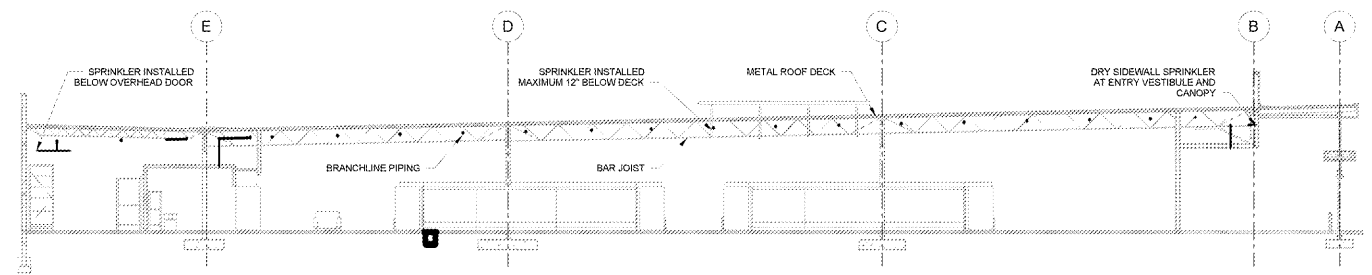


④ SECTION ELEVATION
NTS



CONTACT INFORMATION

DOCUMENTS INCLUDE JURISDICTIONAL REQUIREMENTS PROVIDED BY THE FOLLOWING CONTACTS:
FIRE SPRINKLER REVIEWING AUTHORITY: TIMOTHY IPPOLITO, ASSISTANT CHIEF/FIRE MARSHAL (407) 665-5053
CROSS CONNECTION CONTROL AUTHORITY: CHARLES WYATT, CROSS CONNECTION (407) 665-2055

WATER SUPPLY INFORMATION

TEST STATIC AT SRC: 62.0 PSI
THRUST RESIDUAL AT SRC: 30.0 PSI AT 1688 GPM
INFORMATION DERIVED FROM A WATER REPORT SUPPLIED BY ALTERNATIVES IN ENGINEERING DURING A FLOW TEST VISIT ON FEBRUARY 27, 2017. THE TEST WAS CONDUCTED AT 3:30 PM EST AND WITNESSED BY NANCY EPSTEIN, ALTERNATIVES IN ENGINEERING.
FLOW TEST ELEVATION: 121.00 FT AMSL
BUILDING PAD ELEVATION: 102.82 FT AMSL
THE WATER SUPPLY IS MODIFIED BY THE FOLLOWING:
+ 7.87 PSI DUE TO ELEVATION DIFFERENCE BETWEEN TEST AND BUILDING
+ 4.0 PSI DUE TO LOW CITY PRESSURE
DESIGN STATIC AT SRC: 55.87 PSI
DESIGN RESIDUAL AT SRC: 33.87 PSI AT 1688 GPM
2.2 PSI STATIC AND 3.3 PSI RESIDUAL PRESSURE LOSSES DUE TO A 8" AMES 3000SG BACKFLOW PREVENTER AT THE PROPERTY LINE ARE NOT INCLUDED. ADDITIONAL 5.0 PSI REQUIRED SAFETY FACTOR IS NOT INCLUDED.

APPLICABLE CODES

NFPA STANDARDS: NFPA 13, 2010
NFPA 24, 2010
REFER TO SPECIFICATIONS FOR APPLICABLE CODES

GENERAL UNDERGROUND NOTES

- INSTALLATION AND MATERIAL TO BE PER NFPA 24, PIPING UNDER FOOTINGS TO BE DUCTILE IRON.
- PIPING AND ATTACHED APPURTENANCES SUBJECT TO SYSTEM WORKING PRESSURE SHALL BE HYDROSTATICALLY TESTED AT 200 PSI OR 50 PSI IN EXCESS OF THE SYSTEM WORKING PRESSURE WHICHEVER IS GREATER, AND SHALL MAINTAIN THAT PRESSURE WITHOUT LOSS FOR TWO HOURS.
- UNDERGROUND PIPE TO BE FLUSHED PRIOR TO CONNECTION TO OVERHEAD SPRINKLER PIPING. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT FLUSHING OF THE UNDERGROUND PIPING HAS OCCURRED PRIOR TO CONNECTION.
- PROVIDE CONCRETE THRUST BLOCKING AND THRUST RODS AS REQUIRED BY NFPA 24.
- UNDERGROUND PIPING MUST BE INSTALLED BY A CONTRACTOR LICENSED WITH THE AUTHORITY HAVING JURISDICTION. ALL TESTING MUST BE COMPLETED IN ACCORDANCE WITH NFPA 13, NFPA 24, AND NFPA 25. ALL COMPLETED REPORTS MUST BE SUBMITTED TO THE AUTHORITY HAVING JURISDICTION AND STORED ON SITE FOR PRESENTATION DURING SITE OBSERVATION.

FIRE DEPARTMENT CONNECTION NOTES

- THE FIRE DEPARTMENT CONNECTION SHALL BE REMOVED AND LOCATED WHERE SHOWN ON THE CIVILITY DRAWING, WHEN ACCESSIBLE LOCATION.
- THE FIRE DEPARTMENT CONNECTION SHALL BE INSTALLED WITH A MINIMUM 12" AND A MAXIMUM OF 42" ABOVE THE GROUND GRADE.
- THE FIRE DEPARTMENT CONNECTION SHALL CONSIST OF 2 - 2" DIA. THRU WALLS.
- THE SUPPLY LINE FROM THE FIRE DEPARTMENT CONNECTION TO THE RISER MANIFOLD SHALL BE A MINIMUM 2" DIA. PIPE.
- PROVIDE A FIRE HYDRANT WITHIN 150'-0" OF THE FIRE DEPARTMENT CONNECTION.
- PROVIDE AN ELECTRIC BELL ON THE EXTERIOR WALL ADJACENT TO FIRE RISER ENTRY. THIS DEVICE SHALL ACTIVATE ON WATERFLOW ONLY.
- PROVIDE SIGNAGE AT THE FIRE DEPARTMENT CONNECTION AS REQUIRED BY NFPA 13.

GENERAL NOTES

- THE DESIGN SHOWN ON THESE CONTRACT DOCUMENTS HAS BEEN PREPARED FOR APPROVAL BY THE AUTHORITY HAVING JURISDICTION AND TO PROVIDE GUIDANCE FOR BIDDING. THE CONTRACTOR SHALL SUBMIT COMPLETE FIRE SPRINKLER SHOP DRAWINGS AS REQUIRED BY SPECIFICATION SECTION 01330. CONTRACTOR SHALL BASE SHOP DRAWING DESIGN ON THE FIRE PROTECTION DRAWINGS AND SPECIFICATIONS. SPRINKLER SHOP DRAWINGS SHALL INCLUDE ALL NECESSARY ELEVATIONS, HANGER LOCATIONS, PIPE LENGTHS, DIMENSIONS, FABRICATION METHODS, MATERIAL DATA, AND ANY OTHER INFORMATION NECESSARY TO CLARIFY THE INTENT OF INSTALLATION. CONTRACTOR SHALL PROVIDE PIPE SIZES, SPRINKLER SPACING, HANGER SYSTEM CONFIGURATIONS AS SHOWN. ALL ALTERATIONS TO THE DESIGN OF THE SYSTEM OR MATERIALS OR EQUIPMENT USED MUST BE APPROVED IN WRITING VIA THE REQUEST FOR INFORMATION PROCESS. THE FIRE PROTECTION ENGINEER OF RECORD PRIOR TO ANY BIDDING, FABRICATION, OR INSTALLATION.
- CONTRACTOR SHALL COORDINATE WITH THE FIRE PROTECTION ENGINEER OF RECORD FOR FIRE PROTECTION COMPONENTS INCLUDING: PIPING, ALARMS, DRIFT TEST POINTS, ETC. WITH ALL ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND ELECTRICAL SHOP DRAWINGS. INSTRUCTIONS TO SPRINKLER DESIGN SHALL BE CONSIDERED DURING SHOP DRAWING PRODUCTION AND INSTALLATION. EXTRA SPRINKLERS MAY BE REQUIRED AND ADDITIONAL COST TO THE OWNER. REFER TO SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
- SUBMIT A REQUEST FOR INFORMATION (RFI) FOR QUESTIONS RELATED TO THE FIRE PROTECTION DOCUMENTS.
- ROUTE ALL SPRINKLER HANGS ABOVE THE BOTTOM CHORD OF THE BAR JOISTS.
- NEUTRALIZATION/DESIGNS WALLS ARE SHOWN ON THE ARCHITECTURAL DRAWINGS. REFER TO THE MECHANICAL DRAWINGS FOR NEUTRALIZATION WALL PENETRATIONS.
- SPRINKLER SYSTEMS WILL BE MONITORED BY AN OFF-SITE CENTRAL STATION INCLUDING TAMPER SWITCHES ON ALL CONTROLS, VALVES AND FLOW SWITCHES.
- IF APPLICABLE, THE CONTRACTOR SHALL ASSUME THAT ANY CURTAIN BOARDS OR DRAFT CURTAINS WILL BE INSTALLED PRIOR TO THE SPRINKLER PIPING. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER PENETRATIONS OF THE CURTAIN BOARDS OR DRAFT CURTAINS AND SEALING WITH APPROVED FIRE CAULKING.
- PENETRATIONS OF RATED WALLS OR ASSEMBLIES SHALL BE "FIRE CAULKED" WITH APPROVED CAULKING PER METHODS REQUIRED BY THE AUTHORITY HAVING JURISDICTION, AND PROJECT SPECIFICATIONS.
- THE FIRE PROTECTION ENGINEER OF RECORD WILL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. NOR SHALL THEY BE REQUIRED TO SUPERVISE THE CONDUCT OF THE WORK. THE CONSTRUCTION PROCEDURES AS SET FORTH BY THE GENERAL CONTRACTOR, SUB-CONTRACTORS, THEIR RESPECTIVE EMPLOYEES, OR ANY OTHER PERSON AT THE JOBSITE OTHER THAN THE ENGINEERING FIRMS OWN EMPLOYEES.
- SPRINKLER PROTECTION IS REQUIRED ABOVE THE ELECTRICAL ROOMS. NO MAIN PIPING SHALL PENETRATE OR PASS ABOVE THE ELECTRICAL ROOMS.
- THE CONTRACTOR MUST REVIEW ALL CONSTRUCTION DOCUMENTS PRIOR TO BID. SHOULD MODIFICATION TO THESE PLANS BECOME NECESSARY TO PROPERLY COORDINATE THE SYSTEM WITH OTHER TRADES, IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN APPROVAL OF THESE CHANGES BY THE AHJ, AND THE FIRE PROTECTION ENGINEER OF RECORD. IN ADDITION TO OBTAINING THE NECESSARY APPROVALS, THE CONTRACTOR MUST MAKE NOTE OF ALL FIELD OR COORDINATION CHANGES ON THE INSTALLATION DRAWINGS. ONCE COMPLETE, THE CONTRACTOR SHALL SUPPLY ONE COPY OF AS-BUILT DRAWINGS TO THE FIRE PROTECTION ENGINEER OF RECORD FOR THEIR USE.
- THE CONTRACTOR SHALL DIVERT ALL DRAIN AND INSPECTORS TEST CONNECTION DISCHARGE AWAY FROM FINISHED SURFACES AND PIPE TO APPROVED DRAIN LOCATIONS. THE CONTRACTOR WILL BE BACKCHARGED FOR ANY REPAIR, REPLACEMENT, OR CLEANING OF RUST STAINS ON PAVEMENT/CONCRETE DUE TO WATER DISCHARGE FROM SPRINKLER SYSTEM DRAIN DOWNS.
- ALL HANGER CONNECTIONS SHALL BE MADE TO THE TOP CHORD OF STRUCTURAL JOIST UNLESS NOTED OTHERWISE. USE OF SAMMY SCREWS INTO ROOF DECK OR STRUCTURE IS PROHIBITED UNLESS OTHERWISE NOTED.

PIPE TABLE (MET)

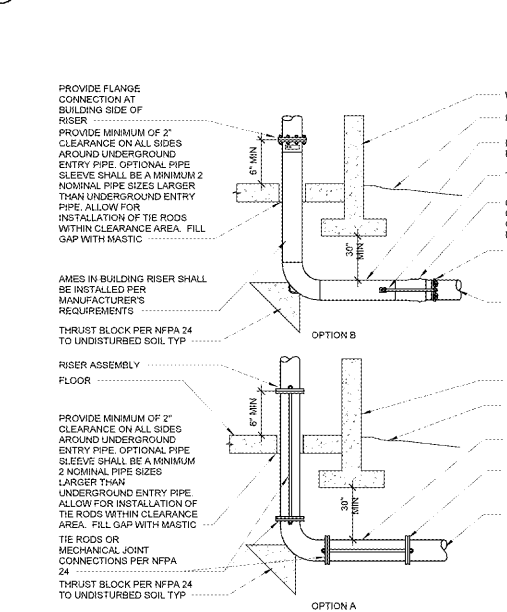
PRODUCT	NOMINAL PIPE SIZE	INSIDE DIAMETER
DYNA FLOW	2"	2.375
DYNA FLOW	2 1/2"	2.763
DYNA FLOW	3"	3.134
DYNA FLOW	3 1/2"	3.516
DYNA FLOW	4"	4.190
DYNA THREAD	2"	1.875
DYNA THREAD	2 1/2"	1.409
DYNA THREAD	3"	1.639
DYNA THREAD	3 1/2"	2.104
DYNA THREAD	4"	2.157
SCHEDULE 10	2"	2.635
SCHEDULE 10	2 1/2"	3.260
SCHEDULE 10	3"	4.260
SCHEDULE 10	4"	6.357
SCHEDULE 10	6"	8.249
SCHEDULE 20	2"	1.943
SCHEDULE 20	2 1/2"	1.910
SCHEDULE 20	3"	2.957

PIPE TABLE (UNDERGROUND)

PRODUCT	NOMINAL PIPE SIZE	INSIDE DIAMETER
DI	4"	6.25
DI	6"	8.38
DI	8"	10.49
DI	10"	12.45
DI	12"	16.21
DI	14"	20.69
DI	16"	24.25
PVC	6"	6.00
PVC	8"	7.98
PVC	10"	9.75
PVC	12"	11.65
PVC	14"	15.53
PVC	16"	17.20
PVC	18"	19.06
PVC	24"	22.76

PIPE SIZES SHOWN ARE FOR HYDRAULIC CALCULATIONS PURPOSES ONLY. REFER TO SPECIFICATIONS FOR ALLOWABLE SUBSTITUTIONS.

③ PIPE DIMENSION TABLE
NTS



② FIRE LEAD-IN
NTS

① HYDRAULIC CALCULATION PLAN
1" = 60'-0"



UNDERGROUND PIPING SHOWN FOR FIRE SPRINKLER HYDRAULIC CALCULATION PURPOSES ONLY. THE SITE AND SITE EQUIPMENT ARE NOT TO BE DESIGNED BASED ON THIS PLAN. REFER TO ARCHITECTURAL AND CIVIL CONTRACT DOCUMENTS.

SHEET INDEX

FP1	FIRE SITE UTILITY PLAN
FP2	OVERALL FIRE SPRINKLER PLAN
FP3	FIRE PROTECTION DETAILS

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NO.	DATE	DESCRIPTION
1	03/27/17	REV #4

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FILE NAME: FP1
PROTO CYCLE: 10/28/16
DOCUMENT DATE: 01/09/17

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FIRE SITE UTILITY PLAN

SHEET: **FP1**

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