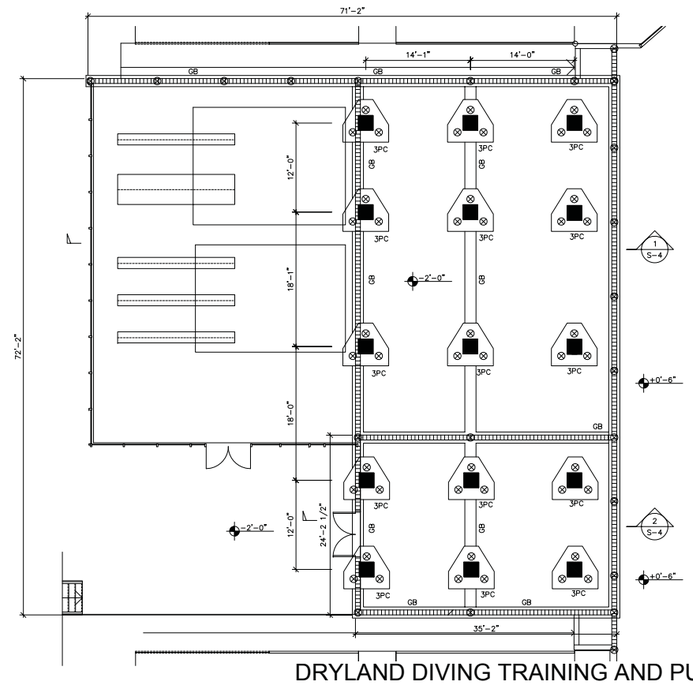


DRYLAND DIVING TRAINING AND PUMP STORAGE UNDER DIVE GRANDSTANDS

SCALE: 1/8" = 1'-0"

NOTE:
BLEACHER ARE NOT SHOWN HERE

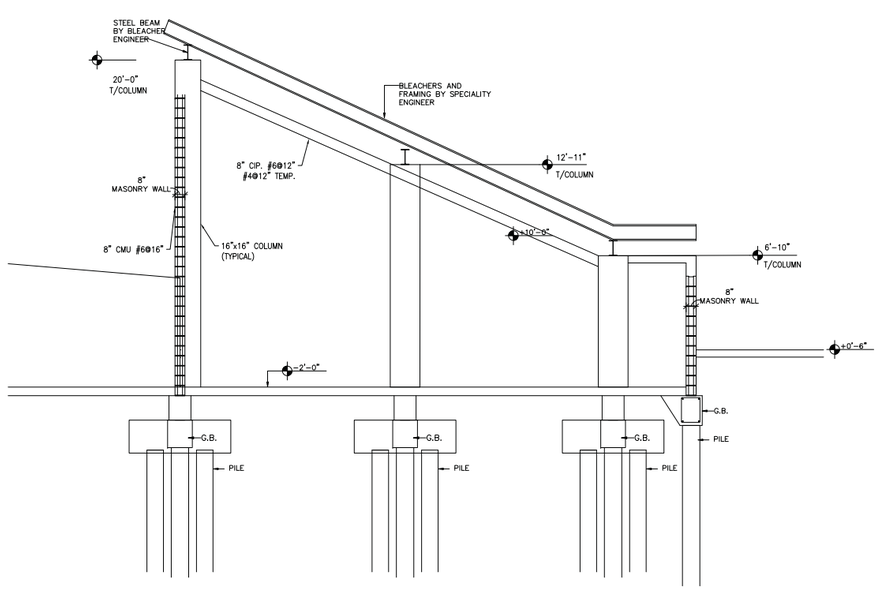
BLEACHER ARE TO BE DESIGNED BY SPECIALITY ENGINEER AND ARE SELF SUPPORTED AND INDEPENDENT OF THIS STRUCTURE

■ 16"x16" CIP COLUMN 8#8 VERTICAL AND #3@6" TIES.

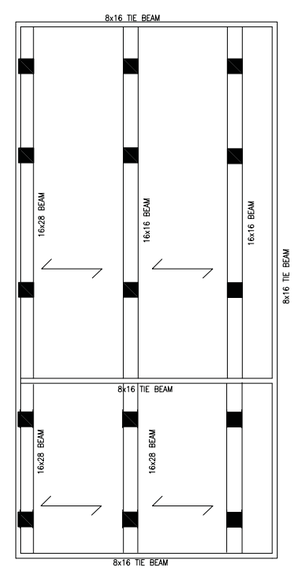
□ EXISTING PILES
x CUT EXISTING PILES A MINIMUM OF 1'-0" BELOW BOTTOM OF NEW PILE CAPS/GRADE BEAMS.

⊗ NEW PILES
x REINFORCING WITH 6#7 VERTICAL, #3 TIES @12"

x THE BLEACHER FRAMING AND SUPPORT SHALL BE INDEPENDENTLY DESIGNED AND SUPPORTED BY SPECIALITY ENGINEER (FRAMING, COLUMNS AND FOOTING)



2 S- SECTION
SCALE:



PUMP STORAGE ROOF UNDER DIVE GRANDSTANDS

SCALE: 1/8" = 1'-0"

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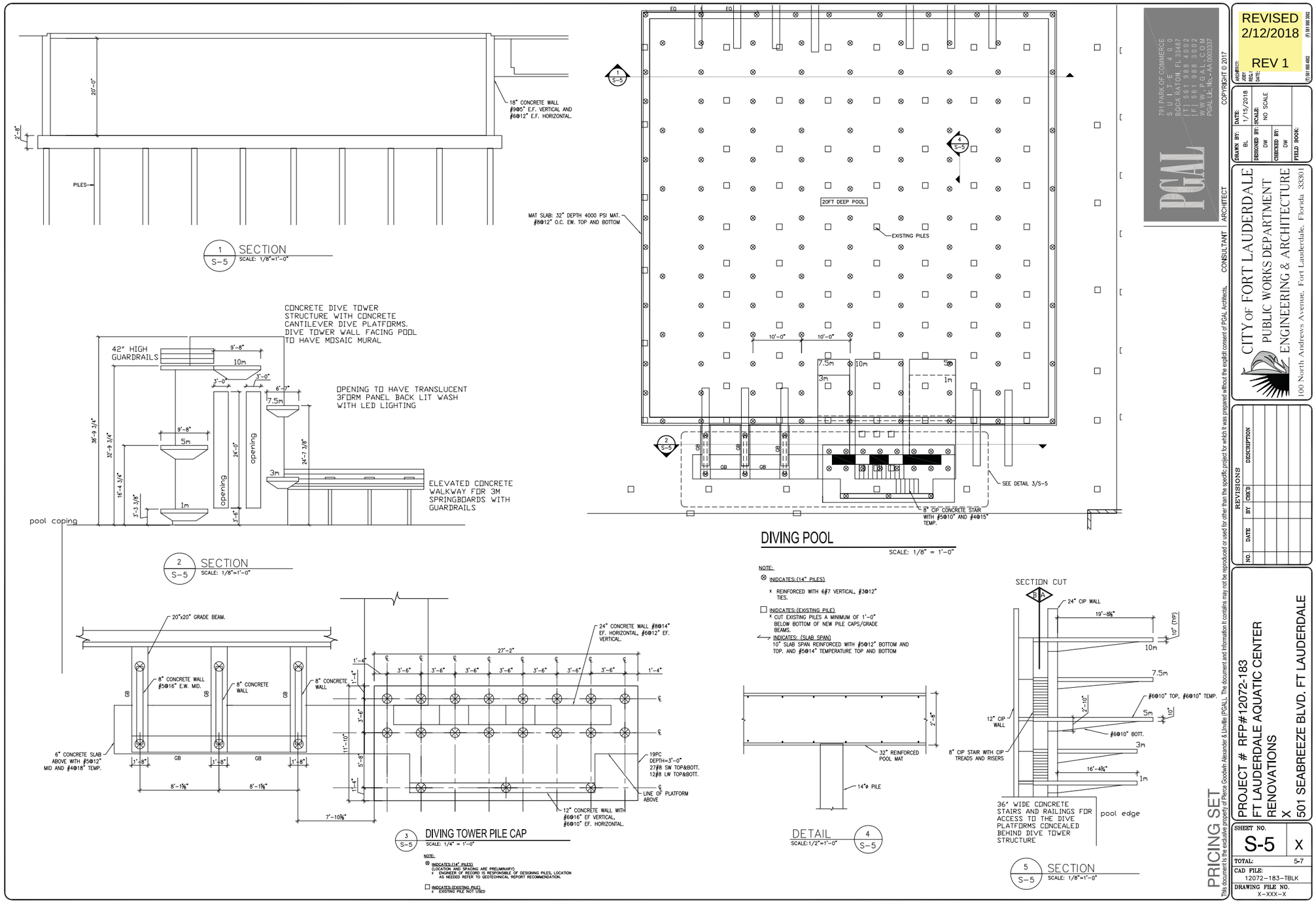
REVISIONS

NO.	DATE	BY	CHKD	DESCRIPTION

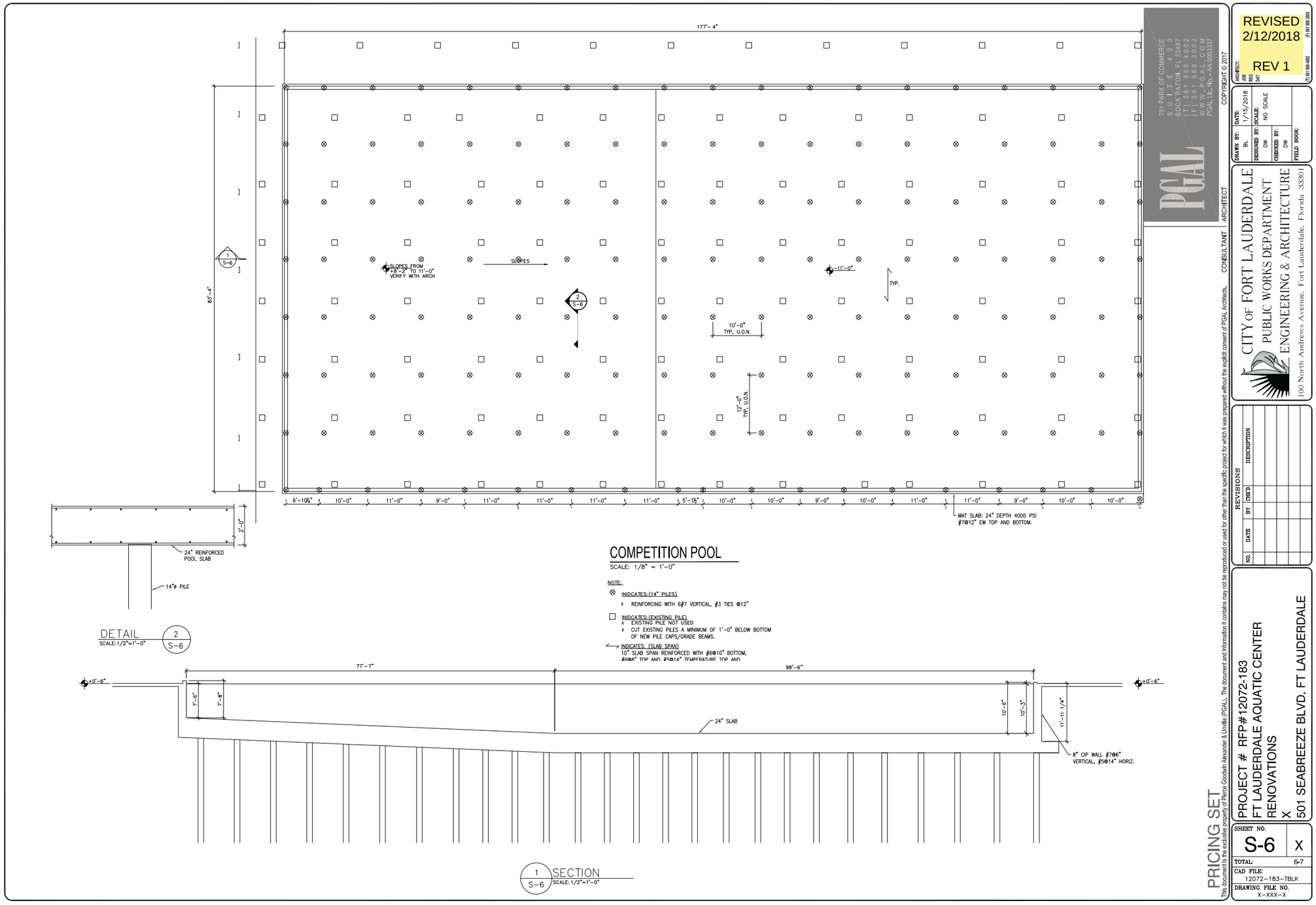
PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS
X
501 SEABREEZE BLVD. FT LAUDERDALE

SHEET NO. S-4 X
TOTAL: 4-7
CAD FILE: 12072-183-TBLK
DRAWING FILE NO. X-XXX-X

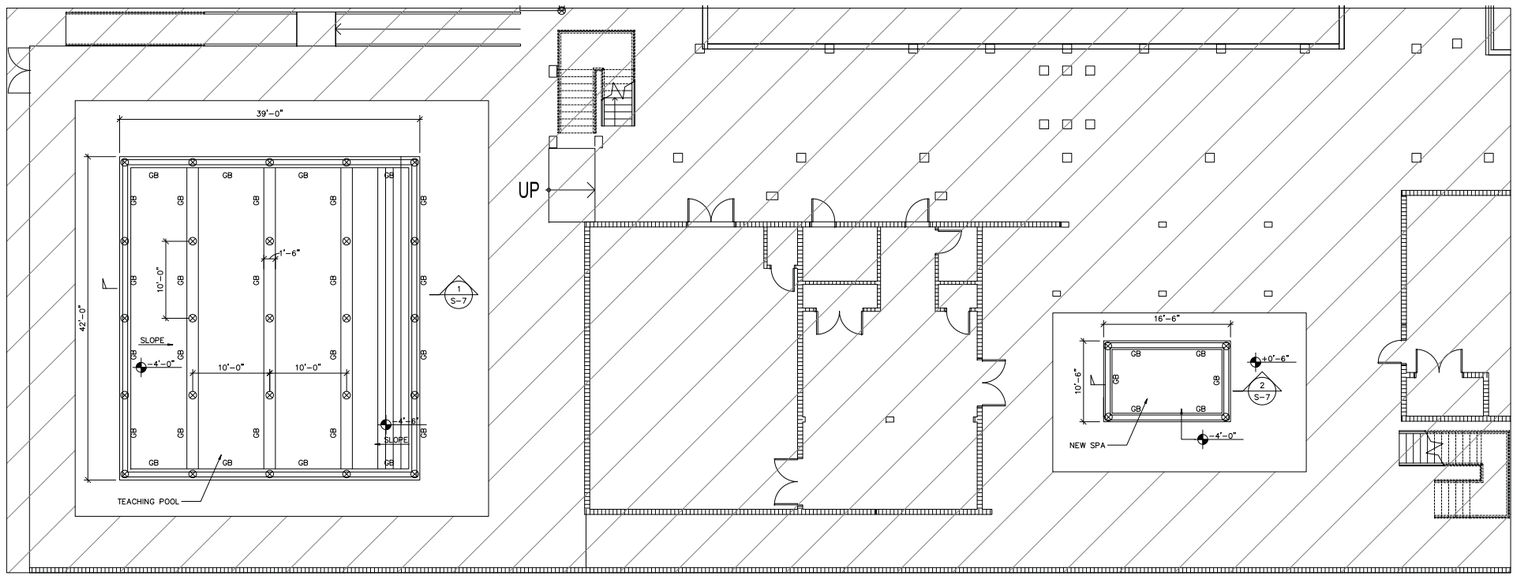
DESIGN DRAWINGS - S-5 - Dive Pool and Dive Tower



DESIGN DRAWINGS - S-6 - Competition Pool



DESIGN DRAWINGS - S-7 - Teaching Pool



TEACHING POOL AND SPA

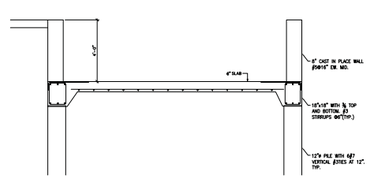
SCALE: 1/8" = 1'-0"

NOTE:

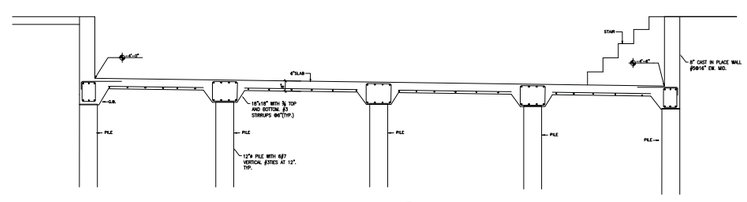
⊗ INIDCATES:(12" PILES)

x REINFORCING WITH 6#7 VERTICAL, #3@12" TIES.

⟷ INDICATES: (SLAB SPAN)
6" SLAB SPAN REINFORCED WITH #6@10" AND #4@16" TEMP.



SECTION 2 S-7
SCALE: 1/4" = 1'-0"



SECTION 1 S-7
SCALE: 1/4" = 1'-0"

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100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS
X
501 SEABREEZE BLVD. FT LAUDERDALE

SHEET NO. S-7 X
TOTAL: 7-7
CAD FILE: 12072-183-TBLK
DRAWING FILE NO. X-XXX-X

DESIGN DRAWINGS - M-1.0 - Mechanical Notes and Schedule

HVAC NOTES, LEGEND AND SYMBOLS

GENERAL NOTES ARE PROVIDED AS A BASIC DESCRIPTION OF THE EXTENT AND QUALITY EXPECTED IN THIS PROJECT. IF A CONFLICT EXISTS BETWEEN THESE GENERAL NOTES AND THE REMAINDER OF THE CONTRACT DOCUMENTS THE SPECIFICATIONS, PLANS AND DETAILS WILL GOVERN.)

GENERAL NOTES:

1. ALL MECHANICAL SYSTEMS ARE TO BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE SECTIONS OF THE NFPA STANDARDS AND STANDARDS, THE LOCAL BUILDING CODE, NOISE & HEIGHT ORDINANCES, PLANS AND SPECIFICATIONS.
2. ALL MATERIALS SHALL BE NEW AND ALL WORKMANSHIP AND MATERIALS SHALL BE IN STRICT ACCORDANCE WITH APPLICABLE LOCAL CODES, PRODUCT APPROVAL, RULES AND ORDINANCES. ANY DAMAGED EQUIPMENT SHALL BE REPLACED OR RESTORED TO ORIGINAL CONDITION.
3. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, ACCESS PANELS, CONTROL SYSTEMS, DEVICES, PERMITS AND SERVICES NECESSARY FOR FURNISHING AND INSTALLING A COMPLETE OPERABLE MECHANICAL SYSTEM.
4. ALL LOUVERS, GRILLES, PIPING, ETC. SHALL BE PAINTED TO MATCH SURROUNDING COLOR AND TEXTURES AS REQUIRED BY ARCHITECT. VERIFY COLOR AND TEXTURE WITH ARCHITECT. PAINT ALL EXPOSED MECHANICAL EQUIPMENT WITH BENJAMIN MOORE EPOXY ENAMEL 182.
5. THE CONTRACTOR SHALL PROVIDE PLASTIC OR ALUMINUM TYPE EQUIPMENT IDENTIFICATION LABELS FOR ALL MECHANICAL EQUIPMENT AS PER SCHEDULE TAGS. (SETON OR SIMILAR)
6. ALL CUTTING, PATCHING, STRUCTURAL STEEL, WEATHER PROOFING, PAINTING, AND WALL OPENINGS SHALL BE BY THE GENERAL CONTRACTOR.
7. ALL OPENINGS IN BUILDING STRUCTURE, FOR DUCTWORK, PIPING, ETC. TO BE 1/2" LARGER OR ALL SIDES THAN THE OUTSIDE DIMENSIONS. FILL VOIDS WITH FIRE RETARDANT SILICONE FOAM (I.E. CHASE-FOAM CTC PR-855 BY CHASE TECHNOLOGY CORP.).
8. PROVIDE MAINTENANCE AND OPERATION MANUAL ON ALL MECHANICAL EQUIPMENT OR SYSTEMS. PROVIDE 5 SETS OF SUBMITTALS ON ALL HVAC EQUIPMENT. SUBMITTALS SHALL HAVE A SUMMARY SHEET SHOWING ALL SCHEDULED INFORMATION.
9. HVAC CONTRACTOR WILL WARRANTY ALL MECHANICAL SYSTEMS, DUCTWORK, AND ALL OTHER EQUIPMENT/PARTS AND LABOR UNDER THESE DRAWINGS AND SPECIFICATIONS FOR A PERIOD OF ONE (1) YEAR AFTER C.O. OF BUILDING. ANY REPAIRS REQUIRING SYSTEM SHUT DOWN WILL BE DONE DURING NORMAL WORK HOURS. ALL REPAIRS MUST BE APPROVED BY OWNER WITH ALL OTHER TRADES PRIOR TO BIDDING AND PURCHASING ANY EQUIPMENT.
10. AIR QUALITY SHOULD BE TESTED BEFORE OCCUPANCY AND SHOULD BE INSTRUMENTED AND MONITORED THEREAFTER, OR AT LEAST AT REGULAR INTERVALS.

MECHANICAL EQUIPMENT NOTES:

1. PROVIDE BACKDRAFT DAMPERS ON ALL EXHAUST FANS AND/OR INLINE FANS.
2. PROVIDE VIBRATION ISOLATORS ON ALL MECHANICAL EQUIPMENT AS CALLED FOR IN THE SPECIFICATIONS. IF NOT SPECIFIED, AS RECOMMENDED BY MANUFACTURER FOR QUIET OPERATION (WITH 95% ISOLATION EFFICIENCY).
3. PROVIDE A MIN. OF 10' CLEARANCE BETWEEN O/A INTAKES AND VTR OR EXHAUST OPENINGS.
4. MOUNT ALL ROOFTOP EQUIPMENT (IF USED) FOR WIND LOADS AND MOUNTING HEIGHTS AS REQUIRED BY LOCAL CODES. ALL CURBS SHALL EXTEND 12" MIN. ABOVE FINISHED ROOF.
5. ALL PIPING AND DUCTWORK SHALL BE SLEEVED THRU WALLS, BEAMS, SLABS, ETC. AS REQUIRED AND COORDINATED WITH THE STRUCTURAL ENGINEER. REWORK DUE TO POOR SPACE PLANNING AND PROVIDE NECESSARY TRANSITIONS AS REQUIRED FOR DUCTWORK INSTALLATION.
6. ALL INSULATION WILL HAVE FIRE/SMOKE RATING LESS THAN 25/50.
7. ALL OUTDOOR EQUIPMENT SHALL COMPLY WITH LOCAL ZONING NOISE ORDINANCES. MIN. REQUIREMENT SHALL NOT EXCEED A NOISE LEVEL OF 65 DB AS MEASURED RADIALLY 30 FT FROM THE EQUIPMENT IN ALL DIRECTIONS.

AIR DISTRIBUTION/DUCTWORK NOTES:

1. REFER TO ARCHITECTURAL PLANS FOR CEILING TYPE.
2. PROVIDE OFF WHITE FINISH (SUBJECT TO ARCHITECT'S APPROVAL).
3. ALL DUCTWORK WHERE ALLOWED BY LOCAL CODES AND CEILING RATING SHALL BE 1" LOW PRESSURE DUCT, SEAL CLASS "C" AND AS FOLLOWS:
   A. EXHAUST AIR DUCTWORK – ALUMINUM SHEETMETAL.
   B. MAKE-UP AIR DUCTWORK – ALUMINUM SHEETMETAL.
   C. SUPPLY AND RETURN DUCTWORK IN THE STORAGE AREA SHALL BE EXTERNALLY INSULATED (R-6) GALVANIZED SHEETMETAL.
   D. DUCTWORK INSULATION – REFER TO EMS SECTION 15290.
   E. THE LENGTH OF FLEXIBLE DUCT MUST BE 6 FT MINIMUM TO 10 FT MAXIMUM LAYING LENGTH.
4. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH "SMACNA" STANDARDS AND LOCAL BUILDING CODES.
5. ALL DUCT SIZES ARE CLEAR INSIDE DIMENSIONS.
6. SEAL ALL DUCTS, JOINTS AND SEAMS IN AN APPROVED MANNER AND INSURE AGAINST LEAKAGE.

TESTING AND BALANCING NOTES:

1. T & B CONTRACTOR SHALL VISIT JOB SITE DURING THE EARLY STAGES OF CONSTRUCTION TO ENSURE THAT ALL DUCTS, VOLUME DAMPERS, OPPOSED BLADE DAMPERS, ETC. ARE INSTALLED FOR PROPER BALANCING AND QUIET AIR DELIVERY.
2. A REPORT SHALL BE SUBMITTED TO THE MECHANICAL ENGINEER LISTING ANY DEFICIENCIES FOUND AND MAKING RECOMMENDATIONS FOR WORK TO BE PERFORMED OR DEVICES TO BE ADDED TO ALLOW FOR PROPER BALANCING.
3. INDEPENDENT CONTRACTOR SHALL TEST AND BALANCE ALL MECHANICAL EQUIPMENT AIR DEVICES, EXTRACTORS, DAMPERS, AHU'S & FAN JA'ES, ETC. TO PROVIDE THE DESIGN QUANTITIES AS SHOWN ON THE PLANS OR SCHEDULES. PROVIDE T & B REPORT IN ACCORDANCE WITH NE EBT BALANCE COUNCIL STANDARDS. PROVIDE FINAL BALANCING FOR ALL SYSTEMS TO SATISFACTION OF OWNER AND ENGINEER.

FAN SCHEDULE

MARK	SELECTION BASED ON MAKE	MODEL NO.	TYPE	AREA SERVED	CFM	ESP IN WG	TSP IN WG	RPM	MOTOR DATA HP	RPM	VOLTS-PH-HZ	DRIVE	SONES OR NC	UNIT WEIGHT	WALL OPENING (IN.)	ACCESSORIES/ REMARKS
EF-1	GREENHECK	SCZ-3-24-620-A-VGD	SIDEWALL DIRECT DRIVE FAN	TRAIN. POOL EQUIP. RM	7100	0.75	0.75	1750	3	1750	480-3-60	DIRECT	44	105	66x66	1,2,3,4,7,16
EF-2	GREENHECK	SCZ-3-20-320-A	SIDEWALL DIRECT DRIVE FAN	STORAGE NEXT STAIRS	1200	0.75	0.75	1750	1/2	1750	480-3-60	DIRECT	26	105	66x66	1,2,3,4,7
EF-3	GREENHECK	SCZ-3-20-320-A	SIDEWALL DIRECT DRIVE FAN	STORAGE NEXT STAIRS	1200	0.75	0.75	1750	1/2	1750	480-3-60	DIRECT	26	59	66x66	1,2,3,4,7
EF-4A	GREENHECK	SCZ-3-36-609-B-VGD	SIDEWALL DIRECT DRIVE FAN	EV. COMP. EQUIP. RM	5100	0.75	0.75	1465	3	1750	480-3-60	DIRECT	29	105	66x66	1,2,3,4,7,16
EF-4B	GREENHECK	SCZ-3-36-609-B-VGD	SIDEWALL DIRECT DRIVE FAN	EV. COMP. EQUIP. RM	5100	0.75	0.75	1465	3	1750	480-3-60	DIRECT	29	105	66x66	1,2,3,4,7,16
EF-5	GREENHECK	SQ-130	INLINE DIRECT DRIVE FAN	EQUIP. RM.	2100	0.75	0.75	1866	1/4	1866	120-1-60					

GENERAL FAN NOTES:

1. PROVIDE MOTOR STARTERS, DISCONNECTS AND ALL ASSOCIATED CONTROLS ON ALL FANS.
2. PROVIDE BACKDRAFT FOR ALL EXHAUST FANS .
3. FIELD ADJUST OPENINGS WITH STRUCTURE.
4. ALL OUTDOOR EQUIPMENT SHALL COMPLY WITH LOCAL ZONING NOISE ORDINANCE OR NOT EXCEED A NOISE LEVEL OF 55DB AS MEASURED RADIALLY 15 FT. FROM THE EQUIPMENT IN ALL DIRECTIONS.
5. COORDINATE WITH ELECTRICAL CONTRACTOR BEFORE BIDDING OR ORDERING ANY EQUIPMENT.
6. SEE GENERAL, AIR CONDITIONING, DUCTWORK, AND COORDINATION NOTES FOR OTHER FIELD SUPPLIED ITEMS.
7. PROVIDE FACTORY FAN MOUNTING SUPPORTS–LEGS, CURBS, HANGING CLIPS, ETC..
8. PROVIDE BIRDSCREEN ON ALL INLETS AND OUTLETS.

ACCESSORIES/REMARKS:

1. MOTOR ACCESS FROM INTERIOR OF BUILDING.
2. CONTROL–VAR–GREEN REMOTE DIAL FOR INDOOR WALL MOUNTING
3. WALL HOUSING.
4. OSHA GUARD.
5. SPEED CONTROLLER.
6. WALL SWITCH.
7. INTERLOCK FAN WITH O/A MCD AND CO/NO2 MONITORING SYSTEM.
8. CONTINUOUS OPERATION.
9. SET T-STAT CONTROLLER TO 78 F.
10. ALUMINUM HOUSING.
11. PROTECTIVE COATING.
12. STAINLESS STEEL SHAFT.
13. STAINLESS STEEL FASTENERS.
14. SPRING HANGING ISOLATORS AND BRACKETS.
15. TEFC MOTOR.
16. VFD

MECHANICAL INDEX

	DRAWING					
1	M-100	MECHANICAL INDEX, SYMBOL LEGEND AND NOTES.				
2	M-101	OVERALL MECHANICAL POOLS AND SPA SITE LAYOUT				
3	M-102	MECHANICAL DETAILS				
4						
5						
6						
7						
8						

SHOP DRAWING REQUIREMENTS

1. CONTRACTOR SHALL SUBMIT 6 COPIES OF COMPLETED SHOP DRAWINGS, TOGETHER AT ONE TIME AND MUST COME THROUGH THE ARCHITECT. ALL SUBMITTALS SHALL BE MADE WITHIN 30 DAYS OF NOTICE TO PROCEED.
2. ALL SUBMITTALS MUST CLEARLY INDICATE EXACTLY WHICH ITEMS ARE BEING PROPOSED FOR USE. IF NOT, THE SUBMITTAL SHALL BE REJECTED.
3. SUBSTITUTIONS SHALL BE LIMITED TO ONE OF THE ALTERNATES LISTED IN THE CONSTRUCTION DOCUMENTS. PRODUCTS CONSIDERED TO BE EQUAL SHALL BE REVIEWED AND ACCEPTED BY THE ENGINEER, ARCHITECT AND OWNER (10) DAYS PRIOR TO BID DATE.
4. THE CONTRACTOR ASSUMES ALL DESIGN RESPONSIBILITY AND ALL FINANCIAL RISKS FOR PROCEEDING PRIOR TO SHOP DRAWINGS PROCESSING ON ANY ITEM OR WORK THAT IS AT VARIANCE TO THE CONSTRUCTION DOCUMENTS.
5. SHOP DRAWINGS AND SUBMITTALS FOR EACH ITEM SHALL BE REVIEWED NO MORE THAN TWICE. A THIRD SUBMITTAL ON AN ITEM MUST BE ACCOMPANIED BY A PURCHASE ORDER FROM THE CONTRACTOR OR IT SHALL BE REJECTED.
6. CIRCUMSTANCES NECESSITATING A REVISION TO THE PERMITTED DOCUMENTS NOT PROCESSED PRIOR TO INSTALLATION MAY NOT BE ACCEPTED. IF ACCEPTED IT MUST BE LEGIBLE, ACCURATE AND ACCOMPANIED BY A PURCHASE ORDER ORDER FROM THE CONTRACTOR. THE REVISION SHALL BE CHARGED TO THE CONTRACTOR AND DELIVERED TO HIM ON A C.O.D. BASIS.
7. SUBSTITUTIONS FROM THE BASE DESIGN OR VARIATIONS TO THE PERMITTED CONTRACT DOCUMENTS, WHETHER RESULTING FROM PROCESSED SHOP DRAWINGS OR NOT, THAT RESULT IN REQUIREMENTS IN LETTERS OF AUTHORIZATION AND/OR PERMIT CONTRACT DOCUMENT CHANGES MANDATED BY THE AUTHORITY HAVING JURISDICTION WILL NOT BE MADE BY THIS OFFICE UNLESS ACCOMPANIED BY A PURCHASE ORDER FROM THE CONTRACTOR, AND RELEASED ON A C.O.D. BASIS.
8. CONTRACTOR SHALL SUBMIT 5 COPIES OF EQUIPMENT LAYOUTS OF ALL ELECTRICAL SPACES, ROOMS, ETC. TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING EQUIPMENT OR INSTALLING CONDUITS, ETC. THE LAYOUTS SHALL CONSIST OF PLAN VIEWS AT A SCALE OF 1/2" = 1'0" AND ELEVATIONS FOR EACH SUCH SPACE OR ROOM, ETC.

LEGEND AND SYMBOLS

CO	CO SENSOR
NO2	NO2 SENSOR
—>	SUPPLY AIR (DIRECTION OF THROW)
—>	RETURN AIR/EXHAUST AIR
	NEW DUCTWORK
	BACK DRAFT DAMPER
	MANUAL VOLUME DAMPER
	MOTOR OPERATED DAMPER
MCD	MOTOR CONTROLLED DAMPER
EF	EXHAUST FAN
WMS	WIRE MESH SCREEN
OAL	OUTSIDE AIR LOUVER
EAL	EXHAUST AIR LOUVER

NOTE: HVAC LEGEND IS PROVIDED AS A GENERAL REFERENCE. SOME SYMBOLS SHOWN MAY NOT PERTAIN TO THIS PROJECT.

LOUVER SCHEDULE

SYMBOL	USE	TYPE	DESIGN MANUFACTURER & MODEL NO.	REMARKS	ACCESSORIES
EAL/ OAL	EXH./INTAKE AIR LOUVER	LOUVER	GREENHECK D9H-601D	FLORIDA PRODUCT APPROVAL NO.: FL10006861 NOA NO.: 12-0830.08 EXP. DATE: 11-1-17	WMS

NOTES:
1. GENERAL AND HVAC CONTRACTOR TO COORDINATE FINISH AND COLOR PRIOR TO ORDERING.
2. PROVIDE 0.5" STAINLESS STEEL MESH WIRE SCREEN.

STANDARD DUCT SEALING REQUIREMENTS

(BASED ON SMACNA)

SEAL CLASS	SEALING REQUIREMENTS	APPLICABLE STATIC PRESSURE CONDITION STANDARD
A	ALL TRANSVERSE JOINTS, LONGITUDINAL SEAMS, AND DUCT WALL PENETRATIONS	4" WG AND UP (1000 PA)
B	ALL TRANSVERSE JOINTS AND LONGITUDINAL SEAMS ONLY	3" WG (750 PA)
C	TRANSVERSE JOINTS ONLY	2" WG (500 PA)

TESTING AND BALANCING NOTES

1. AIR DISTRIBUTION SYSTEM TESTING, ADJUSTING AND BALANCING SHALL BE PERFORMED ACCORDING TO 2017 FLORIDA BUILDING CODE, ENERGY CONSERVATION, SECTION 504.2.2.
2. TEST, ADJUSTMENT AND SYSTEM BALANCE SHALL BE PERFORMED BY AN ENGINEER LICENSED IN THE STATE OR A COMPANY OR INDIVIDUAL HOLDING A CURRENT CERTIFICATION FROM A RECOGNIZED TESTING AND BALANCING ORGANIZATION. LICENSED MECHANICAL CONTRACTORS ARE ALLOWED TO TEST AND BALANCE SYSTEMS OF 15.0 TON OR LESS IN COOLING OR HEATING CAPACITY.
3. COOLING OR HEATING SYSTEM CAPACITIES OF 65,000 BTUH OR LESS ARE EXCEMPT FROM THE TEST AND BALANCE REQUIREMENT LISTED IN THE CODE.
4. ALL HVAC SYSTEMS SHALL BE BALANCED IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING STANDARDS. A WRITTEN BALANCE REPORT SHALL BE PROVIDED TO THE OWNER FOR HVAC SYSTEMS SERVING ZONES WITH A TOTAL AIR CONDITIONING AREA EXCEDING 5,000 SQFT OR OTHERWISE REQUESTED BY THE OWNER FOR SMALLER SPACES.
5. BALANCING PROCEDURES SHALL BE IN ACCORDANCE WITH THE NEBB PROCEDURAL STANDARDS, THE AABC NATIONAL STANDARDS, OR EQUIVALENT PROCEDURES.
6. UPON CONSTRUCTION COMPLETION, ALL REUSED MECHANICAL SYSTEMS SHALL BE REBALANCED. ALL GRILLES IN SERVICED AREAS SHALL BE BALANCED TO ACHIEVE REQUIRED DESIGN VALUES.

NOTE:
DRAWINGS/DETAILS ARE TO BE CONSIDERED DIAGRAMMATIC, NOT NECESSARILY SHOWING IN DETAIL OR TO SCALE ALL MINOR ITEMS UNLESS SPECIFIC DIMENSIONS ARE SHOWN. THE STRUCTURAL, ARCHITECTURAL AND SITE CONDITIONS SHALL GOVERN EXACT LOCATIONS. CONTRACTOR SHALL FOLLOW DRAWINGS IN LAYING OUT WORK, AND CHECK/COORDINATE DRAWINGS OF ALL TRADES

COORDINATION NOTES

1. A/C CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE HIS WORK FOR SIZE, LOCATION, CLEARANCE, ACCESS AND ELECTRICAL CHARACTERISTICS WITH ALL OTHER TRADES AND TO PROVIDE SHOP DRAWINGS TO THE ENGINEER FOR REVIEW BEFORE INSTALLATION OF DUCTWORK OR EQUIPMENT. SHOP DRAWING WILL INCLUDE BEAM OR STRUCTURE ELEVATION & REQUIRED EQUIPMENT ACCESS AREAS.
2. WALL, ROOF, AND CEILING OPENINGS INDICATED ON CONTRACTOR DRAWINGS ARE NOMINAL DIMENSIONS ONLY AND ALL DUCT, PIPE OR EQUIPMENT PENETRATIONS SHALL BE SLEEVED AND FIRE RATED AS REQUIRED, ADJUST OPENINGS
3. COORDINATE LOCATION OF CEILING DIFFUSERS, GRILLES AND REGISTERS IN THE FIELD WITH LIGHTS, SPRINKLERS AND ARCHITECTURAL ELEMENTS.
4. COORDINATE LOCATION OF A/C UNITS, THERMOSTATS, FANS AND DUCTWORK WITH BUILDING STRUCTURE AND OTHER TRADES SO THAT NO INTERFERENCES OCCUR.
5. IN GENERAL, DUCT OFFSETS HAVE NOT BEEN SHOWN. A/C CONTRACTOR TO COORDINATE THESE AS REQUIRED.
6. MECHANICAL PLANS IN GENERAL, ARE DIAGRAMMATIC IN NATURE, AND ARE TO BE READ IN CONJUNCTION WITH ARCH. PLUMBING, ELECTRICAL AND STRUCTURAL PLANS AND SHALL BE CONSIDERED AS ONE SET OF DOCUMENTS. DUCT AND PIPING OFFSETS, BENDS AND TRANSITIONS WILL BE REQUIRED TO PROVIDE AND INSTALL A COMPLETE FUNCTIONAL SYSTEM AND SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
7. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BIDDING, ORDERING, FABRICATION OR INSTALLATION OF MATERIALS OR EQUIPMENT.

REQUIREMENTS FOR BID SUBMITTALS

IF CONTRACTOR DECIDE TO SUBMIT A DIFFERENT EQUIPMENT MANUFACTURER-MODEL SUBSTITUTION SHALL ASSURE EQUAL OR BETTER ENERGY AND INDOOR ENVIRONMENTAL PERFORMANCE WHEN COMPARED TO THE EQUIPMENT SPECIFIED ON THE ORIGINAL CONSTRUCTION DOCUMENT.

THE PROPOSED SUBSTITUTION SHALL ALSO BE CONSISTENT WITH THE FOLLOWING REQUIREMENTS:
- AIR FLOW
- DIMENSIONS
- ELECTRICAL DATA
- WEIGHT
- ANY SPECIAL NOTE OR ACCESSORY LISTED ON SCHEDULES
- NO COST IMPACT

MINI SPLIT SYSTEM SCHEDULE

AIR HANDLING UNIT

MARK	BRAND/ZONE MODEL NO.	CFM TOTAL/OA	MAX FLAS	MCA A	MEATING TEMP	FLA A	WT LBS
DFAC-1,2,3,4,6,7	CARRIER 40MGQB18C---3	290/200/420	60	N/A	N/A	5.5/9.0	0.15	40
DFAC-5	CARRIER 40MAQD24B---3	420/820/870	---	N/A	N/A	6.0/26.0	0.40	40

AIR COOLED CONDENSING UNIT / SYSTEM DATA

MARK	BRAND MODEL NO.	WT LBS	ELECTRICAL VOLTS-PH-HZ	COMPRESSOR QTY.	TONS	RLA	FAN QTY	FLA	MCA A	MAX FUSE A	CAPACITY TEMP. Range	SMPH	EER/ SEER	REF. LINES SUCTION	LIQUID
DFCU-1,2,3,4,6,7	CARRIER 38MAQB18---3	118	208/230-1-60	1	1.5	12.3	1	–	18.0	25.0	4.5/18.0	11.2/12.6	12.5/ 20.0	1/2"	1/4"
DFCU-5	CARRIER 38MAQB24---3	137.6	208/230-1-60	1	2.0	---	1	–	15	20.0	5.5/24.5	---/---	12.5/ 20.0	5/8"	3/8"

SPLIT SYSTEM NOTES:
1. OUTSIDE AIR DESIGN CONDITIONS: 91TDB – 79TDB.
2. PROVIDE A/C UNITS WITH PROGRAMMABLE HEATING AND COOLING THERMOSTAT WITH ON-OFF SWITCH SUB-BASE, (WIRED AND INSTALLED BY ELECTRICAL CONTRACTOR)
3. PROVIDE WIRED PROGRAMMABLE REMOTE CONTROL MODELL #SCAONOIAAAA.
4. PROVIDE PROPER VIBRATION ISOLATORS AS PER ISOLATION MANUFACTURER'S RECOMMENDATIONS. PROVIDE FILTER RACK UNDER AHU. RETURN AIR THRU LOUVERED DOOR UNLESS OTHERWISE NOTED.
5. INSTALL CHEMICAL DRYER AND STRAINER IN REFRIGERANT LIQUID LINES.
6. PROVIDE BUILT-IN DISCONNECT AND BUILT-IN CONDENSATE PUMP.
7. CONDENSING UNITS TO BE PROVIDED WITH TIME DELAY AND PHASE LOSS PROTECTION
8. MATERIALS:
   A. REFRIGERANT PIPING: SHALL BE TYPE L SOFT DRAWN COPPER TUBING, DEHYDRATED FOR REFRIGERANT USE. SIZED AS SHOWN ON DRAWINGS OR AS PER AIR CONDITIONING EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
   B. INSULATION: REFRIGERANT SUCTION PIPING AND CONDENSATE PIPES SHALL BE INSULATED WITH 3/4" THICK FOAMED PLASTIC INSULATION, FIRE RETARDANT TYPE. INSULATION SHALL BE INSTALLED IN PIPING BEFORE ASSEMBLY. NO SPLIT INSULATION WILL BE ACCEPTABLE. SEAL JOINTS WITH MANUFACTURER'S APPROVED ADHESIVE AND GREY TAPE.
   C. PROVIDE OWNER WITH ALL PERTINENT DOCUMENTATION FOR PLANIFICATION AND/OR MAINTENANCE PURPOSES AND TO ALLOW UNITS TO FUNTION PROPERLY AS PER MANUFACTURER RECOMMENDATIONS.
9. POWER FOR DFAC-1,2,3,4 PROVIDED BY OUTDOOR (DFCU-1,2,3,4) UNIT.

ENERGY RECOVERY VENTILATOR

MARK	SELECTION BASED ON MAKE	MODEL NO.	LOCATION	VOLTAGE	MCA (AMPS)	MOCP (AMPS)	WEIGHT (LB.)	OUTDOOR AIR FAN VOLUME (CFM)	ESP (IN WG)	FRPM	MOTOR HP	DRIVE TYPE	EAT	LAT	EXHAUST AIR FAN VOLUME (CFM)	ESP (IN WG)	FRPM	MOTOR HP	DRIVE TYPE	EAT	LAT	WHEEL EFFICIENCY
ERV-1	GREENHECK	ECV-30H	RESTRMS	208/60/1	19.9	30	----	2650	0.50	1005	1.5	DIRECT	91/79	79/67	2650	1.00	1442	2.1	DIRECT	80.9	–	49.4
ERV-2	GREENHECK	ECV-20H	RESTRMS	208/60/1	11.8	15	----	1450	0.50	1070	3/4	DIRECT	91/79	79/67	1450	1.0	1362	1.5	DIRECT	80.9		53.7

GENERAL ERV NOTES:

1. PROVIDE MOTOR STARTERS AND DISCONNECTS AS REQUIRED.
2. PROVIDE BACKDRAFT FOR EXHAUST SIDE.
3. FIELD ADJUST OPENINGS WITH STRUCTURE.
4. COORDINATE WITH ELECTRICAL CONTRACTOR BEFORE BIDDING OR ORDERING ANY EQUIPMENT.
5. SEE GENERAL, AIR CONDITIONING, DUCTWORK, AND COORDINATION NOTES FOR OTHER FIELD SUPPLIED ITEMS.
6. PROVIDE CORROSION RESISTANT FASTENERS.
7. PROVIDE FACTORY FAN MOUNTING SUPPORTS–LEGS, CURBS, HANGING CLIPS, ETC..
8. PROVIDE BIRDSCREEN ON ALL INLETS AND OUTLETS.
9. MOTORS MOUNTED ON ADJUSTABLE PLATE
10. ERV'S SHALL BE CONTROLLED BY BMS WHEN BUILDING IS IN OCCUPIED MODE, ERV'S SHALL OPERATE. WHEN BUILDING IS IN UNOCCUPIED MODE, ERV'S SHALL DEACTIVATE.
11. ASSOCIATED MOTORIZED DAMPERS SHALL OPEN UPON ACTIVATION OF UNIT AND CLOSE UPON DEACTIVATION OF UNIT. MOTORIZED DAMPERS SHALL FAIL OPEN.
12. HORESTIC PAINT.
13. PROVIDE MOTORIZED CONTROL DAMPER.

AIR DISTRIBUTION SCHEDULE

SYMBOL	USE	TYPE	DESIGN MANUFACTURER & MODEL NO.	REMARKS	ACCESSORIES
OAL	O/A INTAKE LOUVER	LOUVER	RUSKIN EME320MD	---	BIRD SCREEN
EG	EXHAUST GRILLE	GRILLES	4FL	---	---
RG	RETURN GRILLE	GRILLES	4FL	---	---
CD	SUPPLY AIR	DIFFUSERS	TITUS 250-AA	---	---

GENERAL AND HVAC CONTRACTOR TO COORDINATE FINISH AND COLOR OF ALL AIR DISTRIBUTION PRODUCTS PRIOR TO ORDERING. PROVIDE DUCT MOUNTED VOLUME DAMPERS FOR AIR BALANCE.

SPLIT SYSTEM SCHEDULE

AIR HANDLING UNIT

MARK	AREA SERVED	MODEL NO.	CFM TOTAL	CFM OA	ESP IWG	FAN HP	HEATER KW @240	HEATER STEP	WT LBS	AHU MCA	AHU FUSE	AHU VOLTS-PH-HZ	DIMENSIONS L X W X H
AHU-1	WOMEN RESTRM	CARRIER FX4CNB006	1600	–	1.0	3/4	10	1	207	53.8	60	208-1-60	22 X 25 X 60
AHU-2	MEN RESTRM	CARRIER FX4CNF003L00	1000	–	1.0	1/2	5	1	150	5.4	15	208-1-60	22 X 22 X 54

AIR COOLED CONDENSING UNIT / SYSTEM DATA

MARK	MODEL NO.	WT LBS	ELECTRICAL VOLTS-PH-HZ	COMPRESSOR QTY.	RLA	LRA	FAN QTY	FLA	UNIT MCA	MAX FUSE	CAPACITY TMBH	SEER SMBH		REF. LINES SUCTION	LIQUID	DIMENSIONS L X W X H
CU-1	24ACB748-3	277	208-1-60	1	21.2	96	1	1.3	27.8	40	49.1	36.2	17.0	--	--	35 X 35 X 40
CU-2	24ACC636A003	204	208-1-60	1	12.8	64	1	0.70	16.7	25	28.14	20.52	16.0	--	--	32 X 32 X 34

SPLIT SYSTEM NOTES:
1. OUTDOOR DESIGN CONDITIONS: 94TDB – 67TWB (MIAMI, FL).
2. PROVIDE A/C UNITS WITH PROGRAMMABLE COOLING/HEATING THERMOSTAT CONTROLS. CONTRACTOR TO VERIFY OWNER PREFERENCE ON TYPE OF THERMOSTAT.
3. PROVIDE CONDENSING UNITS W/ SEACOAST CORROSION PROTECTION (LUVATA OR EQUIVALENT).
4. SIZE AND RUN REFRIGERANT PIPING AS MANUFACTURER'S LATEST PUBLISHED RECOMMENDATIONS.
5. PROVIDE LONG-LINE ACCESORIES FOR TUBING SETS BETWEEN 80 AND 250 FT.
6. PROVIDE PROPER VIBRATION ISOLATORS AS PER ISOLATION MANUFACTURER'S RECOMMENDATIONS.
7. INSULATE REFRIGERANT SUCTION LINE WITH 3/4" FIRE RETARDANT ARMAFLEX.
8. PROVIDE FILTER RACK W/ FILTER FOR ALL AHU'S.
9. INSTALL CHEMICAL DRYER AND STRAINER IN REFRIGERANT LIQUID LINES.
10. PROVIDE BUILT-IN DISCONNECT WITH ALL AIR HANDLING UNITS.
11. PROVIDE AUXILIARY CONDENSATE FLOAT SWITCH.
12. PROVIDE HURRICANE TIE-DOWN KITS FOR CONDENSING UNITS.

* UNIT SIZE IS 1.5 TON, BUT UNDER LOW SETTING THIS WILL PERFOM AS A 1 TON UNIT. THIS UNIT WILL PERFORM IN LOW SETTING.

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REVISIONS

NO.	DATE:	BY	CHK'D	DESCRIPTION

PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS
MECHANICAL INDEX, SYMBOL, LEGEND AND NOTES
501 SEABREEZE BLVD. FT LAUDERDALE

SHEET NO. M-1.0 X
TOTAL: X
CAD FILE:
DRAWING FILE NO.

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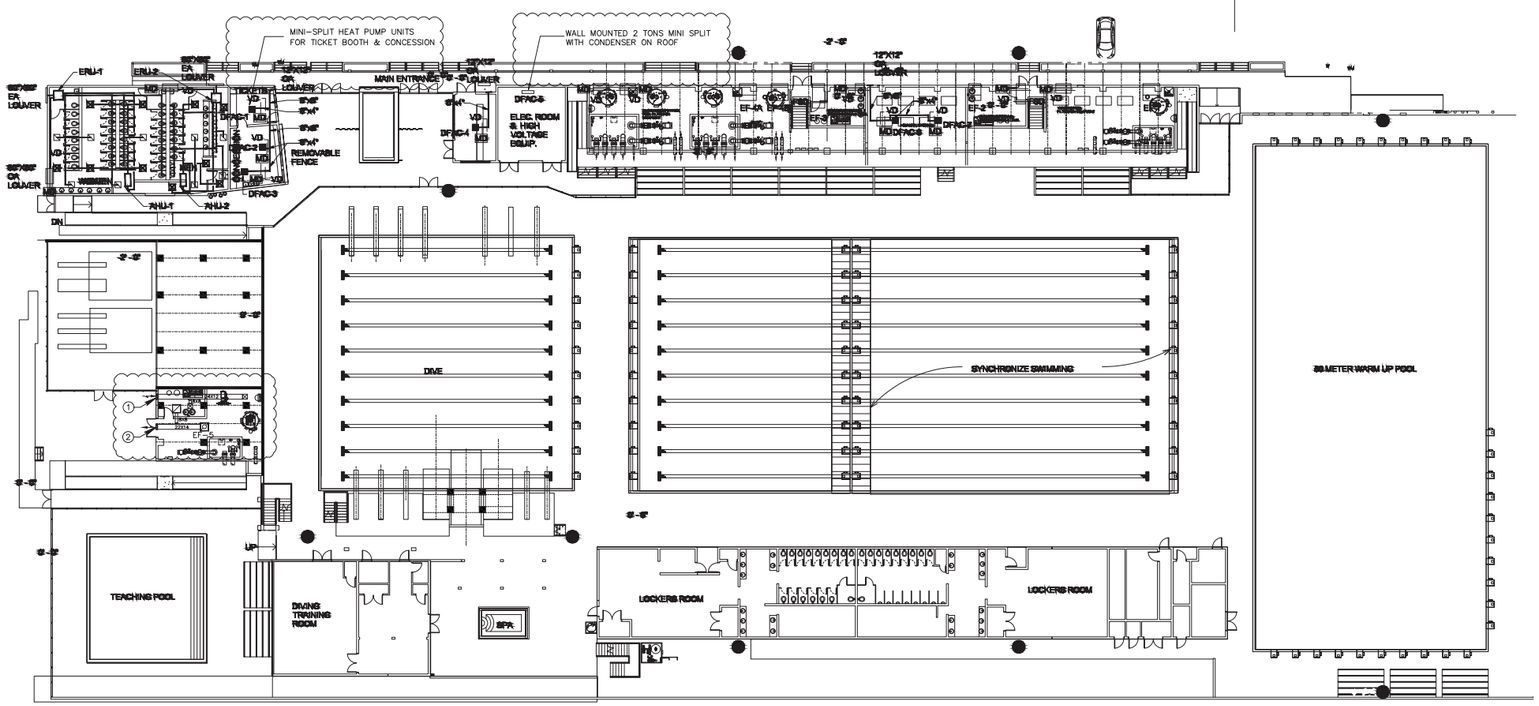
DESIGN DRAWINGS - M-1.1 - Overall Mechanical Plan

REFER TO SHEET A-4 AND S-2 FOR EQUIPMENT BUILDING LAYOUT UNDER THE COMPETITION POOL GRANDSTANDS TO CONSOLIDATE THE FILTRATION SYSTEM INTO ONE ROOM AND CHEMICAL ROOMS INTO ONE ROOM.

GENERAL NOTE:
A. PROVIDE SOUND ENCLOSURE FOR CONDENSING UNIT ON ROOF.

KEY NOTES:
1. MAKE AIR LOUVER 1900 CFM
2. EXHAUST AIR 2100 CFM



OVERALL MECHANICAL POOL AND SPA SITE PLAN

1/16"= 1'- 0" (1)

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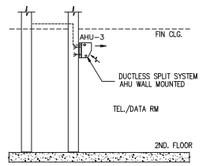
PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS
OVERALL MECHANICAL POOL AND SPA SITE PLAN
501 SEABREEZE BLVD. FT LAUDERDALE

SHEET NO. M-1.1 X
TOTAL: X
CAD FILE:
DRAWING FILE NO.

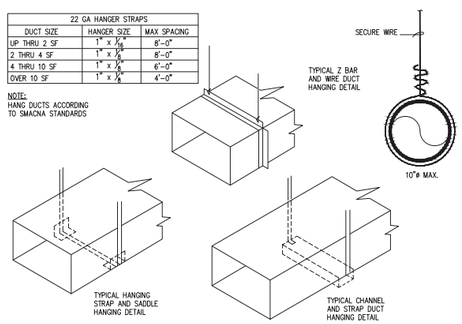
DESIGN DRAWINGS - M-1.2 - Mechanical Details



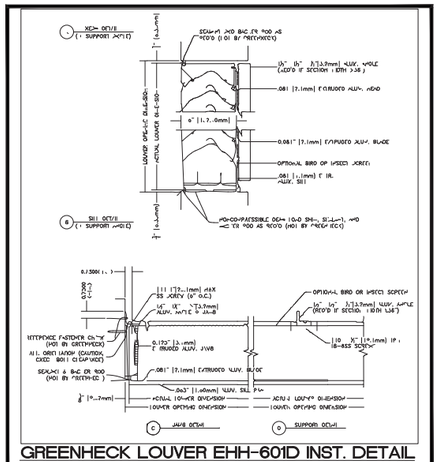
MINI-SPLIT HIGH ON WALL DETAIL
N.T.S.

22 GA HANGER STRAPS		
DUCT SIZE	HANGER SIZE	MAX SPACING
UP THRU 2 SF	1" x 1/16"	8'-0"
2 THRU 4 SF	1" x 1/8"	8'-0"
4 THRU 10 SF	1" x 1/8"	6'-0"
OVER 10 SF	1" x 1/8"	4'-0"

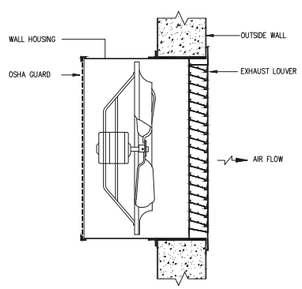
NOTE:
HANG DUCTS ACCORDING TO SMACNA STANDARDS



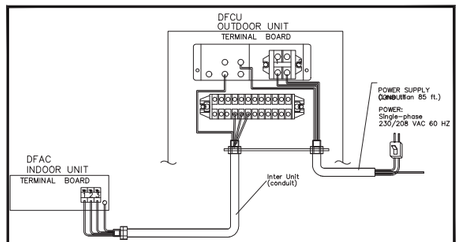
METHODS OF HANGING DUCTS DETAIL
N.T.S.



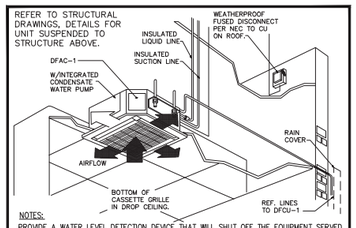
GREENHECK LOUVER EHH-601D INST. DETAIL
N.T.S.



WALL FAN MOUNTING DETAIL
N.T.S.

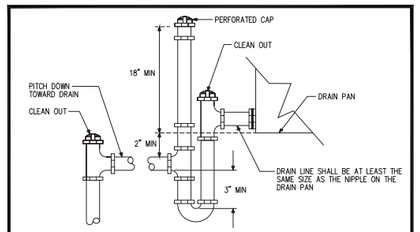


SCHEMATIC MINI-SPLIT UNIT WIRING
N.T.S.

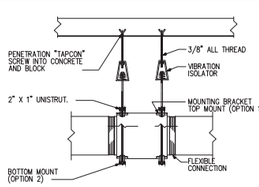


NOTES:
PROVIDE A WATER LEVEL DETECTION DEVICE THAT WILL SHUT OFF THE EQUIPMENT SERVED PRIOR TO OVERFLOW OF THE PAN. THE WATER LEVEL DETECTION DEVICE SHALL CONNECT TO THE DRAIN PAN AT A HIGHER LEVEL THAN THE PRIMARY DRAIN CONNECTION.

AHU CASSETTE INSTALLATION DETAIL
N.T.S.



TYPICAL CONDENSATE DRAIN TRAP
N.T.S.

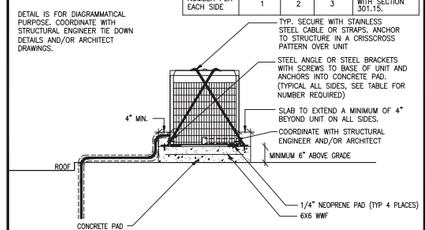


INLINE FAN EXHAUST DETAIL
N.T.S.

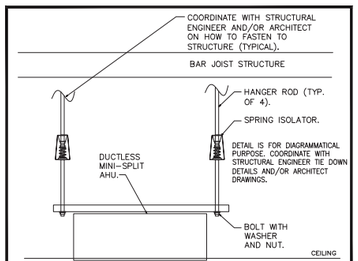
NOTE:
INSTALLATION SHALL COMPLY WITH 2014 FMC, 301.15.

UNIT SIDE / SCREWS	LESS THAN 12"	12" TO 24"	24" TO 36"	MORE THAN 36" OR ABOVE 5 TON.
NUMBER PER EACH SIDE	1	2	3	SHALL COMPLY WITH SECTION 301.15.

DETAIL IS FOR DIAGRAMMATICAL PURPOSE. COORDINATE WITH STRUCTURAL ENGINEER TIE DOWN DETAILS AND/OR ARCHITECT DRAWINGS.



DFCU-1 INSTALLATION DETAIL
N.T.S.



AHU CASSETTE HANGING DETAIL
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PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS
MECHANICAL DETAIL
501 SEABREEZE BLVD. FT LAUDERDALE

SHEET NO.	
M-1.2	X
TOTAL:	X
CAD FILE:	
DRAWING FILE NO.	

DESIGN DRAWINGS - P-1.0 - Plumbing Notes and Schedules

SHOCK ARRESTOR SCHEDULE

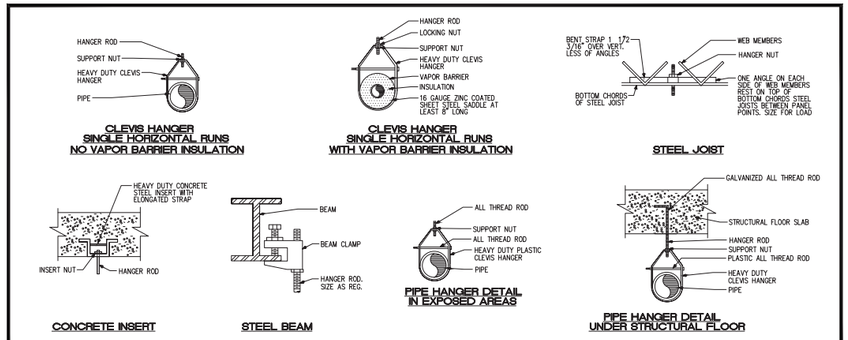
P.D.I. DESIGNATION	MANUF. & MODEL	FIXTURE UNITS	CONNECTION	
A	SIOUX CHIEF 652–A	1–11	1/2"	
B	SIOUX CHIEF 653–B	12–32	3/4"	
C	SIOUX CHIEF 654–C	33–60	1"	

SIOUX CHIEF SHOCK ARRESTORS APPROVED FOR INSTALLATION WITH NO ACCESS DOOR REQUIRED. CONFORMS TO ANSI/ASSE 1010 STANDARDS.

SLOPE OF HORIZ. DRAINAGE PIPE

SIZE (inches)	MINIMUM SLOPE (inch per foot)	
2–1/2 or less	1/4	
3 to 6	1/8	
8 or larger	1/16	

TABLE 704.1 OF THE FLORIDA PLUMBING CODE 2017



PIPE SUPPORT DETAILS (FOR SANITARY & WATER PIPING)
SCALE: N.T.S.

PLUMBING GENERAL NOTES

1. ALL WORKMANSHIP AND MATERIAL SHALL BE IN STRICT ACCORDANCE WITH THE FBC–PLUMBING 2017 EDITION, ALL APPLICABLE LOCAL CODES, RULES AND ORDINANCES.
2. CONTRACTOR SHALL VISIT THE JOB SITE AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS.
3. ALL MATERIAL SHALL BE NEW.
4. ALL WORK SHALL BE PERFORMED BY A LICENSED PLUMBING CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE.
5. ALL EXCAVATION AND BACKFILL AS REQUIRED FOR THIS PHASE OF CONSTRUCTION SHALL BE A PART OF THIS CONTRACT.
6. REQUIRED INSURANCE SHALL BE PROVIDED BY THE CONTRACTOR FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF WORK.
7. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, INSPECTION AND TESTS.
8. DRAWINGS ARE DIAGRAMMATIC. DO NOT SCALE FOR THE EXACT LOCATION OF FIXTURES, PIPING, EQUIPMENT, ETC. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LAYOUT/LOCATION.
9. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION. REPORT ANY DISCREPANCY TO ENGINEER/ARCHITECT PRIOR TO BEGINNING CONSTRUCTION.
10. VERIFY LOCATION, SIZE, INVERTS OF ALL EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
11. WATER PIPING SHALL BE TYPE "L" COPPER FOR 2" AND UNDER AND TYPE "K" COPPER FOR 2–1/2" AND ABOVE. ALL UNDERGROUND WATER PIPING SHALL BE TYPE "K" COPPER.
12. SOIL, WASTE AND VENT PIPING SHALL BE CAST IRON NO HUB 301–72 ABOVE GRADE, MECHANICAL JOINTS W/S.S. CLAMPS BELOW GRADE. PVC SHALL BE ACCEPTABLE AS SUBSTITUTION.
13. AIR CONDITIONING CONDENSATE DRAIN PIPING SHALL BE COPPER DRAIN WASTE AND VENT PIPING AND FITTINGS. INSULATE ALL CONDENSATE PIPING EXCEPT UNDERGROUND AND ELECTRIC HEAT WRAP WHERE EXPOSED TO FREEZING CONDITIONS.
14. INSULATE ALL HOT WATER, HOT WATER RETURN, RAINWATER & CONDENSATE LINES AS FOLLOWS: HW SUPPLY AND RETURN – 1" THICK PREFORMED FIBERGLASS PIPE INSULATION W/ FACTORY JACKET. HORIZONTAL STORM DRAIN PIPING – 1 1/2" THICK PREFORMED FIBERGLASS PIPE INSULATION W/ FACTORY JACKET. CONDENSATE PIPING – 3/4" ARMAFLEX PREFORMED.
15. ALL FIXTURES MUST BE PROVIDED WITH READILY ACCESSIBLE STOPS AND APPROPRIATELY MARKED ACCESS PANELS. COORDINATE LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION.
16. FURNISH AND INSTALL APPROVED AIR CHAMBERS AT EACH PLUMBING FIXTURE AND P.D.I. APPROVED SHOCK ARRESTORS ON MAIN LINES ON RISERS. (W–5 SERIES)
17. DIELECTRIC COUPLINGS ARE REQUIRED BETWEEN ALL DISSIMILAR METAL IN PIPING AND EQUIPMENT CONNECTIONS.
18. ISOLATE COPPER PIPE FROM HANGER OR SUPPORTS WITH ISOLATOR PAD (HAIR FELT LINING).
19. ALL FIRE RATED FLOOR AND WALL PENETRATIONS SHALL BE PROPERLY PROTECTED FROM FIRE, SMOKE AND WATER PENETRATION BY FILLING VOIDS BETWEEN PIPE AND WALL/FLOOR SLEEVES WITH FIRE RATED FOAM, CHASE TECHNOLOGY CORP.– CTC PR–855 OR 3M, CP–25 CAULKING OR 303 PUTTY, TO ACHIEVE SAME RATING AS WALLS OR FLOORS.
20. CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR FROM DATE OF ACCEPTANCE BY OWNER. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED.
21. PROVIDE 1/2" TRAP PRIMER LINE FOR ALL FLOOR DRAINS FROM THE NEAREST PLUMBING FIXTURE.
22. PROVIDE ACCESS PANELS FOR ALL CONCEALED VALVES AND ALL WATER HAMMER ARRESTERS. ACCESS PANELS IN RATED WALLS MUST MAINTAIN THE SAME RATING AND MUST MATCH THE FINISH OF THE WALL IN WHICH IT IS INSTALLED.
23. PROVIDE STAINLESS STEEL POLISHED FLAT ACCESS COVER PLATE AND CLEANOUT PLUG OR ACCESS PANEL FOR ALL WALL CLEANOUTS – ZURN #ZS1469 OR APPROVED EQUAL.
24. NO COMBUSTIBLE MATERIAL TO BE USED IN MECHANICAL ROOMS OR IN CEILING SPACES WHERE USED AS RETURN AIR PLENUMS.
25. NO WATER, SANITARY OR DRAINAGE PIPING PERMITTED IN ELECTRICAL OR ELEVATOR ROOMS.
26. DRAINS SHALL BE AS FOLLOWS: (ZURN)
    BATHROOM AREAS 6"x6" SQUARE: #ZN415SZ–P (FD1)
27. INTERIOR FLOOR CLEANOUTS SHALL BE ZURN #Z1400–SZ (WITH SQUARE TOP)
28. ALL CONTROL VALVES SHALL BE TAGGED AND MARKED. A REPRODUCIBLE DIAGRAM LOCATING ALL VALVES SHALL BE PROVIDED FOR OWNER/OPERATOR.
29. SCHEDULE 40 PVC D.W.V MAY BE USED ON SANITARY, STORM DRAINS AND CONDENSATE LINES WHERE LOCAL CODE AND ORDINANCES WILL ALLOW. PVC MAY NOT BE USED IN ANY MECHANICAL ROOMS OR IN ANY RETURN PLENUMS AND MAY NOT PENETRATE ANY RATED WALL OR FLOOR.
30. ALL METALLIC PIPING, FITTINGS AND HANGERS EXPOSED TO CORROSIVE CONDITIONS SHALL HAVE A PROTECTIVE COATING THAT RESIST CORROSION.
31. ALL HOSE BIBBS SHALL BE CHROME PLATED 3/4" SOLID FLANGE THREADED HOSE AND LOOSE KEY W/ VACUUM BREAKER ZURN #BFP–9 AND MOUNTED PER ARCHITECTURAL DRAWINGS.
32. ALL FIRE MAINS, HOT & COLD WATER PIPES, HOT WATER RETURN PIPING AND CONDENSATE PIPING SHALL HAVE IDENTIFICATION AND FLOW DIRECTION BANDS.
33. CONTRACTOR SHALL KEEP A SET OF AS–BUILTS DWGS. ON THE JOB SITE AT ALL TIMES AND DELIVER A SET OF UP TO DATE AS–BUILTS TO THE ENGINEER AND OWNER AT THE COMPLETION OF THE PROJECT.

PLUMBING INDEX

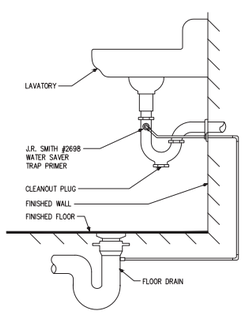
	DRAWING	REV.		
1	P–1.0 PLUMBING INDEX, SYMBOL LEGEND AND NOTES.			
2	P–1.1 OVERALL PLUMBING POOLS AND SPA SITE LAYOUT			
3	P–1.2 NEW PUBLIC BATHROOMS & CONCESSION ROOM – DOM. WTR. AND SAN. PLANS			
4				
5				
6				
7				
8				

SHOP DRAWING REQUIREMENTS

1. CONTRACTOR SHALL SUBMIT 6 COPIES OF COMPLETED SHOP DRAWINGS, TOGETHER AT ONE TIME AND MUST COME THROUGH THE ARCHITECT. ALL SUBMITTALS SHALL BE MADE WITHIN 30 DAYS OF NOTICE TO PROCEED.
2. ALL SUBMITTALS MUST CLEARLY INDICATE EXACTLY WHICH ITEMS ARE BEING PROPOSED FOR USE. IF NOT, THE SUBMITTAL SHALL BE REJECTED.
3. SUBSTITUTIONS SHALL BE LIMITED TO ONE OF THE ALTERNATES LISTED IN THE CONSTRUCTION DOCUMENTS. PRODUCTS CONSIDERED TO BE EQUAL SHALL BE REVIEWED AND ACCEPTED BY THE ENGINEER, ARCHITECT AND OWNER (10) DAYS PRIOR TO BID DATE.
4. THE CONTRACTOR ASSUMES ALL DESIGN RESPONSIBILITY AND ALL FINANCIAL RISKS FOR PROCEEDING PRIOR TO SHOP DRAWINGS PROCESSING, AND ON ANY ITEM OR WORK THAT IS AT VARIANCE TO THE CONSTRUCTION DOCUMENTS.
5. SHOP DRAWINGS AND SUBMITTALS FOR EACH ITEM SHALL BE REVIEWED NO MORE THAN TWICE. A THIRD SUBMITTAL ON AN ITEM MUST BE ACCOMPANIED BY A PURCHASE ORDER FROM THE CONTRACTOR OR IT SHALL BE REJECTED.
6. CIRCUMSTANCES NECESSITATING A REVISION TO THE PERMITTED DOCUMENTS NOT PROCESSED PRIOR TO INSTALLATION MAY NOT BE ACCEPTED. IF ACCEPTED IT MUST BE LEGIBLE, ACCURATE AND ACCOMPANIED BY A PURCHASE ORDER ORDER FROM THE CONTRACTOR. THE REVISION SHALL BE CHARGED TO THE CONTRACTOR AND DELIVERED TO HIM ON A C.O.D. BASIS.
7. SUBSTITUTIONS FROM THE BASE DESIGN OR VARIATIONS TO THE PERMITTED CONTRACT DOCUMENTS, WHETHER RESULTING FROM PROCESSED SHOP DRAWINGS OR NOT, THAT RESULT IN REQUIREMENTS IN LETTERS OF AUTHORIZATION AND/OR PERMIT CONTRACT DOCUMENT CHANGES MANDATED BY THE AUTHORITY HAVING JURISDICTION WILL NOT BE MADE BY THIS OFFICE UNLESS ACCOMPANIED BY A PURCHASE ORDER FROM THE CONTRACTOR, AND RELEASED ON A C.O.D. BASIS.
8. CONTRACTOR SHALL SUBMIT 5 COPIES OF EQUIPMENT LAYOUTS OF ALL ELECTRICAL SPACES, ROOMS, ETC. TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING EQUIPMENT OR INSTALLING CONDUITS, ETC. THE LAYOUTS SHALL CONSIST OF PLAN VIEWS AT A SCALE OF 1/2" = 1'0" AND ELEVATIONS FOR EACH SUCH SPACE OR ROOM, ETC.

PLUMBING SYMBOL LEGEND

SYMBOL	DESCRIPTION
	SANITARY LINE
	VENT LINE
SD	STORM DRAIN LINE
	SAFEWASTE LINE
CD	CONDENSATE LINE
	COLD WATER LINE
	HOT WATER LINE
	HOT WATER RETURN
G	GAS LINE
	GATE VALVE
	WATER HAMMER ARRESTOR
	FLOOR PENETRATION
FD	FLOOR DRAIN
RD	ROOF DRAIN
RD–1	PVC ROOF DRAIN (BODY AND DOME)
CO	CLEAN OUT
WCO	WALL CLEANOUT
FCO	FLUSH CLEAN OUT
COGG	CLEANOUT ON GRADE
VTR	VENT THRU ROOF
RWL	RAIN WATER LEADER



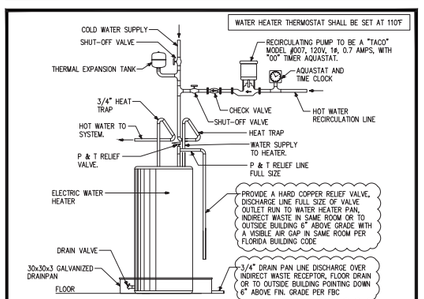
TRAP PRIMER DETAIL
SCALE: N.T.S.

PLUMBING FIXTURE SCHEDULE

NAME	FIXTURE	MODEL #	ACCESSORIES
LAV–1	WALL HUNG LAVATORY ADA	AMERICAN STANDARD LUCERNE #0355.12	SLOAN QT–1320 FAUCET 3/8" FLEXIBLE SUPPLY PIPE, MCGUIRE ANGLE STOPS, ADJUSTABLE "P" TRAP WITH MCGUIRE 155WC GRID DRAIN
LAV	COUNTERTOP LAVATORY	AMERICAN STANDARD AQUALYN MODEL # 0475.047	SLOAN QT–1320 FAUCET 3/8" FLEXIBLE SUPPLY PIPE, MCGUIRE ANGLE STOPS, ADJUSTABLE "P" TRAP WITH MCGUIRE 155WC GRID DRAIN
WC	WALL HUNG FLUSH VALVE WATER CLOSET	AMERICAN STANDARD AFWALL MILLENIUM 1.1 GPF FLUSHOMETER TOILET SYSTEM MANUAL FLUSH VALVE MODEL #2856.111 15" HEIGHT VITREOUS CHINA	AMERICAN STANDARD #5309.110.020 EXTRA HEAVY DUTY TOILET SEAT, EXPOSED MANUAL FLUSH VALVE INCLUDED. PROVIDE FLOOR FLANGE WITH ALL BRASS BOLTS AND RUBBER GASKET. CARRIER: ZURN ADJUSTABLE HORIZONTAL BACK TO BACK SIPHON JET–NOT HUB MODEL #Z–1203–ND4 CARRIER: ZURN ADJUSTABLE HORIZONTAL SIPHON JET NO–HUB MODEL # Z1203–N
WC–1	WALL HUNG FLUSH VALVE WATER CLOSET ADA	AMERICAN STANDARD AFWALL MILLENIUM 1.1 GPF FLUSHOMETER TOILET SYSTEM MANUAL FLUSH VALVE MODEL #2856.111 17" TO THE FINISHED FLOOR VITREOUS CHINA	AMERICAN STANDARD #5309.110.020 EXTRA HEAVY DUTY TOILET SEAT, EXPOSED MANUAL FLUSH VALVE INCLUDED. PROVIDE FLOOR FLANGE WITH ALL BRASS BOLTS AND RUBBER GASKET. CARRIER: ZURN ADJUSTABLE HORIZONTAL BACK TO BACK SIPHON JET–NOT HUB MODEL #Z–1203–ND4 CARRIER: ZURN ADJUSTABLE HORIZONTAL SIPHON JET NO–HUB MODEL # Z1203–N
UR	URINAL	AMERICAN STANDARD "ALLBROOK" MODEL #6541.511 MANUAL FLUSH VALVE WALL MOUNTED W/ 3/4" INLET SPUD. VITREOUS CHINA	URINAL FAUCET (INCLUDED) 1.0 GPF EXPOSED MANUAL FLUSH VALVE JR SMITH FLOOR MOUNTED CARRIER, ADA MOUNTING HIGH.
DF	DRINKING FOUNTAIN BI–LEVEL ADA STAINLESS STEEL	ELKAY MODEL #EDFPBM117K NON–FILTERED NON–REFRIGERATED	1/2" SUPPLY PIPES, MCGUIRE ANGLE STOPS & ADJUSTABLE "P" TRAP".
3–COMP SK	THREE COMPARTMENT SINK STAINLESS STEEL	JUST MODEL # TLN–1843–A–GR FAUCET PUNCHING OVER EACH PARTITION	FAUCET: (2) AMERICAN STANDARD MONTERREY TWO–HANDLE TOP–MOUNT RIGID/SWIVEL GOOSENECK SPOUT WITH 8" REACH MODEL # 6409.180
MOP/SK	MOP SINK	FIAT #MSB2424	WALL GUARD – WG ZURN Z–841 M–RC DRAIN – SD
FD	FLOOR DRAIN	WATTS FD–100–A EPOXY COATED CAST IRON FLR DRAIN	REVERSIBLE CLAMPING COLLAR WITH ADJUSTABLE NICKEL BRONZE STRAINER AND NO HUB (STANDARD) OUTLET.
FS	FLOOR SINK	ZURN MODEL FD2376–NH3–H	HALF RATE, NICKALOY TOP AND SEDIMENT BUCKET.

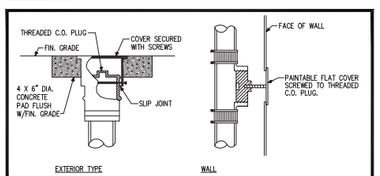
FIXTURE	WATER PIPE SIZE	NOMINAL SAN. SIZE	MAXIMUM FLOW RATES
WATER CLOSET (F.V.)	1"	3"	1.28 GPF
LAVATORY	1/2"	1 1/4"	0.5 GPM
SINK	1/2"	1 1/2"	1.5 GPM
ELECTRIC WATER COOLER	1/2"	1 1/4"	0.5 GPM
MOP SINK	1/2"	3"	2.0 GPM
URINAL	3/4"	2"	0.5 GPF

NOTE:
1. TRAP INSULATION TO MEET ADA REQUIREMENTS AND COMPLY WITH ASTM E–84 PLUMBEREX MODEL#396 OR EQUAL.
2. ALL FIXTURES SHALL COMPLY WITH TABLE 604.4 OF THE F.P.C.–2017
3. ALL WALL HUNG PLUMBING FIXTURES SHALL COMPLY W/ FBC

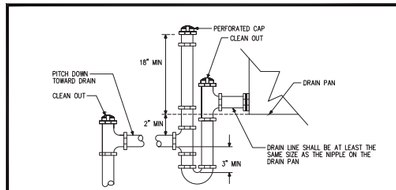


MANUFACTURER	MODEL	GALS.	VOLTAGE	KW	PHASE	REMARKS
LOCHINVAR	EST050KD	50	208	4.5	3	

WATER HEATER DETAIL
SCALE: N.T.S.



TYPICAL CLEANOUT DETAILS
SCALE: N.T.S.



TYPICAL CONDENSATE TRAP
SCALE: N.T.S.

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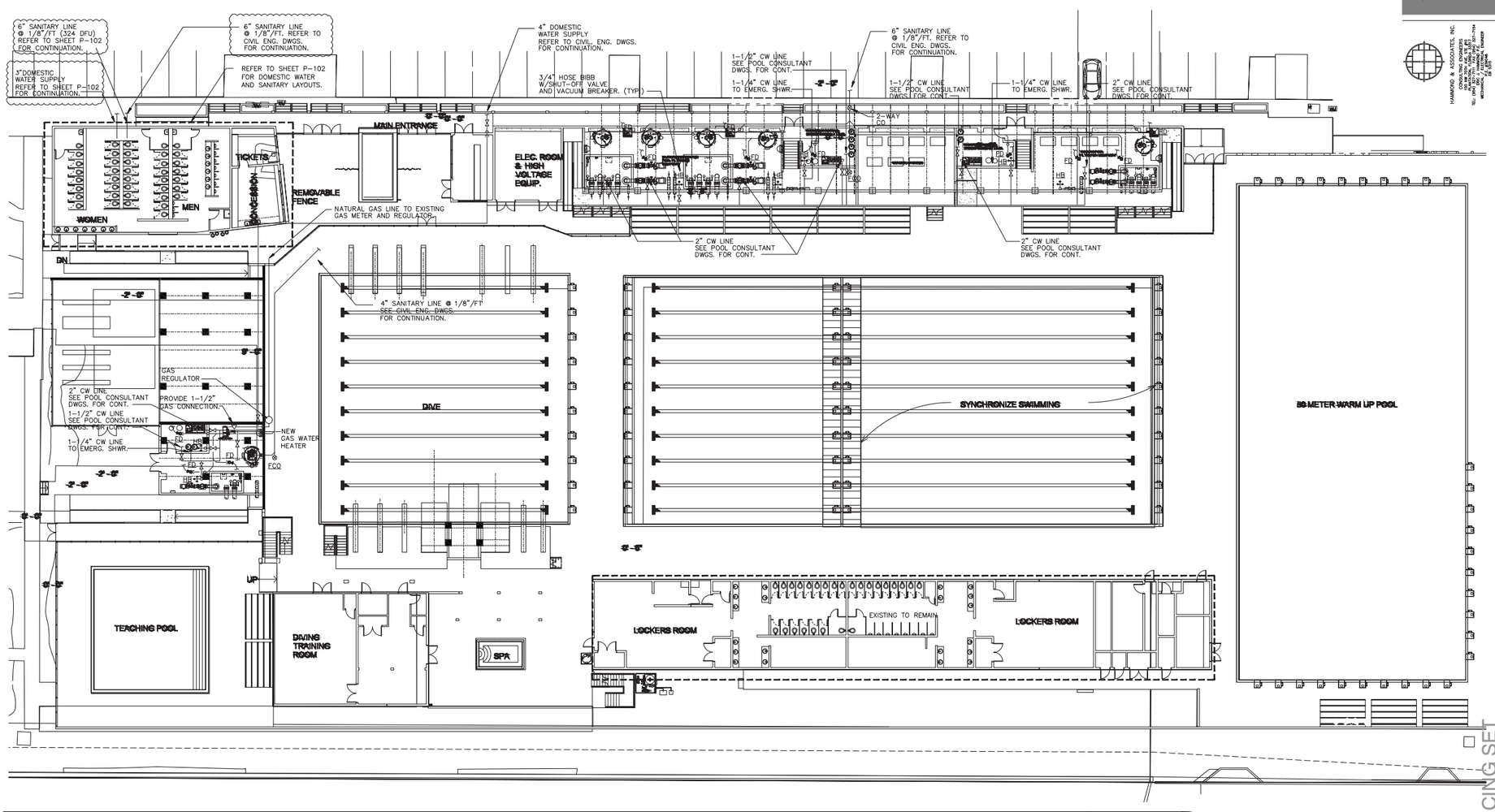
PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS
PLUMBING INDEX, SYMBOL, LEGEND AND NOTES
501 SEABREEZE BLVD. FT LAUDERDALE

SHEET NO. P-1.0 X
TOTAL: X
CAD FILE:
DRAWING FILE NO.

DESIGN DRAWINGS - P-1.1 - Overall Plumbing Plan

REFER TO SHEET A-4 AND S-2 FOR EQUIPMENT BUILDING LAYOUT UNDER THE COMPETITION POOL GRANDSTANDS TO CONSOLIDATE THE FILTRATION SYSTEM INTO ONE ROOM AND CHEMICAL ROOMS INTO ONE ROOM.

REFER TO SHEET A-2 FOR POOL SHOWER LOACTIONS AND HOSE BIB LOCATIONS AT THE EXTERIOR POOL DECK



OVERALL PLUMBING POOL AND SPA SITE PLAN

1/16"= 1'- 0"

1

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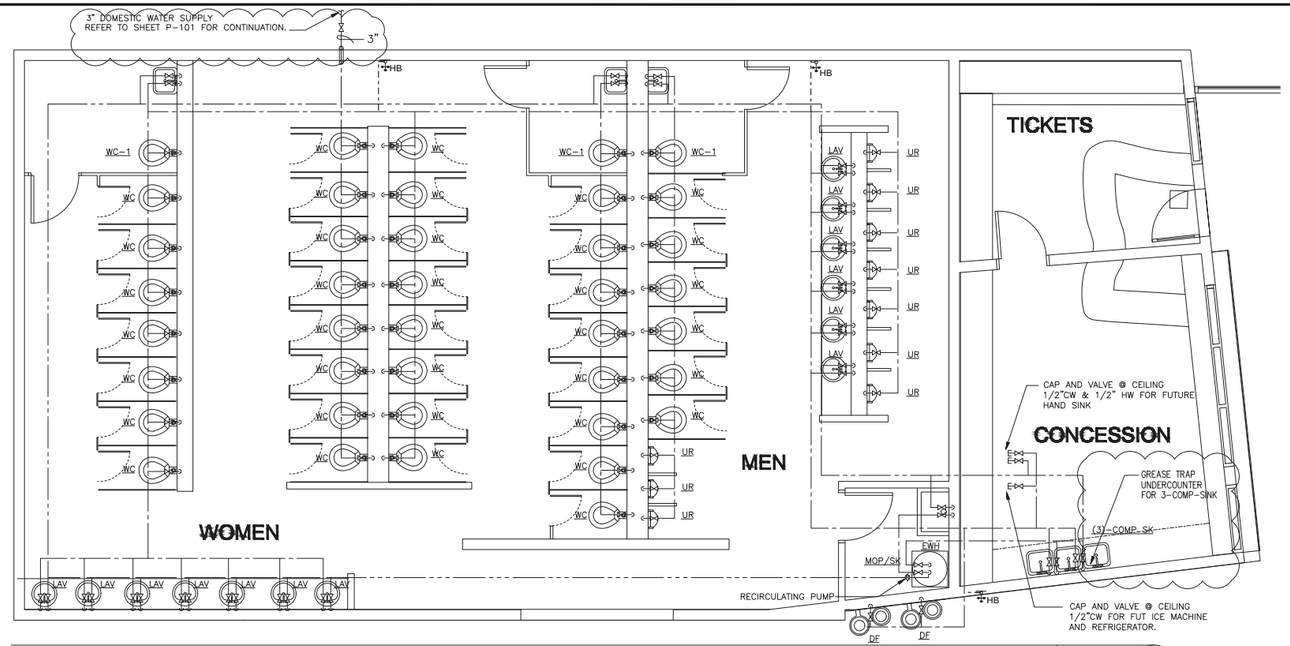
REVISIONS

NO.	DATE	BY	CHKD	DESCRIPTION

PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS
OVERALL PLUMBING POOL AND SPA SITE PLAN
501 SEABREEZE BLVD. FT LAUDERDALE

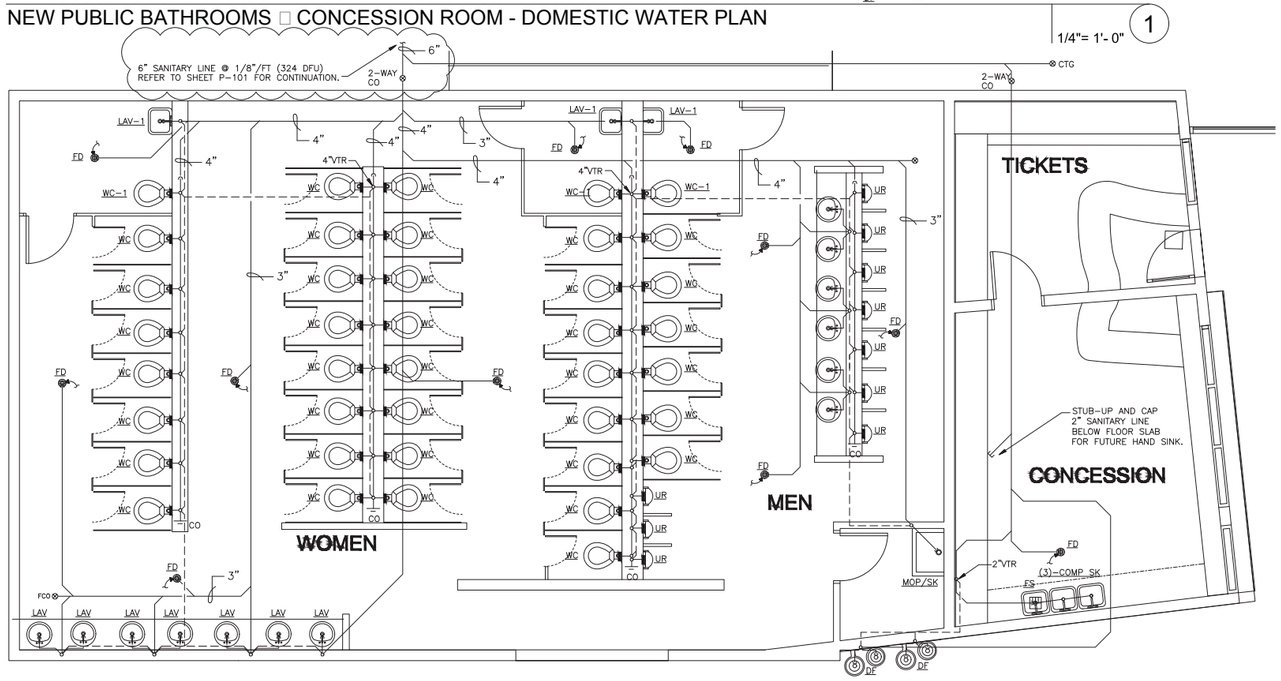
SHEET NO. P-1.1 X
TOTAL: X
CAD FILE:
DRAWING FILE NO.

DESIGN DRAWINGS - P-1.2 - Concession Building Plumbing Plan



NEW PUBLIC BATHROOMS □ CONCESSION ROOM - DOMESTIC WATER PLAN

1/4"= 1'- 0" (1)



NEW PUBLIC BATHROOMS □ CONCESSION ROOM - SANITARY FLOOR PLAN

1/4"= 1'- 0" (2)

SANITARY SIZING TABLE			
FIXTURE TYPE	QTY.	FIXTURE UNITS (EACH)	TOTAL FIXTURE UNITES
WATER CLOSET	40	4	160
URINAL	10	2	20
LAVATORY	16	1	16
SINK	1	2	2
EWC	2	0.5	1
FD	10	2	20
MOP SINK	1	2	2
		TOTAL	221

DOMESTIC WATER SIZING TABLE			
FIXTURE TYPE	QTY.	FIXTURE UNITS (EACH)	TOTAL FIXTURE UNITES
WATER CLOSET	40	10	400
URINAL	10	5	50
LAVATORY	16	1.5	24
SINK	1	3	3
EWC	2	0.25	0.5
		TOTAL	477.5

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PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS
NEW PUBLIC BATHROOM & CONCESSION ROOM
DOMESTIC WATER & SANITARY FLOOR PLAN
501 SEABREEZE BLVD. FT LAUDERDALE

SHEET NO. P-1.2 X
TOTAL: X
CAD FILE:
DRAWING FILE NO.

DESIGN DRAWINGS - E-1 - Electrical Notes

GENERAL ELECTRICAL NOTES

(GENERAL NOTES ARE PROVIDED AS A BASIC DESCRIPTION OF THE EXTENT AND QUALITY EXPECTED IN THIS PROJECT. IF A CONFLICT EXISTS BETWEEN THESE GENERAL NOTES AND THE REMAINDER OF THE CONTRACT DOCUMENTS THE SPECIFICATIONS, PLANS AND DETAILS WILL GOVERN.)

1. THE ENTIRE INSTALLATION SHALL BE IN ACCORDANCE WITH THE FOLLOWING CODES AND STANDARDS (LATEST EDITION UNLESS OTHERWISE NOTED):
   ALL ELECTRICAL WORK SHALL COMPLY WITH RULE 69A-3.012 FAC AND ALL CODES AND STANDARDS REFERENCED IN THE ADMINISTRATIVE CODE (FAC) AND FLORIDA STATUTE SECTION 633.022.
   A. NFPA 70: NATIONAL ELECTRICAL CODE (2014 EDITION)
   B. NFPA 72: NATIONAL FIRE ALARM CODE (2013 EDITION)
   C. NFPA 99: HEALTH CARE FACILITIES (2015 EDITION)
   D. NFPA 101: LIFE SAFETY CODE (2015 EDITION)
   E. NFPA 110: STANDARD FOR EMERGENCY AND STANDBY POWER SYSTEMS (2013 EDITION)
   F. NFPA 780: STANDARD FOR THE INSTALLATION OF LIGHTNING PROTECTION SYSTEMS (2014 EDITION)
   IN ADDITION, THE INSTALLATION SHALL ALSO BE IN ACCORDANCE WITH THE FOLLOWING:
   G. FLORIDA BUILDING CODE 2017 6th EDITION (2017)
   H. THE GUIDELINES FOR DESIGN AND CONSTRUCTION OF HEALTH CARE FACILITIES (FGI GUIDELINES, 2014 EDITION)
   I. FLORIDA FIRE PREVENTION CODE (2017 EDITION)
2. AS A MINIMUM, ALL EQUIPMENT SHALL MEET APPLICABLE STANDARDS FOR THE TYPE OF EQUIPMENT AND INTENDED USE, OF THE FOLLOWING:
   A. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
   B. ILLUMINATING ENGINEERS SOCIETY (IES)
   C. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
   D. NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATES(NEMA)
   E. NOTE: THESE STANDARDS ARE SUBORDINATE TO CODES AND STANDARDS SET BY U.L.
3. ALL ELECTRICAL EQUIPMENT, DEVICES, WIRE, ETC., SHALL BE LISTED, FOR INTENDED USE, WITH UNDERWRITER'S LABORATORIES INC. (U.L.), WHERE STANDARDS HAVE BEEN ESTABLISHED BY U.L.
3. CONTRACTOR TO PROVIDE ALL LABOR, MATERIALS AND SUPERVISION NECESSARY TO ACCOMPLISH THE WORK AS SHOWN AND/OR NOTED ON THE DRAWINGS.
4. THE CONTRACTOR SHALL VISIT THE JOB SITE AND VERIFY ALL CONDITIONS, LOCATIONS, DIMENSIONS AND COUNTS AS SHOWN OR NOTED ON THE DRAWINGS, PRIOR TO COMMENCEMENT.
5. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL LABOR, MATERIALS AND SUPERVISION NECESSARY TO ACCOMPLISH THE WORK AS SHOWN AND/OR NOTED ON THE PLANS.
6. ELECTRICAL CONTRACTOR SHALL NOT SCALE DRAWINGS. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT LOCATIONS OF ALL EQUIPMENT UNLESS NOTED OTHERWISE.
7. IT SHALL BE UNDERSTOOD THAT ALL WORK PERFORMED SHALL BE DONE BY A LICENSED CONTRACTOR AND IN A FIRST-CLASS WORKMANLIKE MANNER. SAID CONTRACTOR SHALL MEET ALL REQUIREMENTS SET FORTH BY ANY LOCAL ORDINANCE AND COMPETENT AUTHORITIES.
8. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED INSURANCE FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
9. CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE YEAR FROM DATE OF ACCEPTANCE, UNLESS INDICATED OR SPECIFIED OTHERWISE.
10. IT SHALL NOT BE THE INTENT OF THESE PLANS AND/OR SPECIFICATIONS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE CONTRACTOR SHALL BE EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE FOR ALL REQUIREMENTS NECESSARY FOR EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING TO ORIGINAL CONDITIONS, ANY AND ALL DAMAGES TO BUILDING SURFACES, EQUIPMENT, ETC. CAUSED DURING THE PERFORMANCE OF WORK.
12. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE OR DELAYS AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED THEREBY.
13. FOR ELECTRIC POWER SYSTEM, COORDINATE POWER SERVICE WITH POWER COMPANY;
   A. VERIFY LOCATION OF POWER SERVICE TERMINATION WITH POWER COMPANY, PRIOR TO INSTALLING BID. CONTRACTOR TO VERIFY AVAILABLE SERVICE VOLTAGE AND PHASES WITH POWER COMPANY PRIOR TO BID AND PROVIDE BID ALLOWANCE FOR ALTERNATE.
   B. PROVIDE TEMPORARY ELECTRICAL SERVICE FOR USE BY ALL TRADES DURING CONSTRUCTION AND REMOVE SAME AT COMPLETION OF PROJECT.
14. CONTRACTOR SHALL KEEP ALL AREAS IN WHICH WORK IS BEING PERFORMED, FREE FROM DEBRIS AT ALL TIMES AND SAID AREAS SHALL BE LEFT BROOM CLEAN AT THE END OF EACH WORKING DAY.
15. CONTRACTOR SHALL PAY FOR ALL PERMITS, FEES, INSPECTIONS, AND TESTING COSTS.
16. COORDINATE ALL ELECTRICAL SITE WORK WITH ALL OTHER TRADES CONTRACTORS.
   IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR FOR THE ADVANCE ORDERING OF LONG LEAD ITEMS, AS TO NOT INTERFERE WITH THE PRODUCTION OF OTHER TRADES RESULTING IN ANY DOWN OR LAG TIME. THE CONTRACTOR SHALL NOT ORDER ANY ITEMS UNTIL APPROVED SHOP DRAWINGS ARE RETURNED TO HIM.
18. ELECTRICAL CONTRACTOR SHALL SUBMIT (6 COPIES) EQUIPMENT LAYOUT OF ALL ELECTRICAL SPACES, ROOMS, ETC., TO ENGINEER FOR APPROVAL PRIOR TO ORDERING EQUIPMENT OR INSTALLING CONDUITS, ETC. LAYOUT SHALL CONSIST OF PLAN VIEWS (SCALE AS REQUIRED) AND ELEVATIONS (DIMENSIONED) FOR EACH SUCH SPACE, ROOM, ETC.
19. CONTRACTOR SHALL SUBMIT AT ONE TIME, SIX (6) SETS OF LOOSE-LEAF BOUND BOOKS, INDEXED WITH ALL PRODUCTS, MATERIALS, LIGHTING FIXTURES, LAMPS, WIRING DEVICES, SWITCHGEAR, ETC. CLEARLY HIGHLIGHTING ALL EQUIPMENT QUANTITIES AND DETAILS. ALL EQUIPMENT SHALL BE AS SPECIFIED ON PLANS. THE RESPONSIBILITY TO ACCEPT OR REJECT ANY PROPOSED SUBSTITUTION REMAINS WITH THE PROJECT ENGINEER. THE CONTRACTOR MAY AT HIS JUDGMENT USE ANY ARTICLE, DEVICE, PRODUCT, OR MATERIAL WHICH IN THE JUDGMENT OF THE ENGINEER EXPRESSED IN WRITING IS EQUAL TO THE SPECIFIED.
20. ALL CONDUCTORS SHALL BE COPPER, TYPE THWN/THHN EXCEPT WHERE OTHERWISE REQUIRED BY U.L. OR CODES. MINIMUM WIRE SIZE SHALL BE #12 AWG, EXCLUDING CONTROL WIRING. ALUMINUM CONDUCTORS ARE NOT PERMITTED.
21. ALL CONDUCTORS SHALL BE IN CONDUITS. ALL CONDUITS SHALL BE GALVANIZED RIGID STEEL (GRS) EXCEPT THAT: (a) PVC CONDUITS MAY BE USED UNDERGROUND PROVIDED ELBOWS AND RISERS ARE GALVANIZED RIGID STEEL OR SCHEDULE 80 PVC, WHERE SUBJECT TO PHYSICAL DAMAGE (b) ELECTRICAL METALLIC TUBING (EMT) MAY BE USED IN OR ON WALLS OR CEILINGS WHERE NOT SUBJECT TO MECHANICAL DAMAGE, DAMP OR CORROSIVE CONDITIONS, (c) LIQUID TIGHT FLEXIBLE CONDUIT WHERE REQUIRED, (d) FLEXIBLE METALLIC CONDUIT WHERE REQUIRED IN DRY LOCATIONS ONLY, (e) MC CABLE WITH DEDICATED GREEN GROUNDING CONDUCTOR WHERE PERMITTED. ALL CONDUITS IN HAZARDOUS AREAS (PER NEC) SHALL MEET THE REQUIREMENTS OF NEC CHAPTER 5.
22. FOR UNDERGROUND ELECTRICAL CONDUITS, PROVIDE PULL BOXES, SUCH THAT NO SINGLE CONDUIT RUN EXCEEDS 200 FEET. PROVIDE PULL BOXES AS ADDITIONALLY NECESSARY AND AS ACCESSIBLE FOR FUTURE USE. MAINTAIN 12" MIN. SAFE "WARNING BURIED ELECTRIC" SHALL BE PLACED IN TRENCHES ABOVE ALL UNDERGROUND ELECTRIC CONDUITS. WHERE CONDUITS PASS UNDERNEATH PAVED AREAS, THEY SHALL BE PVC. WHERE UNDERGROUND CONDUITS ARE NOT EXPOSED TO MECHANICAL DAMAGE OR ARE NOT UNDER PAVED AREAS, THEY SHALL BE SCHEDULE 40 PVC.
23. ALL CONDUIT RUNS ARE SHOWN DIAGRAMMATIC. EXACT ROUTING SHALL BE DETERMINED IN THE FIELD, UNLESS OTHERWISE NOTED.
24. WIREWAYS SHALL BE SIZED AS REQUIRED, PER NEC, UNLESS OTHERWISE NOTED (UON).
25. WHERE CORE DRILLING OF FLOOR/WALLS IS REQUIRED, CONTRACTOR SHALL SEAL HOLES AFTER INSTALLATION OF CONDUITS AND/OR CABLES INSTALLED. LOCATION OF CORED HOLES SHALL BE COORDINATED WITH LOCATION OF EQUIPMENT IN A MANNER TO BE CLEAN AND FUNCTIONAL. THE CONTRACTOR SHALL INSTALL ONLY ONE CONDUIT PER HOLE AND SEAL THE OPENING AROUND THE CONDUIT AS SPECIFIED.
26. PROVIDE FIRE RETARDANT U.L. APPROVED SEALANT ON ALL PENETRATIONS OF FIRE RATED PARTITIONS, WALLS AND STRUCTURAL SLABS. CONTRACTOR TO VERIFY, PRIOR TO SUBMITTING BID, LOCATIONS OF ALL SUCH FIRE RATED PARTITIONS, WALL AND STRUCTURAL SLABS.
27. UNLESS NOTED AS EXISTING, ALL EQUIPMENT, WIRING, DEVICES, ETC. SHALL BE NEW.
28. ALL CIRCUIT BREAKERS SHALL BE INVERSE TIME TYPE (THERMAL MAGNETIC OR SOLID STATE AS REQUIRED BY SPECIFICATION). TWO AND THREE POLE CIRCUIT BREAKERS SHALL BE COMMON TRIP. NO TIE HANDLES PERMITTED.
29. ALL FUSES SHALL BE CURRENT LIMITING, PER U.L., RATED 600V., UON.
   A. NON-TIME DELAY FUSES IN MAIN SWITCHES AND SWITCHES FEEDING PANELS.
   B. TIME DELAY FUSES FOR MOTOR AND A/C CIRCUITS.
30. ALL DISCONNECT SWITCHES SHALL BE SIZED BY NEC REQUIREMENTS TO ACCOMMODATE EQUIPMENT SERVED, INCLUDING REQUIRED FUSES (U.O.N. SWITCHES SHALL BE HORSEPOWER RATED FOR MAX. HORSEPOWER, HEAVY DUTY TYPE.
31. CONTRACTOR SHALL VERIFY CIRCUIT PROTECTIVE DEVICE RATING FOR EQUIPMENT PRIOR TO INSTALLATION.
32. FURNISH AND INSTALL DISCONNECT SWITCHES AND WIRING FOR AIR CONDITIONING EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. CONTROLS ARE TO BE SUPPLIED BY AIR CONDITIONING CONTRACTOR AND CONNECTED. PROVIDE ALL CONTROL WIRING FOR A/C SENSORING AND CONTROL UNITS. COORDINATE WITH A/C CONTRACTOR FOR WIRING DIAGRAMS AND EXACT MOUNTING LOCATIONS.
33. ALL ELECTRICAL EQUIPMENT SHALL BE RAINTIGHT WHERE EXPOSED TO THE WEATHER, ALL FLEX CONDUITS CONNECTED TO SUCH EQUIPMENT SHALL BE LIQUID TIGHT.
34. EQUIPMENT SHALL BE OF MATERIALS SUITABLE FOR AND NEMA RATED FOR THE ENVIRONMENT IN WHICH THEY ARE TO BE INSTALLED.
35. ALL CONNECTIONS TO GROUND RODS SHALL BE MADE WITH U.L. APPROVED WELDED CONNECTIONS, UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL FORM A GROUNDING ELECTRODE SYSTEM AS PER NEC 250-50.
36. OUTLET IN DRY LOCATIONS BOXES SHALL BE PRESSED STEEL, IN WET OR DAMP LOCATIONS SHALL BE CAST ALLOY WEATHER-RESISTANT OUTLET WITH THREADED HUBS AND IN OTHER CLASSIFIED AREAS IT SHALL BE IN A SPECIAL ENCLOSURE. PROPER SIZE OF BOXES SHALL BE USED FOR THE NUMBER OF CONDUITS ENTERING THEREIN. GREEN ELECTRICAL CONTRACTOR AND GENERAL CONTRACTOR FOR PLASTER RING INITIATION WILL BE REQUIRED. NO "SOCKET" RINGS SHALL BE ALLOWED. ALL OUTLET BOXES SHALL BE SECURELY FASTENED.
37. WHEN ELECTRICAL BOXES ARE LOCATED IN VERTICAL FIRE RESISTIVE ASSEMBLIES, (CLASSIFIED AS FIRE/SMOKE AND SMOKE PARTITIONS), THEY SHALL BE INSTALLED WITHOUT AFFECTING THE FIRE CLASSIFICATION. ALL OF THE FOLLOWING CONDITIONS SHALL BE MET:
   A. ALL ELECTRICAL BOXES SHALL BE METALLIC.
   B. BOX OPENING SHALL OCCUR ONLY ON ONE SIDE OF FRAMING SPACE.
   C. BOX OPENING SHALL NOT EXCEED 10322.56 SQUARE MM (16SQUARE INCHES).
   D. ALL CLEARANCES BETWEEN OUTLET BOX AND GYPSUM BOARD SHALL BE COMPLETELY FILLED WITH JOINT COMPOUND (OR OTHER APPROVED MATERIAL).
   E. PROVIDE A MINIMUM OF 645.16 SQUARE MM (1 SQUARE INCH) OF GROUND SURFACE BETWEEN THE INTEGRITY OF THE WALL RATING SHALL BE MAINTAINED.
   F. THE TOTAL ACCUMULATED SURFACE AREA OF THE BOXES SHALL NOT EXCEED 64516 SQUARE MM (100 SQUARE INCHES) PER 9.29 SQUARE METERS (100 SQUARE FEET).
   G. OUTLET BOXES LOCATED ON OPPOSITE SIDES OF FIRE RESISTIVE ASSEMBLIES SHALL BE SEPARATED BY A MINIMUM HORIZONTAL DISTANCE OF 609.6MM (24 INCHES).
   H. ON THE OPPOSITE SIDE OF THE ASSEMBLY, THE DIAMETER OF THE OPENING SHALL NOT EXCEED 3.175MM (1/8 INCH) BETWEEN THE EDGES OF THE OUTLET BOX AND THE EDGES OF THE OPENING.
38. SMOKE DETECTORS SHALL BE PROVIDED NO CLOSER THAN 36" FROM SUPPLY AIR DIFFUSERS.
39. CONTRACTOR SHALL PROVIDE A TYPE WRITTEN DIRECTORY OF EACH PANELBOARD. HAND WRITTEN DIRECTORIES IS NOT ACCEPTABLE, EXCEPT SPARE AND SPACES SHALL BE HANDWRITTEN IN PENCIL.
40. PROVIDE A 4" STEEL REINFORCED CONCRETE HOUSKEEPING PAD UNDER ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT.
41. MINIMUM CLEARANCES FOR ELECTRICAL EQUIPMENT SHALL BE IN COMPLIANCE WITH NEC 110.26
   B. THE DWELLING UNIT DEDICATED SPACE EXTENDS FROM THE FLOOR TO A HEIGHT OF 6.1M (20 FEET) OR THE STRUCTURE, WHICHEVER IS LOWER, AND HAS A WIDTH AND DEPTH OF THE PANELBOARD OR SWITCHBOARD MUST BE CLEAR OF ALL PIPING, DUCTS, EQUIPMENT FOREIGN TO THE ELECTRICAL EQUIPMENT OR ARCHITECTURAL APPURTENANCES IN ACCORDANCE WITH NEC 408.
42. METER CANS, HUBS, & LUGS FOR SAME ARE TO BE FURNISHED & INSTALLED BY CONTRACTOR. CONTRACTOR TO VERIFY SPECIFIC TYPE OF METER CAN TO BE USED WITH F.P.L. PRIOR TO BID.
43. A PROVIDE A PERMANENT SIGN ON THE MAIN ELECTRICAL ROOM DOOR TO THE BLDG. STATING THAT THE SERVICE DISCONNECTS ARE LOCATED INSIDE.
   B. SIGNS SHALL BE PLACED AT THE MAIN DISCONNECT EQUIPMENT INDICATING TYPE AND LOCATION OF ON-SITE EMERGENCY POWER SOURCES.
44. THE EQUIPMENT GROUNDING TERMINAL BARS OF THE NORMAL AND EMERGENCY ELECTRICAL SYSTEM PANELBOARDS SERVING THE SAME BUILDING SHALL BE BONDED TOGETHER WITH AN INSULATED, CONTINUOUS, COPPER CONDUCTOR NOT SMALLER THAN NUMBER 6.
45. THE ELECTRICAL CONTRACTOR SHALL FURNISH A COMPLETE SET OF AS-BUILT DRAWINGS, SHOWING ALL CHANGES AND DEVIATIONS TO THE ARCHITECT/ENGINEER PRIOR TO COMPLETION OF THE PROJECT.
46. ARCHITECTURAL AND/OR ENGINEERING EXPENSES THAT ARE INCURRED DUE TO REVISIONS OR SUBSTITUTIONS REQUESTED BY THE CONTRACTOR SHALL BE PAID FOR BY THAT CONTRACTOR.
47. FOR TELEPHONE SYSTEMS:
   A. PROVIDE GROUNDING FOR ALL TELEPHONE OUTLETS AND EQUIPMENT PER REQUIREMENTS OF THE TELEPHONE COMPANY.
   B. COORDINATE INSTALLATION OF ALL TELEPHONE OUTLETS, RACEWAYS, ENCLOSURES AND EQUIPMENT WITH THE T.C.O.
   C. VERIFY LOCATION OF TELEPHONE SERVICE WITH TELEPHONE COMPANY. PROVIDE SERVICE CONDUIT TO BLDG. FROM SERVICE POINT PER TELCO. INSTRUCTIONS, INCLUDE ALL ASSOCIATED COSTS IN BID.
   D. MARK TERMINATIONS OF TELEPHONE CONDUIT AS DIRECTED BY THE TELEPHONE COMPANY.
   E. VERIFY LOCATION OF TELEPHONE SERVICE WITH TELEPHONE COMPANY PRIOR TO INSTALLING BID. INCLUDE ALL ASSOCIATED COSTS IN BID.
   F. SUPPLY PLYWOOD BACKBOARD, 2x4 PLYWOOD BACKBOARDS FOR MOUNTING TELEPHONE EQUIPMENT, TERMINAL STRIPS, PAINT BOARD ON ALL SIDES AND EDGES WITH TWO COATS OF FLAT BLACK FIRE RETARDANT PAINT.
48. INDUSTRIAL CONTROL TYPE TRANSFORMERS SHALL BE PROVIDED WITH FINGERSAFE COVERS AND PRIMARY FUSE PROTECTION AS REQUIRED PER NEC 450-3. MOUNT TRANSFORMERS ON 4"X4" JUNCTION BOX ABOVE ACCESSIBLE CEILINGS OR ELECTRICAL ROOMS.
49. FOR RESIDENTIAL WORK PROVIDE COMBINATION TYPE ARC-FAULT CIRCUIT INTERRUPTER PROTECTION THROUGHOUT THE DWELLING UNIT, EXCEPT IN KITCHEN BATHROOM, GARAGES AND OUTDOORS. ALL DWELLING UNIT RECEPTACLE OUTLETS MUST BE LISTED TAMPER-RESISTANT.
50. PROVIDE U.L. LISTED COMPOUND APPLIED TO BACK OF "BACK TO BACK" BOXES IN ACCORDANCE WITH NEC. WHERE BOXES ARE LESS THAN 609.6MM (24 INCHES) APART MEASURED HORIZONTALLY.
51. CONTRACTOR SHALL PROVIDE TYPED, UPDATED PANEL DIRECTORIES ON ALL PANELS THAT ARE AFFECTED AT THE COMPLETION OF THE JOB.
52. FOR RECEPTACLES IN DAMP AND WET LOCATIONS THE CONTRACTOR SHALL PROVIDE ALL 125V. AND 250V., 15A. AND 20A. RECEPTACLES THAT ARE LISTED AS WEATHER RESISTANT TYPE TO COMPLY WITH NEC ARTICLE 406.8.
53. SERVICE EQUIPMENT IN OTHER THAN DWELLING UNITS SHALL BE LEGIBLY MARKED IN THE FIELD WITH THE MAXIMUM AVAILABLE FAULT CURRENT. THE FIELD MARKING(S) SHALL INCLUDE THE DATE THE FAULT CURRENT CALCULATION WAS PERFORMED AND BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED.

GENERAL LIGHTING NOTES:

1. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF LIGHT FIXTURES.
2. COORDINATE TYPE OF CEILING FOR EACH FIXTURE WITH ARCHITECTURAL REFLECTED CEILING PLANS AND PROVIDE SUITABLE TRIM AS REQUIRED.
3. PROVIDE ADDITIONAL LIGHTING AND EMERGENCY LIGHTING FOR THE EXISTING TEACHING POOL, WHICH CURRENTLY LACKS OF PROPER ILLUMINATION.
4. PROVIDE ATTACHED THERMOSETTING FIRE RETARDANT CEILING TILES FOR ALL DROP-IN FIXTURES LOCATED IN FIRE RATED CEILINGS.
5. FIXTURES IN AREAS WITHOUT CEILINGS, OR IN MECHANICAL AND ELECTRICAL ROOMS SHALL BE MOUNTED WITH 1 3/4" X 1 3/4" CHANNEL SUPPORT SUSPENDED FROM ROOF STRUCTURE WITH THREAD RODS. FIXTURES SHALL BE MOUNTED 10'-0" A.F.F.
6. ALL ACRYLIC LENSED FIXTURES SHALL HAVE A LENS THICKNESS OF .125 INCHES MINIMUM.
7. HALF SHADED FIXTURES DENOTE EMERGENCY FIXTURES EITHER WITH 1100 LUMEN EMERGENCY BATTERY PACK OR ON LIFE SAFETY CIRCUIT.
8. LIGHTING FIXTURE SCHEDULE IS PREDICTED ON PERFORMANCE AND IS DESIGNED TO MEET CERTAIN AESTHETIC CRITERIA. ALL ALTERNATIVE SELECTIONS MUST BE SUBMITTED FOR PRIOR APPROVAL TEN (10) DAYS PRIOR TO BID DATE.
9. ALL INTERIOR LIGHTING SHALL BE LED LIGHTING. LIGHT LEVELS SHALL BE CONSISTENT WITH THE CURRENT EDITION OF THE ILLUMINATING ENGINEERING SOCIETY (IES) FOR THE SPACE DEFINITION OR SPECIFIC TASKS TO BE PERFORMED.
10. COORDINATE THERE THERE WITH ARCHITECTURAL DRAWINGS.
11. IF THERE IS A DISCREPANCY BETWEEN A FIXTURE DESCRIPTION AND GENERAL NOTES AND THE CATALOG NUMBER LISTED, THE FIXTURE DESCRIPTION AND GENERAL NOTES SHALL GOVERN.
12. ALL OPENINGS FOR LIGHT FIXTURES IN CEILINGS SHALL BE PROTECTED IN A MANNER (PER ALL GOVERNING CODES) THAT WILL PROVIDE THE SAME RATING AS THE CEILING. (THIS APPLIES TO ALL FIRE RATED CEILINGS).
13. FOR EMERGENCY EXIT SIGNS AND EMERGENCY BATTERY PACKS MAKE CONNECTION AHEAD OF ALL SWITCHES AND CONTROLS.
14. PROVIDE A FUSE HOLDER AND FUSE (BUSSMAN HEB AND FNQ OR EQUAL), IN THE PRIMARY SIDE OF EACH UNGROUNDED CONDUCTOR FOR ALL BALLASTS AT THE HAND HOLE OF EACH EXTERIOR POLE MOUNTED LIGHTING FIXTURE OR J-BOX FOR WALL OR CEILING MOUNTED FIXTURE.
15. PROVIDE DUAL TECHNOLOGY OCCUPANCY SENSORS FOR LIGHTING CONTROL IN NEW RESTROOMS, STAFF AREA, CONCESSION, ELECTRICAL ROOM, STORAGE, AND POOL EQUIPMENT ROOMS.
16. PROVIDE WIND LOAD RATED LIGHT POLES WITH 170 MPH MINIMUM WIND SPEED (ASCE 7), EXPOSURE C WITH IMPORTANCE FACTOR OF 1.0, AND PROVIDE PHOTOMETRICS WITH ALL FIXTURE SUBMITTALS. CONTRACTOR TO VERIFY VOLTAGES OF ALL LIGHT FIXTURES PRIOR TO BIDDING.
17. PHOTOMETRICS ARE BASED ON MANUFACTURER'S INFORMATION AND CATALOG NUMBERS. ALTERNATIVE MANUFACTURERS MUST PROVIDE THE IESNA FORMAT ELECTRONIC FILES OF THE INDEPENDENT TEST LAB REPORTS FOR THE PROPOSED FIXTURES ON CD OR FLOPPY DISKETTE TEN (10) DAYS PRIOR TO BID. (SPECIFIER) WILL CONFIRM THAT ALL PHOTOMETRIC CRITERIA HAS BEEN MET. ANY ALTERNATE IS APPROVED WILL ISSUE AN ADDENDUM. MANUFACTURERS NOT LISTED ON THE PLANS OR IN AN ADDENDUM WILL NOT BE ACCEPTED.
18. TO CONFIRM THAT THE SPECIFIED PHOTOMETRIC CRITERIA HAS BEEN MET, A COMPUTER DISK CONTAINING AN IES FILE FOR THE PROPOSED ALTERNATE MUST BE SUBMITTED TO (SPECIFIER) FOR EVALUATION NO LESS THAT 10 DAYS PRIOR TO BID. ANY ACCEPTABLE ALTERNATE MUST BE APPROVED IN WRITING PRIOR TO BID DATE.
19. CONTRACTOR MUST BID PROJECT USING SPECIFIED LIGHTING FIXTURES AS BASE BID (NO EXCEPTIONS). IF ALTERNATE FIXTURES ARE PROPOSED, THEY MUST BE BID AS AN ALTERNATE BID MUST INCLUDE:
   A) TOTAL DOLLAR CREDIT TO OWNER IF ALTERNATE IS ACCEPTED.
   B) LINE ITEM CREDIT FOR EACH ALTERNATE FIXTURE PROPOSED.
   C) CATALOG SUBMITTAL DATA FOR EACH ALTERNATE FIXTURE PROPOSED.
20. INTERNALLY ILLUMINATED EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
21. RECESSED LUMINAIRES INSTALLED IN THE BUILDING THERMAL ENVELOPE SHALL BE SEALED TO LIMIT AIR LEAKAGE BETWEEN CONDITIONED AND UNCONDITIONED SPACES. ALL RECESSED LUMINAIRES SHALL BE IC-RATED AND LABELED AS MEETING ASTM E 283 WHEN TESTED AT 75 Pa PRESSURE DIFFERENTIAL WITH NO MORE THAN 2.0 CFM OF AIR MOVEMENT FROM THE CONDITIONED SPACE TO THE CEILING CAVITY. ALL RECESSED LUMINAIRES SHALL BE SEALED TO LIMIT AIR LEAKAGE BETWEEN THE HOUSING AND THE INTERIOR WALL OR CEILING COVERING.
22. EXTERIOR LIGHTING - ADDITIONAL REQUIRED EGRESS ILLUMINATION, NOT FEASIBLE THROUGH LIGHT POLES, WILL BE ACCOMPLISHED BY PROVIDE WALL MOUNTED FIXTURES, UTILIZING ALL EXISTING AND NEW WALL STRUCTURES AROUND THE POOLS. ADDITIONAL UPS SYSTEMS WILL BE REQUIRED AND COULD BE LOCATED IN ANY OF THE EXISTING OR NEW STRUCTURES. AN OPTION FOR WALL MOUNTED FIXTURES IS TO PROVIDE THEM WITH EMBEDDED BATTERY PACKS.

ELECTRICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION
	LIGHTING (REFER TO LIGHTING FIXTURE SCHEDULE)
	LIGHT FIXTURE DESIGNATION.
	LIGHTING FIXTURE, SURFACE MOUNTED
	LIGHTING FIXTURE (HID, FLUORESCENT OR INCANDESCENT), RECESSED MTD.
	LIGHTING FIXTURE, WALL MOUNTED
	EXIT LIGHT FIXTURE, DIRECTION ARROWS AS SHOWN
	WALL MOUNTED EXIT LIGHT FIXTURE
	(SHADED QUADRANT INDICATES FACE(S) OF FIXTURE)
	2 X 2 FLUORESCENT LIGHT FIXTURE
	2 X 4 FLUORESCENT LIGHT FIXTURE
	DIAGONAL SHADING DENOTES LIGHT FIXTURE CONNECTED TO EMERGENCY BRANCH CIRCUIT OR, W/EMERG. BATTERY PACK.
	1 X 4 FLUORESCENT LIGHT FIXTURE
	DIAGONAL SHADING DENOTES LIGHT FIXTURE CONNECTED TO EMERGENCY BRANCH CIRCUIT OR, W/EMERG. BATTERY PACK.
	FLUORESCENT WALL MOUNTED FIXTURE WITH WALL OUTLET BOX
	FLUORESCENT STRIP FIXTURE
	DIAGONAL SHADING DENOTES LIGHT FIXTURE CONNECTED TO EMERGENCY BRANCH CIRCUIT OR, W/EMERG. BATTERY PACK.
	EXTERIOR LIGHT FIXTURE WITH ARMS AS SHOWN ON DRAWINGS
	EMERGENCY BATTERY WALL PACK WITH TWIN HEADS
S	TOGGLE SWITCH 120/277V. 20 AMP.(M.H. = 48" A.F.F.)
S_3	TOGGLE SWITCH 120/277V. 20 AMP., (M.H. = 48" A.F.F.), 3-WAY
S_4	TOGGLE SWITCH 120/277V. 20 AMP., (M.H. = 48" A.F.F.), 4-WAY
S_T	TOGGLE SWITCH 120/277V. 20 AMP. KEYSWITCH, (M.H. = 48" A.F.F.)
S_P	FAN SWITCH 120/277V. 20 AMP. (HORSEPOWER INDICATED)
	30-MINUTE ROTATABLE TIMER SWITCH (M.H. = 48" A.F.F.)
S_D	TOGGLE SWITCH 120/277V. 20 AMP., WITH PILOT LIGHT, (M.H.=48"A.F.F.)
S_{EX}	TOGGLE SWITCH 120/277V. 20 AMP. EXPLOSION-PROOF,
S_S	SPEED SWITCH 120/277V. 20 AMP. U.O.N. (M.H. = 48" A.F.F.)
S_M	SINGLE PHASE MANUAL MOTOR STARTER, (M.H.=48" A.F.F.)
S_{DIM}	DIMMER SWITCH 120/277V. 20 AMP., (M.H.=48" A.F.F.) (1500 WATTS UNLESS OTHERWISE INDICATED)
S_{DN}	TIME-ANY DIMMER SWITCH (48" A.F.F.)
	SINGLE POLE SWITCH (48" A.F.F.) (SUBSCRIPT INDICATES ITEM CONTROLLED)
	PANIC SWITCH, MUSHROOM TYPE, (M.H.=48" A.F.F.)
O_{OD}	WALL MOUNTED – OCCUPANCY SENSOR SWITCH,(M.H.=48"A.F.F.) MFGR./MODEL/SENSOR SWITCH/BVGD-PDT (o, s) OR (2) INDICATES TWO POLE SWITCH – WSD-PDT-2P
	LV INDICATES LOW VOLTAGE – WSD-PDT-LV
	CEILING MOUNTED OCCUPANCY SENSOR – LIGHTING CIRCUIT CONTROLLER. MFGR./MODEL/ (SENSOR SWITCH)/ECM-PDT.
	CEILING MOUNTED DUAL TECHNOLOGY EXTENDED RANGE OCCUPANCY SENSOR – LIGHTING CIRCUIT CONTROLLER. SENSOR SWITCH/ECM-PDT-10.
	WALL MOUNTED – OCCUPANCY SENSOR (M.H.=96"A.F.F.) MFGR./MODEL/WV-PDT
	POWER PACK
	OCCUPANCY SENSOR NOTE: CONTRACTOR SHALL PROVIDE ALL SWITCHPACKS AND CONDUCTORS AS REQUIRED FOR LAYOUTS AND CONTROLS SHOWN ON PLANS.
	IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE AND INSTALL A COMPLETE AND FULLY FUNCTIONAL LIGHTING CONTROL SYSTEM IN ACCORDANCE WITH THE PLANS, DETAILS, INTENT OF THE DESIGN AND SPECIFICATIONS SHOWN ON THESE PLANS.
	BASIC MATERIALS
	DUPLEX RECEPTACLE, 20 AMP., 125V., (M.H.=18"A.F.F.)
	FLOOR OUTLET BOX AND DUPLEX RECEPTACLE 20 AMP., 125V., WITH APPROPRIATE FLANGE.
	CEILING OUTLET BOX AND DUPLEX RECEPTACLE 20A, 125V.
	DUPLEX RECEPTACLE, 20 AMP., 125V., TOP HALF SWITCHED, M.H. = 18" A.F.F. UNLESS OTHERWISE NOTED
	DUPLEX RECEPTACLE, 20 AMP., 125V., ISOLATED GROUND AND SURGE PROTECTOR, (M.H.=18"A.F.F.)
	SINGLE RECEPTACLE, 20 AMP., 125V., COORDINATE M.H. WITH EQUIPMENT.
	SIMPLEX RECEPTACLE (16" A.F.F.) (EWC DENOTES ELECTRIC WATER COOLER. COORDINATE WITH EWC INSTALLER FOR MOUNTING HEIGHT)
	TWO DUPLEX RECEPTACLES WITH COMMON COVER 20A, 125V.,(18" A.F.F.)
	TWO DUPLEX RECEPTACLES WITH COMMON COVER 20A, 125V.,(42" A.F.F.)
	DUPLEX REC

DESIGN DRAWINGS - E-1.1 - Overall Electrical Plan and Riser

REFER TO SHEET A-4 AND S-2 FOR EQUIPMENT BUILDING LAYOUT UNDER THE COMPETITION POOL GRANDSTANDS TO CONSOLIDATE THE FILTRATION SYSTEM INTO ONE ROOM AND CHEMICAL ROOMS INTO ONE ROOM.

ELECTRICAL RISER NOTES:
1. ALL TRANSFORMERS SHALL BE TP1, ENERGY STAR RATED WITH COPPER WINDINGS, ELECTROSTATIC SHIELDING, AND 150 DEGREE C TEMPERATURE RISE.
2. THE 800A SERVICE WILL MAINTAIN A 600A FEED FOR THE HALL OF FAME BUILDING WHICH WILL REMAIN OPERATIONAL.
3. THE NEW SERVICE DISTRIBUTION EQUIPMENT WILL UTILIZE THE EXISTING WIRING FROM FPL VAULTS. THE SINGLE ELECTRICAL METER SHALL REMAIN.

ELECTRICAL PANEL SCHEDULE

PANEL NAME	SIZE	COMMENTS
PANEL 'P'	200A*	EXISTING TO REMAIN
PANEL 'EL'	150A	NEW
PANEL 'P1L'	150A	NEW
PANEL 'P1H'	200A	NEW
PANEL 'P2H'	200A	NEW
PANEL 'P2L'	150A	NEW
PANEL 'P3H'	200A	NEW
PANEL 'DP1'	800A	NEW
PANEL 'DP2'	400A	NEW

*FEEDER SIZE TO BE CONFIRMED. DESIGN CRITERIA STATES FEEDERS MAY BE 400A.

TRANSFORMER SCHEDULE

NAME	SIZE	COMMENTS
XFMR 'EL'	45KVA	480V -120V/208V
XFMR 'P1L'	45KVA	480V -120V/208V
XFMR 'P2L'	45KVA	480V -120V/208V

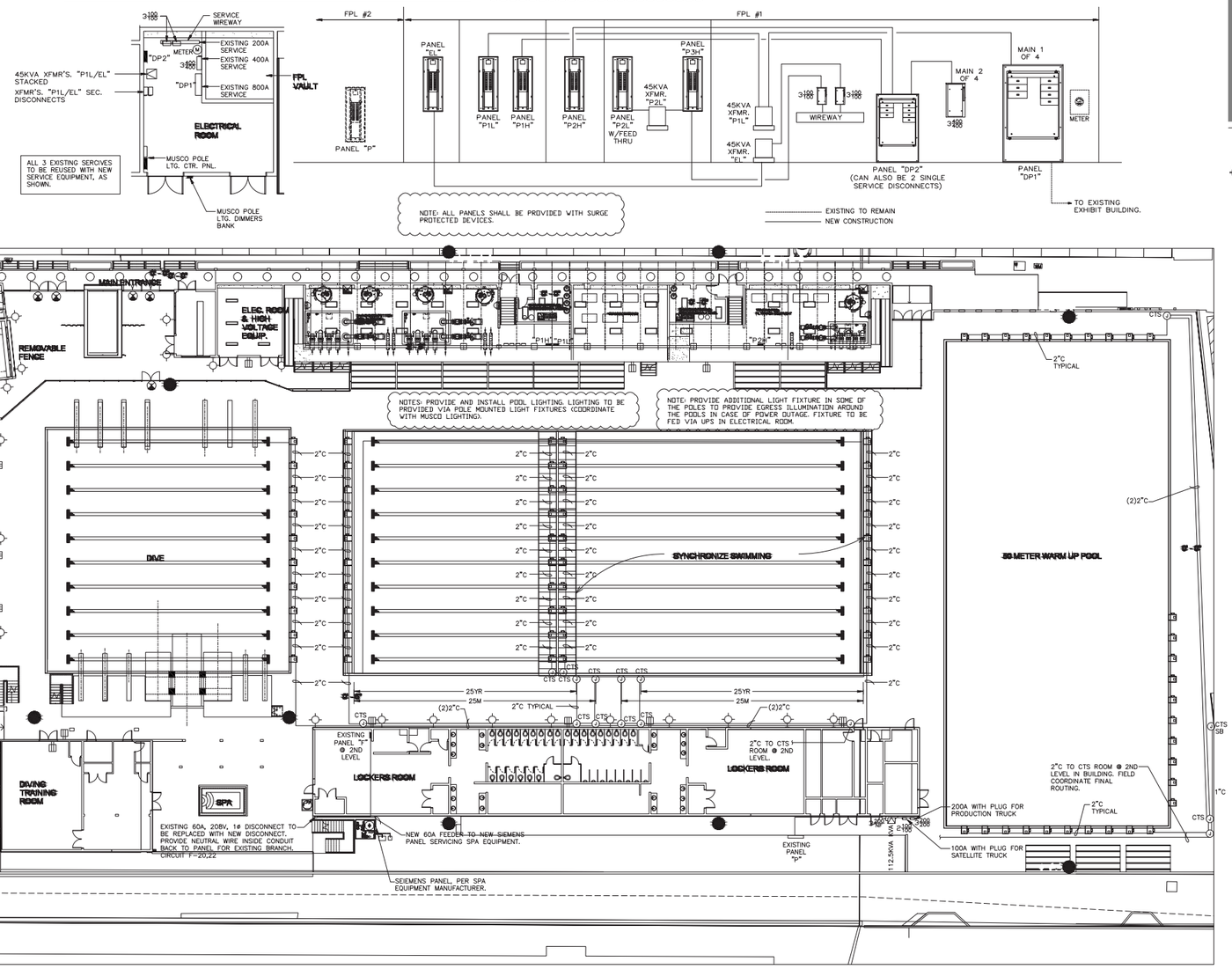
JUNCTION BOX LEGEND

CTS — J-BOX FOR COLORADO TIME SYSTEM. REFER TO SYSTEM SPECIFICATIONS FOR SIZE. COORDINATE FINAL LOCATION AND WITH VENDOR.

PROVIDE J-BOX FOR COLORADO TIME SYSTEM TOUCHPAD/DECK PLATE. REFER TO SYSTEM SPECIFICATIONS FOR SIZE. COORDINATE FINAL LOCATION WITH VENDOR.

CTS SB — J-BOX FOR NEW SCORE BOARD. REFER TO SYSTEM SPECIFICATIONS FOR SIZE. COORDINATE FINAL LOCATION WITH VENDOR.

NOTE: PROVIDE NEW TIMING SYSTEM. COORDINATE WITH ENGINEER, POOL CONSULTANT, AND TIMING SYSTEM REPRESENTATIVE TO PROVIDE THE REQUIRED INFRASTRUCTURE OF A NEW TIMING SYSTEM.



OVERALL ELECTRICAL POOL AND SPA SITE PLAN

1/16"= 1'- 0"

1

E-101

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100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS
OVERALL ELECTRICAL POOL AND SPA SITE PLAN
501 SEABREEZE BLVD. FT LAUDERDALE

SHEET NO. E-1.1 X
TOTAL: X
CAD FILE:
DRAWING FILE NO.

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2/2/2018

ELECTRICAL DESIGN NARRATIVE

FOR

CITY OF FORT LAUDERDALE AQUATIC CENTER

HAMMOND & ASSOCIATES, INC.
150 NW 70th AVENUE, SUITE #10
PLANTATION, FL 33317

Electrical Narrative
Supplement
1 of 4

DESIGN DRAWINGS - Electrical Narrative Supplement

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0.0 GENERAL:

0.1 Statement of Purpose: These specifications outline the Electrical requirements for the City of Fort Lauderdale Aquatic Center.

0.2 Scope of Electrical Work: Design and Engineering will be provided for the following principal electrical items:

0.2.1 City of Fort Lauderdale Aquatic Center will receive power from two separate FPL vaults.
0.2.2 A power distribution system rated 277/480 volts, 3- phase, 4 wire, 60 Hz. Including switchgear, panel boards, conduit and wire, etc.
0.2.3 A lighting system rated 277/480 volts, 3 phased, 4 wire, 60 Hz including light fixtures, lamps, panel boards, conduit and wire, etc.
0.2.4 A receptacle and small power distribution system rated 120/208 volts, 3 phased, 4 wire, 60 Hz including dry type transformers, panel boards, conduit and wire, etc.
0.2.5 An addressable Fire Alarm System.

0.4 Codes and Regulations

1. Florida Building Code, 2017 Edition
2. NEC, Latest Edition
3. Florida Fire Prevention Code
4. NFPA 101- Life Safety Code
5. NFPA 70- National Electrical Code
6. NFPA 110- Emergency Power Systems
7. NFPA 780 – Lightning Protection System

1.0 CONDUIT

1.1 All wiring will be installed in conduit, minimum 1/2".
1.2 Galvanized Rigid Steel (GRS) Conduits will be used underground, and exposed exterior locations.
1.3 Electrical Metallic Conduit (EMT) will be used in concealed aboveground applications and exposed in storage, mechanical and electrical rooms above 8 feet.
1.4 Flexible Metal Conduit (FMC) will be used for short connections to vibrating equipment and light fixtures. Liquid-tight flexible conduit will be used outside and in wet location areas.
1.5 PVC will be used underground and cast in floor slabs.

2.0 WIRES, CABLES AND CONDUCTORS

2.1 All conductors will be copper, minimum #12.
2.2 Wire sizes # 8 and larger will be stranded with type **THWN/THHN** insulation rated for 600 volts.
2.3 Wire sizes # 10 and smaller will be solid conductor.

3.0 PANELBOARDS

3.1 Panel boards for lighting and receptacles will have tin-plated copper busses.
3.2 Panel boards will be of "panel board" construction.
3.3 Circuit breakers will be of bolt-on, molded cased type, full size.
3.4 Panel boards will be provided with 20% spare capacity.

4.0 DRY TYPE TRANSFORMERS

4.1 Dry type transformers rated 480 volts primary to120/208 volts secondary will be provided.
4.2 All transformers shall be TP1, energy star rated with copper windings, electrostatic shielding, and 150 degree C temperature rise.

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5.0 INTERIOR & EXTERIOR LIGHTING

5.1 All Lighting (interior and exterior) shall meet current IESNA lighting standards as published by the Illuminating Engineering Society of North America.
5.2 All Lighting (interior and exterior) shall be LED.
5.3 New restrooms, ticket area, concession, electrical room (existing modified), storage, pool equipment rooms will be equipped with occupancy sensors to automatically turn lighting loads on and off. Occupancy sensors shall be dual technology type.

6.0 CONVENIENCE OUTLETS

6.1 Two pole, 3 wire, grounding type specification grade duplex outlets rated 20 amps, 120 volts will be provided.
6.2 Cover plates will be non-conductive type in finished areas and stamped galvanized steel in unfinished areas.
6.3 New restrooms, ticket area, concession, electrical room (existing modified), storage, pool equipment rooms will be equipped with general purpose or dedicated outlets as per engineer consideration. Additional outlets can be added per additional owner request. Owner to coordinate any addition or removal of proposed outlets with engineer durING design phase.
6.4 All structures around the pools, new and existing, will be provided with extra general purpose GFCI, weather resistance receptacle, enclosed in a weatherproof enclosure as a mean for convenient use during competition and other activities that can take place.

6.0 FIRE ALARM SYSTEM

6.1 A stand alone electronic fire alarm system.
6.2 Fire alarm low voltage wiring will be installed in conduit.

7.0 LIGHTNING PROTECTION SYSTEM

Even though this protection is required in any structure by NFPA 780, the Florida Building Code does not enforce this requirement for this kind of facilities.

9.0 TRANSIENT VOLTAGE SURGE SUPPRESSION (TVSS)

TVSS will be provided on all panel boards serving this facility designed for all modes of Protection: L-L,L-N,L-G and N-G.

10.0 ELECTRICAL SERVICE

A 277/480 VOLT, 3 PHASE, 4 WIRE, 60 Hz. service will be provided from the secondary of a FPL pad mounted transformer.

13.0 EMERGENCY LIGHTING

Emergency lighting will comprise of selected general lighting fixtures provided with battery back-up.

14.0 TIMING SYSTEM

Engineer, Pool Consultant and Timing System representative/vendor will work together in the design of the required infrastructure for the new system. Besides the existing Colorado Timing System in the complex, the owner has requested that a new system be added. Engineer, Pool Consultant and Timing System representative/vendor will work together in the design of the required infrastructure for the new system.

15.0 SOUND SYSTEM

15.1 Other than what is specified in FR 13 for artistic swimming, general sound/public address speakers are used for swimming, diving and water polo events. For general sound

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2/2/2018

requirements, audible capabilities to the pool fenced in area of the venue with connection to the locker rooms is required. Municipal code sound and decibel standards will apply.

15.2 Additional support speakers are set up for special events for public address and entertainment needs.

15.3 For synchronized swimming, two (2) portable underwater speakers in the middle of the deepest 25 x 25 meters square is sufficient. Speakers are typically placed at the deepest end of the 50 meters pool where the competitors would come out of the call room and close to the judges scoring table/room.

15.4 Recommendations for placement of a venue sound system should be provided in the bid proposal. This can be further reviewed and finalized during design process.
Speaker Zones:

- 50M Training Pool
- 50M Main Competition Pool
- Dive Well
- Locker Rooms
- Grandstand seating areas.

15.5 A permanent installation of an underwater speaker system (UWS) is not desired. Underwater speakers that are portable/temporary shall be used and placed in the pool(s) on an as needed basis. The UWS will be used in the Diving Well, 50M Competition Pool and 50M Training Pool, pools where synchronized swimming could take place . DBF is not responsible for providing these speakers.

END OF NARRATIVE

DESIGN DRAWINGS - Q-101 - Site Plan Layout and Notes

50 METER COMPETITION POOL NOTES:

1.	POOL PERIMETER 512
2.	POOL AREA 16,276 SQ.FT.
3.	POOL CAPACITY 1,000,000 GALS
4.	POOL FLOW RATE FOR 6 HR. TURNOVER 2,[illegible] GPM
5.	TOTAL RECICULATION RATE 2[illegible] GPM
6.	TOTAL FILTER AREA 30[illegible].6 SQ.FT.
7.	FILTER RATE PER SQ.FT. OF FILTER AREA 0.[illegible]03 GPM/SQ.FT.

DIVING POOL NOTES:

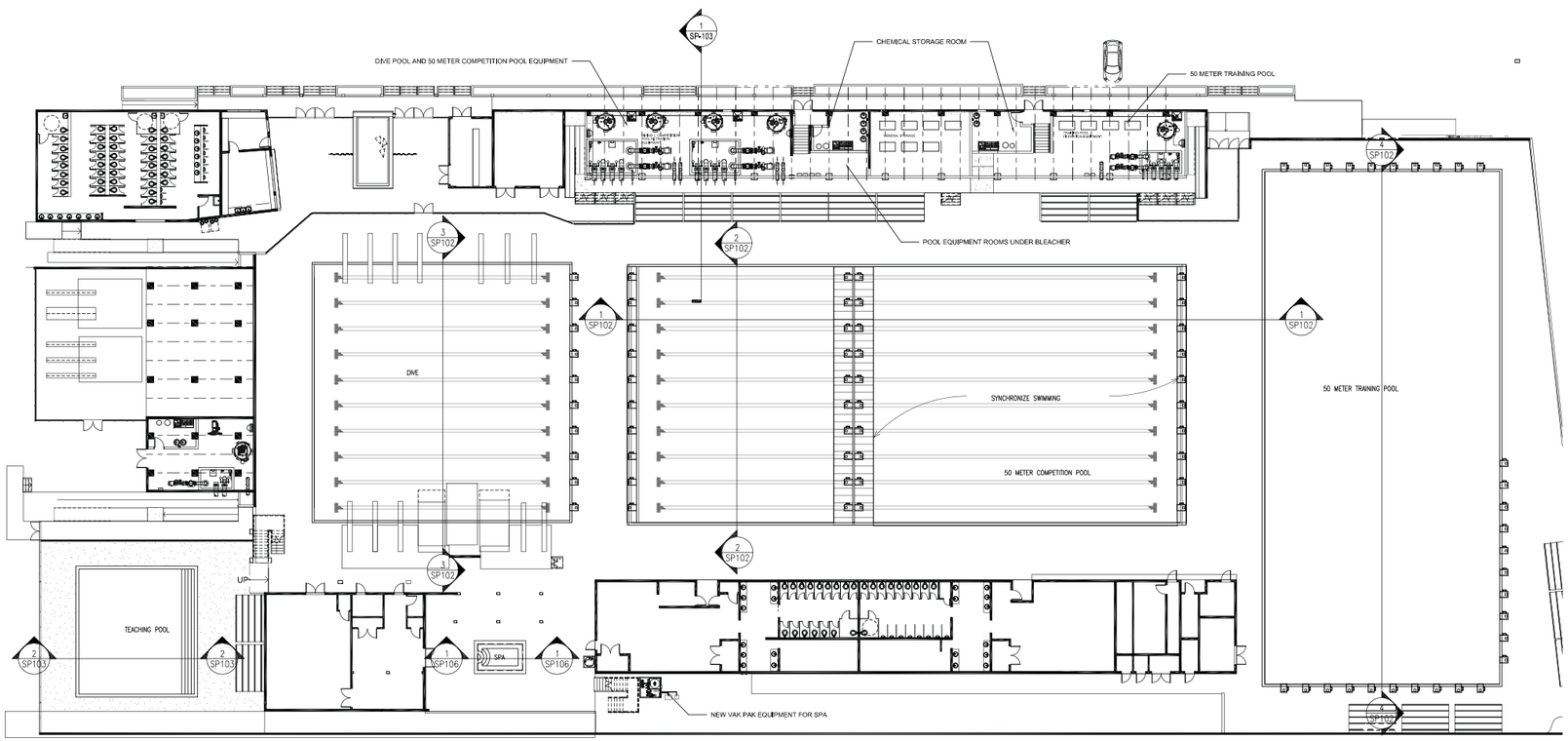
1.	POOL PERIMETER 32[illegible]0"
2.	POOL AREA 6,[illegible]2 SQ.FT.
3.	POOL CAPACITY 1,00[illegible],000 GALS
4.	POOL FLOW RATE FOR 6 HR. TURNOVER 2,[illegible] GPM
5.	TOTAL RECICULATION RATE 2[illegible] GPM
6.	TOTAL FILTER AREA 30[illegible].6 SQ.FT.
7.	FILTER RATE PER SQ.FT. OF FILTER AREA 0.[illegible]0 GPM/SQ.FT.

50 METER TRAINING POOL NOTES:

1.	POOL PERIMETER [illegible]
2.	POOL AREA 12,[illegible]0 SQ.FT.
3.	POOL CAPACITY [illegible]55,000 GALS
4.	POOL FLOW RATE FOR 6 HR. TURNOVER 20[illegible] GPM
5.	TOTAL RECICULATION RATE 20[illegible] GPM
6.	TOTAL FILTER AREA 153[illegible] SQ.FT.
7.	FILTER RATE PER SQ.FT. OF FILTER AREA 1.363 GPM/SQ.FT.

TEACHING POOL NOTES:

1.	POOL PERIMETER 15[illegible]
2.	POOL AREA 1,500 SQ.FT.
3.	POOL CAPACITY [illegible]103 GALS
4.	POOL FLOW RATE FOR 6 HR. TURNOVER 123 GPM
5.	TOTAL RECICULATION RATE 3[illegible] GPM
6.	TOTAL FILTER AREA [illegible] SQ.FT.
7.	FILTER RATE PER SQ.FT. OF FILTER AREA 1.[illegible] GPM SQ.FT.



1 OVERALL POOLS AND SPA SITE LAYOUT
1.16" = 1'-0"

REFER TO SHEET A-4 AND S-2 FOR EQUIPMENT BUILDING LAYOUT UNDER THE COMPETITION POOL GRANDSTANDS TO CONSOLIDATE THE FILTRATION SYSTEM INTO ONE ROOM AND CHEMICAL ROOMS INTO ONE ROOM.

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REVISIONS

NO.	DATE	BY	CHKD	DESCRIPTION

PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS
501 SEABREEZE BLVD. FT LAUDERDALE

SHEET NO. Q-101
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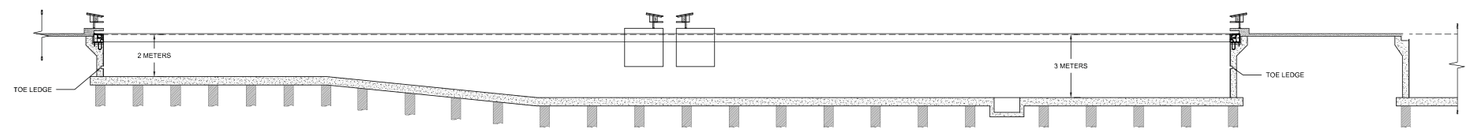
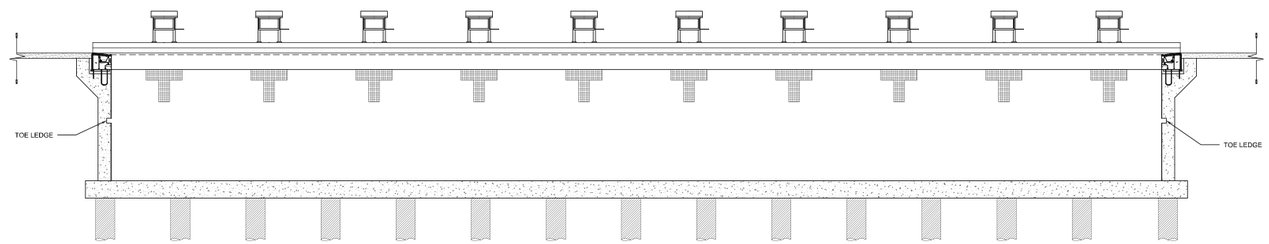
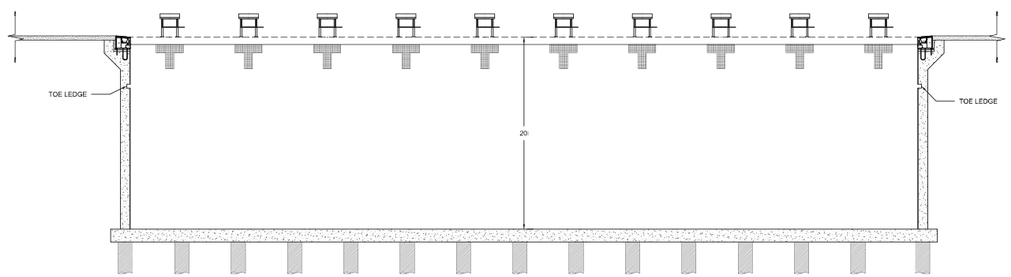
DESIGN DRAWINGS - Q-102 - Pool Sections



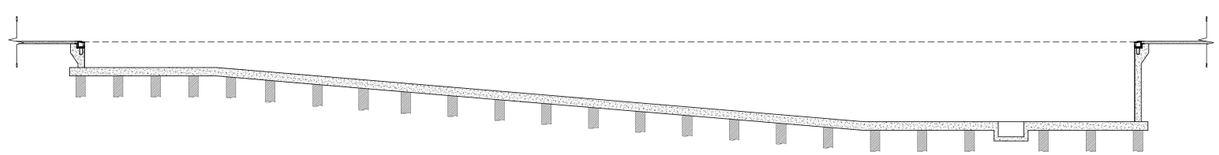
1 50 METER COMPETITION POOL SECTION
1 1/4" = 1'-0"



2 50 METER COMPETITION POOL SECTION
1 1/4" = 1'-0"



3 DIVE POOL SECTION
3/16" = 1'-0"



4 50 METER TRAINING POOL SECTION
1 1/4" = 1'-0"

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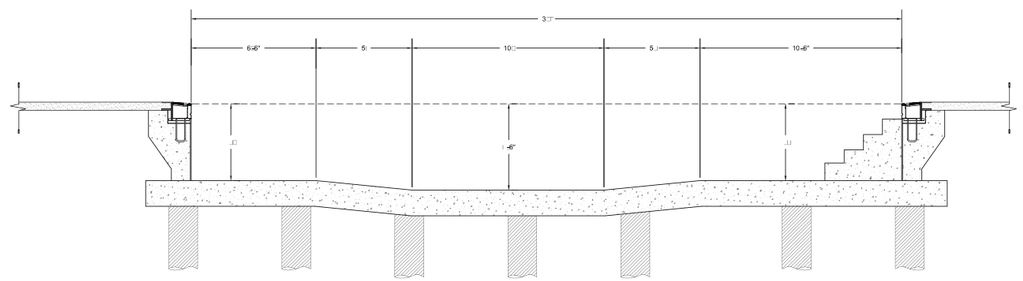
PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS

501 SEABREEZE BLVD. FT LAUDERDALE

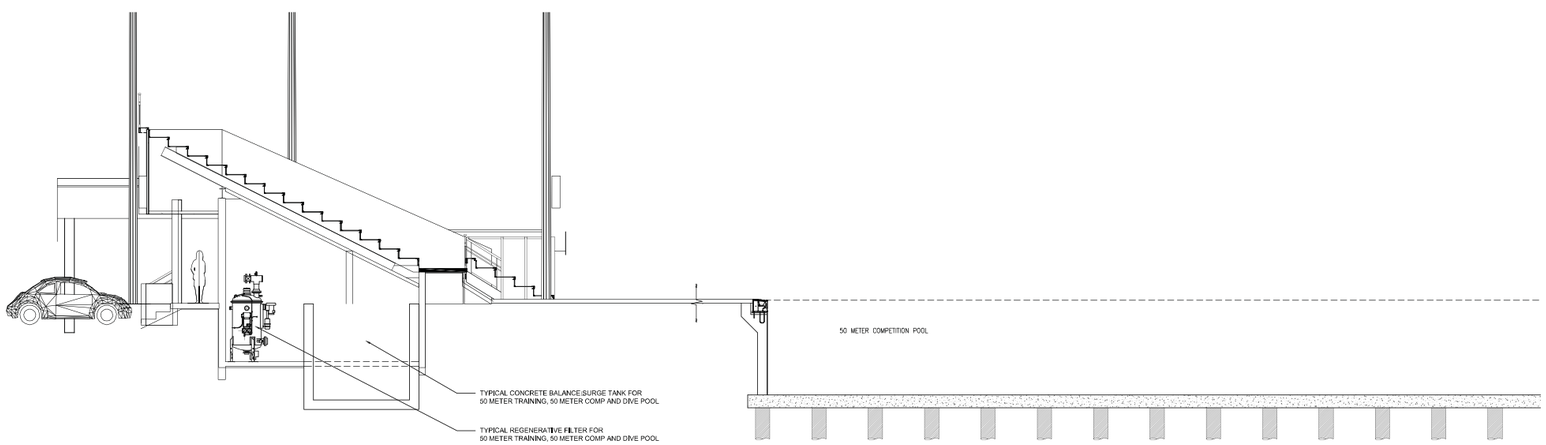
SHEET NO.
Q-102

TOTAL:
CAD FILE:
DRAWING FILE NO.

DESIGN DRAWINGS - Q-103 - Teaching Pool and Equipment Room Section



② TEACHING POOL SECTION
3/16" = 1'-0"



① 50 COMPETITION POOL - EQUIPMENT ROOM SECTION
3/16" = 1'-0"

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FT LAUDERDALE AQUATIC CENTER
RENOVATIONS

501 SEABREEZE BLVD. FT LAUDERDALE

SHEET NO.
Q-103

TOTAL:

CAD FILE:

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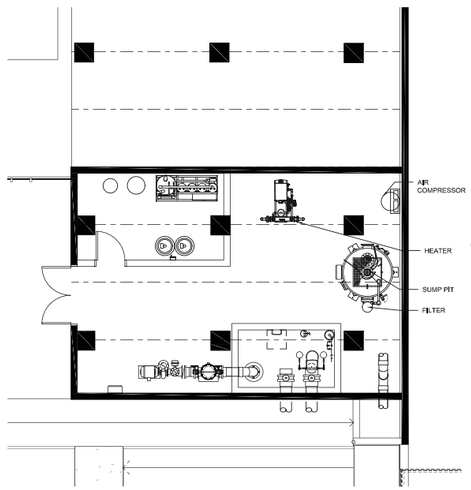
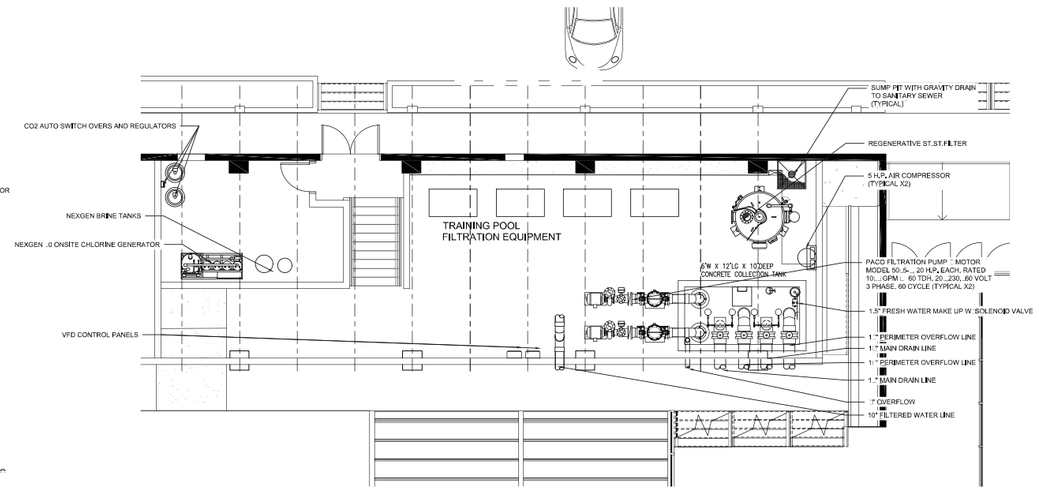
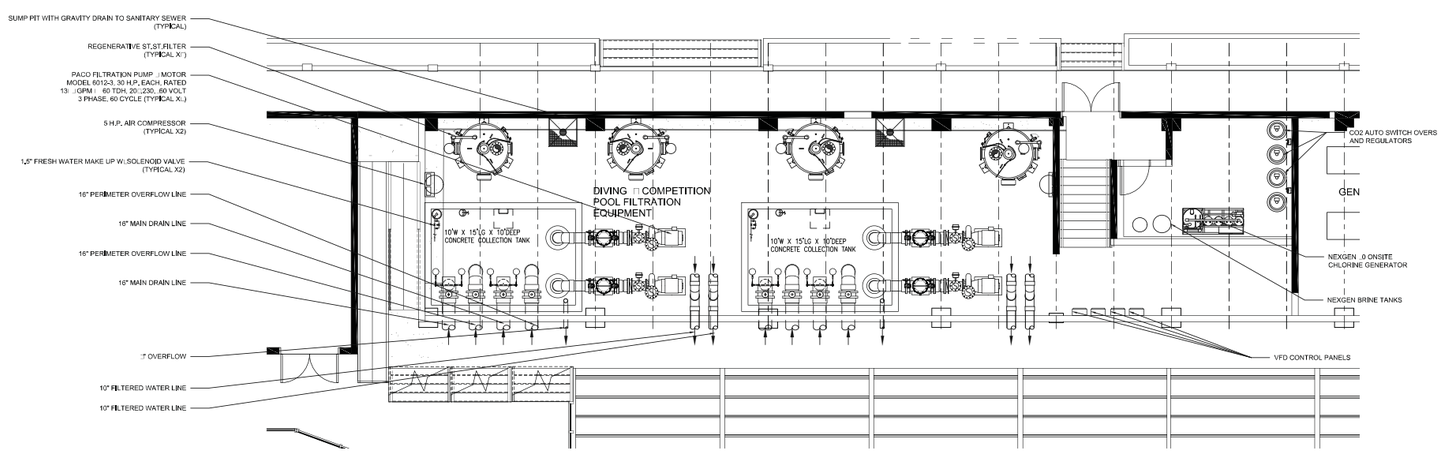
DESIGN DRAWINGS - Q-104 - Equipment Room Layout



③ TEACHING POOL EQUIPMENT ROOM
3:16" = 1'-0"



② 50 METER TRAINING POOL EQUIPMENT ROOM
3:16" = 1'-0"



① 50 METER COMPETITION POOL DIVE POOL EQUIPMENT ROOM
3:16" = 1'-0"

REFER TO SHEET A-4 AND S-2 FOR EQUIPMENT BUILDING LAYOUT UNDER THE COMPETITION POOL GRANDSTANDS TO CONSOLIDATE THE FILTRATION SYSTEM INTO ONE ROOM AND CHEMICAL ROOMS INTO ONE ROOM.

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FT LAUDERDALE AQUATIC CENTER
RENOVATIONS
501 SEABREEZE BLVD. FT LAUDERDALE

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SHEET NO. Q-104
TOTAL:
CAD FILE:
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DESIGN DRAWINGS - Q-105 - Filtration Equipment

FILTRATION EQUIPMENT - BASIS OF DESIGN 50 METER COMPETITION POOL

QTY	ITEM	MANUFACTURER	MODEL NO.	DESCRIPTION
2	FILTRATION PUMP	PACO	6012-3	PACO FLOODED SUCTION MODEL 30 H.P. PUMP & MOTOR, RATED FOR 1389 GPM @ 60 TDH, 480V, 3 PHASE, 60 CYCLE, 1750 RPM, WITH VFD SUPPLIED BY FILTER MANUFACTURE W/FLOW SENSOR AND READ OUT.
2	LINT STRAINER	PADDOCK		PADDOCK STAINLESS STEEL ROUND HAIR & LINT STRAINER W/ EXTRA STAINLESS STEEL BASKET
2	D.E. FILTRATION	PADDOCK	PPEC-2100S	1,538.8 SQ.FT. 63.5" DIAMETER STAINLESS STEEL REGENERATIVE D.E. PRESSURE FILTER WITH VFD PANEL
1	AIR COMPRESSOR	GRAINGER		GRAINGER 5 H.P. 408V, AIR COMPRESSOR W/TANK
1		McMASTER	9831K13	AUTO CONDENSATE DRAIN
±513	GUTTER	PADDOCK	C-100	STR. TYPE ST.ST. RECIRCULATION SYSTEM W/ HDPE PADDOCK GRAY GRATE.
2	BULKHEADS	PADDOCK		SIX FOOT WIDE STAINLESS STEEL BULKHEADS WITH HDPE GRATING
CHLORINATION EQUIPMENT				
	SALT CHLORINATOR	CHLORKING	NEX-GEN 80	SALT CHLORINATOR BOOSTER PUMP, BRIME TANK AND STAND
1	CHEMISTRY CONTROLLER	BECSYS	7	WATER CHEMISTRY CONTROLLER W/ FLOW CELL, SWITCH, FLOW SENSOR, TDS, PPM
1	CO2 CROSSOVER SWITCH	BECSYS		

FILTRATION EQUIPMENT - BASIS OF DESIGN 50 METER TRAINING POOL

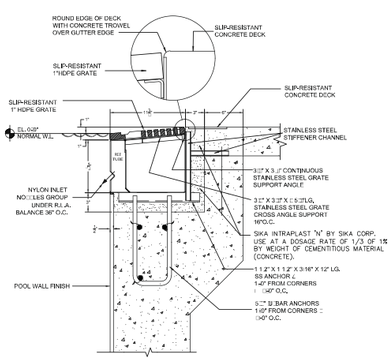
QTY	ITEM	MANUFACTURER	MODEL NO.	DESCRIPTION
2	FILTRATION PUMP	PACO	5095-7	PACO FLOODED SUCTION MODEL 20 H.P. PUMP & MOTOR, RATED FOR 1049 GPM @ 60 TDH, 480V, 3 PHASE, 60 CYCLE, 1750 RPM, WITH VFD SUPPLIED BY FILTER MANUFACTURE W/FLOW SENSOR AND READ OUT.
2	LINT STRAINER	PADDOCK		PADDOCK STAINLESS STEEL ROUND HAIR & LINT STRAINER W/ EXTRA STAINLESS STEEL BASKET
1	D.E. FILTRATION	PADDOCK	PPEC-2100S	1,538.8 SQ.FT. 63.5" DIAMETER STAINLESS STEEL REGENERATIVE D.E. PRESSURE FILTER WITH VFD PANEL
1	AIR COMPRESSOR	GRAINGER		GRAINGER 5 H.P. 408V, AIR COMPRESSOR W/TANK
1		McMASTER	9831K13	AUTO CONDENSATE DRAIN
±480	GUTTER	PADDOCK	R-300	STR. TYPE ST.ST. RECIRCULATION SYSTEM W/ HDPE PADDOCK GRAY GRATE.
CHLORINATION EQUIPMENT				
	SALT CHLORINATOR	CHLORKING	NEX-GEN 80	SALT CHLORINATOR BOOSTER PUMP, BRIME TANK AND STAND
1	CHEMISTRY CONTROLLER	BECSYS	7	WATER CHEMISTRY CONTROLLER W/ FLOW CELL, SWITCH, FLOW SENSOR, TDS, PPM
1	CO2 CROSSOVER SWITCH	BECSYS		

FILTRATION EQUIPMENT - BASIS OF DESIGN DIVE POOL

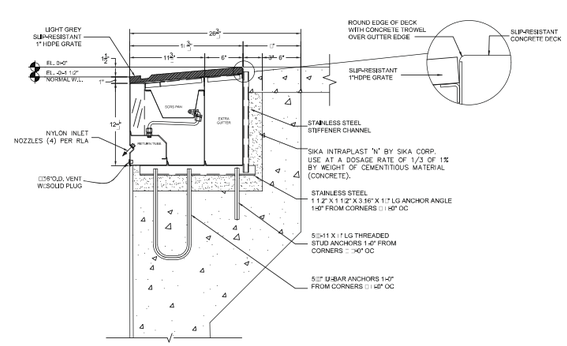
QTY	ITEM	MANUFACTURER	MODEL NO.	DESCRIPTION
2	FILTRATION PUMP	PACO	6012-3	PACO FLOODED SUCTION MODEL 30 H.P. PUMP & MOTOR, RATED FOR 1399 GPM @ 60 TDH, 480V, 3 PHASE, 60 CYCLE, 1750 RPM, WITH VFD SUPPLIED BY FILTER MANUFACTURE W/FLOW SENSOR AND READ OUT.
2	LINT STRAINER	PADDOCK		PADDOCK STAINLESS STEEL ROUND HAIR & LINT STRAINER W/ EXTRA STAINLESS STEEL BASKET
2	D.E. FILTRATION	PADDOCK	PPEC-2100S	1,538.8 SQ.FT. 63.5" DIAMETER STAINLESS STEEL REGENERATIVE D.E. PRESSURE FILTER WITH VFD PANEL
1	AIR COMPRESSOR	GRAINGER		GRAINGER 5 H.P. 408V, AIR COMPRESSOR W/TANK
1		McMASTER	9831K13	AUTO CONDENSATE DRAIN
±328	GUTTER	PADDOCK	C-100	STR. TYPE ST.ST. RECIRCULATION SYSTEM W/ HDPE PADDOCK GRAY GRATE.
CHLORINATION EQUIPMENT				
	SALT CHLORINATOR	CHLORKING	NEX-GEN 80	SALT CHLORINATOR BOOSTER PUMP, BRIME TANK AND STAND
1	CHEMISTRY CONTROLLER	BECSYS	7	WATER CHEMISTRY CONTROLLER W/ FLOW CELL, SWITCH, FLOW SENSOR, TDS, PPM
1	CO2 CROSSOVER SWITCH	BECSYS		

FILTRATION EQUIPMENT - BASIS OF DESIGN TEACHING POOL

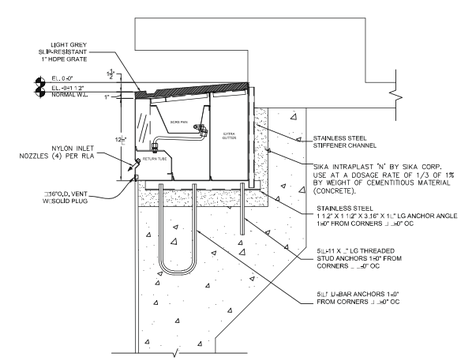
QTY	ITEM	MANUFACTURER	MODEL NO.	DESCRIPTION
1	FILTRATION PUMP	PACO		PACO FLOODED SUCTION MODEL 7.5 H.P. PUMP & MOTOR, RATED FOR 347 GPM @ 60 TDH, 480V, 3 PHASE, 60 CYCLE, 1750 RPM, WITH VFD SUPPLIED BY FILTER MANUFACTURE W/FLOW SENSOR AND READ OUT.
1	LINT STRAINER	PADDOCK		PADDOCK STAINLESS STEEL ROUND HAIR & LINT STRAINER W/ EXTRA STAINLESS STEEL BASKET
1	D.E. FILTRATION	PADDOCK	PPEC-350S	277.9 SQ.FT. 33" DIAMETER STAINLESS STEEL REGENERATIVE D.E. PRESSURE FILTER WITH VFD PANEL
1	AIR COMPRESSOR	GRAINGER		GRAINGER 3 H.P. 408V, AIR COMPRESSOR W/TANK
1		McMASTER	9831K13	AUTO CONDENSATE DRAIN
±154	GUTTER	PADDOCK	R-300	STR. TYPE ST.ST. RECIRCULATION SYSTEM W/ HDPE PADDOCK GRAY GRATE.
CHLORINATION EQUIPMENT				
	SALT CHLORINATOR	CHLORKING	NEX-GEN 20	SALT CHLORINATOR BOOSTER PUMP, BRIME TANK AND STAND
1	CHEMISTRY CONTROLLER	BECSYS	7	WATER CHEMISTRY CONTROLLER W/ FLOW CELL, SWITCH, FLOW SENSOR, TDS, PPM
1	CO2 CROSSOVER SWITCH	BECSYS		



③ 50 METER TRAINING POOL AND TEACHING POOL GUTTER PROFILE
1 1.2" = 1'-0"



② 50 METER COMPETITION POOL GUTTER PROFILE (SIDES) AND FULL DIVE POOL GUTTER PROFILE
1 1.2" = 1'-0"



① 50 METER COMPETITION POOL GUTTER PROFILE (ENDS)
1 1.2" = 1'-0"

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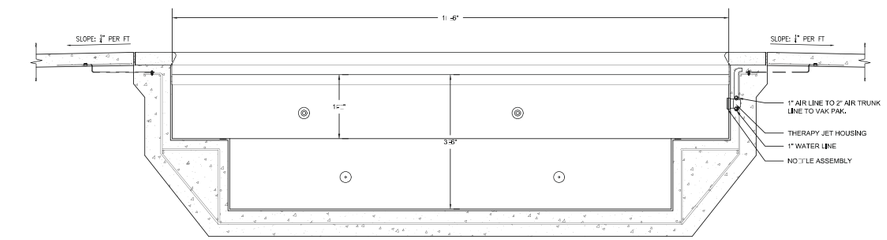
PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS
501 SEABREEZE BLVD. FT LAUDERDALE

SHEET NO. Q-105
TOTAL:
CAD FILE:
DRAWING FILE NO.

DESIGN DRAWINGS - Q-106 - Spa Equipment & Schedule



① SPA SECTION
3/8" = 1'-0"

	VALVES AND PIPE CONNECTION SIZES	SIZE
A	MAIN DRAIN	8"
B	SKIMMER (DIRECT SUCTION)	2"
E	RETURN LINE	2"
G	PUMP TO WASTE	2"
H	PUMP TO FILTER	2"
I	AUTOMATIC FRESH WATER FILL DEVICE	1"
K	FILTER SUCTION	2.5"
L	FROM HEATER	2"
M	TO HEATER	2"
O	TANK OVERFLOW W/CHECK VALVE	2"
S	THERAPY SUCTION	4"
T	THERAPY DISCHARGE	3"
W	THERAPY BYPASS	2"
U	GALLONS, COLLECTOR TANK	300

COMMERCIAL SPA SAND FILTER SYSTEM

CHR36CTS 2,330 GALLONS IN 30 MINUTES
78 GPM @ 11.05 GPM FILTER RATE, 7.06 SQ. FT. TOTAL

① 1 – PENTAIR, TR140C, SAND FILTER, 7.06 SQ. FT.

② 1.5HP – PENTAIR RECIRCULATION PUMP WFE-6
1 PHASE 230 VOLTS, 95 GPM @ 60 TDH, 6" STRAINER

③ 5HP – PENTAIR FEATURE PUMP XFE-20
1 PHASE 230 VOLTS, 220 GPM @ 60 TDH, 6" STRAINER

④ 2" BLUE WHITE FLOWMETER, CF30 200 P, 40 TO 150 GPM

⑤ PRESSURE GAUGE 0# TO 60#, 2 1/2" FACE

⑥ GENERAL INSTRUMENTS THERMOMETER 32° TO 248°F, 0° TO 120°

⑧ CL2 FEEDER BY STENNER, MODEL 45M5, 50 GPD
30 GALLON REMOTE LOCKABLE CHEMICAL CONTAINER

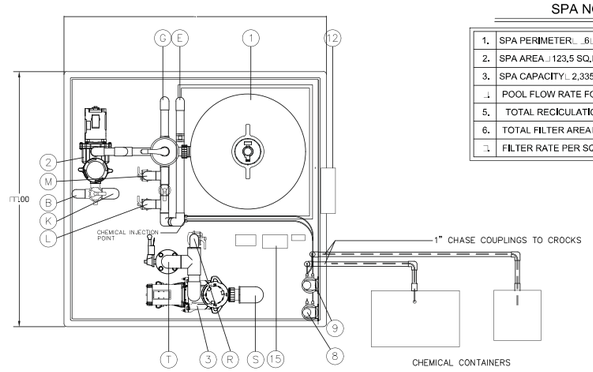
⑨ PH FEEDER BY STENNER, MODEL 45M2, 10 GPD
15 GALLON REMOTE LOCKABLE CHEMICAL CONTAINER

⑫ SIEMENS 3 PHASE 12 CIRCUIT MAIN LUG BREAKER PANEL
125A 115/230V, 60hZ

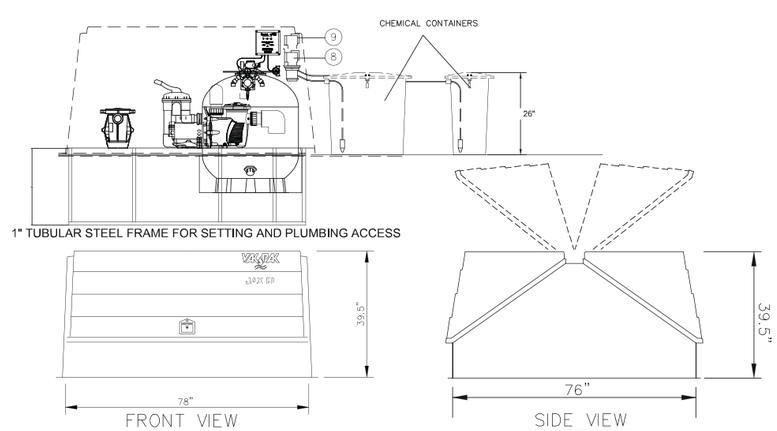
⑮ CES MR1 CHEMICAL CONTROLLER, 115V

SPA NOTES:

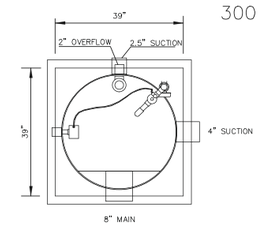
1.	SPA PERIMETER: 46'
2.	SPA AREA: 123.5 SQ.FT.
3.	SPA CAPACITY: 2,335 GALS
4.	POOL FLOW RATE FOR 30 MIN. TURNOVER: 77 GPM
5.	TOTAL RECICULATION RATE: 120 GPM
6.	TOTAL FILTER AREA: 7.06 SQ.FT.
7.	FILTER RATE PER SQ.FT. OF FILTER AREA: 15 GPM/SQ.FT.



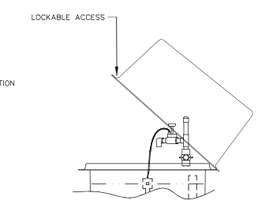
EQUIPMENT SKID PLAN VIEW



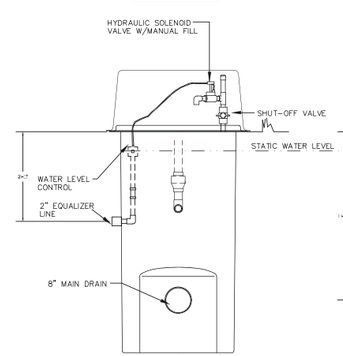
300 GALLON SPA COLLECTOR



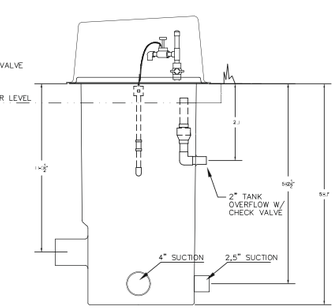
PLAN VIEW



LID DETAIL



ELEVATION "A"



ELEVATION "B"

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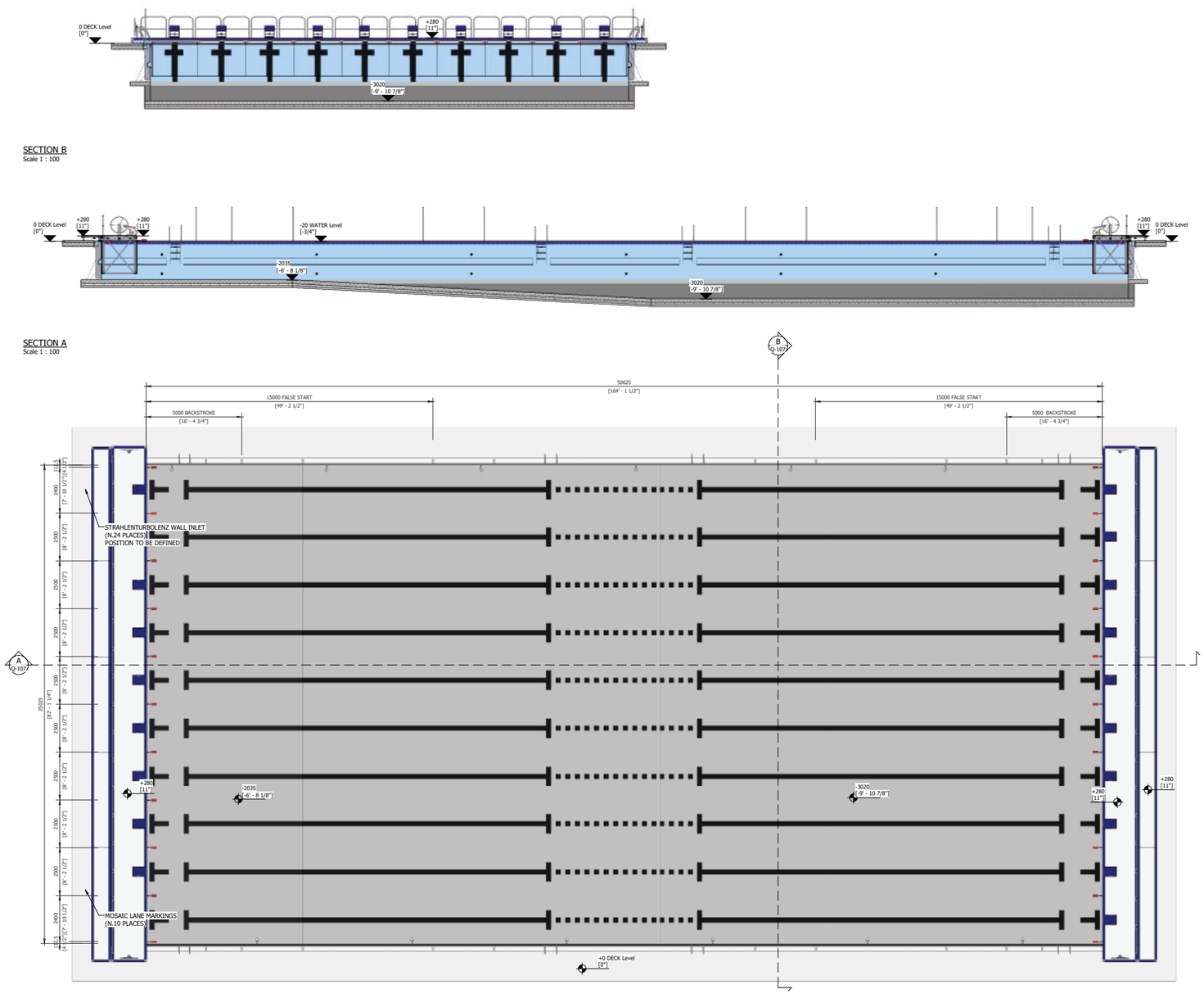
PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS

501 SEABREEZE BLVD. FT LAUDERDALE

SHEET NO. Q-106
TOTAL:
CAD FILE:
DRAWING FILE NO.

DESIGN DRAWINGS - Q-107 - Myrtha - Competition Pool



COMPETITION POOL - MYRTHA

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PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS
501 SEABREEZE BLVD. FT LAUDERDALE

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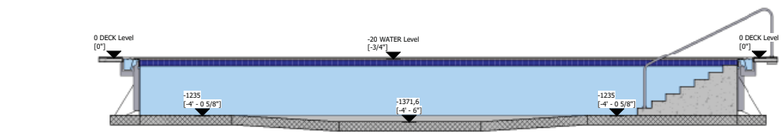
DESIGN DRAWINGS - Q-108 - Myrtha - Teaching Pool



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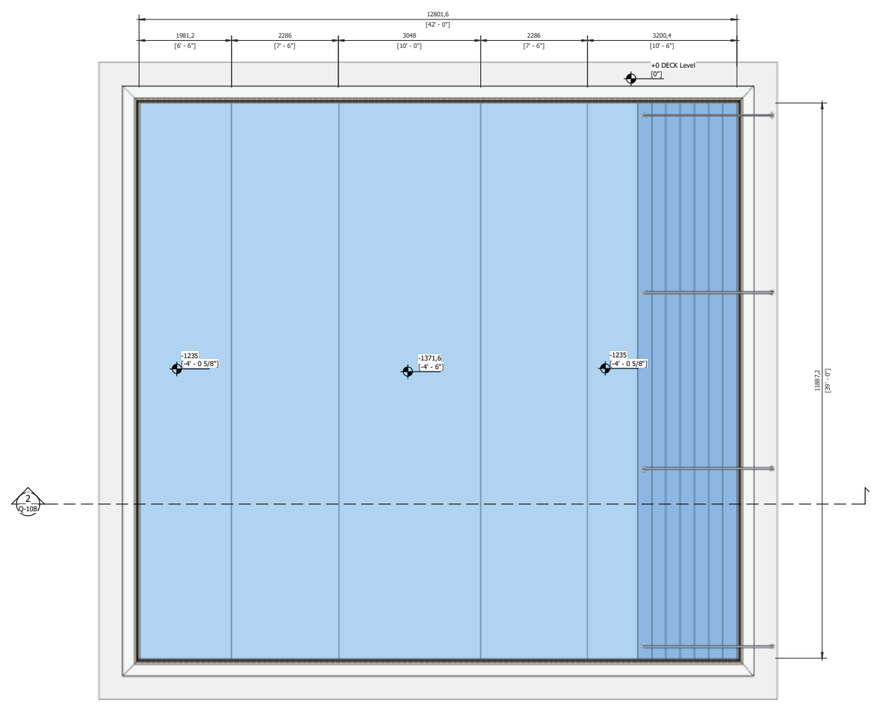

FINISHED POOL
Scale 1 : 50

TEACHING POOL - MYRTHA

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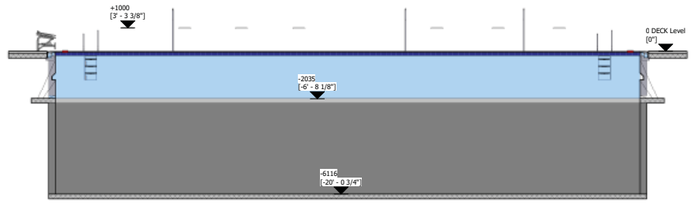
PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS

501 SEABREEZE BLVD. FT LAUDERDALE

SHEET NO.
Q-108
TOTAL:
CAD FILE:
DRAWING FILE NO.

DESIGN DRAWINGS - Q-109 - Myrtha - Dive Pool



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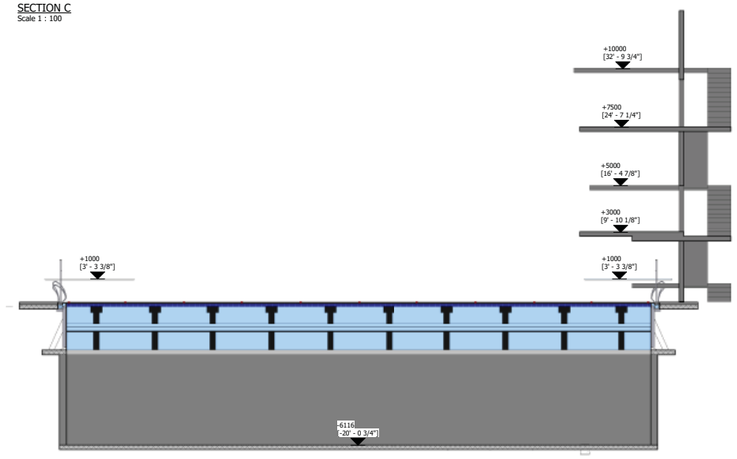

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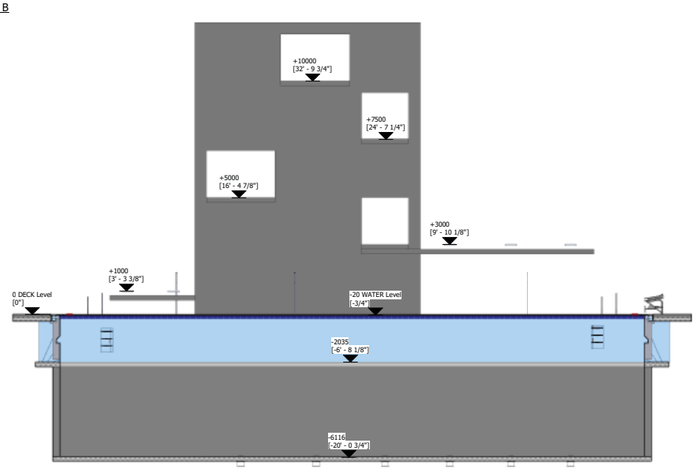

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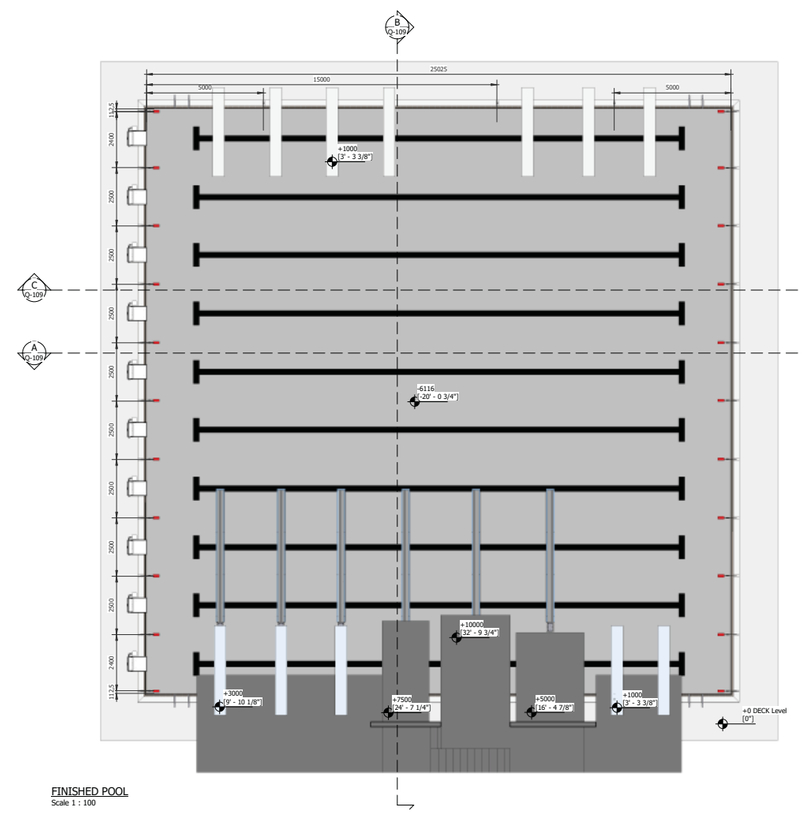

FINISHED POOL
Scale 1 : 100

DIVE POOL - MYRTHA

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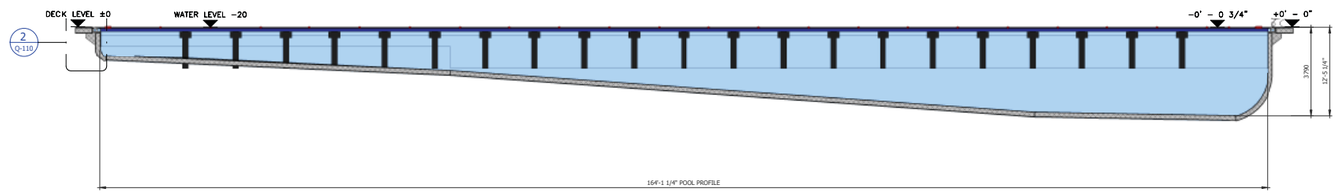
PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS
501 SEABREEZE BLVD. FT LAUDERDALE

SHEET NO
Q-109
TOTAL:
CAD FILE:
DRAWING FILE NO.

DESIGN DRAWINGS - Q-110 - Myrtha - Existing Training Pool



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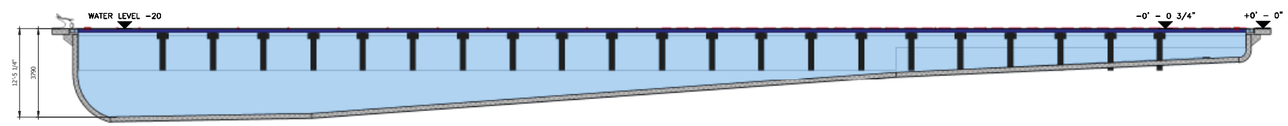

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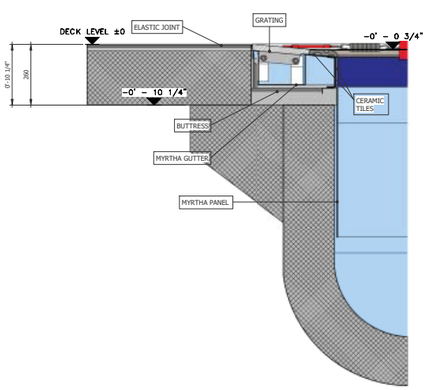
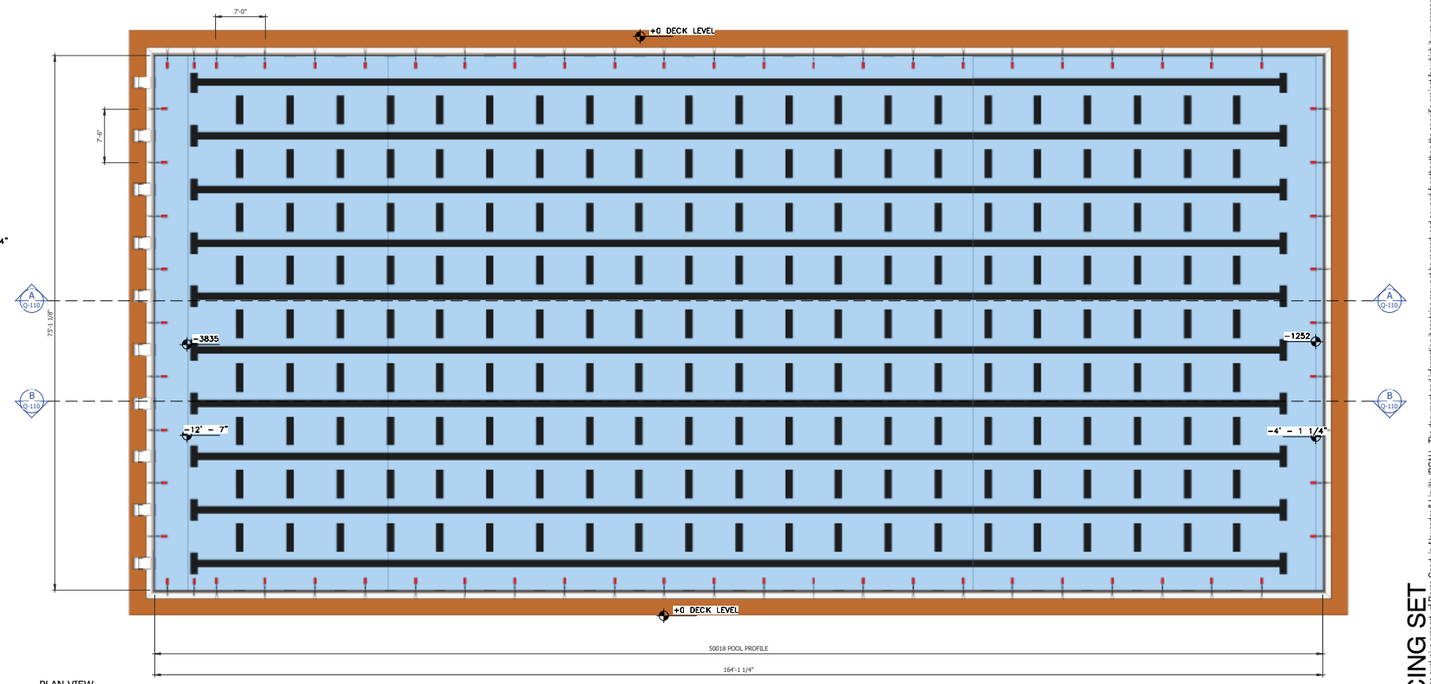


TYP. MYRTHA RENOVECTION C1/99
Scale 1 : 100



PLAN VIEW
Scale 1 : 100

EXISTING TRAINING POOL - MYRTHA

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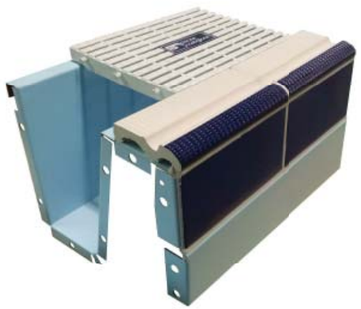
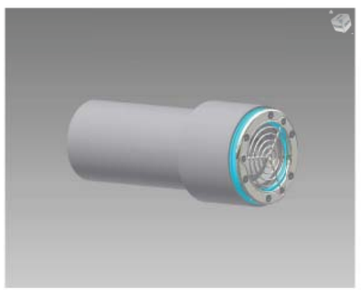
NO.	DATE	REVISIONS BY	DESCRIPTION

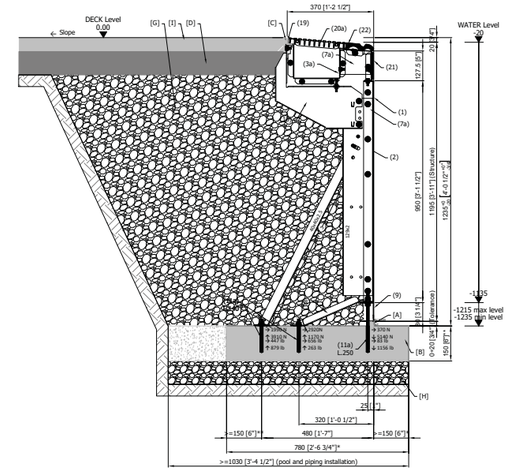
PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS
501 SEABREEZE BLVD. FT LAUDERDALE

SHEET NO.
Q-110
TOTAL:
CAD FILE:
DRAWING FILE NO.

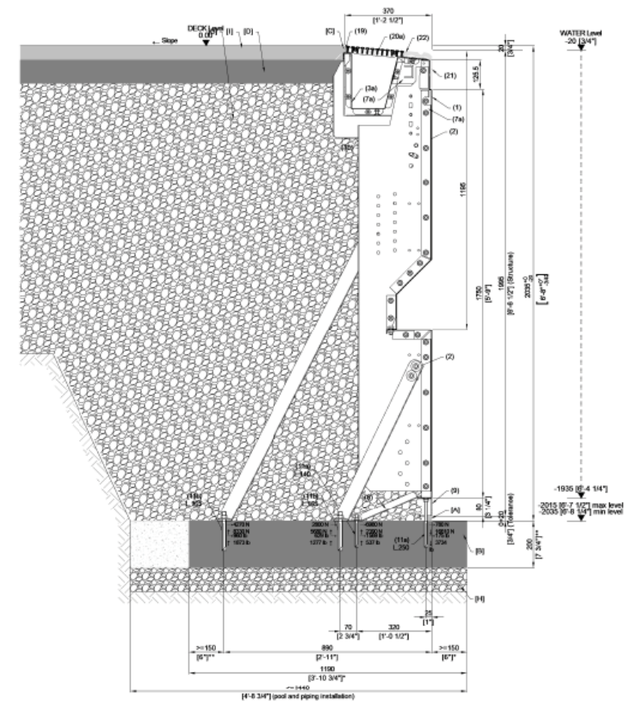
DESIGN DRAWINGS - Q-111 - Myrtha - Details







TYP. MYRTHA CER1/00 BACKFILLED SECTION



TYP. CER1-2000

MYRTHA DETAILS

PRICING SET

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ARCHITECT:
ANTHONY J. GUEST, AIA
REG. NO: AR-0016053
DATE:
(T) 561 988 4002 (F) 561 988 3002

DRAWN BY: JP
DATE: 1/29/2018
DESIGNED BY: NTS SCALE
CHECKED BY: SC
FIELD BOOK:

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

NO	DATE	BY	REVISIONS	DESCRIPTION

PROJECT # RFP#12072-183
FT LAUDERDALE AQUATIC CENTER
RENOVATIONS
501 SEABREEZE BLVD. FT LAUDERDALE

SHEET NO
Q-111
TOTAL:
CAD FILE:
DRAWING FILE NO.

DESIGN DRAWINGS - P-1C - Seating Plan - Competition Bleachers

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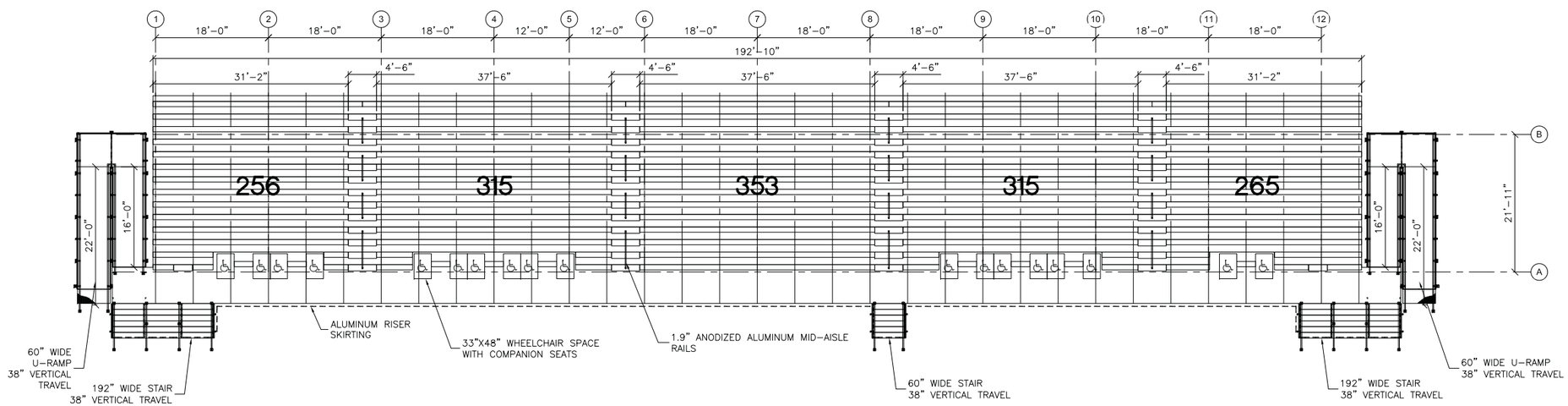

SEATING PLAN

SCALE: 1/8" = 1'-0"

ROWS 14	ELEVATION 38"
RISE 12	RUN 24
DECK SYSTEM – WELDED	
DECK FINISH – SSRD	
BENCH SEATING CAPACITY	1504
CHAIR SEATING CAPACITY	0
WHEELCHAIR SEATING CAPACITY	18
COMPANION SEATING CAPACITY	18
TOTAL SEATING CAPACITY	1540

PROJECT NAME:

DANT CLAYTON CORPORATION
1500 Bernheim Lane
Louisville, KY 40210
Telephone (502) 634-3626
WWW.DANTCLAYTON.COM

REVISIONS

REV. NO.	DATE	DESCRIPTION	INITIALS	ECO NUMBER
A				
B				
C				
D				
E				

SHEET NUMBER
P-1C

PART NUMBER

DESIGN DRAWINGS - P-1SC - Structural Plan - Competition Bleachers

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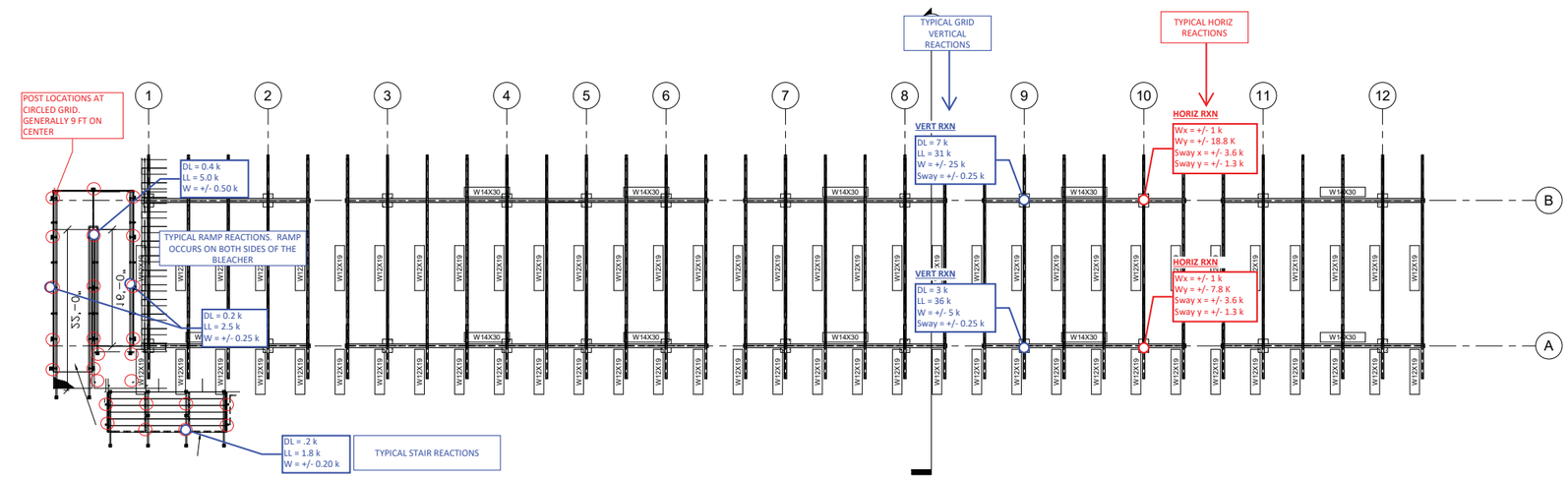
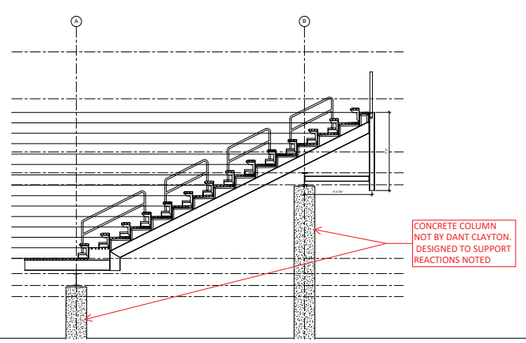
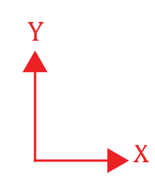
REACTION NOTES:

1. REACTIONS FOR WIND (W) ARE ULTIMATE FORCE LOAD CASE
2. VERTICAL REACTION IN "Z" DIRECTION. A NEGATIVE VALUE (-) IS UPLIFT
3. HORIZONTAL REACTIONS IN "X" AND "Y" DIRECTION AS SHOWN BY KEY
4. LOADING PER IBC 2015 AND ICC-300 2012



1 FRONT WALKWAY
1/8" = 1'-0"





ELEVATE YOUR VIEW.
DANT CLAYTON

PRELIMINARY REACTIONS & FRAMING LAYOUT
NOT FOR CONSTRUCTION
2018-01-23
ABZ

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STRUCTURAL PLAN

Project number	Project Number
Date	Issue Date
Drawn by	Author
Checked by	Checker

P-1SC

Scale 1/8" = 1'-0"

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DESIGN DRAWINGS - P-1SCA - Structural Plan - Competition Bleachers w/ Canopy

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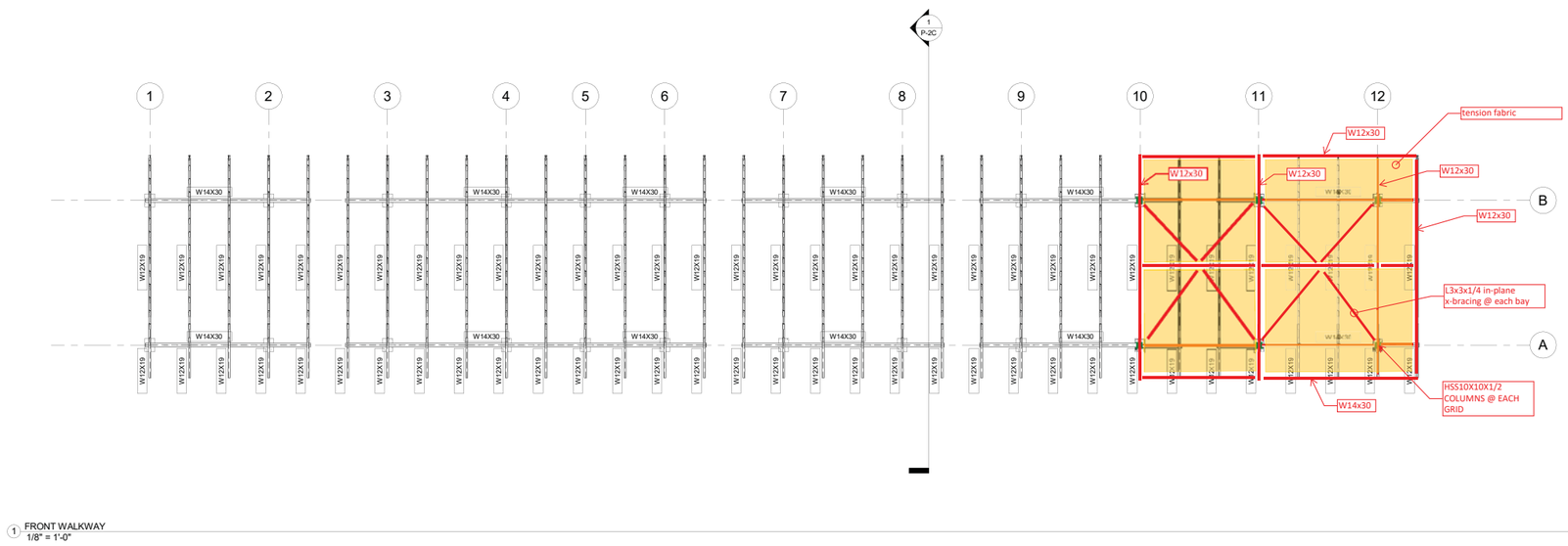
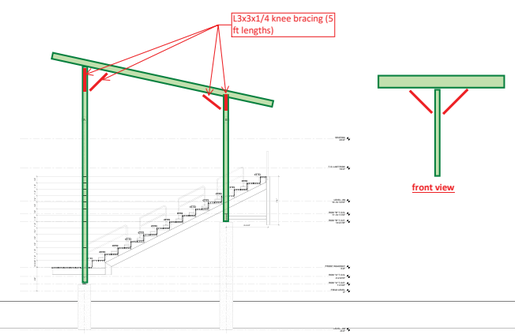


1 FRONT WALKWAY
1/8" = 1'-0"



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STRUCTURAL
PLAN

Project number	Project Number
Date	Issue Date
Drawn by	Author
Checked by	Checker

P-1SC A

Scale 1/8" = 1'-0"

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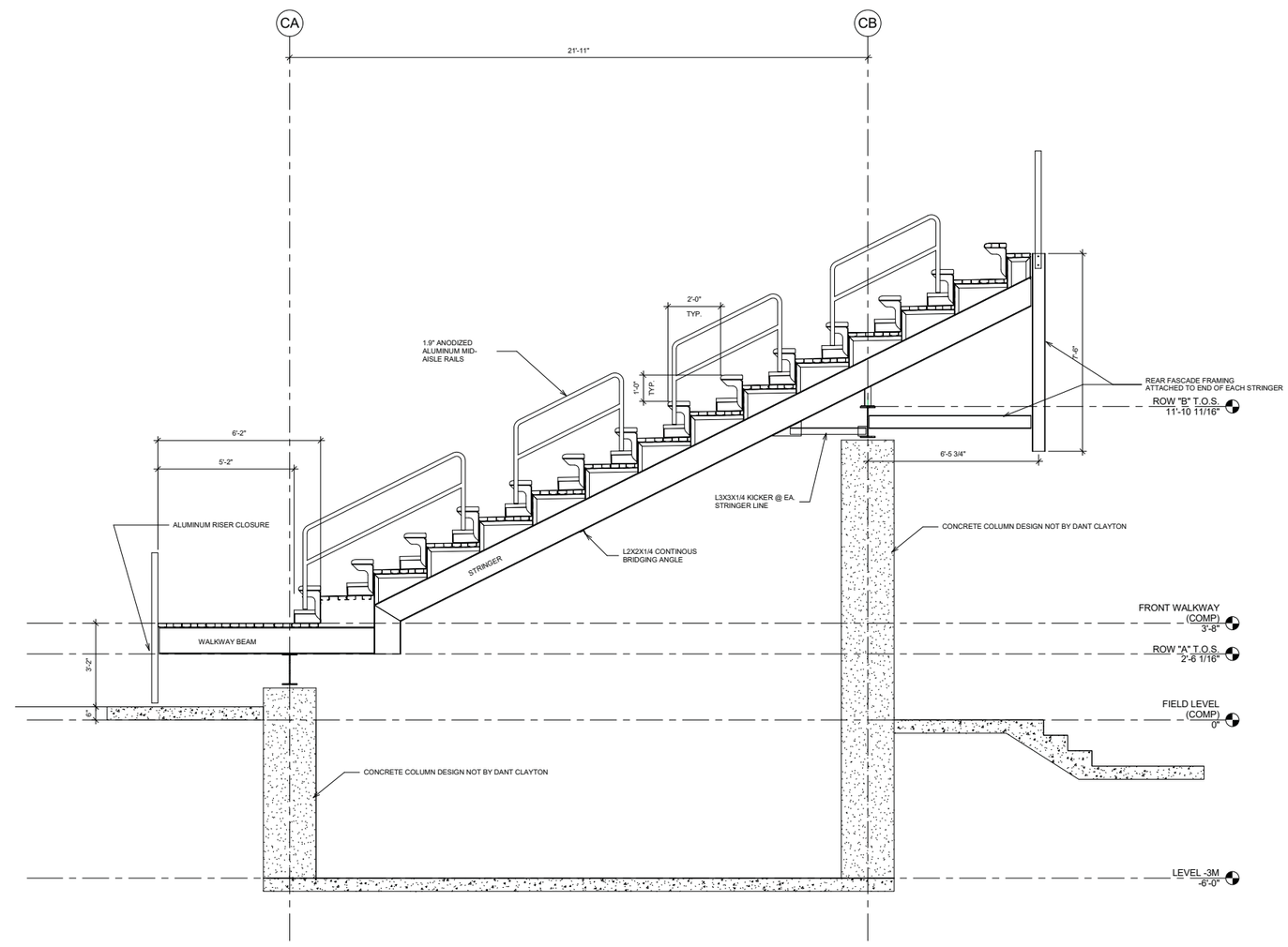
DESIGN DRAWINGS - P-2C - Competition Bleachers -Section



1 Grid C8
1/2" = 1'-0"

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AISC CERTIFIED FABRICATOR

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No.	Description	Date

Project Name

Enter address here

Project Number

SECTION

Project number	Project Number
Date	Issue Date
Drawn by	Author
Checked by	Checker

P-2C

Scale	1/2" = 1'-0"

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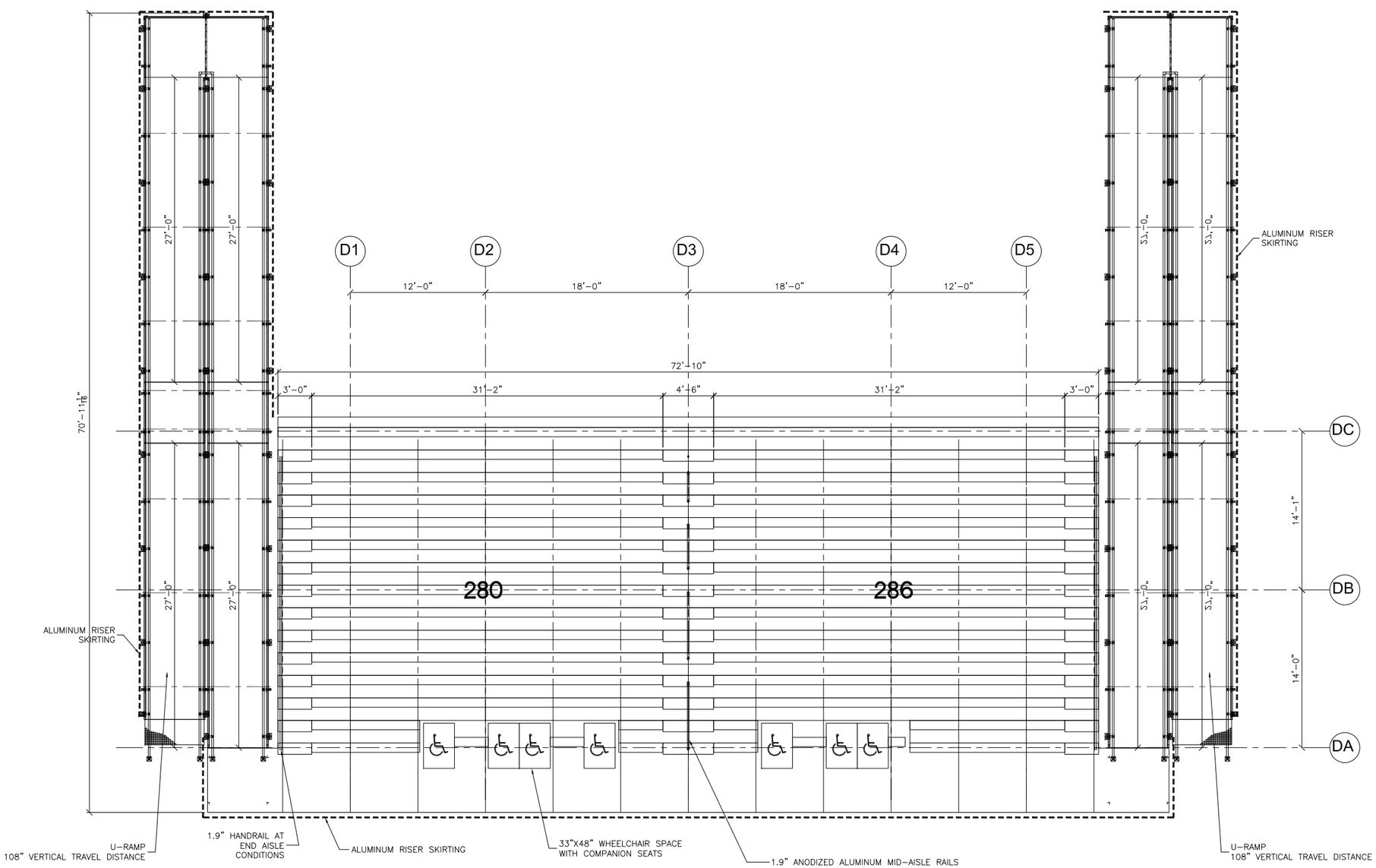
DESIGN DRAWINGS - P-1D - Seating Plan - Dive Bleachers



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

ROWS 15	ELEVATION 108"	
RISE 12	RUN 24	
DECK SYSTEM – WELDED		
DECK FINISH – SSRD		
BENCH SEATING CAPACITY		566
CHAIR SEATING CAPACITY		0
WHEELCHAIR SEATING CAPACITY		7
COMPANION SEATING CAPACITY		7
TOTAL SEATING CAPACITY		580

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PROJECT NAME:

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B				
C				
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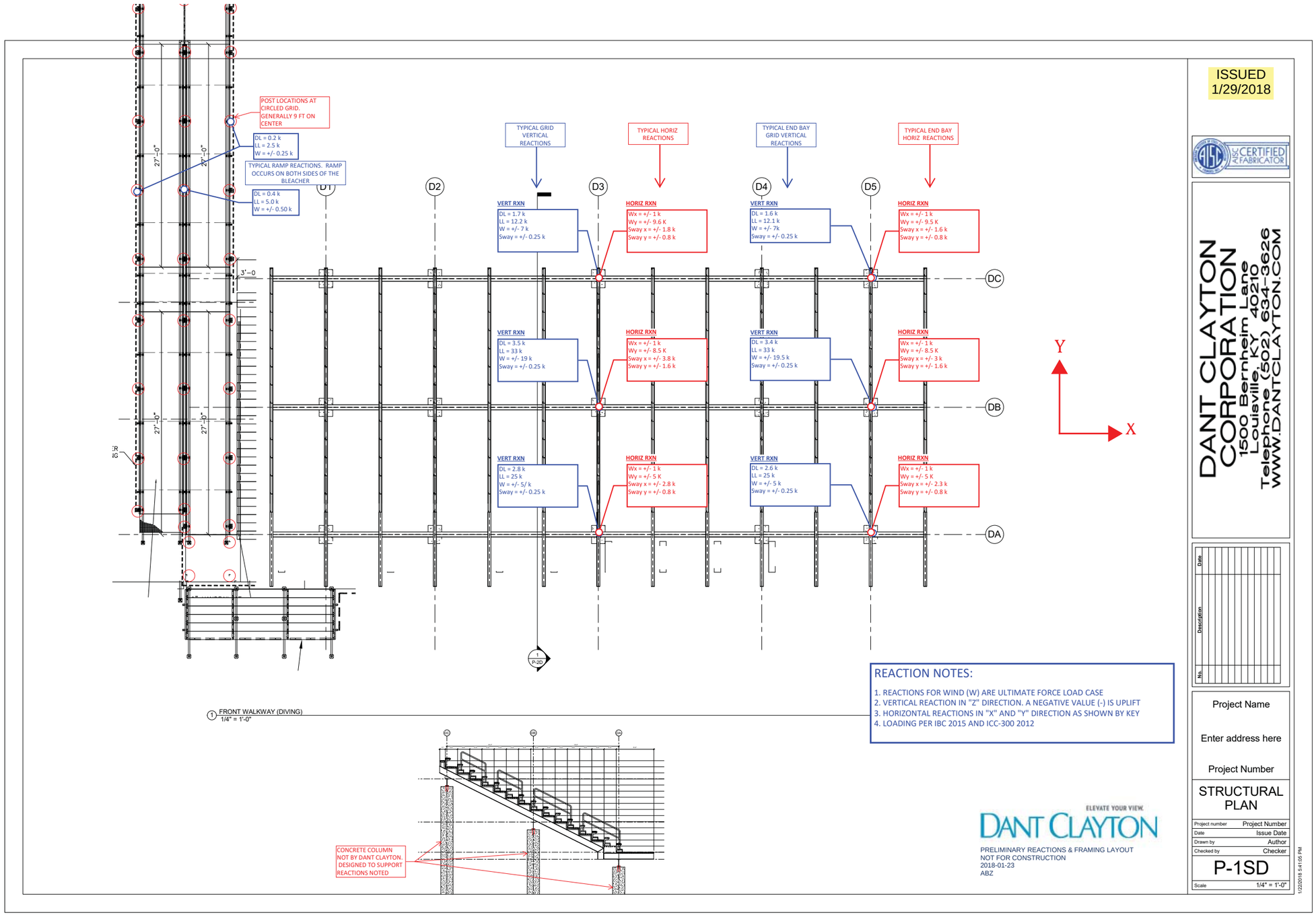
E				

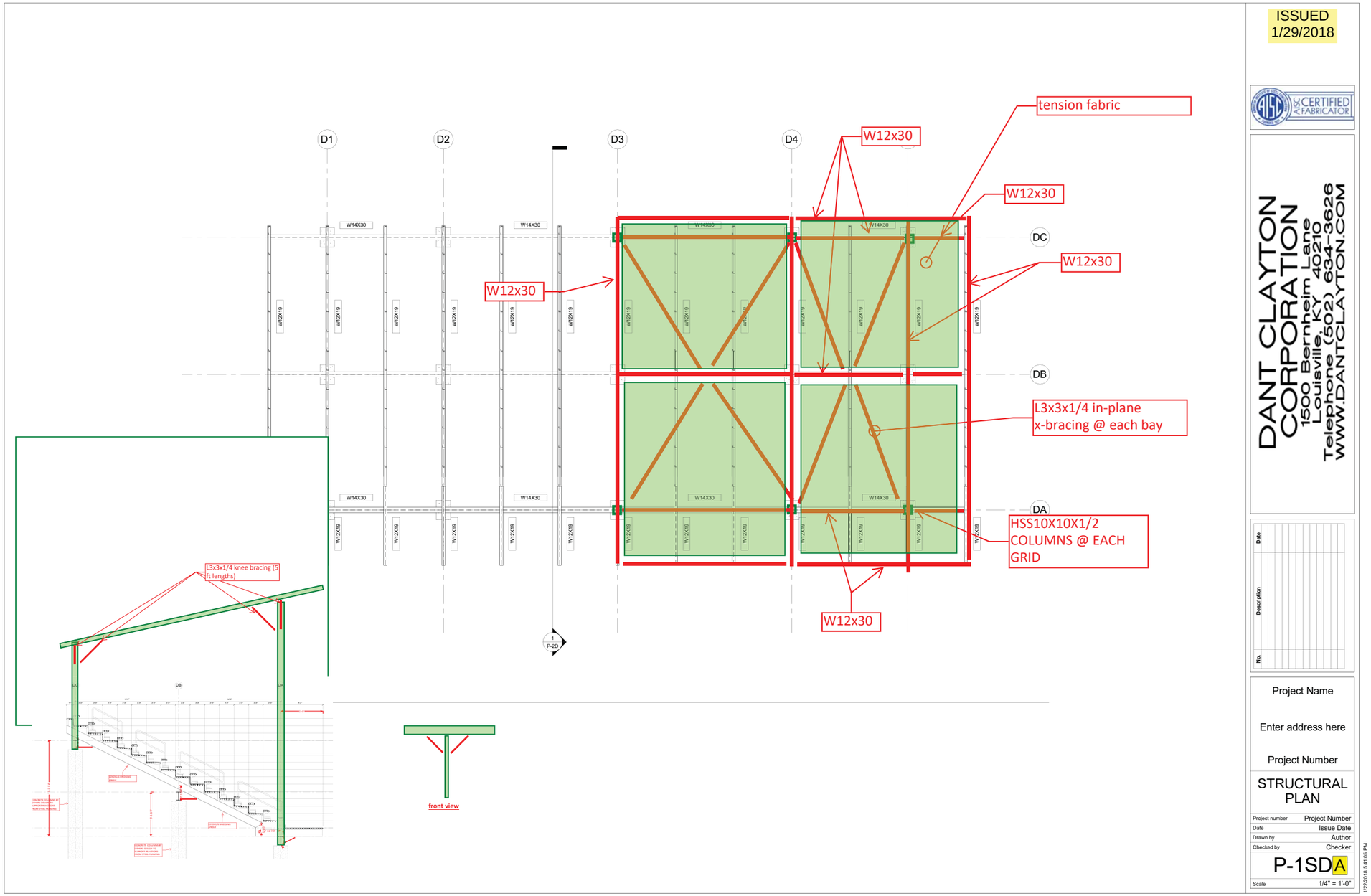
SHEET NUMBER
P-1D

PART NUMBER

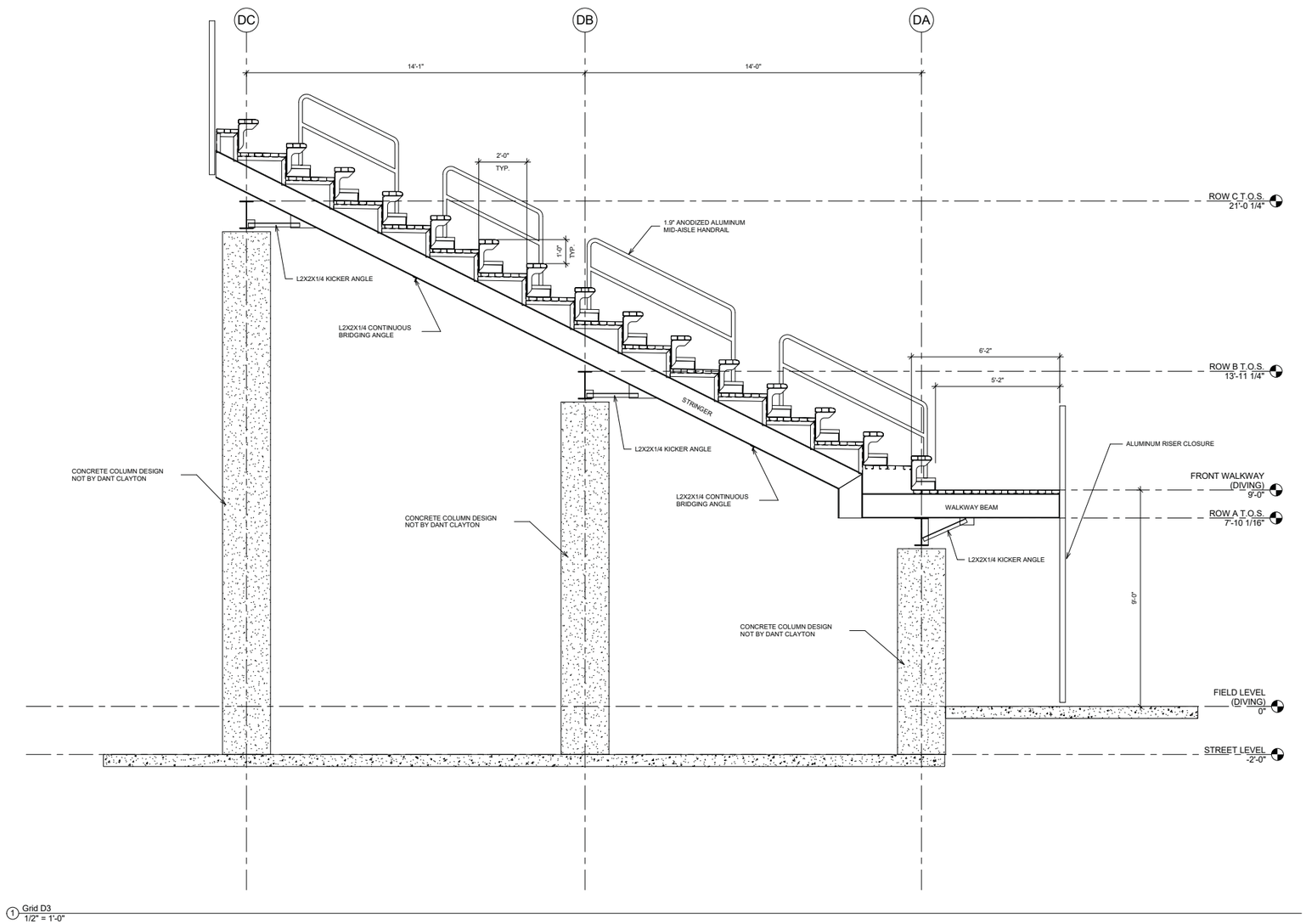
DESIGN DRAWINGS - P-1SD - Structural Plan - Dive Bleachers



DESIGN DRAWINGS - P-1SDA - Structural Plan - Dive Bleachers w/ Canopy



DESIGN DRAWINGS - P-2D - Dive Bleachers - Section



1 Grid D3
1/2" = 1'-0"

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SECTION

Project number	Project Number
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P-2D

Scale	1/2" = 1'-0"

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DESIGN DRAWINGS - MUSCO Lighting Design

Provided in design criteria from the City of Ft Lauderdale

152057E

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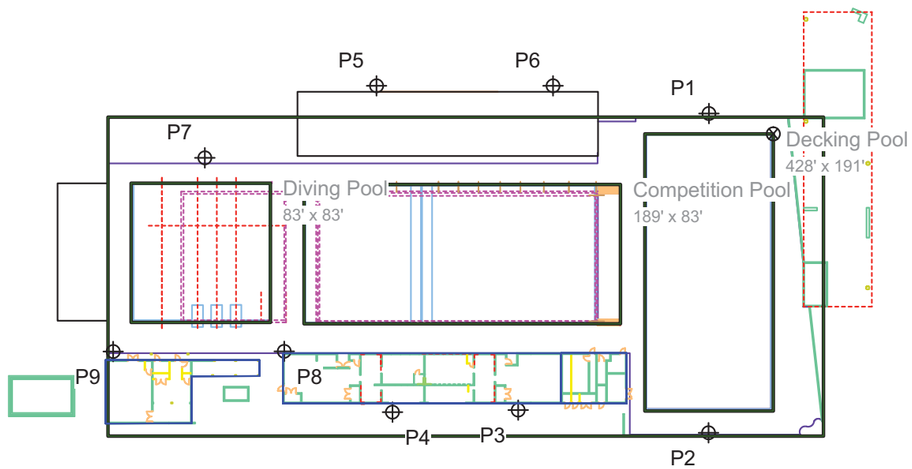

EQUIPMENT LAYOUT

INCLUDES:
- Competition Pool
- Deck
- Diving Pool
- Training Pool

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires		
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE
2	P1-P2	70'	-	70'	TLC-LED-1150	4
4	P3-P6	70'	-	70'	TLC-LED-1150	10
1	P7	70'	-	70'	TLC-LED-1150	7
2	P8-P9	130'	-	130'	TLC-LED-1150	7
9	TOTALS					69

SINGLE LUMINAIRE AMPERAGE DRAW CHART

Ballast Specifications (.90 min power factor)	Line Amperage Per Luminaire (max draw)						
Single Phase Voltage	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
TLC-LED-1150	7.0	6.6	6.1	5.2	4.2	3.8	3.0

MUSCO Lighting Design 1 of 2

SCALE IN FEET 1 : 100

0' 100' 200'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

ENGINEERED DESIGN By: Jake Van Polen • File #152057E • 29-Nov-16

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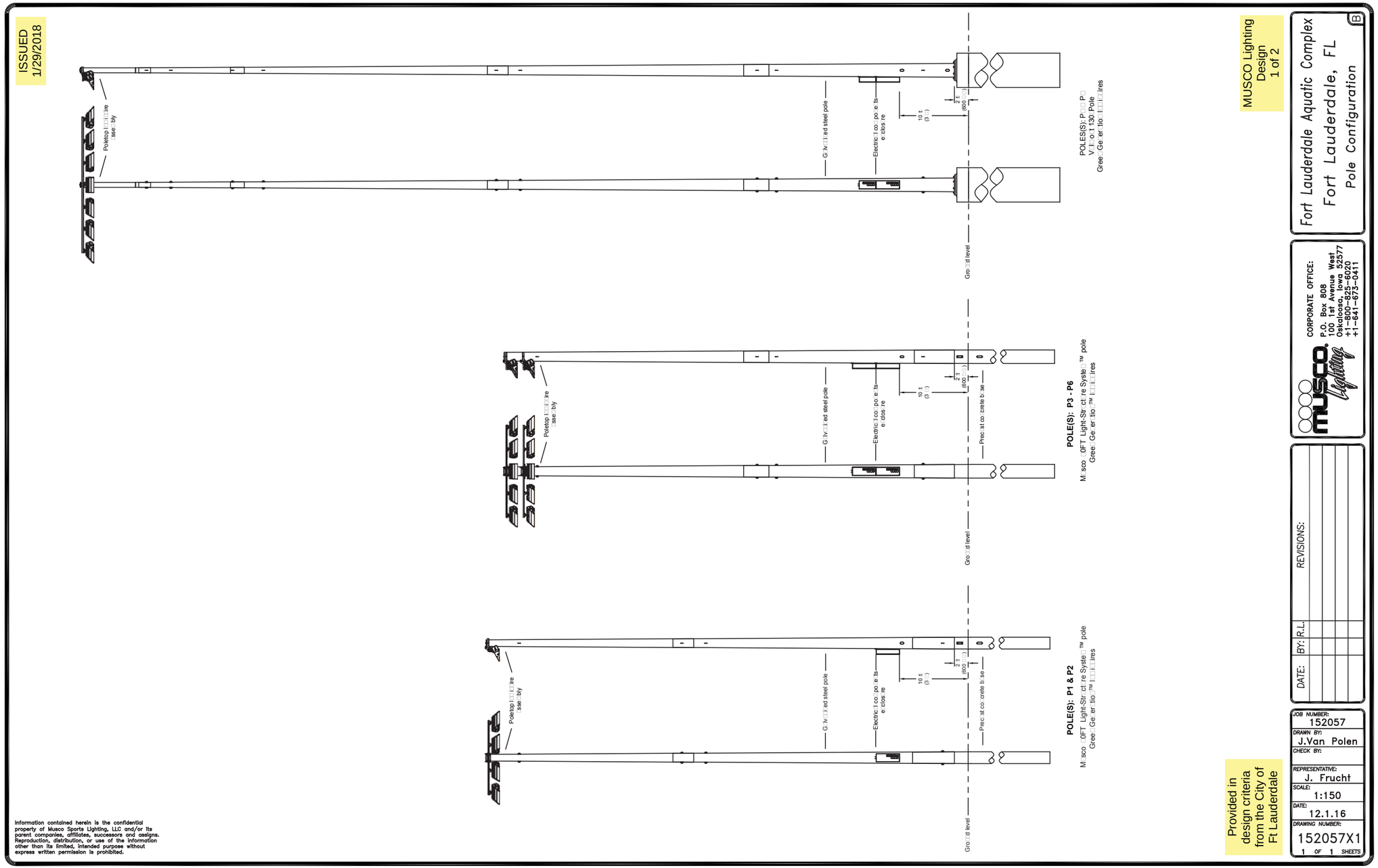
EQUIPMENT LAYOUT

DESIGN DRAWINGS - MUSCO Lighting Design



DESIGN DRAWINGS - MUSCO Lighting Cut Sheets

MUSCO Lighting Cut Sheets 1 of 13

Light·Structure System™

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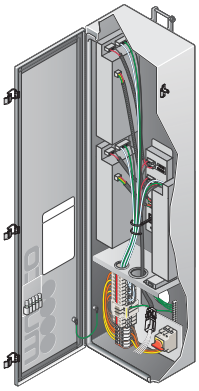
5 Easy Pieces™

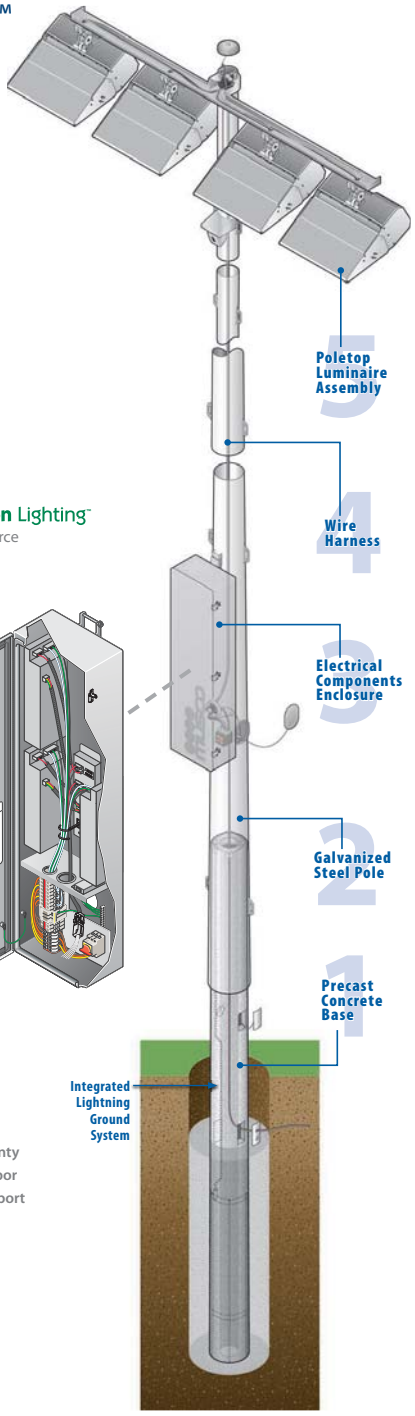
Complete System from Foundation to Poletop

Two light source options

TLC for LED™
Total Light Control™

Green Generation Lighting™
Metal Halide Light Source





All components designed to work together . . . factory built, wired, aimed, and tested to assure reliable, trouble-free operation

Covered by a 25-year product assurance and warranty program with guaranteed light levels, parts and labor for maintenance, system monitoring, and 24/7 support from Control-Link Central™

For your **BUDGET,** for the **ENVIRONMENT.**

www.musco.com
lighting@musco.com

©1993, 2016 Musco Sports Lighting, LLC • M-1779-ent15-4 • TLC-LED-1150 • U.S. and foreign patents issued and pending.

musco lighting
We Make It Happen.

DESIGN DRAWINGS - MUSCO Lighting Cut Sheets

TLC for LED™ Total Light Control™

Continuing the commitment to excellence…
Keeping good lighting affordable…
Guaranteed for 25 years, from foundation to poletop.

Light-Emitting Diode (LED) is a new tool but the issues for sports lighting are the same. For nearly a decade, the Musco Team has been testing the LED light source and applying it on projects where it was the best choice. While LED saved energy, for a typical recreational facility the hours of operation weren't great enough to offset the higher cost.

We've researched LED's distinctive challenges and advantages and applied our knowledge of light control to the unique characteristics of the diode, assuring the quality of lighting for which Musco is known.

We've paired our expertise in controlling light with the advancing output of LED to the point where we're confident it's a cost-effective option to consider for recreational facilities.

The result is a system that makes Musco's great lighting even better.

Better for players…
who want to perform their best and be able to track the entire flight of the ball.

Better for neighbors…
who don't want glare in or around their homes or lights left on when not in use.

Better for the night sky…
with bright, uniform light directed onto the field and not spilling above it.

Better for your budget…
an affordable system that's built to last and control operating costs.

And…you can mark maintenance off your list for 25 years!

The Musco Team looks for the best combination of issues to achieve a solution to meet your needs—from structures, to quality of on-field light, to off-site impact, to energy and costs.

©2016 Musco Sports Lighting, LLC · U.S. and foreign patent(s) issued and pending

DESIGN DRAWINGS - MUSCO Lighting Cut Sheets

MUSCO Lighting
Cut Sheets
3 of 13

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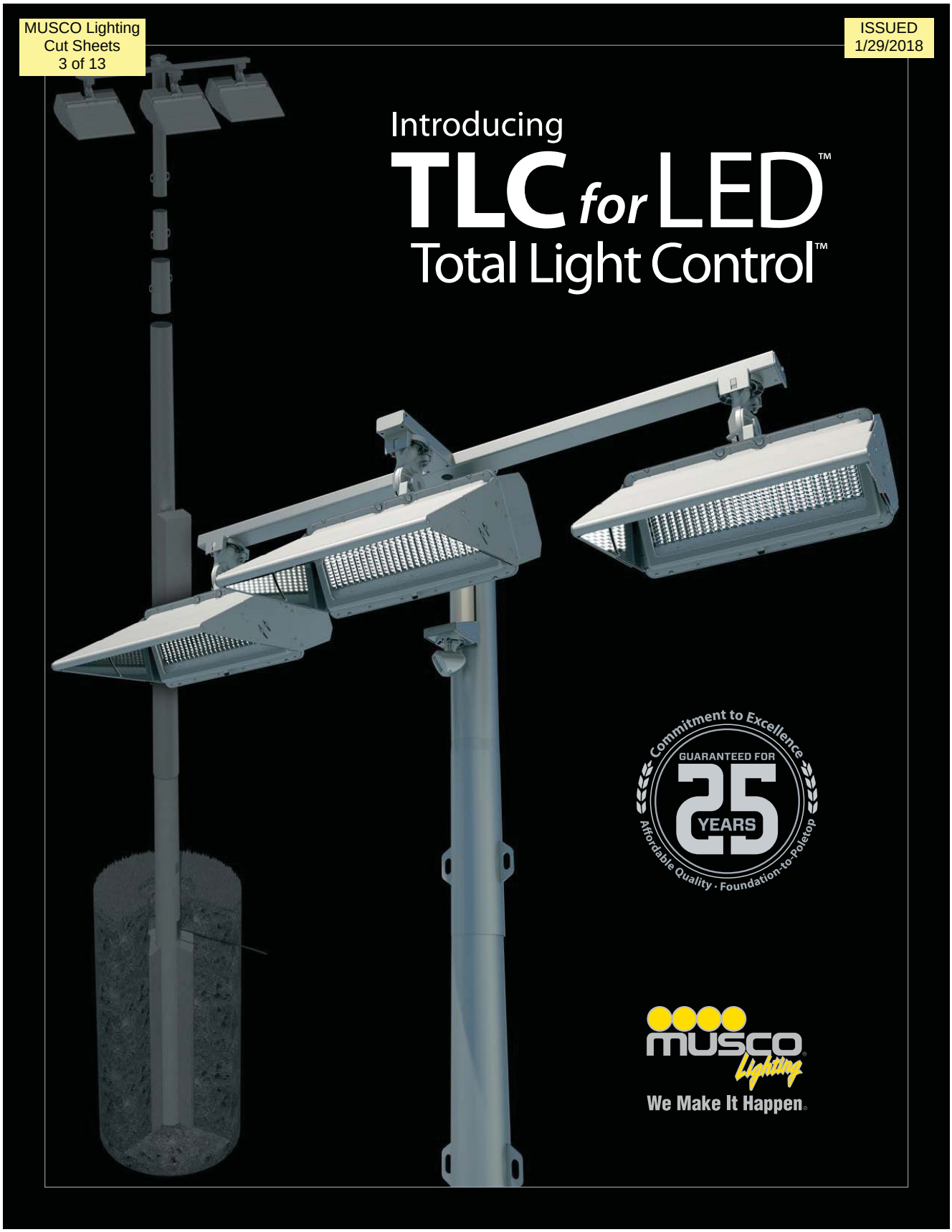

DESIGN DRAWINGS - MUSCO Lighting Cut Sheets

MUSCO Lighting
Cut Sheets
4 of 13

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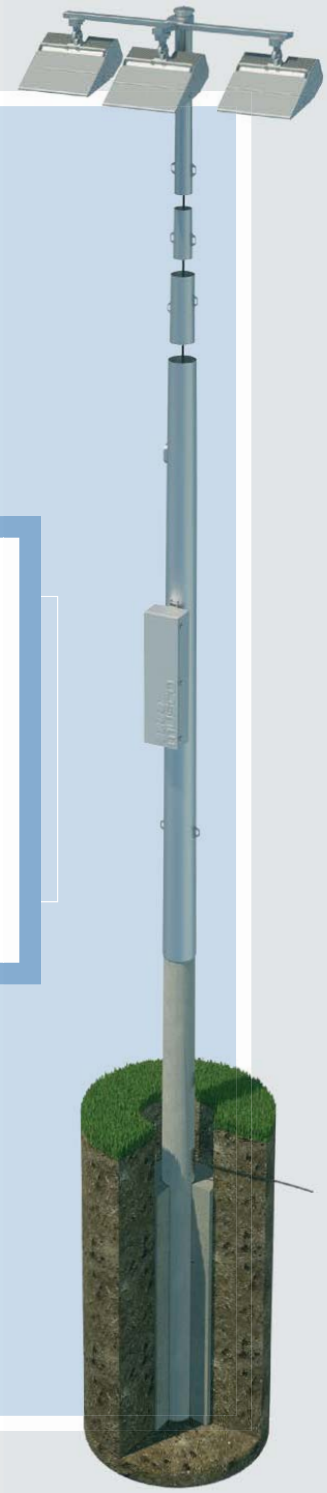

Control

from foundation to poletop. . .

from the light source to the field,
preserving the night sky. . .

assuring the results you expect,
day 1. . . year 1. . . and for 25 years.

3

DESIGN DRAWINGS - MUSCO Lighting Cut Sheets

Still Light-Structure System™…

5 Easy Pieces™ complete from foundation to poletop.

Our Light-Structure System™ has delivered long-term performance for thousands of customers around the world.

Lights, structures, and electrical components are engineered to work together. This assures the designed lighting gets in place and stays there over the life of the system, while also maintaining and protecting the operating environment so the components continue to function.

We've included features like easy to reach remote drivers, integrated grounding and surge protection to ensure the longevity of the LED's sensitive electronic components.

The Light-Structure System™ adapts to support both LED and metal halide light sources.

25 years of proven performance

Commitment to Excellence
GUARANTEED FOR
25
YEARS
Affordable Quality · Foundation-to-Poletop

Control

from the foundation to the poletop.

DESIGN DRAWINGS - MUSCO Lighting Cut Sheets

MUSCO Lighting Cut Sheets 6 of 13

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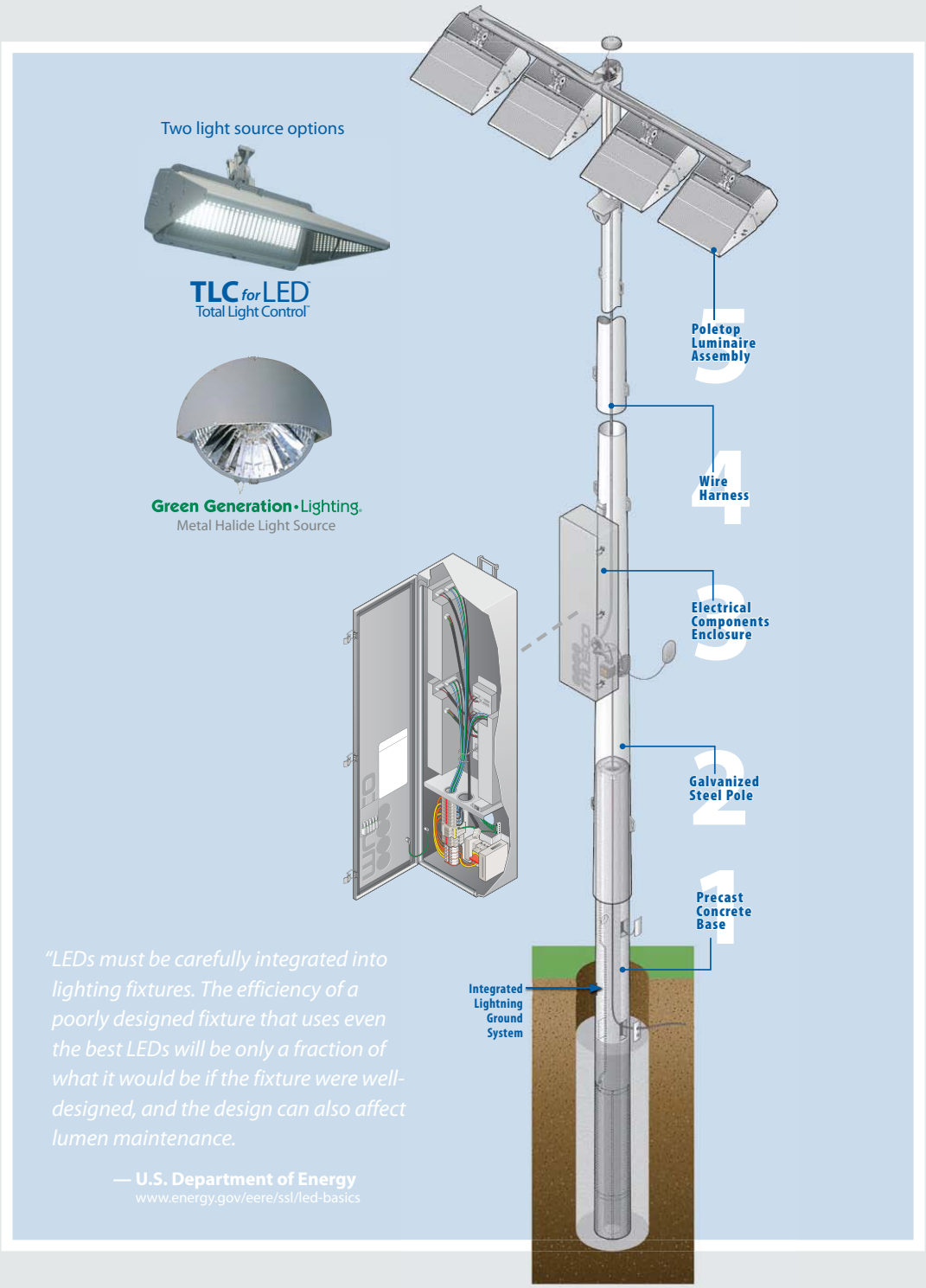

5

DESIGN DRAWINGS - MUSCO Lighting Cut Sheets

MUSCO Lighting Cut Sheets 7 of 13

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Musco can light a ballfield better than ever..

We create controlled light, not floodlights.

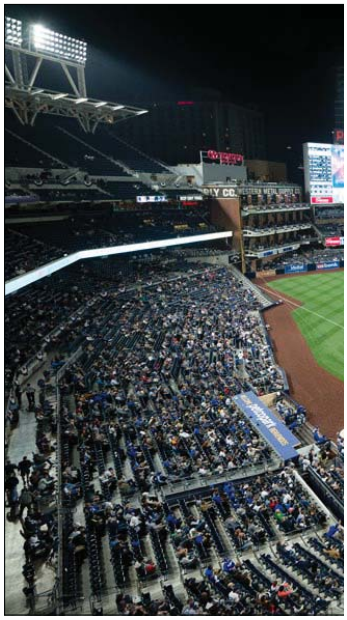
An LED floodlight is a serious step backward when it comes to the quality of light on your field. It may flood light into the neighborhood, into the night sky, and into the eyes of players.

New Tool

LED brings many benefits and new opportunities, but it's a tool, not a solution. Controlling the LED's intense, "rifle shot" of light is challenging. But with Total Light Control—TLC for LED™, we're able to achieve things never before possible—from pinpoint precision, to instant on/off, to varying light levels for different needs and sports presentation theatrics.

Same Issues

The key issues in sports lighting haven't changed: generating light, projecting it onto the target, keeping it out of the neighborhood and night sky, and creating an operating environment that allows it to last in real world conditions. Musco is able to carve out the area to be lighted and dramatically cut off any impact on the surrounding area. We use more of the light produced by the fixture, lose less light, and don't abuse the neighborhood.

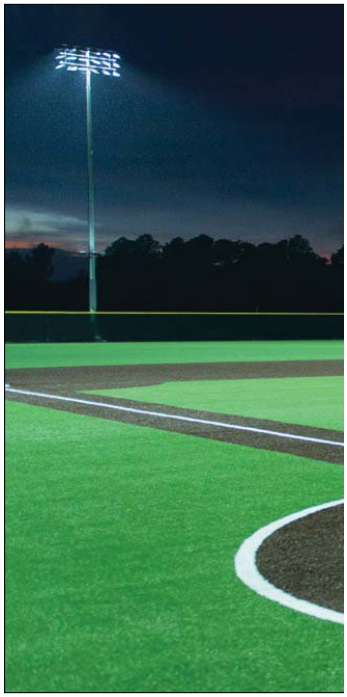


San Diego Padres Petco Park · San Diego, California, USA

When you walk onto a Musco-lighted field, it just looks better.

"When you stand at home plate and look out to center field, there's no glare, but the field is totally bright and you see how the white of the ball pops, it looks amazing."

— Tyson Kimm
Vice President of Perfect Game USA,
a major tenant at LakePoint Sports Community



LakePoint Sports Community · Emerson, Georgia, USA

Control from the light source to the field.

6

DESIGN DRAWINGS - MUSCO Lighting Cut Sheets

MUSCO Lighting
Cut Sheets
8 of 13

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. . for players, fans, and TV cameras.

Theatrics and special effects enhance fan and TV experience.

Mount Rushmore - Keystone, South Dakota, USA

Pinpoint control from 1,100 feet away highlights the target area while preserving surrounding darkness.

University of Notre Dame - Notre Dame, Indiana, USA

Sensational event lighting with dimming saves energy for high-usage, multi-use venues.

Players enjoy quality lighting, no glare, and better ability to track the entire flight of the ball.

DESIGN DRAWINGS - MUSCO Lighting Cut Sheets

The neighbors will love it.

Musco cares as much about preserving darkness as it does about creating light.

Emitting light is easy. But LED fixtures that can't effectively control the light being emitted brings the unintended consequences of glare for players and neighbors, and wasteful spill into the night sky.

With Musco's Total Light Control—TLC for LED™, we've taken LED to a level of performance and precision never before seen in sports lighting. It means no disruptive glare into nearby homes and the preservation of dark skies above.

And it opens up new opportunities for where fields can be located within a community, and for existing fields that, until now, weren't able to install lights because of community push back.

Equal parameters used for each pole including on-field light produced, wattage, height, and aiming angle.

Control preserving the night sky.

"Glyndon Park is in a naturally wooded residential area. We didn't want to illuminate the homes of neighbors in the area. I initially wasn't supportive of putting in traditional lights. The product Musco has developed allows us to light this field, yet light nothing else around it."

— Cathy Salgado,
Parks and Recreation Director, Vienna, VA

Glyndon Park Little League, Vienna, Virginia

DESIGN DRAWINGS - MUSCO Lighting Cut Sheets

MUSCO Lighting Cut Sheets 10 of 13

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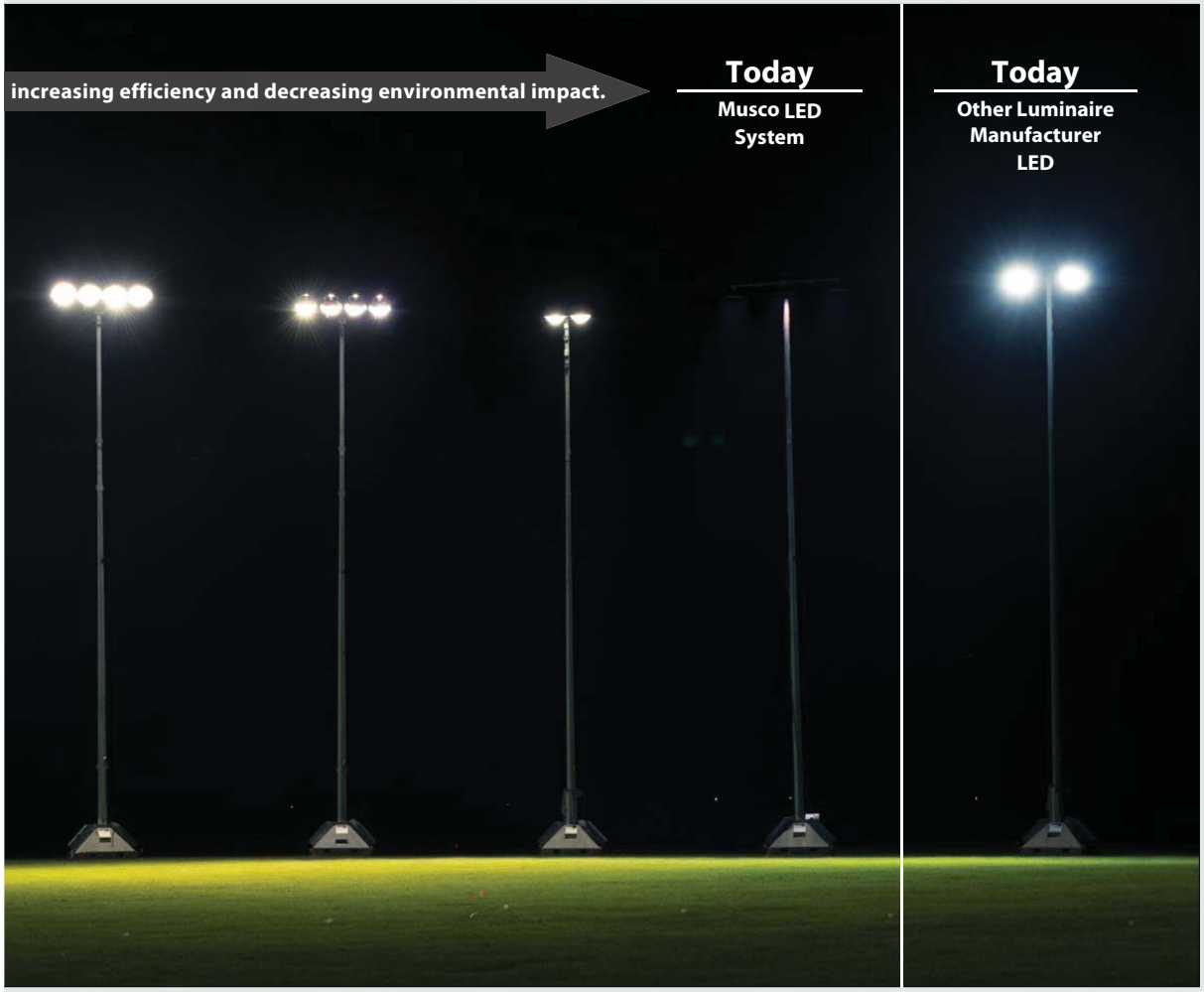

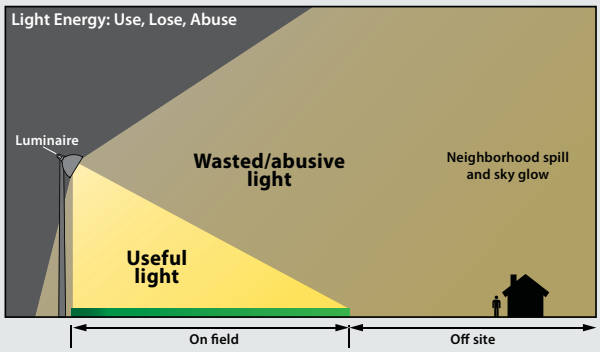

DESIGN DRAWINGS - MUSCO Lighting Cut Sheets

And, your field is always ready to play.

Control-Link®, scheduling and 24/7 monitoring assures trouble-free operation.

Here's a look at what the Musco Team has done in the last year as a partner in service to customers like you…

- Turned lights on and off remotely for more than 4 million games and events
- Conducted routine inspections and maintenance at over 11,000 fields
- Taken more than 350,000 calls, answering questions and helping with scheduling
- Carried out group lamp replacements on more than 40,000 metal halide fixtures
- Traveled enough miles to circle the equator 33 times

And here's what our customers enjoy for 25 years…

Peace of mind for 9,125 days *knowing that if a problem arises, we'll be there, and a budget with virtually* ***zero dollars spent on maintenance, increased staff productivity*** *resulting from not having to worry about managing your lights, plus* ***restful nights,*** *free from midnight calls from unhappy neighbors about lights left on.*

Control assuring the results you expect.

10

DESIGN DRAWINGS - MUSCO Lighting Cut Sheets

MUSCO Lighting Cut Sheets 12 of 13

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We do the R&D to create it. We customize and apply solutions to your facility.

We're on the road to support it for 25 years.

We provide 24–7 support to monitor and operate your facility.

Commitment to Excellence
GUARANTEED FOR 25 YEARS
Affordable Quality · Foundation-to-Poletop

From metal halide to LED,
Musco's Light-Structure System performs
in real world conditions ***for 25 years, guaranteed.***

We Make It Happen.®

11

DESIGN DRAWINGS - MUSCO Lighting Cut Sheets

MUSCO Lighting
Cut Sheets
13 of 13

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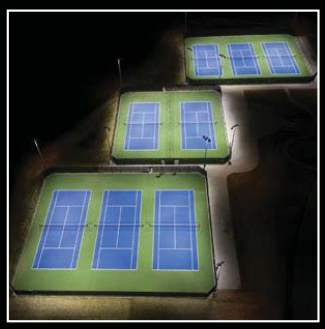
1/29/2018



Control

from foundation to poletop…

from the light source to the field,
preserving the night sky…

assuring the results you expect,
day 1…year 1…and for 25 years.

musco Lighting®

We Make It Happen®

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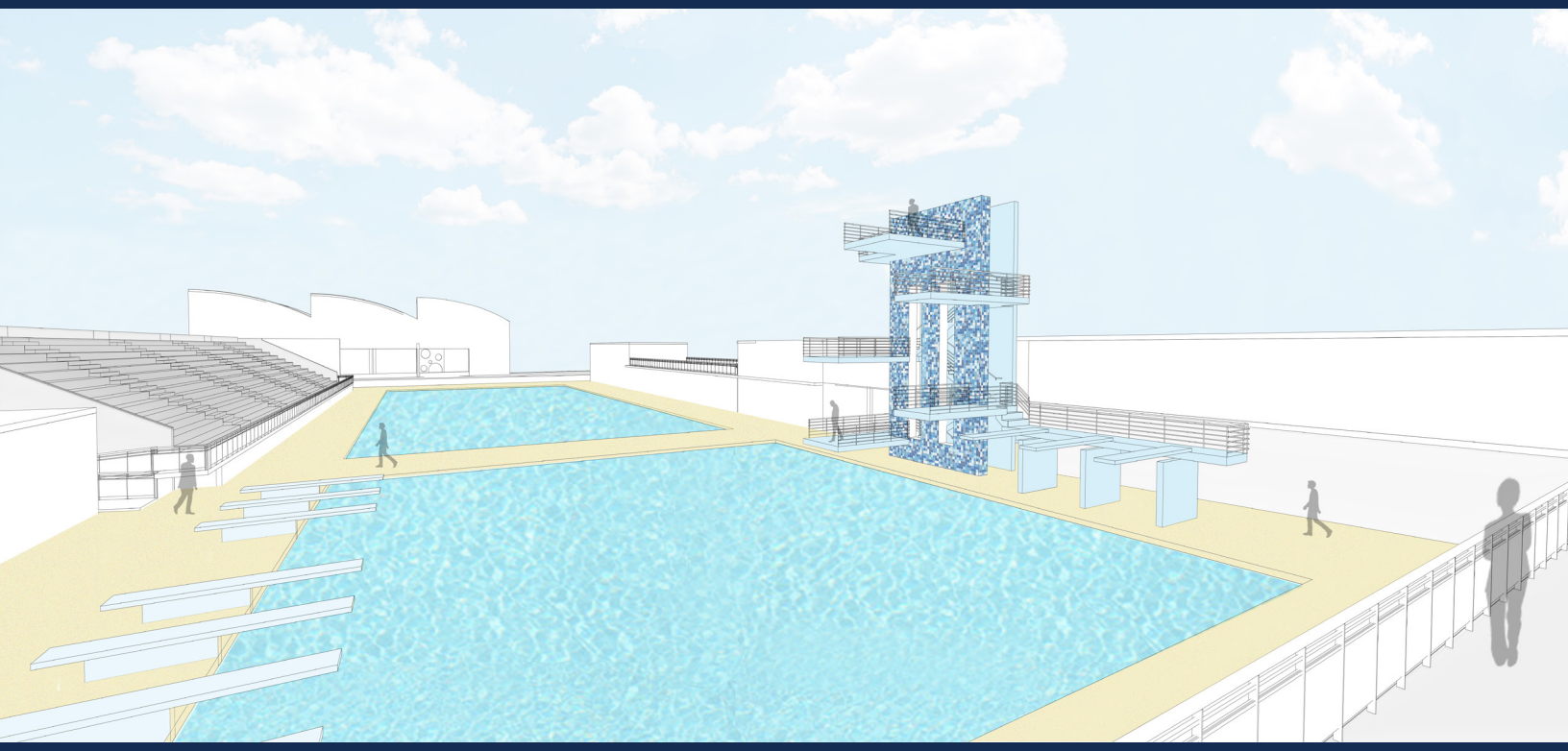
CITY OF FORT LAUDERDALE

Fort Lauderdale Aquatic Center Renovation

RFP # 12072-483



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