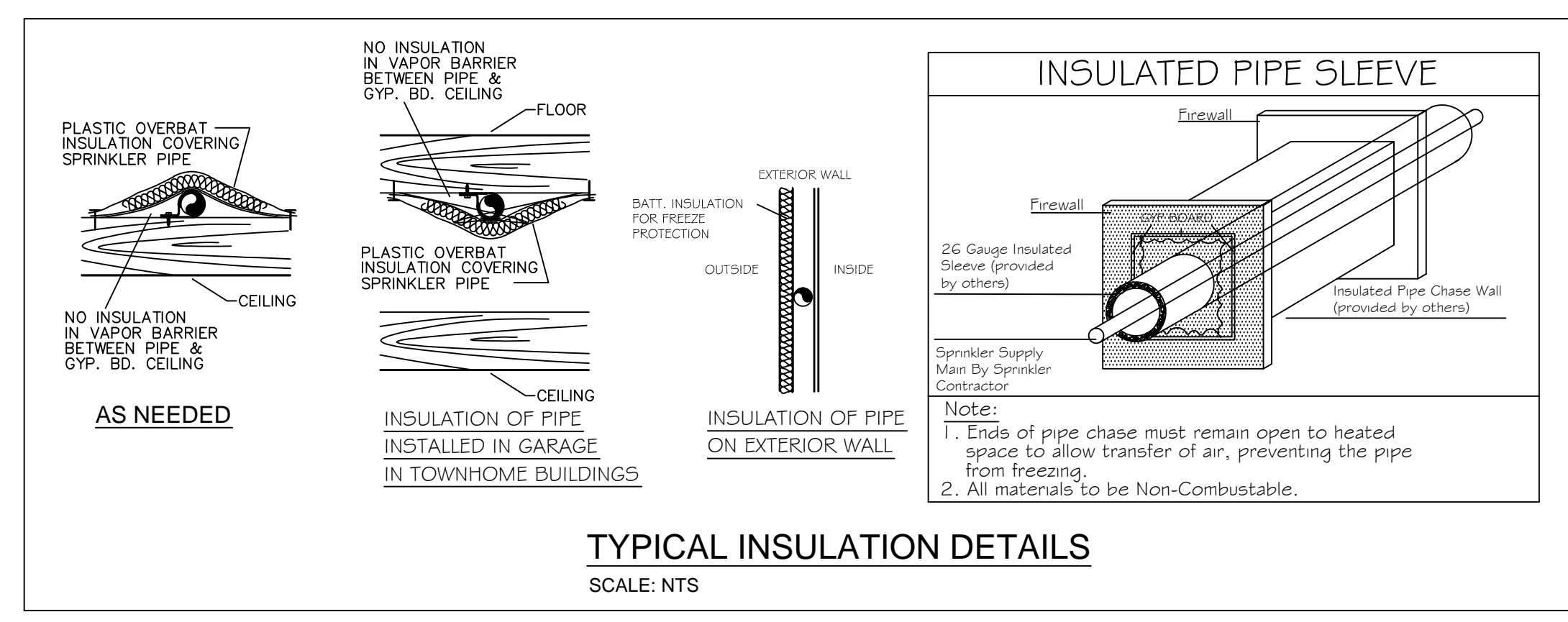
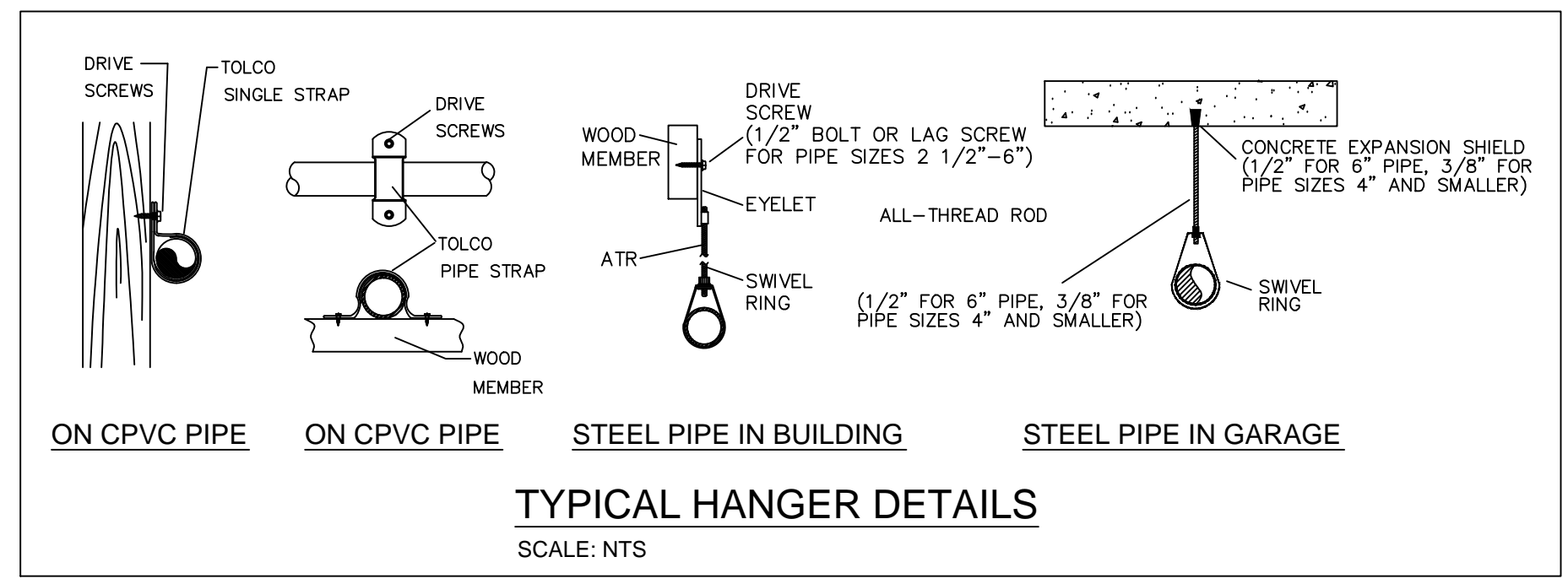
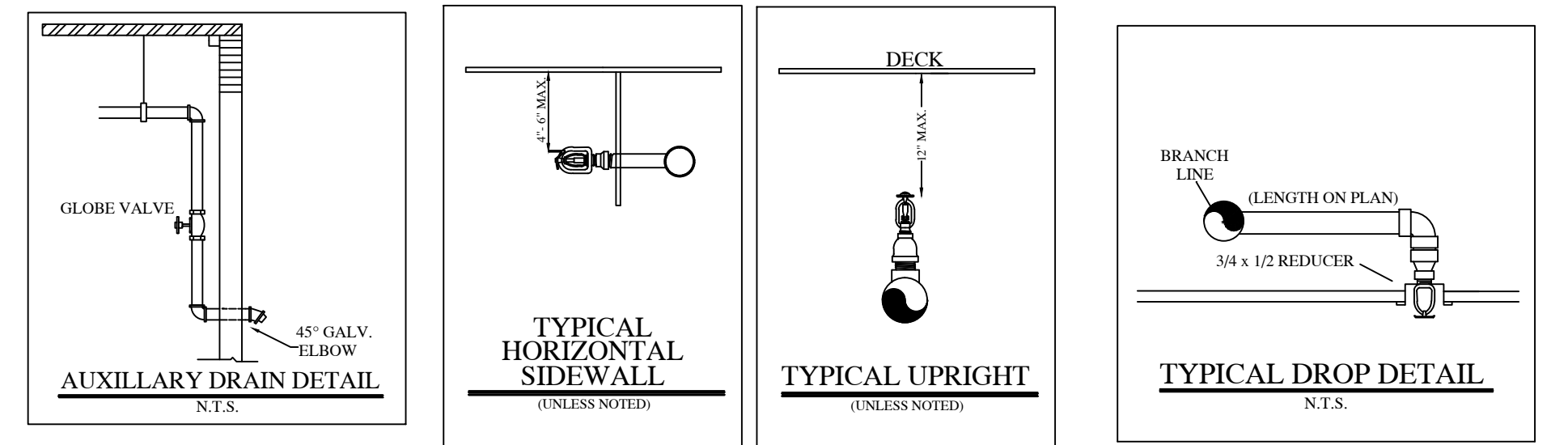
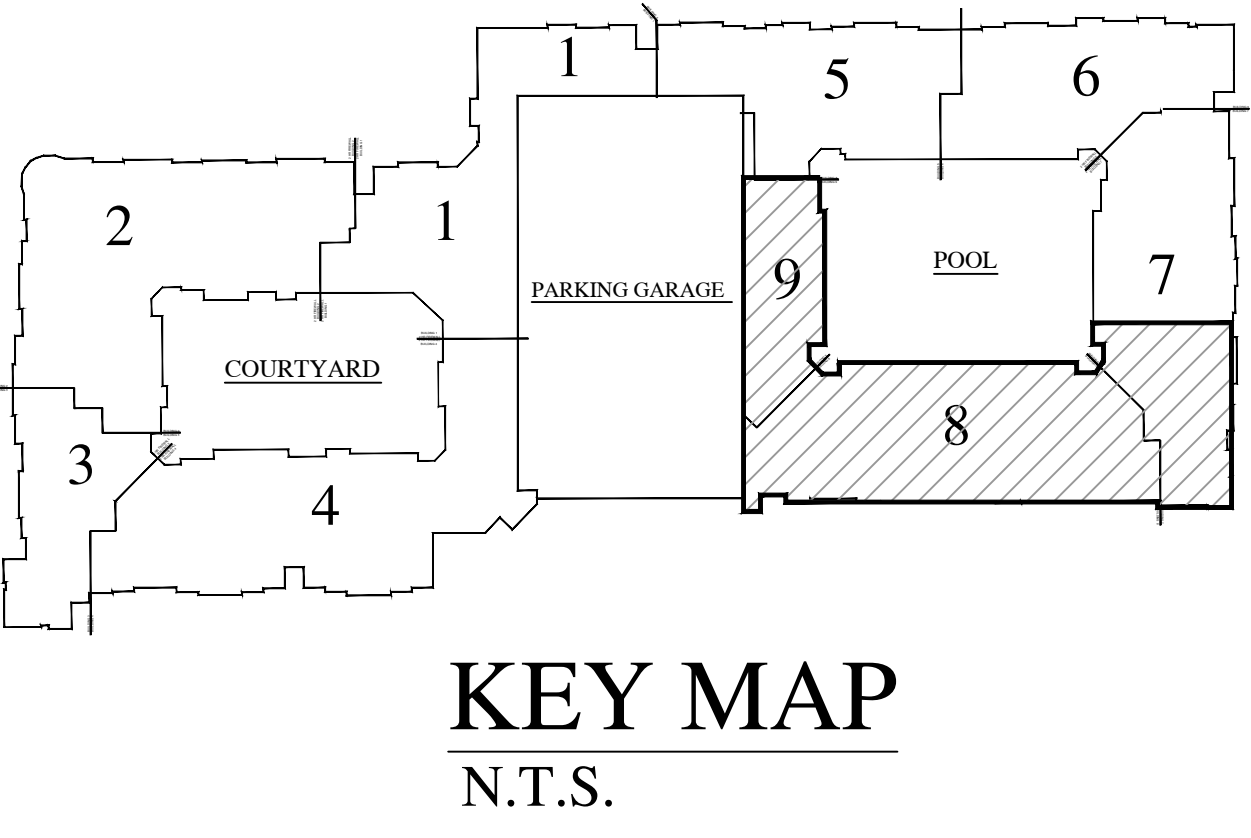


PIPE SIZE	SLEEVE DIA.
1"	2"
1-1/4"	2"
1-1/2"	2-1/2"
2"	3"
2-1/2"	4"
3"	5"
4"	6"
5"	8"
6"	8"
8"	10"



- LEGEND:**
- SYSTEM RISER
 - 4" X 2 1/2" X 2 1/2" F.D.C.
 - VERTICAL PIPE (UP or DN)
 - HYDRAULIC NODE POINT
 - REMOTE AREA OUTLINE
 - 2 1/2" HOSE VALVE
 - BUTTERFLY VALVE
 - HANGERS (SIZE VARIES)
 - CEILING ELEVATION
 - C PIPE ELEVATION

- GENERAL NOTES:**
- Ranger Fire's work shall consist of all necessary labor and material to design and install new automatic fire sprinkler systems in the referenced (3) Apartment Buildings and attached Parking Garage.
 - Ranger Fire excludes all electrical and ceiling work.
 - All design and installation shall conform to NFPA 13, 13R, 14, 20, & the City of Addison requirements.
 - All material to be UL/FM approved for fire services.
 - All new plastic piping shall be Schedule 40 CPVC with CPVC plastic fittings (u.o.n.). All steel piping shall be Black Sch. 10 with grooved fittings for the mains and Black Sch. 40 with threaded fittings for the branchlines.
 - Owner or tenant is responsible for maintaining adequate heat to prevent the system from freezing (Min. 40 degrees F.).
 - Sprinkler equipment room and equipment components shall be properly identified.
 - Install signage on sprinkler equipment room door stating "Sprinkler Valve Room" in at least 4 inches in height.
 - All hangers shall be in accordance with NFPA 13 requirements.
 - All systems shall be tested at 200 psi for 2 hours and witnessed by a representative of the Addison Fire Department. Any leaks shall be repaired.
 - The system has been hydraulically calculated per NFPA 13, 13R, 14, & 20 requirements.
 - Install Black steel piping in Parking Garage.



1st FLOOR
INSTALLATION PLAN
 Scale 1/8" = 1'-0"



HANGER SPACING CHART

PIPE SIZE (IN)	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	6"
STEEL PIPE	N/A	12-0"	12-0"	15-0"	15-0"	15-0"	15-0"	15-0"	15-0"
COPPER	8-0"	8-0"	10-0"	10-0"	12-0"	12-0"	12-0"	15-0"	15-0"
CPVC	5-6"	6-0"	6-6"	7-0"	8-0"	9-0"	10-0"	N/A	N/A

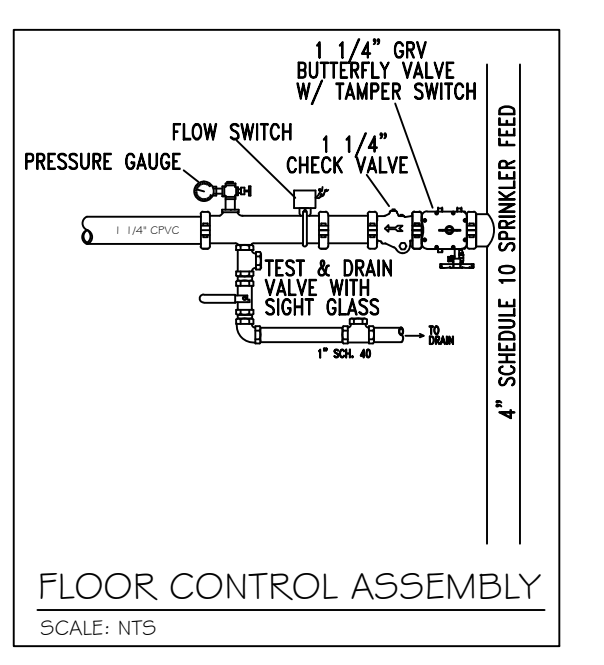
FIGURE A 9.2.3.4 DISTANCE FROM SPRINKLER TO HANGER

48" FOR 1 1/4"
 48" FOR 1 1/2" OR LARGER
 60" FOR 1 1/2" OR LARGER
 THEN EXTEND HERE

GREATER THAN 36" FOR 1"
 GREATER THAN 48" FOR 1 1/4"
 GREATER THAN 60" FOR 1 1/2" OR LARGER

NOTE: THESE PRESSURES EXCEED 100 PSI THE UNSUPPORTED LENGTH BETWEEN THE END SPRAWLERS IN A HORIZONTAL POSITION OF DROP VALVE AND THE LAST HANGER ON THE BRANCH LINE SHALL NOT BE GREATER THAN 12 INCHES FOR STEEL PIPE.

PIPE SIZE	DIAM. OF ROD	PIPE SIZE	DIAM. OF ROD
UP TO AND INCLUDING 4"	3/8"	6 AND 8	1/2"



RESIDENTIAL BUILDING INFO	
OCCUPANCY:	R-2 / A-3
GROSS BLDG AREA:	424,139 S.F.
TYPE OF CONSTRUCTION:	V-A

GARAGE BUILDING INFO	
OCCUPANCY:	S-2
GROSS BLDG AREA:	181,834 S.F.
TYPE OF CONSTRUCTION:	2-B

AS-BUILT
 PER FIELD CONDITIONS

I have reviewed these plans and certify that they comply with the adopted NFPA standards.

Ranger Fire, Inc.
 920 South Main Street
 Suite 200
 Grapevine, Texas 76051
 Phone: 817-410-9070
 SCR- 0590

RME SIGNATURE: _____
 PRINTED RME NAME: Roger F. Pichardo
 RME NUMBER: 1275-GD DATE: _____
 AS-BUILT SUBMITTAL OTHER

RANGER FIRE, INC.
 920 SOUTH MAIN STREET
 GRAPEVINE, TEXAS 76051
 PHONE: 817-410-9070
 TEXAS LICENSE: 0590

AS-BUILT SUBMITTAL OTHER

CONFIDENTIALITY STATEMENT
 This drawing, the information and design application herein, contained, prepared, or used by Ranger Fire, Inc. is the property of Ranger Fire, Inc. and is not to be reproduced, copied, or disseminated in any form without the written consent of Ranger Fire, Inc.

DATE	BY	REVISIONS
04-01-12	EP	ISSUE FOR PERMIT
04-01-12	EP	ISSUE FOR CONSTRUCTION

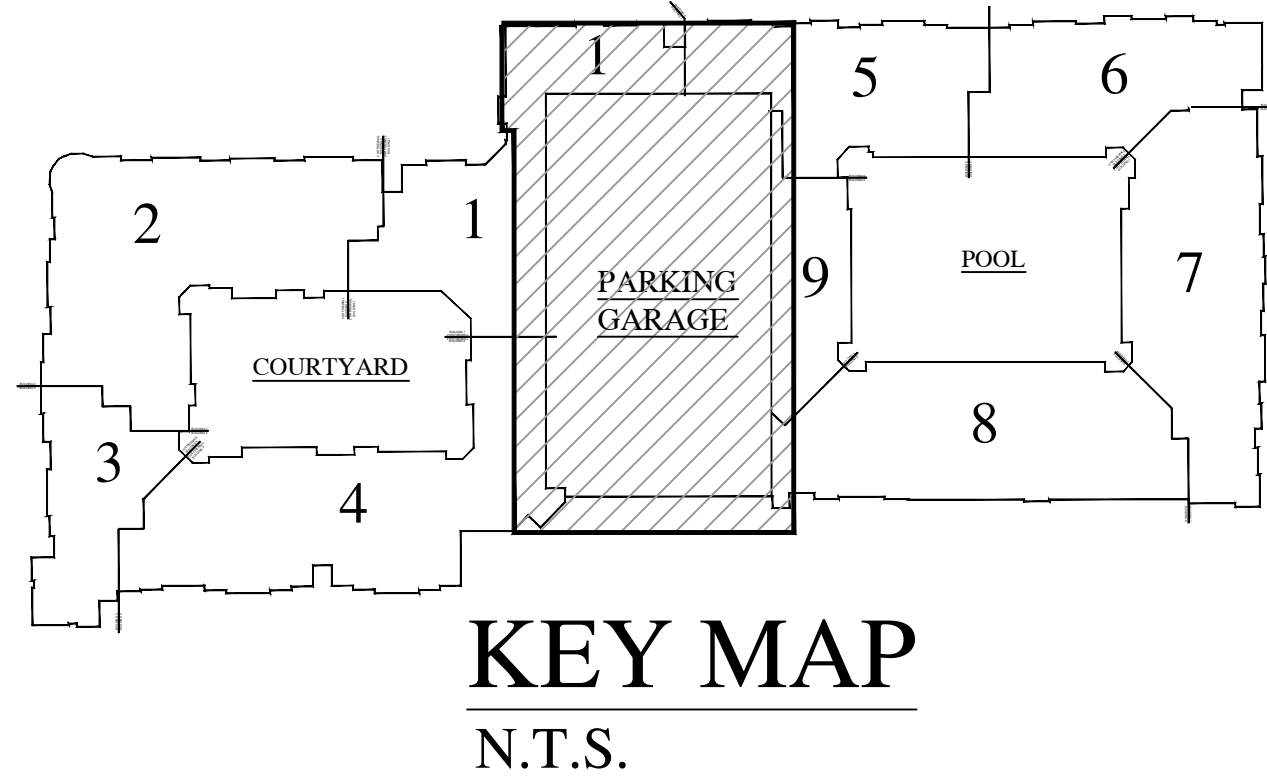
GENERAL CONTRACTOR: EMBREY PARTNERS LTD.
 1000 NE LOOP 410 STE 700
 SAN ANTONIO, TX 78240
 PHONE: 214-944-1000

DATE: 04-01-12
 BY: EP

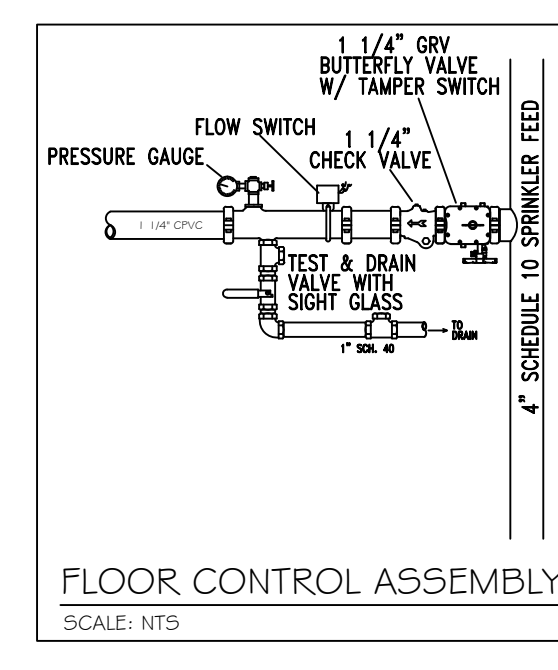
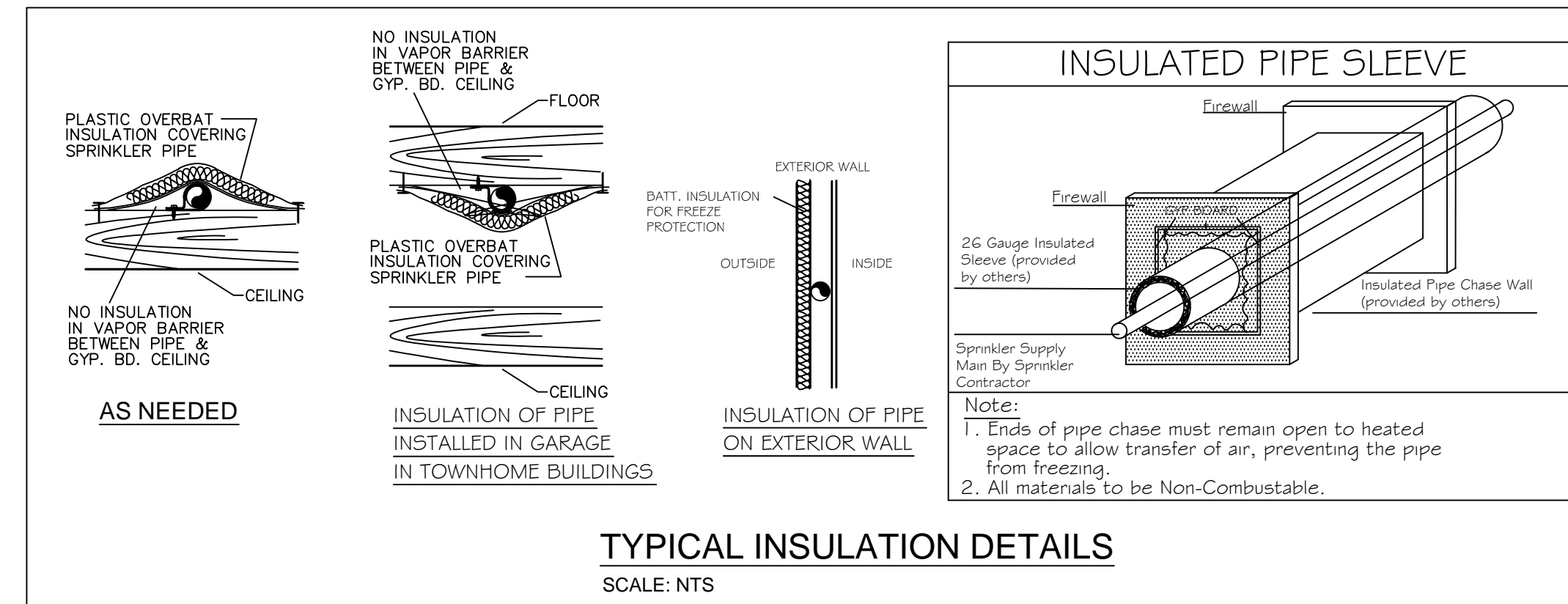
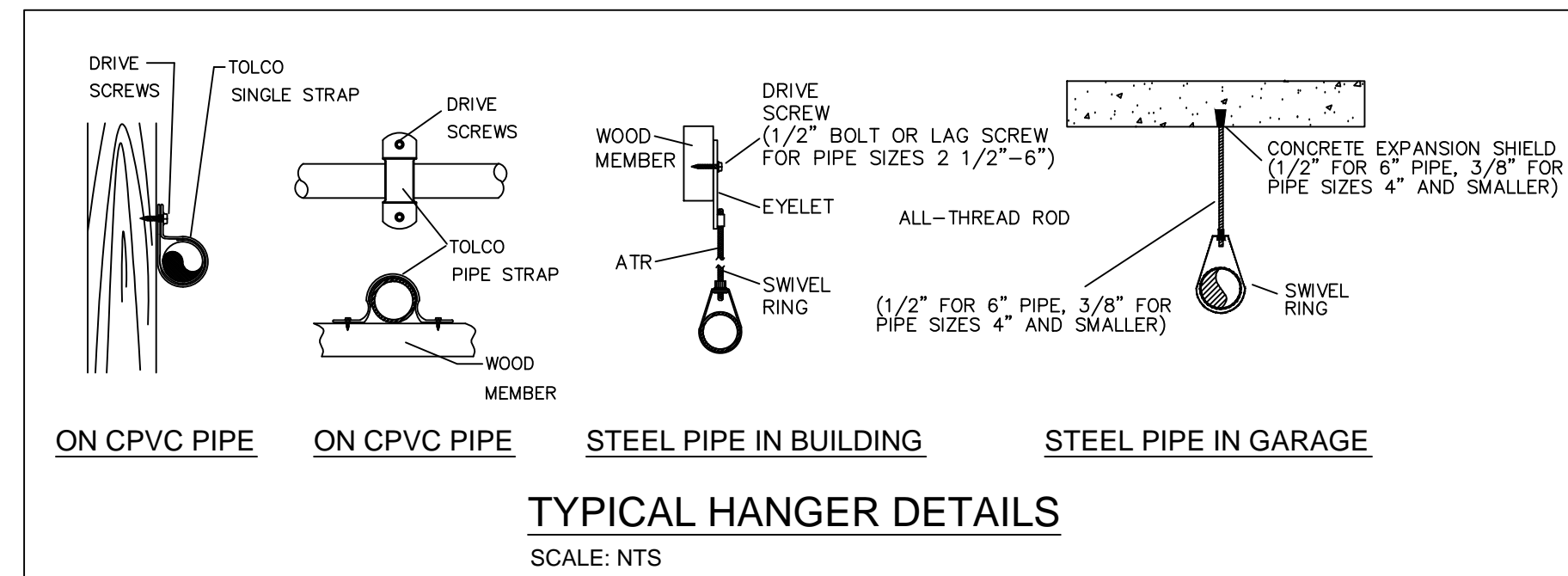
SCALE: 1/8" = 1'-0"

CONTRACT NAME: KELLER SPRINGS LOFTS
 4800 KELLER SPRINGS PKWY
 ADDISON, TEXAS 75001

CONTRACT #11-655
 DESCRIPTION: 1st FLOOR
 SHEET: EP 4 OF 30



DRY SYSTEM INSPECTORS TEST
SCALE: NTS



GENERAL NOTES:

- Ranger Fire's work shall consist of all necessary labor and material to design and install new automatic fire sprinkler systems in the referenced (9) Apartment Buildings and attached Parking Garage.
- Ranger Fire excludes all electrical and ceiling work.
- All design and installation shall conform to NFPA 13, 13R, 14, 20, & the City of Addison requirements.
- All material to be UL/IFM approved for fire services.
- All new plastic piping shall be Schedule 40 CPVC with CPVC plastic fittings (u.o.n.). All steel piping shall be Black Sch. 10 with provided fittings for the main and Black Sch. 40 with threaded fittings for the branchlines.
- Owner or tenant is responsible for maintaining adequate heat to prevent the system from freezing (Min. 40 degrees F).
- Sprinkler equipment room and equipment components shall be properly identified.
- Install signage on sprinkler equipment room door stating "Sprinkler Valve Room" in at least 4 inches in height.
- All hangers shall be in accordance with NFPA 13 requirements.
- All systems shall be tested at 200 psi for 2 hours and witnessed by a representative of the Addison Fire Department. Any leaks shall be repaired.
- The system has been hydraulically calculated per NFPA 13, 13R, 14, & 20 requirements.
- Install Black steel piping in Parking Garage.

LEGEND:

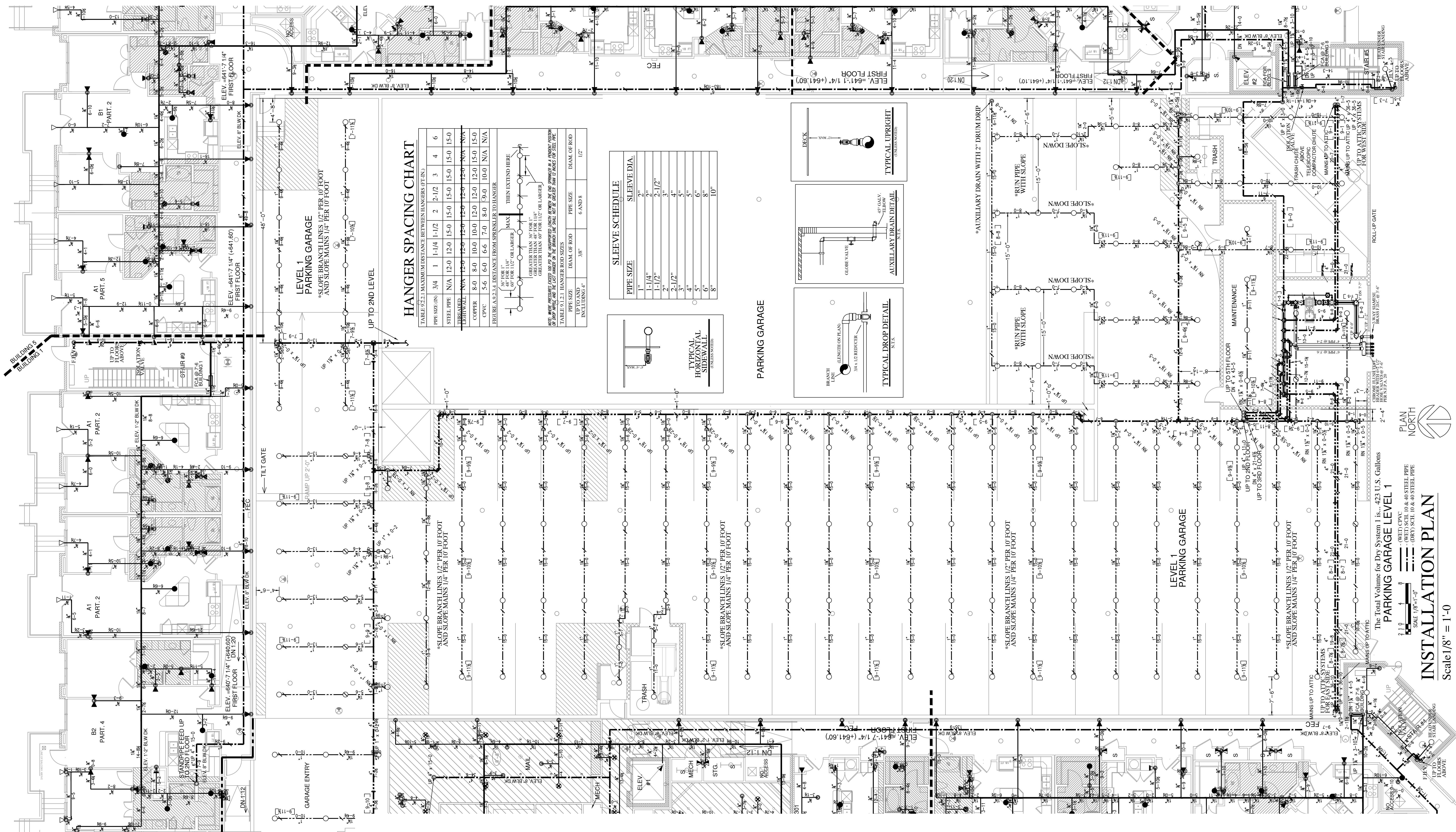
- SYSTEM RISER
- 4" X 2 1/2" X 2 1/2" E.D.C.
- VERTICAL PIPE (UP or DN)
- HYDRAULIC NODE POINT
- REMOTE AREA OUTLINE
- 2 1/2" HOSE VALVE
- BUTTERFLY VALVE
- HANGERS (SIZE VARIES)
- CEILING ELEVATION
- PIPE ELEVATION

I have reviewed these plans and certify that they comply with the adopted NFPA standards.

Ranger Fire, Inc.
920 South Main Street
Suite 200
Grapevine, Texas 76051
Phone: 817-410-9070
SCR-0590

RME SIGNATURE: _____
PRINTED RME NAME: Roger F. Pichardo
RME NUMBER: 1275-GD DATE: _____

AS-BUILT SUBMITTAL OTHER



HANGER SPACING CHART

TABLE 9.2.1 MAXIMUM DISTANCE BETWEEN HANGERS (FEET)

PIPE SIZE (IN)	1	1-1/4	1-1/2	2	2-1/2	3	4	6
STEEL PIPE	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0
UPPER WALL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	8-0	8-0	10-0	10-0	12-0	12-0	15-0	15-0
CPVC	5-6	6-0	6-6	7-0	8-0	8-0	10-0	N/A

FIGURE 9.2.1.4 DISTANCE FROM SPRINKLER TO HANGER

THEN EXTEND HERE
36" FOR 1" OR LARGER
60" FOR 1 1/4" OR LARGER
GREATER THAN 36" FOR 1" OR LARGER
GREATER THAN 60" FOR 1 1/4" OR LARGER

NOTE: THESE DISTANCES APPLY TO THE UNBUNDLED SPRINKLER. THE SPRINKLER SHALL BE A FAMILY APPROVED SPRINKLER WITH THE LISTED HANGER ON THE SPRINKLER. THE SPRINKLER SHALL BE A FAMILY APPROVED SPRINKLER WITH THE LISTED HANGER ON THE SPRINKLER. THE SPRINKLER SHALL BE A FAMILY APPROVED SPRINKLER WITH THE LISTED HANGER ON THE SPRINKLER.

SLEEVE SCHEDULE

PIPE SIZE	SLEEVE DIA.
1"	2"
1-1/4"	2"
1-1/2"	2-1/2"
2"	3"
2-1/2"	3"
3"	4"
4"	5"
6"	8"
8"	10"

RANGER FIRE, INC.
920 SOUTH MAIN STREET
GRAPEVINE, TEXAS 76051
PHONE: 817-410-9070
TEXAS LICENSE: 0590

AS-BUILT SUBMITTAL OTHER

RESIDENTIAL BUILDING INFO
OCCUPANCY: R-2 / A-3
GROSS BLDG AREA: 424,139 S.F.
TYPE OF CONSTRUCTION: V-A

GARAGE BUILDING INFO
OCCUPANCY: S-2
GROSS BLDG AREA: 181,834 S.F.
TYPE OF CONSTRUCTION: 2-B

AS-BUILT PER FIELD CONDITIONS

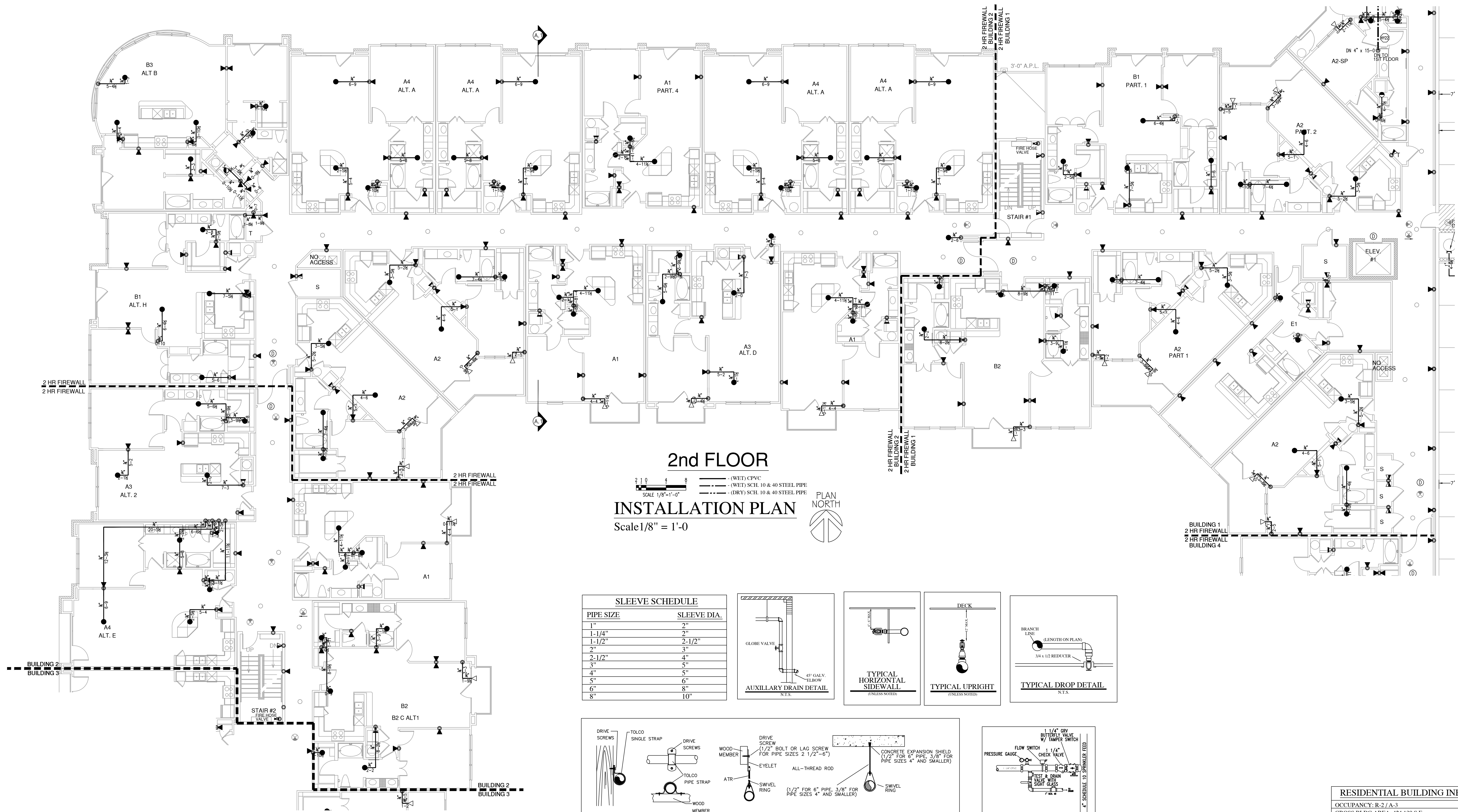
I have reviewed these plans and certify that they comply with the adopted NFPA standards.

Ranger Fire, Inc.
920 South Main Street
Suite 200
Grapevine, Texas 76051
Phone: 817-410-9070
SCR-0590

RME SIGNATURE: _____
PRINTED RME NAME: Roger F. Pichardo
RME NUMBER: 1275-GD DATE: _____

AS-BUILT SUBMITTAL OTHER

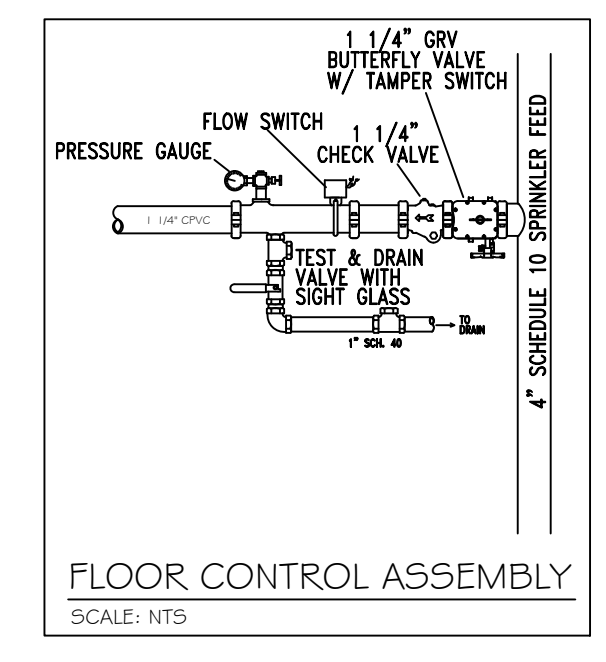
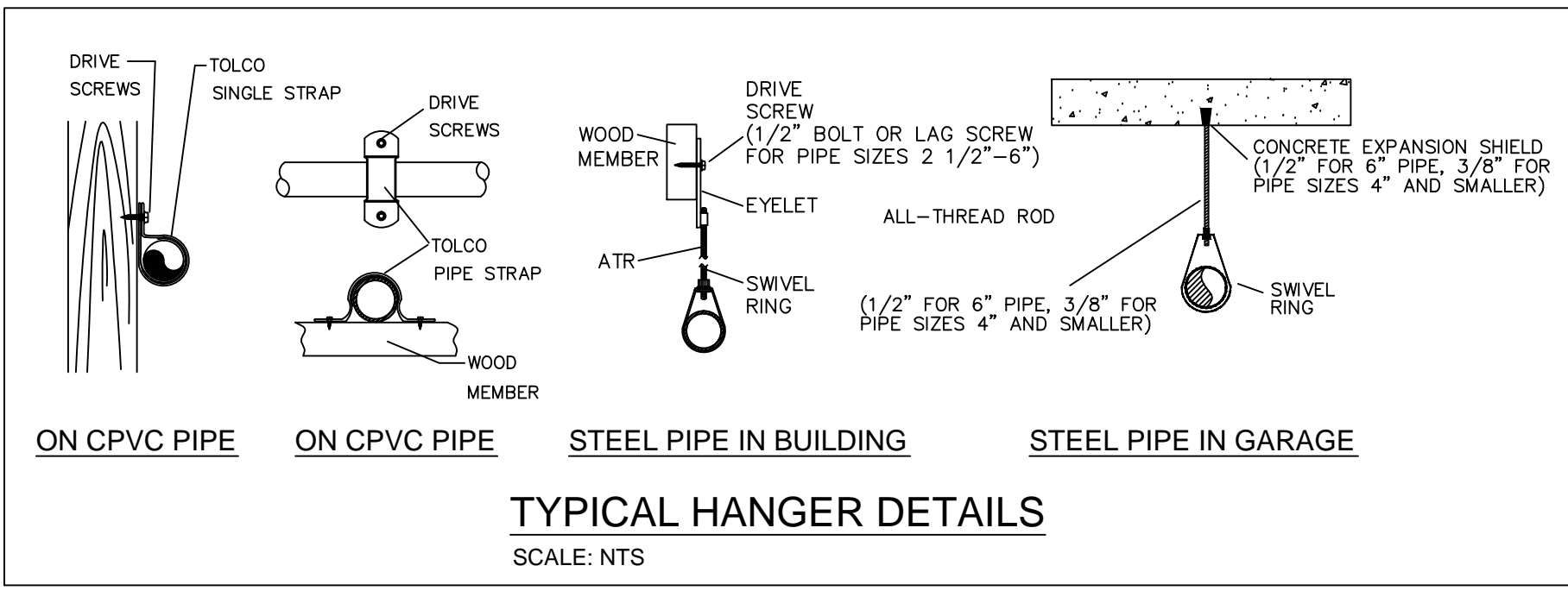
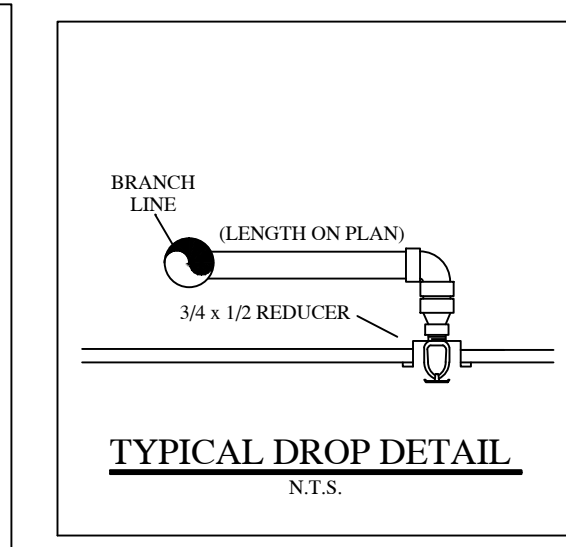
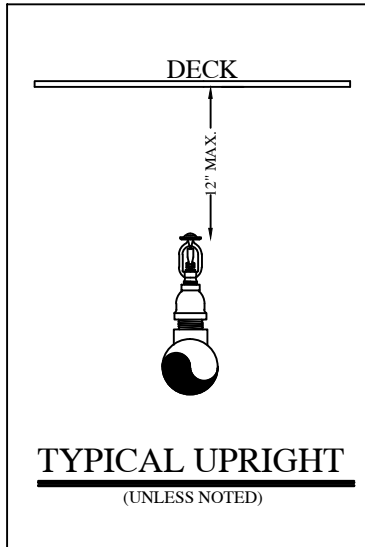
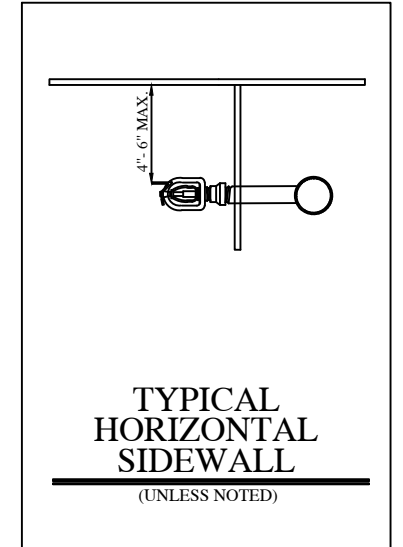
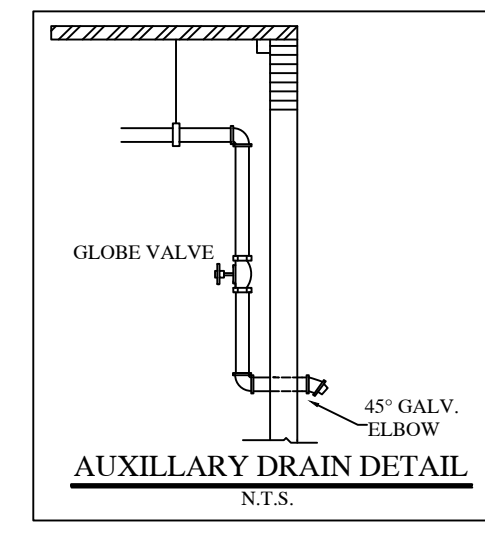
SCALE: 1/8" = 1'-0"
CONTRACT NO.: _____
DRAWN BY: C. ALEXANDER
CHECKED BY: _____
DATE: 04-01-12
PROJECT: FP 5 OF 30
DESCRIPTION: 1st FLOOR



2nd FLOOR
INSTALLATION PLAN
 Scale 1/8" = 1'-0"

— (WET) CPVC
 — (WET) SCH. 10 & 40 STEEL PIPE
 - - - (DRY) SCH. 10 & 40 STEEL PIPE

PIPE SIZE	SLEEVE DIA.
1"	2"
1-1/4"	2"
1-1/2"	2-1/2"
2"	3"
2-1/2"	4"
3"	5"
4"	5"
5"	6"
6"	8"
8"	10"



HANGER SPACING CHART

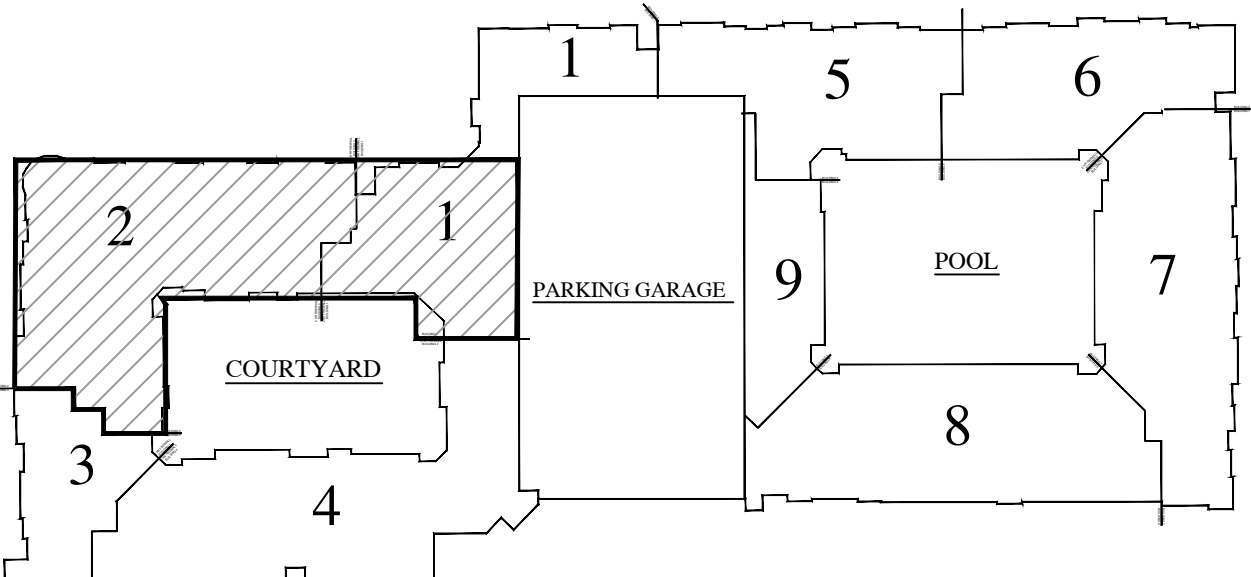
PIPE SIZE (DN)	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	6
STEEL PIPE	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0
THIRDBAY	N/A	12-0	12-0	12-0	12-0	12-0	12-0	N/A	N/A
COPPER	8-0	8-0	10-0	10-0	12-0	12-0	12-0	15-0	15-0
CPVC	5-6	6-0	6-6	7-0	8-0	9-0	10-0	N/A	N/A

FIGURE A.9.2.3.4 DISTANCE FROM SPRINKLER TO HANGER

40' FROM 1" TO 4" FOR 1 1/4" OR LARGER
 60' FOR 1 1/2" OR LARGER
 MAX. THEN EXTEND HERE
 [GREATER THAN 40' FOR 1" OR LARGER]
 [GREATER THAN 60' FOR 1 1/2" OR LARGER]

NOTE: MINOR PRESSURES EXCEED 100 PSI FOR THE UNBRANCHED LENGTH BETWEEN THE END SPRINKLER IN A RAINBOW POSITION OF DROP AND THE LAST HANGER ON THE BRANCH LINE SHALL NOT BE GREATER THAN 12 INCHES FOR STEEL PIPE.

PIPE SIZE	DIAM. OF ROD	PIPE SIZE	DIAM. OF ROD
UP TO AND INCLUDING 4"	3/8"	6 AND 8	1/2"



KEY MAP
N.T.S.

- GENERAL NOTES:**
- Ranger Fire's work shall consist of all necessary labor and material to design and install new automatic fire sprinkler systems in the referenced (9) Apartment Buildings and attached Parking Garage.
 - Ranger Fire excludes all electrical and ceiling work.
 - All design and installation shall conform to NFPA 13, 13R, 14, 20, & the City of Addison requirements.
 - All material to be UL/FM approved for fire services.
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 - Sprinkler equipment room and equipment components shall be properly identified.
 - Install signage on sprinkler equipment room door stating "Sprinkler Valve Room" in at least 4 inches in height.
 - All hangers shall be in accordance with NFPA 13 requirements.
 - All systems shall be tested at 200 psi for 2 hours and witnessed by a representative of the Addison Fire Department. Any leaks shall be repaired.
 - The system has been hydraulically calculated per NFPA 13, 13R, 14, & 20 requirements.
 - Install Black steel piping in Parking Garage.

RESIDENTIAL BUILDING INFO	
OCCUPANCY:	R-2 / A-3
GROSS BLDG AREA:	424,139 S.F.
TYPE OF CONSTRUCTION:	V-A

GARAGE BUILDING INFO	
OCCUPANCY:	S-2
GROSS BLDG AREA:	181,834 S.F.
TYPE OF CONSTRUCTION:	2-B

AS-BUILT
PER FIELD CONDITIONS

I have reviewed these plans and certify that they comply with the adopted NFPA standards.

Ranger Fire, Inc.
 920 South Main Street
 Suite 200
 Grapevine, Texas 76051
 Phone: 817-410-9070
SCR-0590

RME SIGNATURE: _____
 PRINTED RME NAME: Roger F. Pichardo
 RME NUMBER: 1275-GD DATE: _____

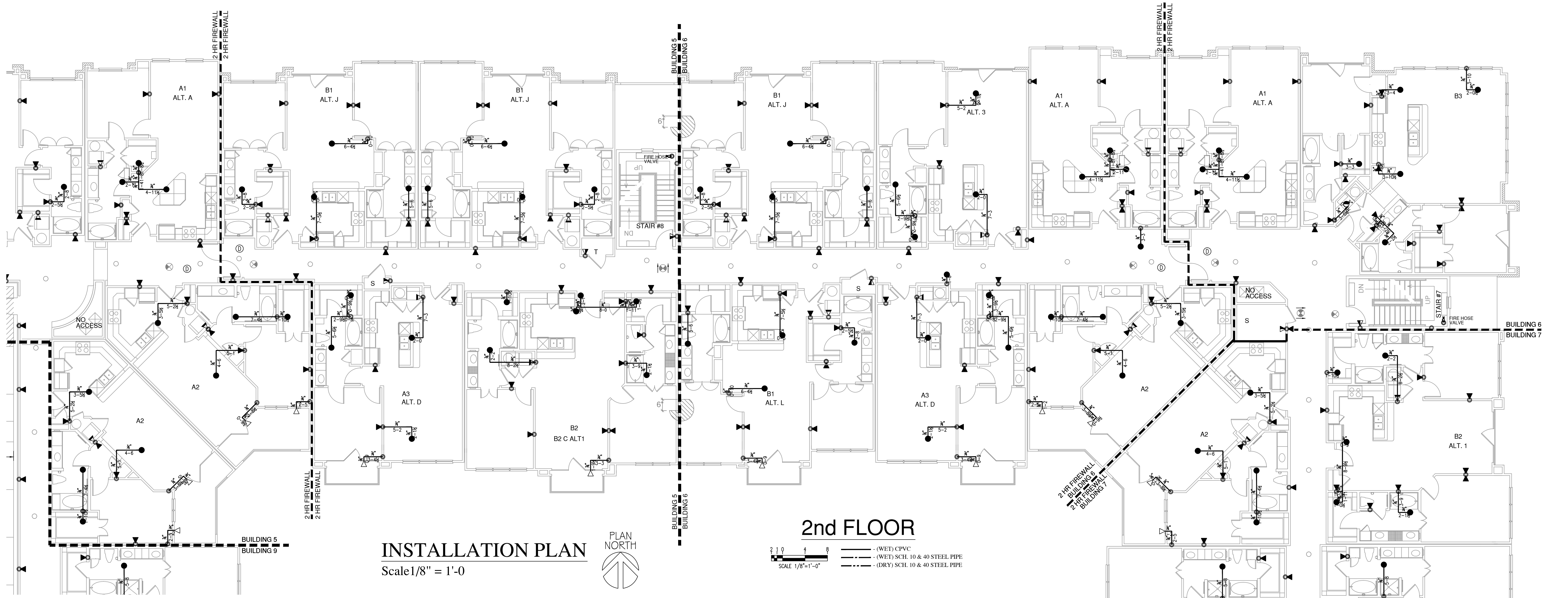
AS-BUILT SUBMITTAL OTHER

RANGER FIRE, INC.
 920 SOUTH MAIN STREET
 GRAPEVINE, TEXAS 76051
 PHONE: 817-410-9070
 TEXAS LICENSE: 0590

AS-BUILT SUBMITTAL OTHER

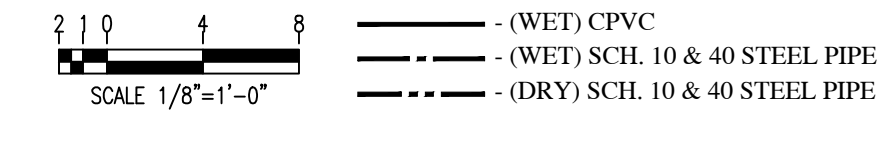
REV#	DATE	BY	REVISIONS
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2	04-01-12	RF	ISSUED FOR PERMITS
3	04-01-12	RF	ISSUED FOR PERMITS
4	04-01-12	RF	ISSUED FOR PERMITS
5	04-01-12	RF	ISSUED FOR PERMITS
6	04-01-12	RF	ISSUED FOR PERMITS
7	04-01-12	RF	ISSUED FOR PERMITS
8	04-01-12	RF	ISSUED FOR PERMITS
9	04-01-12	RF	ISSUED FOR PERMITS
10	04-01-12	RF	ISSUED FOR PERMITS
11	04-01-12	RF	ISSUED FOR PERMITS
12	04-01-12	RF	ISSUED FOR PERMITS
13	04-01-12	RF	ISSUED FOR PERMITS
14	04-01-12	RF	ISSUED FOR PERMITS
15	04-01-12	RF	ISSUED FOR PERMITS
16	04-01-12	RF	ISSUED FOR PERMITS
17	04-01-12	RF	ISSUED FOR PERMITS
18	04-01-12	RF	ISSUED FOR PERMITS
19	04-01-12	RF	ISSUED FOR PERMITS
20	04-01-12	RF	ISSUED FOR PERMITS

CONTRACT # 11-655
 DESCRIPTION: 2ND FLOOR



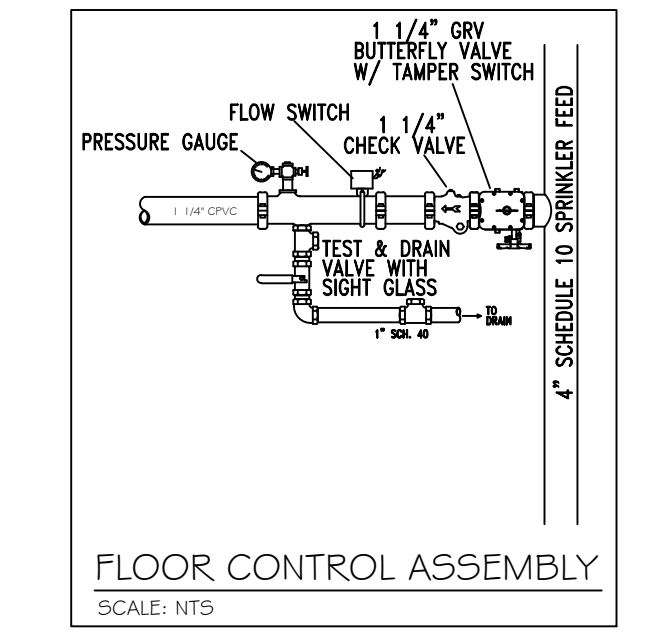
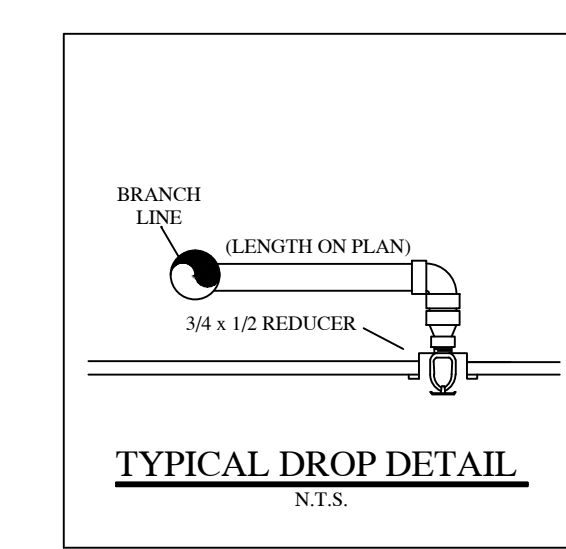
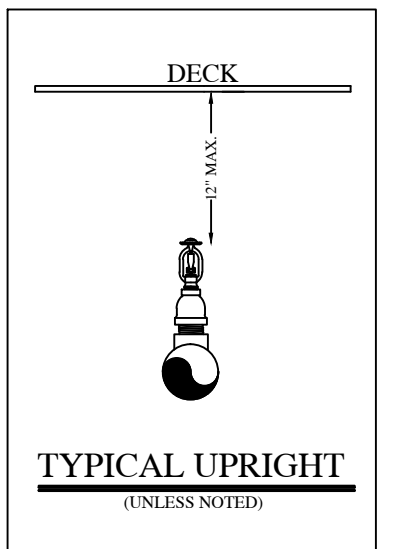
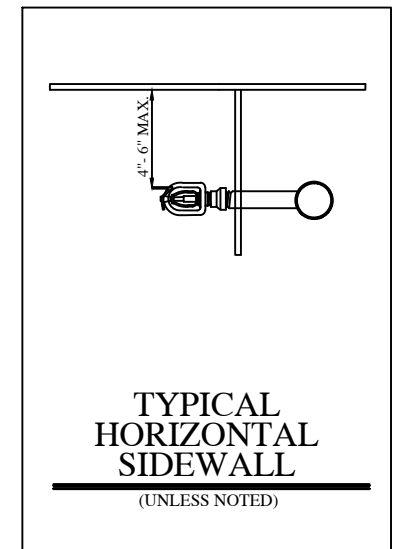
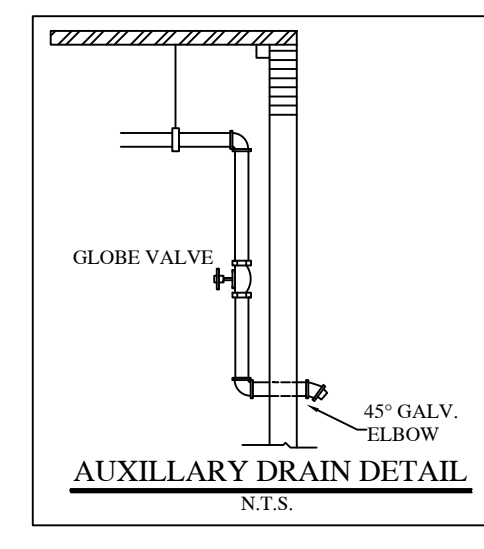
INSTALLATION PLAN
Scale 1/8" = 1'-0"

2nd FLOOR



SLEEVE SCHEDULE

PIPE SIZE	SLEEVE DIA.
1"	2"
1-1/4"	2"
1-1/2"	2-1/2"
2"	3"
2-1/2"	4"
3"	5"
4"	6"
5"	8"
6"	8"
8"	10"



HANGER SPACING CHART

TABLE 9.2.1.1 MAXIMUM DISTANCE BETWEEN HANGERS (FT-IN.)

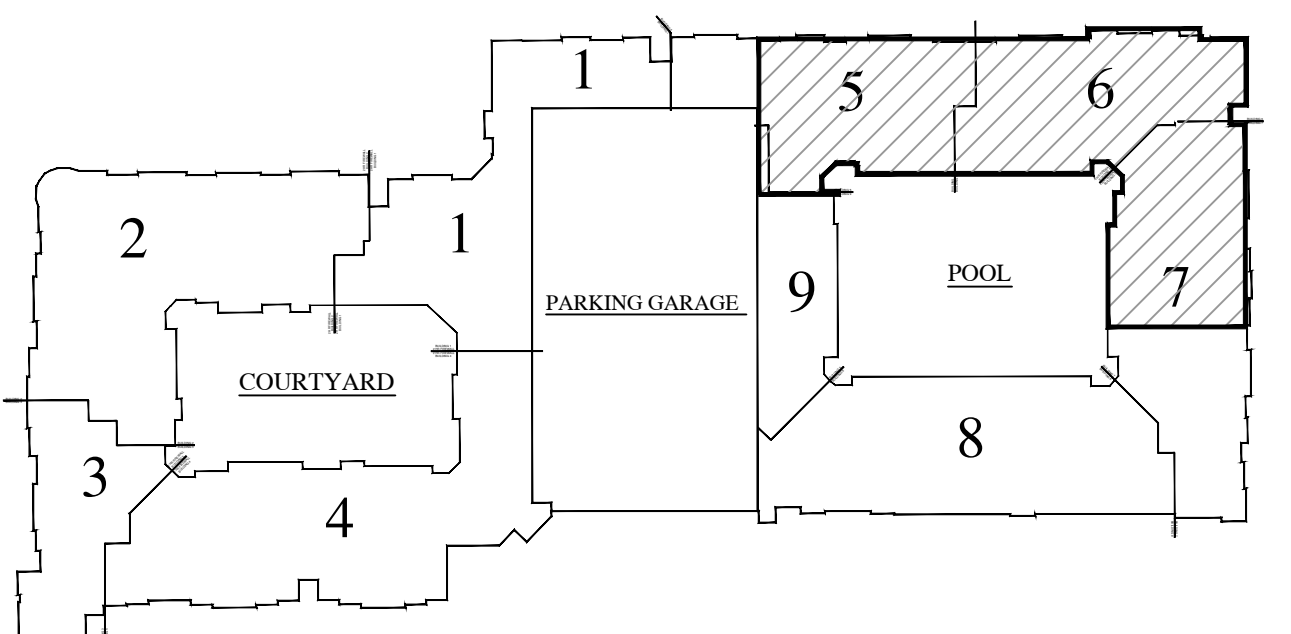
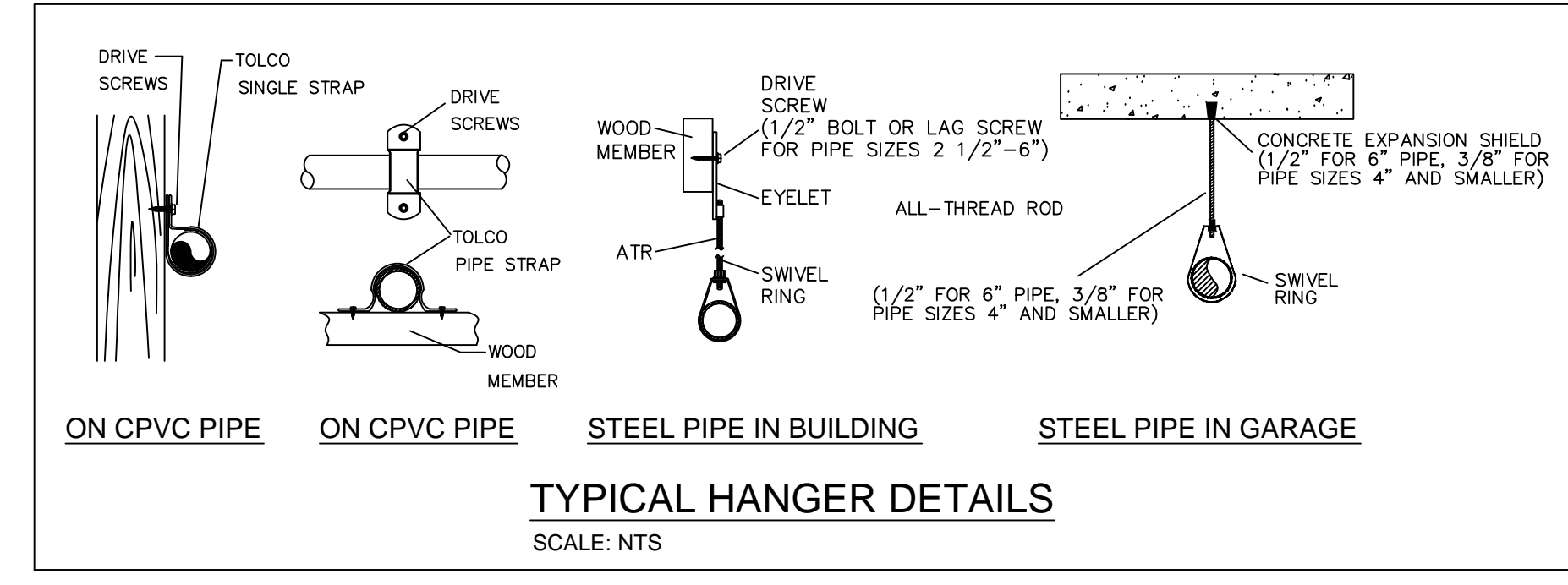
PIPE SIZE (DN)	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	6
STEEL PIPE	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0
THREADED	N/A	12-0	12-0	12-0	12-0	12-0	N/A	N/A	N/A
LIGHTWALL	N/A	12-0	12-0	12-0	12-0	12-0	N/A	N/A	N/A
COPPER	8-0	8-0	10-0	10-0	12-0	12-0	12-0	15-0	15-0
CPVC	5-6	6-0	6-6	7-0	8-0	9-0	10-0	N/A	N/A

FIGURE A.9.2.3.4 DISTANCE FROM SPRINKLER TO HANGER

NOTE: WHERE PRESSURES EXCEED 100 PSI, THE UNSUPPORTED LENGTH BETWEEN THE END SPRINKLER IN A PENDENT POSITION OR DROP PIPE AND THE LAST HANGER ON THE BRANCH LINE SHALL NOT BE GREATER THAN 12 INCHES FOR STEEL PIPE.

TABLE 9.1.2.1 HANGER ROD SIZES

PIPE SIZE	DIAM. OF ROD	PIPE SIZE	DIAM. OF ROD
UP TO AND INCLUDING 4"	3/8"	6 AND 8	1/2"



KEY MAP
N.T.S.

- GENERAL NOTES:**
- Ranger Fire's work shall consist of all necessary labor and material to design and install new automatic fire sprinkler systems in the referenced (9) Apartment Buildings and attached Parking Garage.
 - Ranger Fire excludes all electrical and ceiling work.
 - All design and installation shall conform to NFPA 13, 13R, 14, 20, & the City of Addison requirements.
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 - Owner or tenant is responsible for maintaining adequate heat to prevent the system from freezing (Min. 40 degrees F.).
 - Sprinkler equipment room and equipment components shall be properly identified.
 - Install signage on sprinkler equipment room door stating "Sprinkler Valve Room" in at least 4 inches in height.
 - All hangers shall be in accordance with NFPA 13 requirements.
 - All systems shall be tested at 200 psi for 2 hours and witnessed by a representative of the Addison Fire Department. Any leaks shall be repaired.
 - The system has been hydraulically calculated per NFPA 13, 13R, 14, & 20 requirements.
 - Install Black steel piping in Parking Garage.

- LEGEND:**
- SYSTEM RISER
 - 4" X 2 1/2" X 2 1/2" F.D.C.
 - VERTICAL PIPE (UP or DN)
 - HYDRAULIC NODE POINT
 - REMOTE AREA OUTLINE
 - 2 1/2" HOSE VALVE
 - BUTTERFLY VALVE
 - HANGERS (SIZE VARIES)
 - CEILING ELEVATION
 - PIPE ELEVATION

RESIDENTIAL BUILDING INFO

OCCUPANCY: R-2 / A-3
GROSS BLDG AREA: 424,139 S.F.
TYPE OF CONSTRUCTION: V-A

GARAGE BUILDING INFO

OCCUPANCY: S-2
GROSS BLDG AREA: 181,834 S.F.
TYPE OF CONSTRUCTION: 2-B

AS-BUILT
PER FIELD CONDITIONS

I have reviewed these plans and certify that they comply with the adopted NFPA standards.

Ranger Fire, Inc.
920 South Main Street
Suite 200
Grapevine, Texas 76051
Phone: 817-410-9070
SCR- 0590

RME SIGNATURE: _____
PRINTED RME NAME: Roger F. Pichardo
RME NUMBER: 1275-GD DATE: _____

AS-BUILT SUBMITTAL OTHER

CONFIDENTIALITY STATEMENT
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REV#	DATE	BY
1	04-01-12	RP

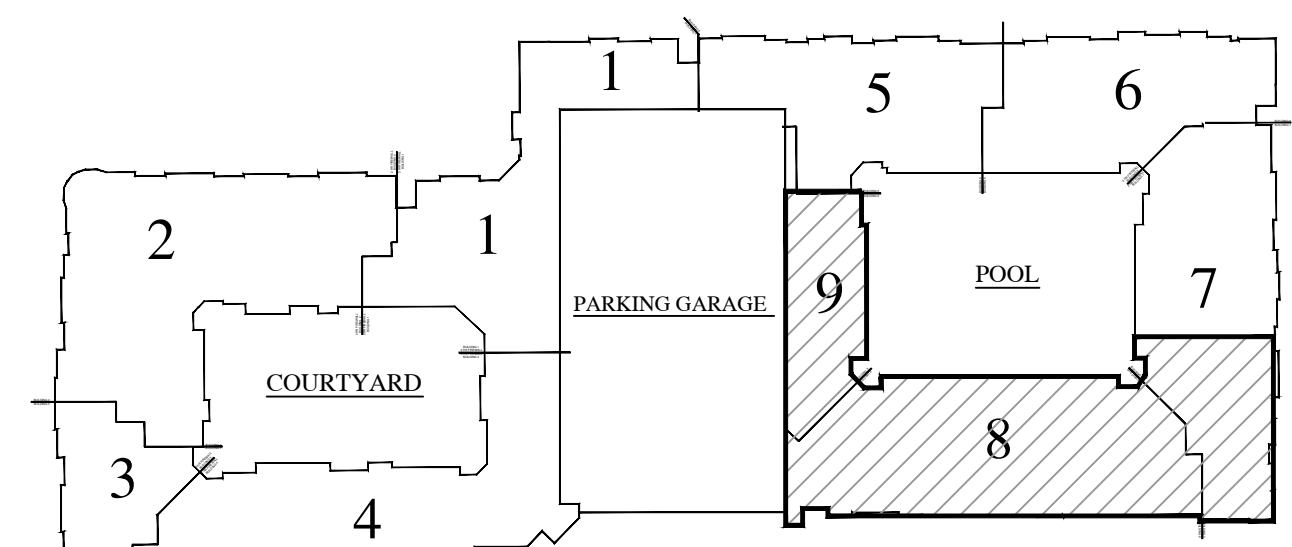
GENERAL CONTRACTOR: EMBREY PARTNERS LTD.
1020 NE LOOP 410, STE 700
SAN ANTONIO, TX 78240
PHONE: 214-249-4044
FAX: 214-249-4044

DATE: 04-01-12
SCALE: 1/8" = 1'-0"
PROJECT: KELLER SPRINGS LOFTS
DESCRIPTION: 2ND FLOOR

CONTRACT #11655
FP 8 OF 30

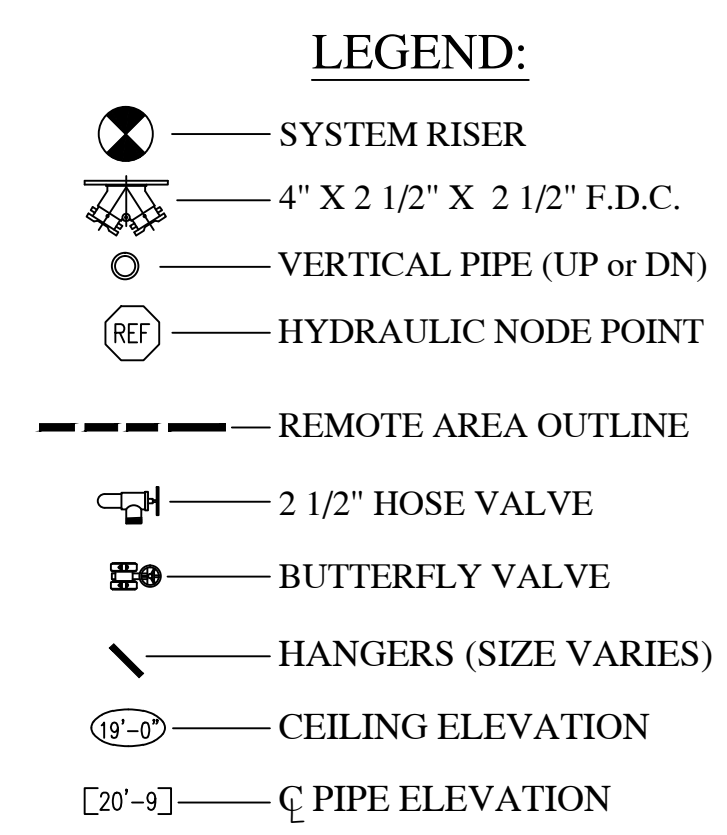
RANGER FIRE, INC.
920 SOUTH MAIN STREET
GRAPEVINE, TEXAS 76051
PHONE: 817-410-9070
TEXAS LICENSE: 0590

AS-BUILT SUBMITTAL OTHER



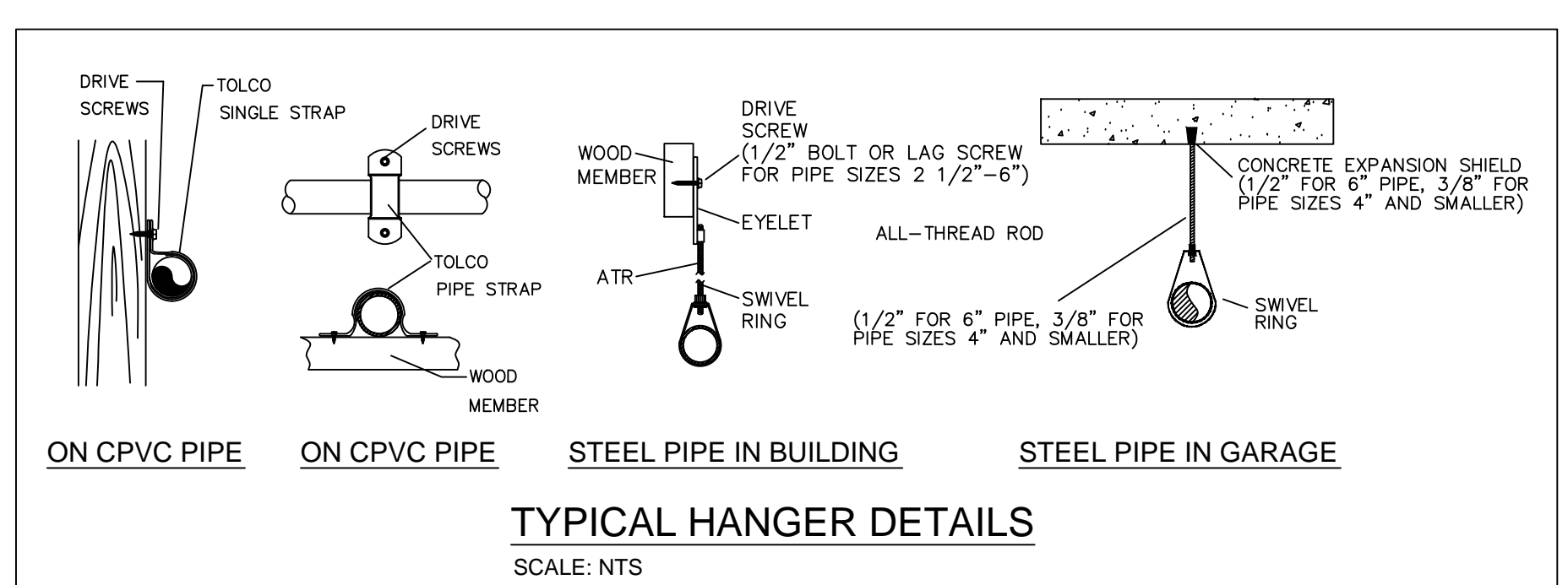
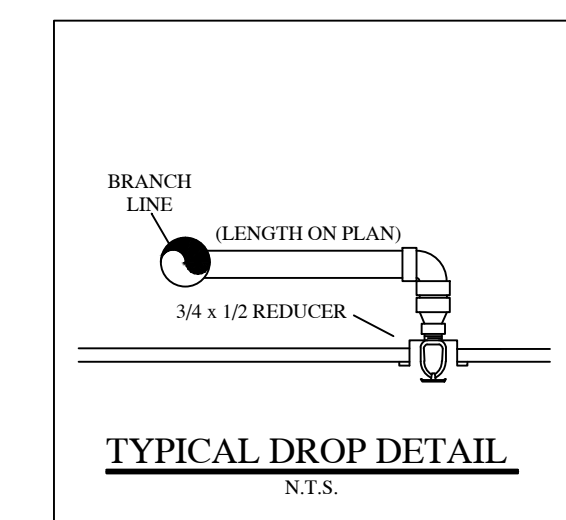
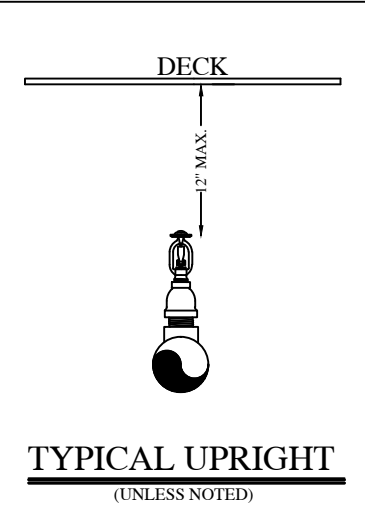
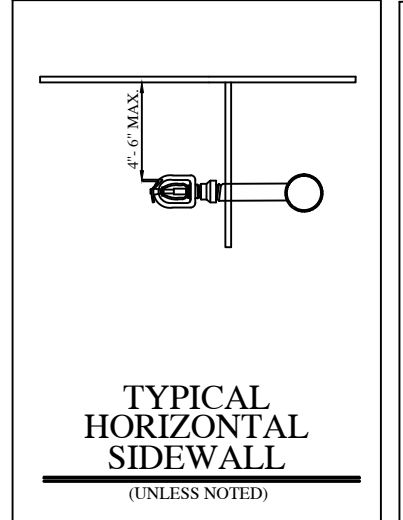
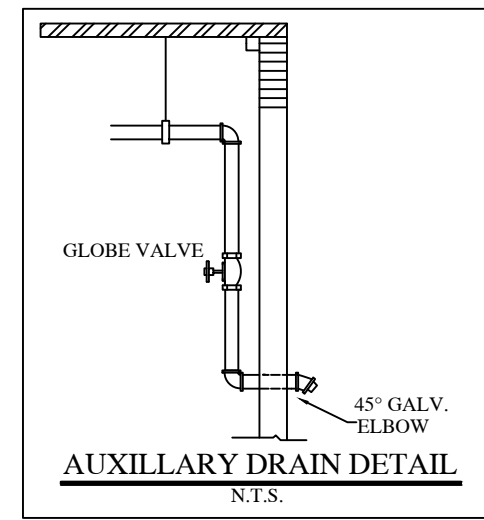
KEY MAP
 N.T.S.

- GENERAL NOTES:**
- Ranger Fire's work shall consist of all necessary labor and material to design and install new automatic fire sprinkler systems in the referenced (9) Apartment Buildings and attached Parking Garage.
 - Ranger Fire excludes all electrical and ceiling work.
 - All design and installation shall conform to NFPA 13, 13R, 14, 20, and the City of Addison requirements.
 - All material to be UL/FM approved for fire services.
 - All new plastic piping shall be Schedule 40 CPVC with CPVC plastic fittings (u.o.n.). All steel piping shall be Black Sch. 10 with grooved fittings for the mains and Black Sch. 40 with threaded fittings for the branches.
 - Owner or tenant is responsible for maintaining adequate heat to prevent the system from freezing (Min. 40 degrees F.).
 - Sprinkler equipment room and equipment components shall be properly identified.
 - Install signage on sprinkler equipment room door stating "Sprinkler Valve Room" in at least 4 inches in height.
 - All hangers shall be in accordance with NFPA 13 requirements.
 - All systems shall be tested at 200 psi for 2 hours and witnessed by a representative of the Addison Fire Department. Any leaks shall be repaired.
 - The system has been hydraulically calculated per NFPA 13, 13R, 14, & 20 requirements.
 - Install Black steel piping in Parking Garage.



SLEEVE SCHEDULE

PIPE SIZE	SLEEVE DIA.
1"	2"
1-1/4"	2"
1-1/2"	2-1/2"
2"	3"
2-1/2"	4"
3"	5"
4"	5"
5"	6"
6"	8"
8"	10"



HANGER SPACING CHART

TABLE 9.2.2.1 MAXIMUM DISTANCE BETWEEN HANGERS (FT-IN.)

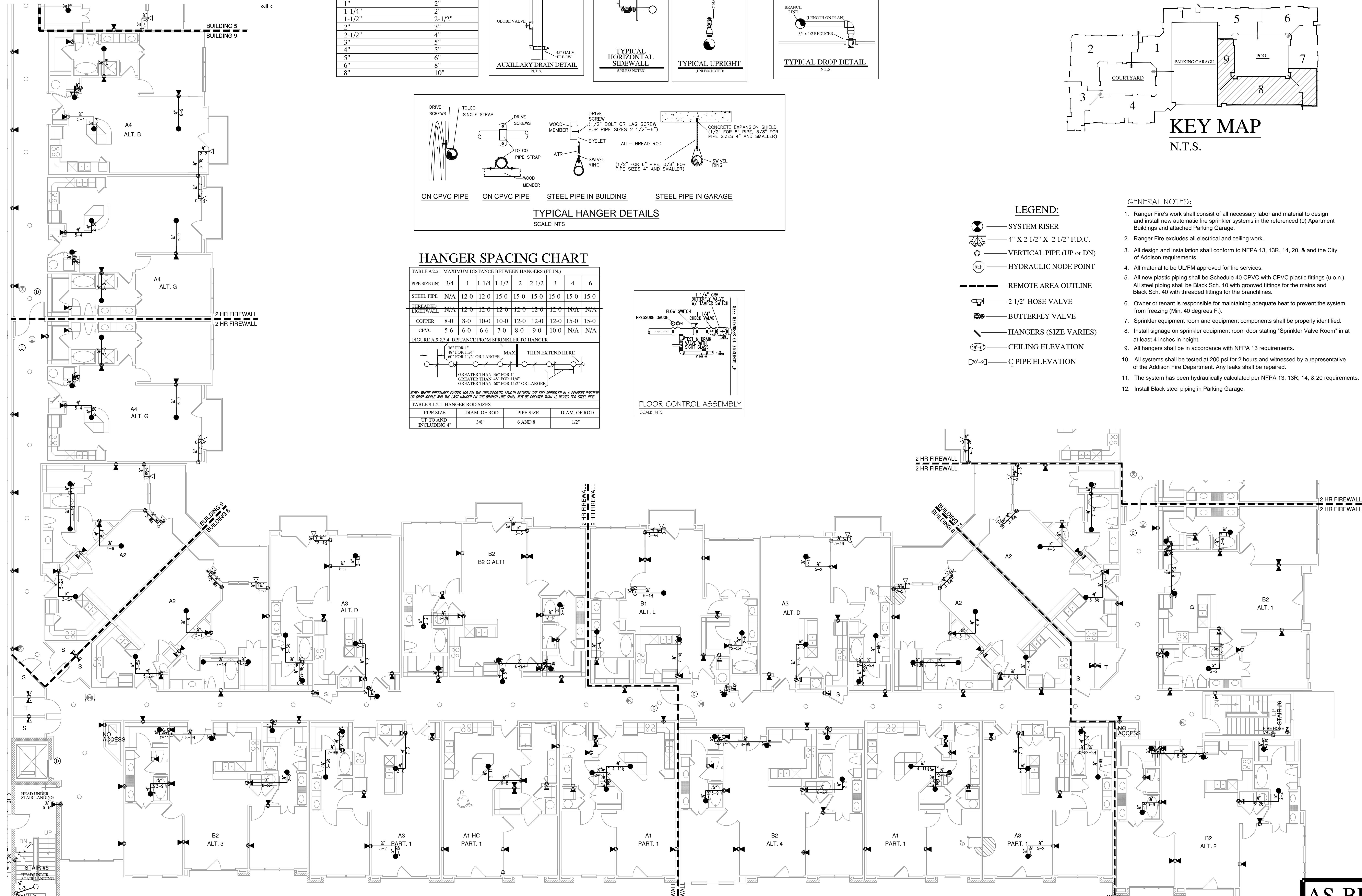
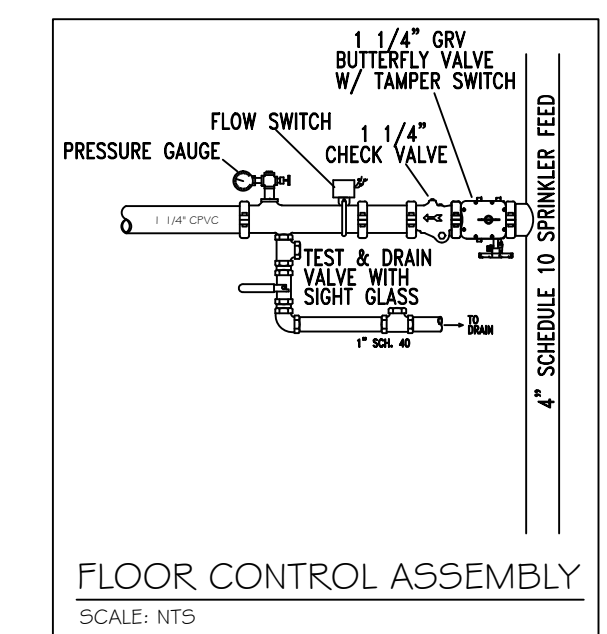
PIPE SIZE (DN)	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	6
STEEL PIPE	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0
DIAPHRAGM	N/A	12-0	12-0	12-0	12-0	12-0	N/A	N/A	N/A
COPPER	8-0	8-0	10-0	10-0	12-0	12-0	12-0	15-0	15-0
CPVC	5-6	6-0	6-6	7-0	8-0	9-0	10-0	N/A	N/A

FIGURE A.9.2.3.4 DISTANCE FROM SPRINKLER TO HANGER

NOTE: WHERE PRESSURES EXCEED 100 PSI THE UNSUPPORTED LENGTH BETWEEN THE END SPRINKLER IN A REMOTE POSITION OR DROP RISER AND THE LAST HANGER ON THE BRANCH LINE SHALL NOT BE GREATER THAN 12 FEET FOR STEEL PIPE.

TABLE 9.2.1.1 HANGER ROD SIZES

PIPE SIZE	DIAM. OF ROD	PIPE SIZE	DIAM. OF ROD
UP TO AND INCLUDING 4"	3/8"	6 AND 8	1/2"



2nd FLOOR
 SCALE 1/8" = 1'-0"
 PLAN NORTH

INSTALLATION PLAN

Scale 1/8" = 1'-0"

RESIDENTIAL BUILDING INFO

OCCUPANCY: R-2/A-3
GROSS BLDG AREA: 424,139 S.F.
TYPE OF CONSTRUCTION: V-A

GARAGE BUILDING INFO

OCCUPANCY: S-2
GROSS BLDG AREA: 181,834 S.F.
TYPE OF CONSTRUCTION: 2-B

I have reviewed these plans and certify that they comply with the adopted NFPA standards.

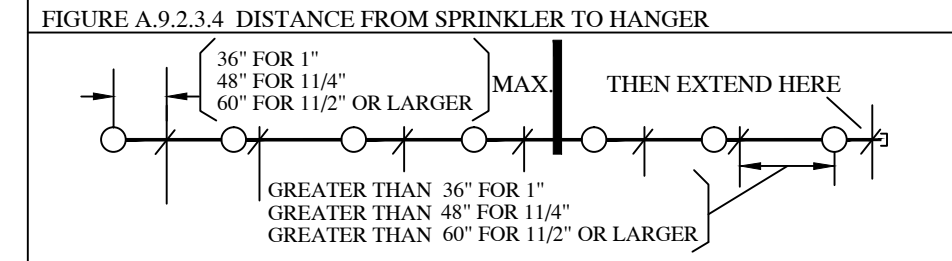
Ranger Fire, Inc.
 920 South Main Street
 Suite 200
 Grapevine, Texas 76051
 Phone: 817-410-9070
 SCR- 0590

RME SIGNATURE: _____
 PRINTED RME NAME: Roger F. Pichardo
 RME NUMBER: 1275-GD DATE: _____

AS-BUILT SUBMITTAL OTHER

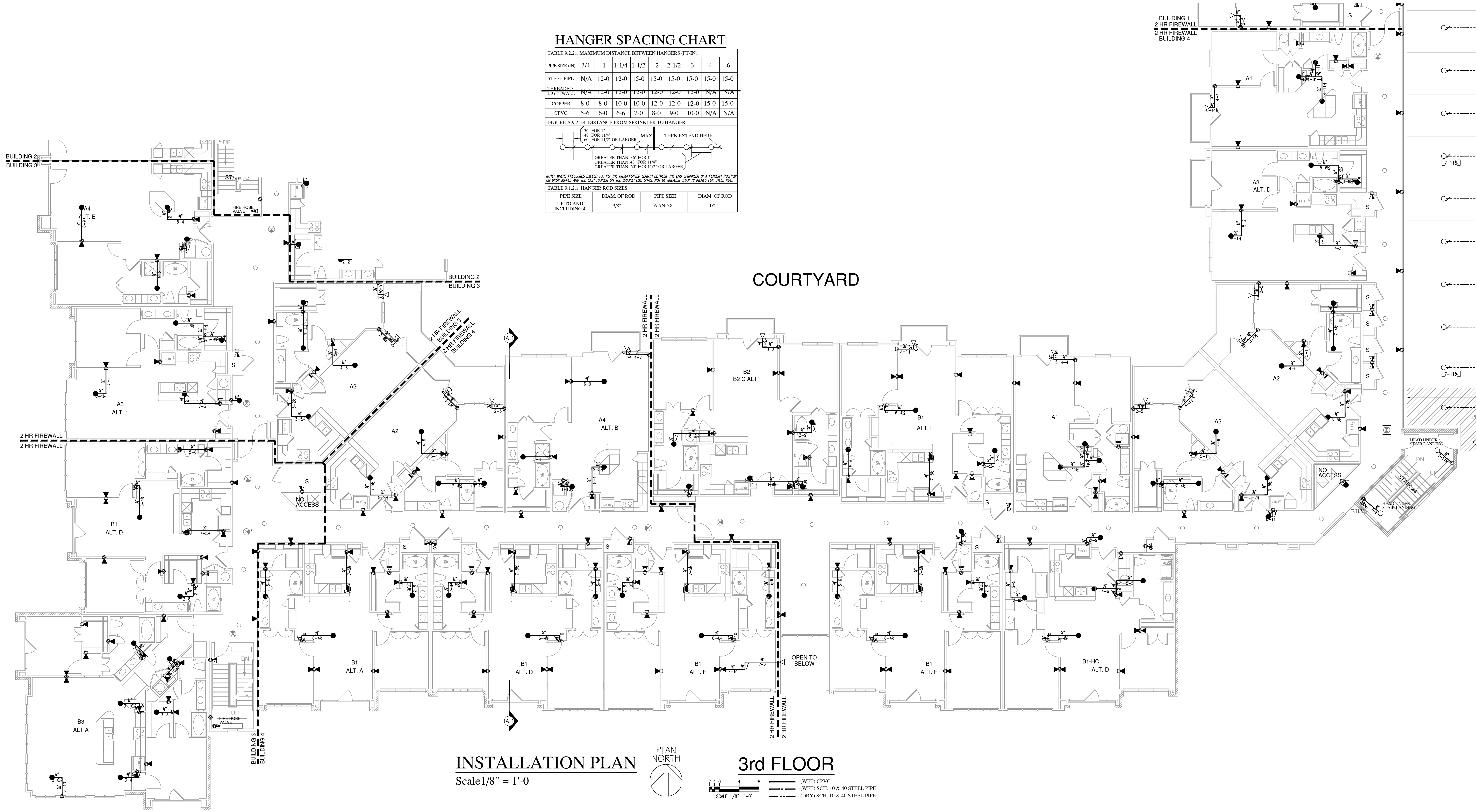
HANGER SPACING CHART

PIPE SIZE (IN)	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	6
STEEL PIPE	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0
THREADED LIGHTWALL	N/A	12-0	12-0	12-0	12-0	12-0	N/A	N/A	N/A
COPPER	8-0	8-0	10-0	10-0	12-0	12-0	12-0	15-0	15-0
CPVC	5-6	6-0	6-6	7-0	8-0	9-0	10-0	N/A	N/A



NOTE: MAKE PRESSURES EXCEED 100 PSI THE UNWEIGHED LENGTH BETWEEN THE END SPRINKLER IN A PENDANT POSITION OR END WIRE AND THE LAST HANGER ON THE BRANCH LINE SHALL NOT BE GREATER THAN 12 FEET FOR STEEL PIPE.

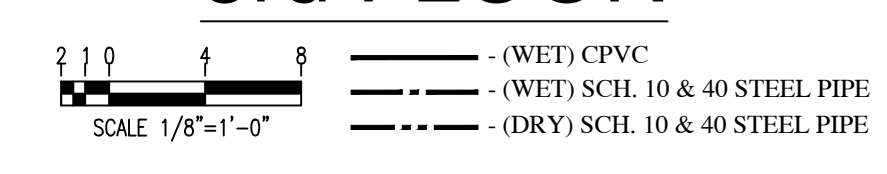
PIPE SIZE	DIAM. OF ROD	PIPE SIZE	DIAM. OF ROD
UP TO AND INCLUDING 4"	3/8"	6 AND 8	1/2"



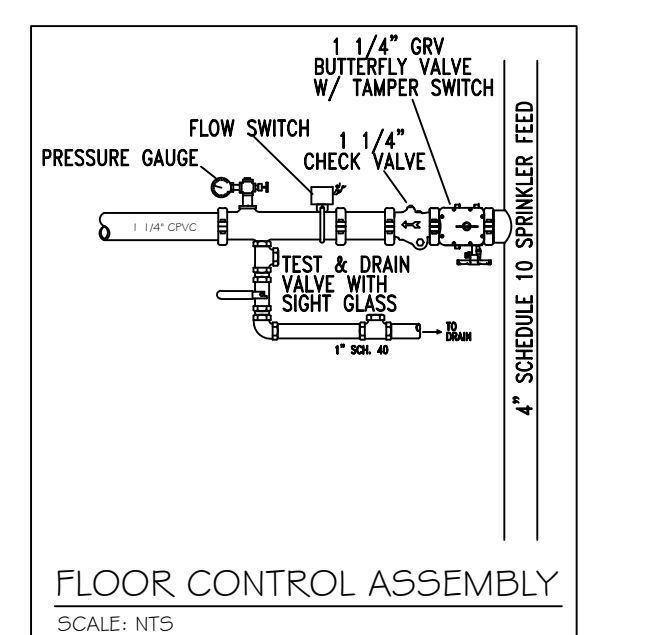
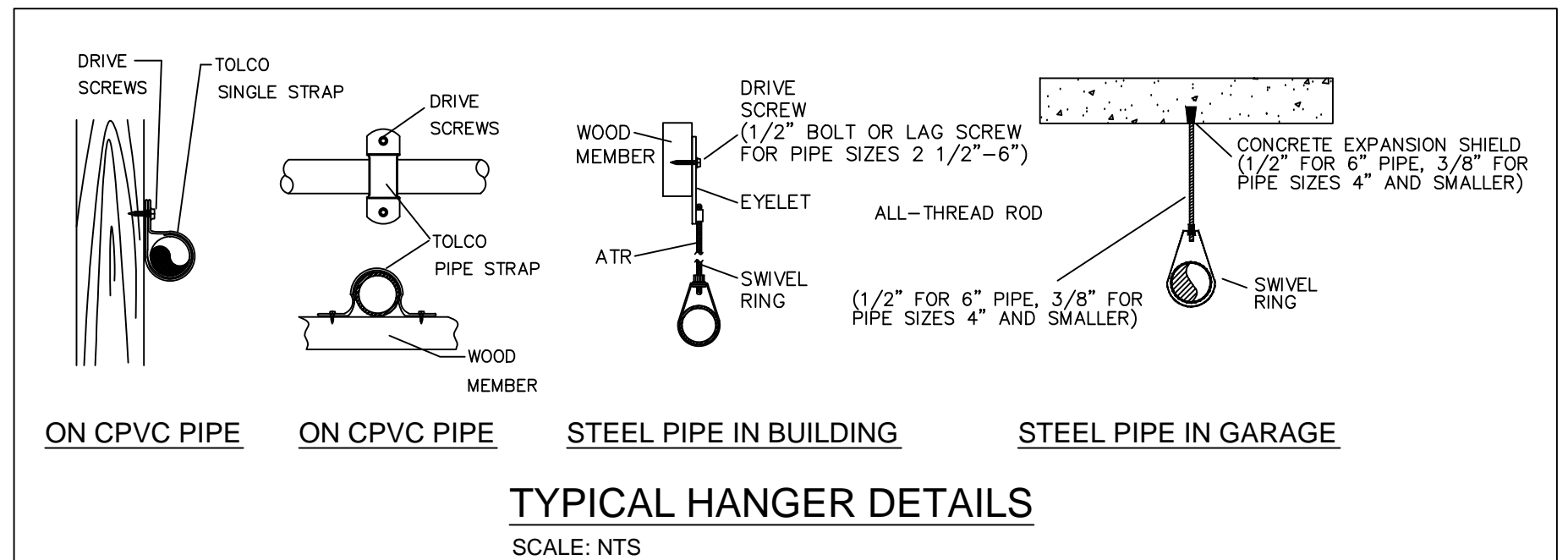
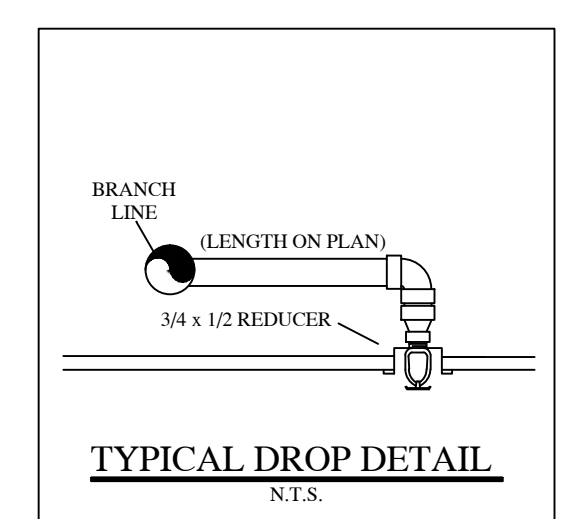
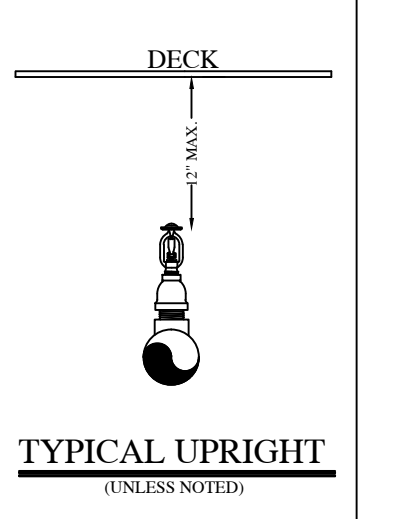
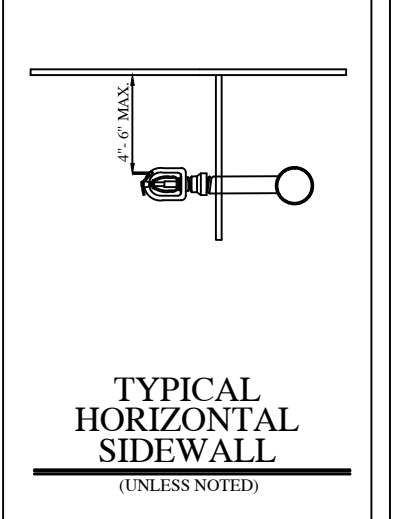
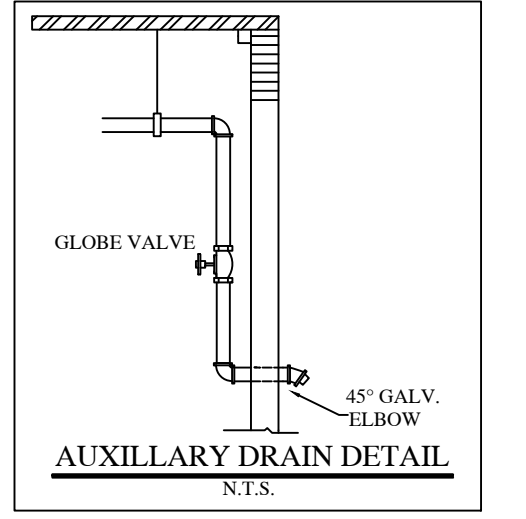
INSTALLATION PLAN

Scale 1/8" = 1'-0"

3rd FLOOR



PIPE SIZE	SLEEVE DIA.
1"	2"
1-1/4"	2"
1-1/2"	2-1/2"
2"	3"
2-1/2"	4"
3"	5"
4"	6"
5"	8"
6"	10"



- LEGEND:**
- ⊗ SYSTEM RISER
 - ⊕ 4" X 2 1/2" X 2 1/2" F.D.C.
 - VERTICAL PIPE (UP or DN)
 - REF HYDRAULIC NODE POINT
 - REMOTE AREA OUTLINE
 - ⊓ 2 1/2" HOSE VALVE
 - ⊕ BUTTERFLY VALVE
 - ⊖ HANGERS (SIZE VARIES)
 - ⊖ CEILING ELEVATION
 - ⊖ PIPE ELEVATION

- GENERAL NOTES:**
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 - The system has been hydraulically calculated per NFPA 13, 13R, 14, & 20 requirements.
 - Install Black steel piping in Parking Garage.

RESIDENTIAL BUILDING INFO	
OCCUPANCY:	R-2 / A-3
GROSS BLDG AREA:	424,139 S.F.
TYPE OF CONSTRUCTION:	V-A

GARAGE BUILDING INFO	
OCCUPANCY:	S-2
GROSS BLDG AREA:	181,834 S.F.
TYPE OF CONSTRUCTION:	2-B

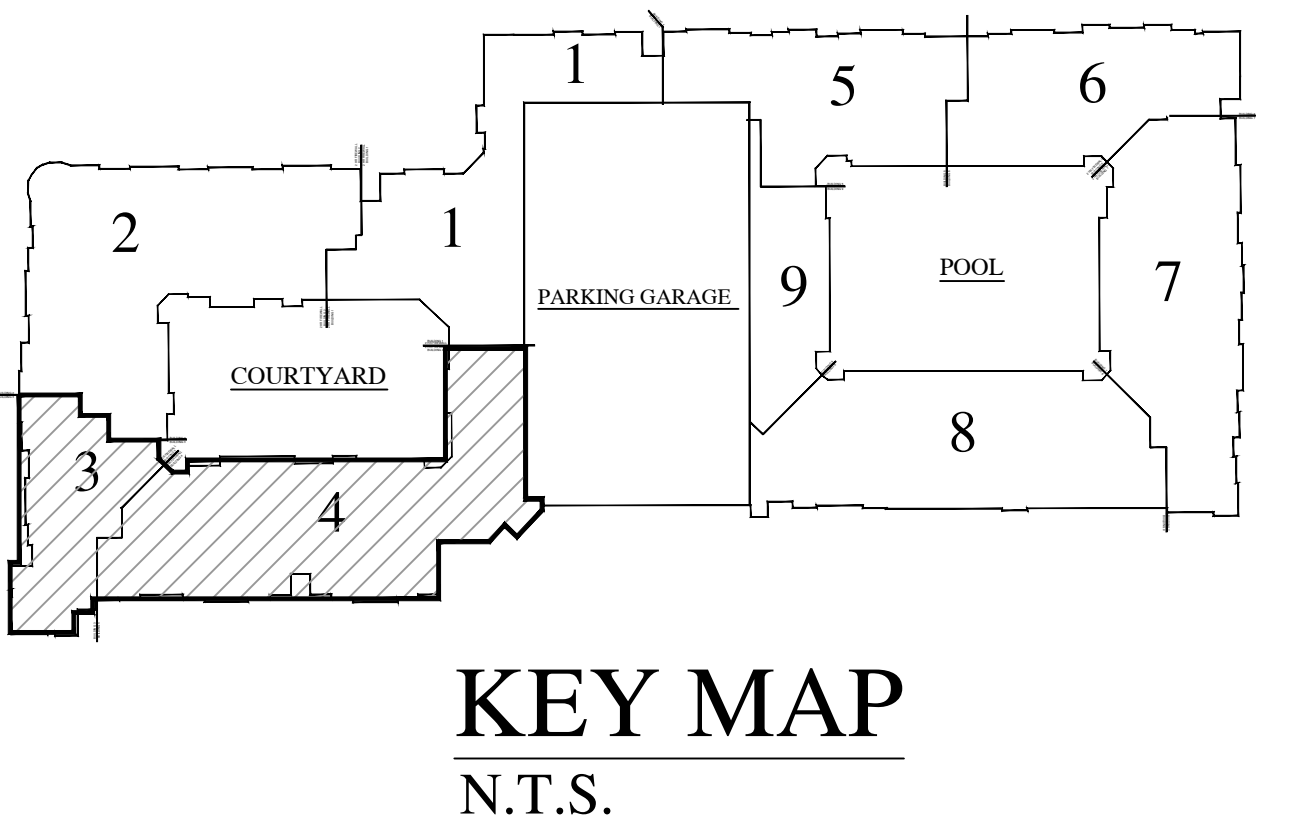
AS-BUILT
PER FIELD CONDITIONS

I have reviewed these plans and certify that they comply with the adopted NFPA standards.

Ranger Fire, Inc.
920 South Main Street
Suite 200
Grapevine, Texas 76051
Phone: 817-410-9070
SCR-0590

RME SIGNATURE: _____
PRINTED RME NAME: Roger F. Pichardo
RME NUMBER: 1275-GD DATE: _____

AS-BUILT SUBMITTAL OTHER



RANGER FIRE, INC.
920 SOUTH MAIN STREET
GRAPEVINE, TEXAS 76051
PHONE: 817-410-9070
TEXAS LICENSE: 0590

AS-BUILT SUBMITTAL OTHER

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REV#	REVISIONS	DATE	BY

GENERAL CONTRACTOR: EMBREY PARTNERS LTD
1000 NE LOOP 410 STE 700
SAN ANTONIO, TX 78202-4044

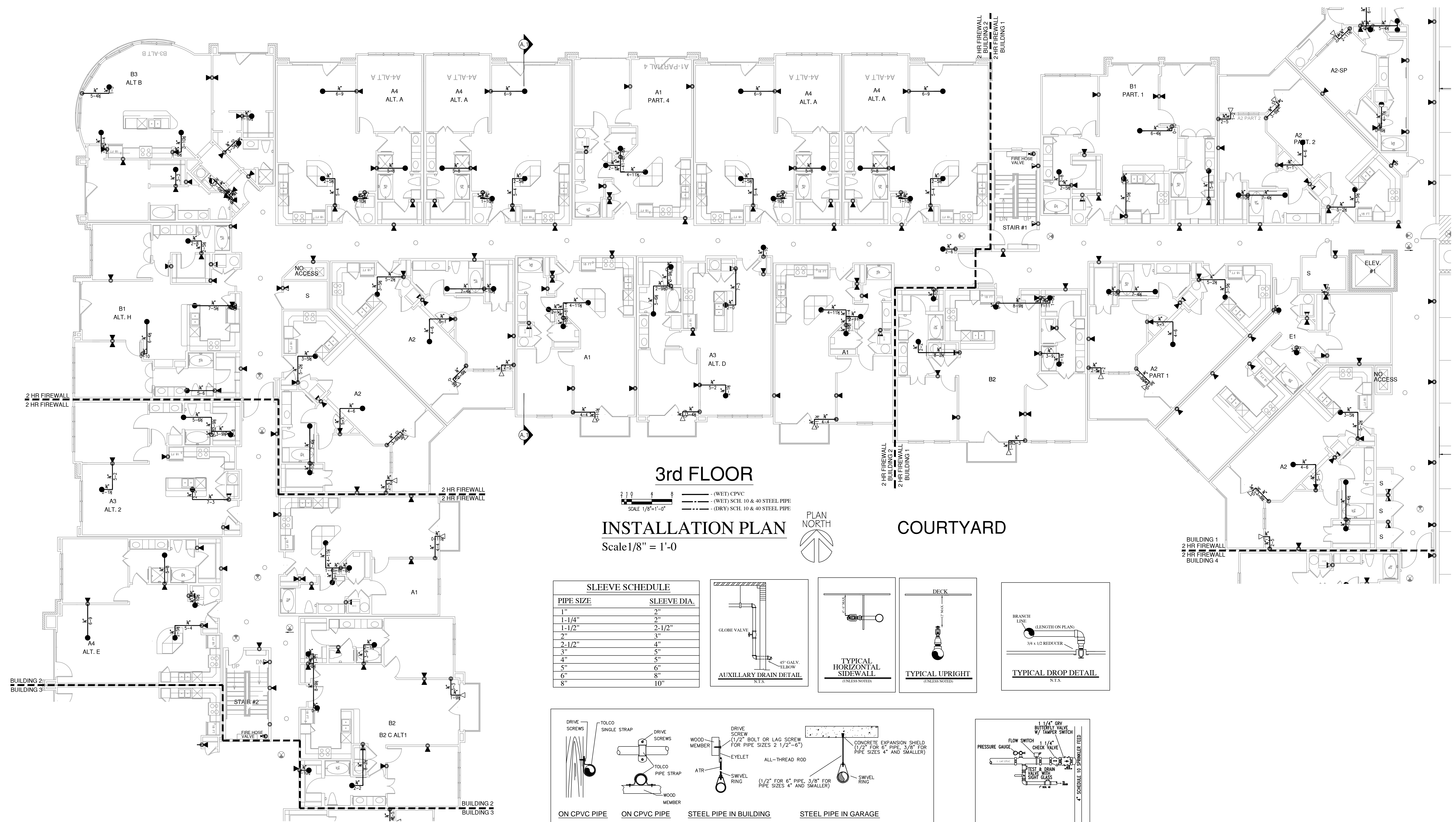
DATE: 04-01-12
BY: C. ALEXANDER
CHECKED BY: _____

PROJECT: 1275-GD
SHEET: 30 OF 30

SCALE: 1/8" = 1'-0"
DRAWN BY: C. ALEXANDER
DATE: 04-01-12
REVISED BY: _____

CONTRACT # 11-1655
DESCRIPTION: 3RD FLOOR

RANGER FIRE

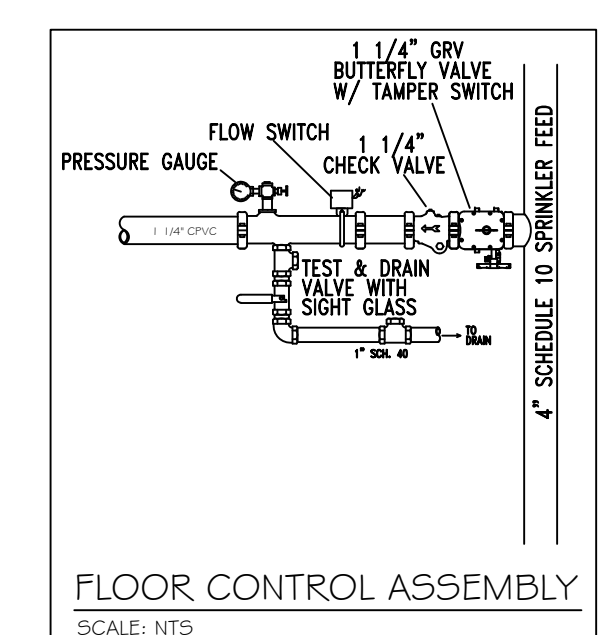
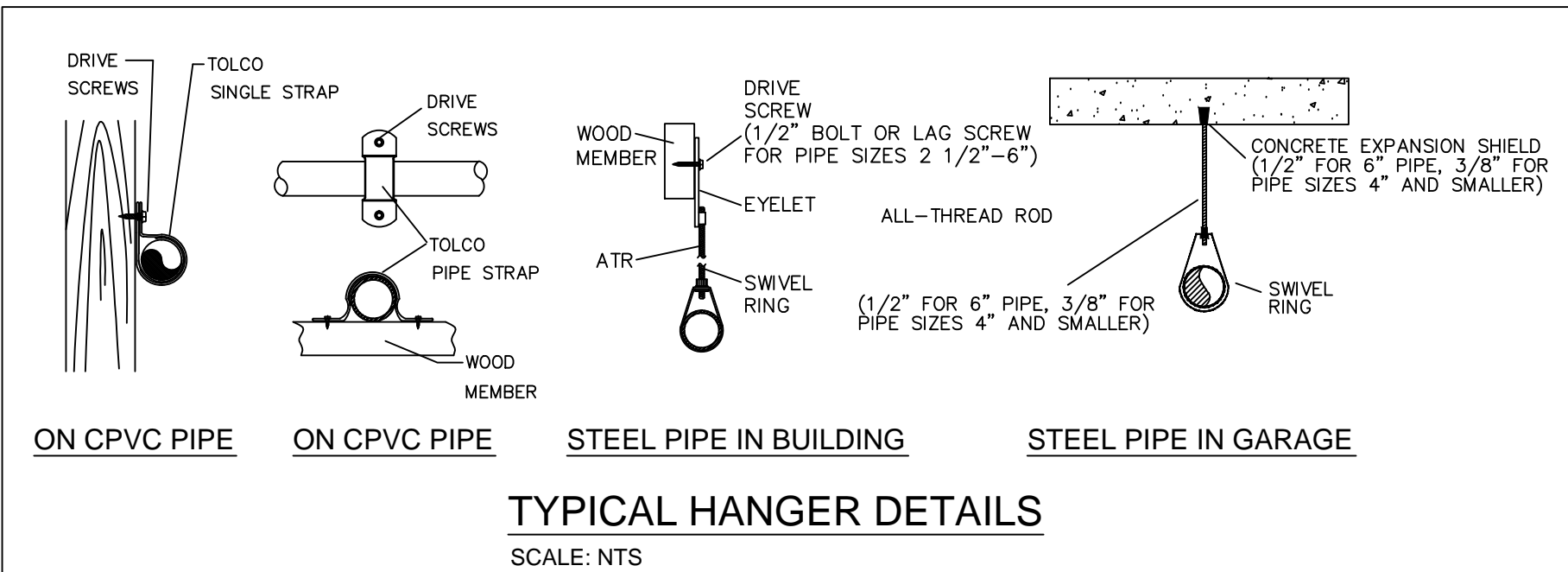
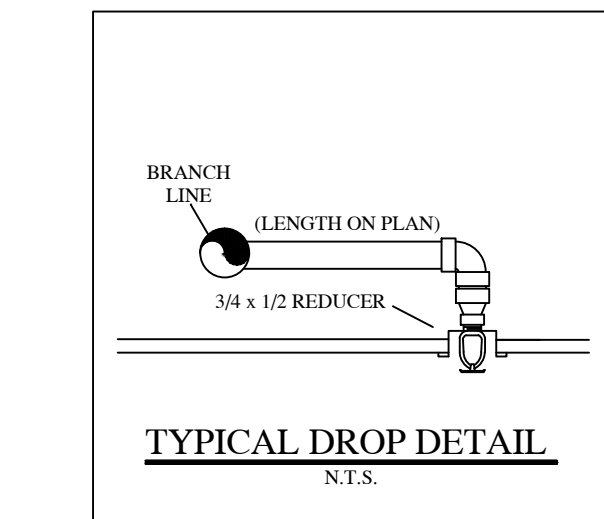
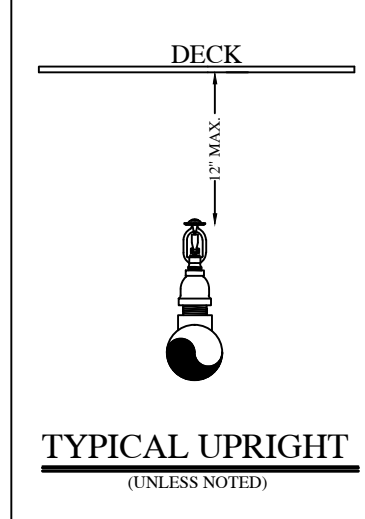
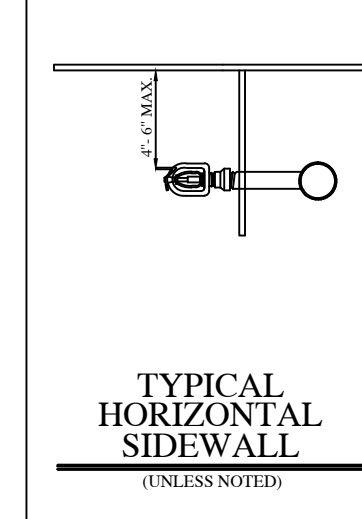
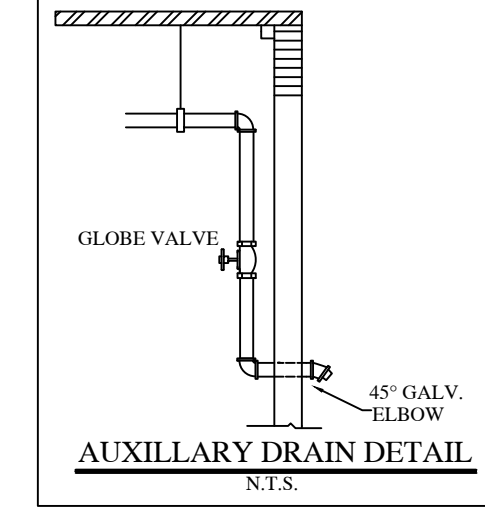


3rd FLOOR
INSTALLATION PLAN
 Scale 1/8" = 1'-0"

COURTYARD

SLEEVE SCHEDULE

PIPE SIZE	SLEEVE DIA.
1"	2"
1-1/4"	2"
1-1/2"	2-1/2"
2"	3"
2-1/2"	4"
3"	5"
4"	5"
5"	6"
6"	8"
8"	10"



HANGER SPACING CHART

TABLE 9.2.2.1 MAXIMUM DISTANCE BETWEEN HANGERS (FT-IN.)

PIPE SIZE (IN)	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	6
STEEL PIPE	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0
THREADED LIGHTWALL	N/A	12-0	12-0	12-0	12-0	12-0	N/A	N/A	N/A
COPPER	8-0	8-0	10-0	10-0	12-0	12-0	12-0	15-0	15-0
CPVC	5-6	6-0	6-6	7-0	8-0	9-0	10-0	N/A	N/A

FIGURE A.9.2.3.4 DISTANCE FROM SPRINKLER TO HANGER

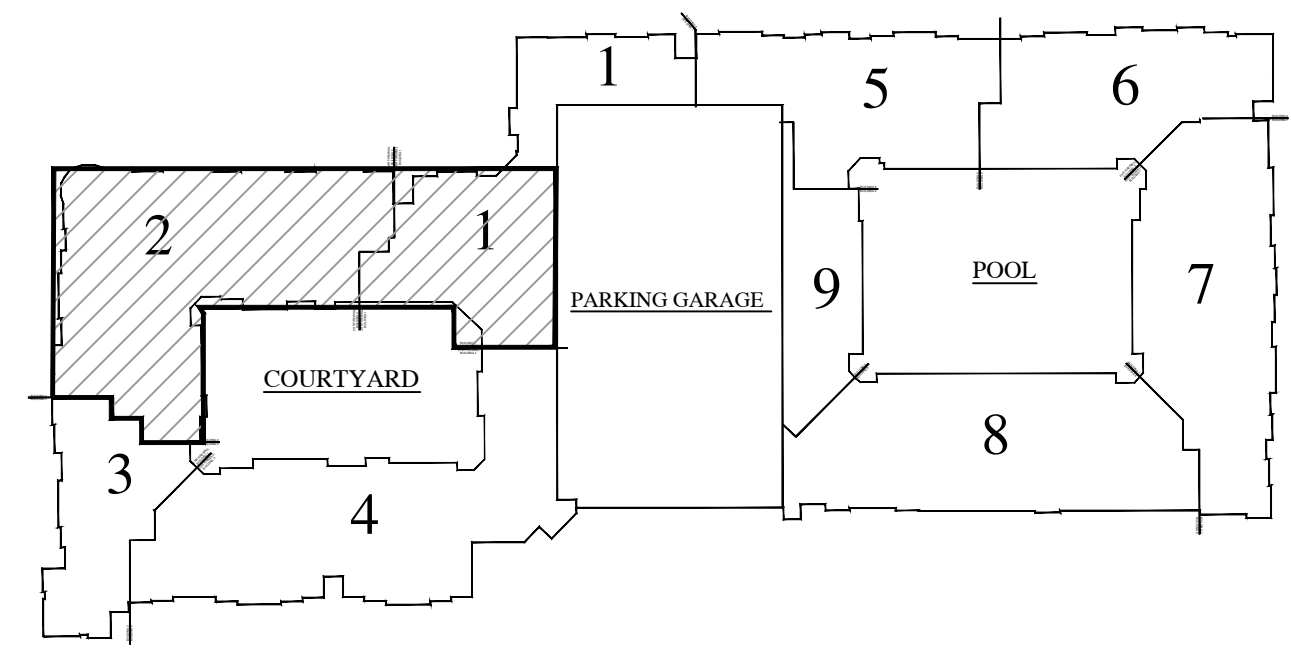
NOTE: WHERE PRESSURES EXCEED 100 PSI THE UNBROUGHT LENGTH BETWEEN THE END SPRINKLER IN A PENDANT POSITION OR STOP VALVE AND THE LAST HANGER ON THE BRANCH LINE SHALL NOT BE GREATER THAN 12 INCHES FOR STEEL PIPE.

TABLE 9.1.2.1 HANGER ROD SIZES

PIPE SIZE	DIAM. OF ROD	PIPE SIZE	DIAM. OF ROD
UP TO AND INCLUDING 4"	3/8"	6 AND 8	1/2"

- LEGEND:**
- SYSTEM RISER
 - 4" X 2 1/2" X 2 1/2" F.D.C.
 - VERTICAL PIPE (UP or DN)
 - HYDRAULIC NODE POINT
 - REMOTE AREA OUTLINE
 - 2 1/2" HOSE VALVE
 - BUTTERFLY VALVE
 - HANGERS (SIZE VARIES)
 - CEILING ELEVATION
 - PIPE ELEVATION

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 - Sprinkler equipment room and equipment components shall be properly identified.
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 - Install Black steel piping in Parking Garage.



RESIDENTIAL BUILDING INFO

OCCUPANCY: R-2 / A-3
 GROSS BLDG AREA: 424,139 S.F.
 TYPE OF CONSTRUCTION: V-A

GARAGE BUILDING INFO

OCCUPANCY: S-2
 GROSS BLDG AREA: 181,834 S.F.
 TYPE OF CONSTRUCTION: 2-B

AS-BUILT
PER FIELD CONDITIONS

I have reviewed these plans and certify that they comply with the adopted NFPA standards.

Ranger Fire, Inc.
 920 South Main Street
 Suite 200
 Grapevine, Texas 76051
 Phone: 817-410-9070
SCR-0590

RME SIGNATURE: _____
 PRINTED RME NAME: Roger F. Pichardo
 RME NUMBER: 1275-GD DATE: _____
 AS-BUILT SUBMITTAL OTHER

RANGER FIRE, INC.
 920 SOUTH MAIN STREET
 GRAPEVINE, TEXAS 76051
 PHONE: 817-410-9070
 TEXAS LICENSE: 0590

AS-BUILT SUBMITTAL OTHER

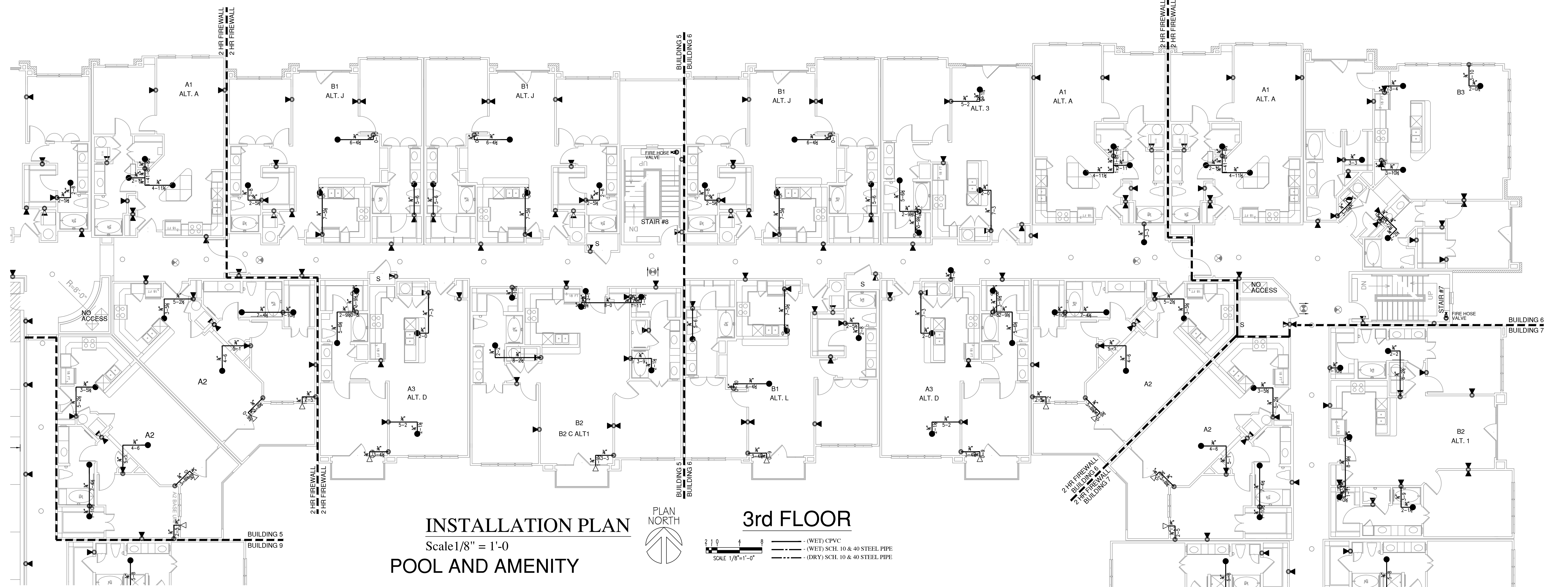
CONFIDENTIALITY STATEMENT
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REV#	DATE	BY	REVISIONS

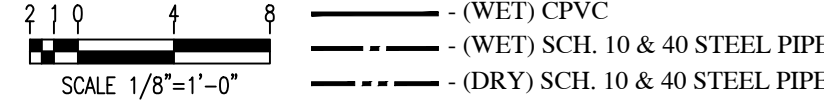
GENERAL CONTRACTOR:
 RANGER FIRE, INC.
 920 NE LOOP 410, STE 700
 SAN ANTONIO, TX 78209
 (512) 349-0444

DATE: 04-01-12
SCALE: 1/8" = 1'-0"
DESCRIPTION: 3RD FLOOR

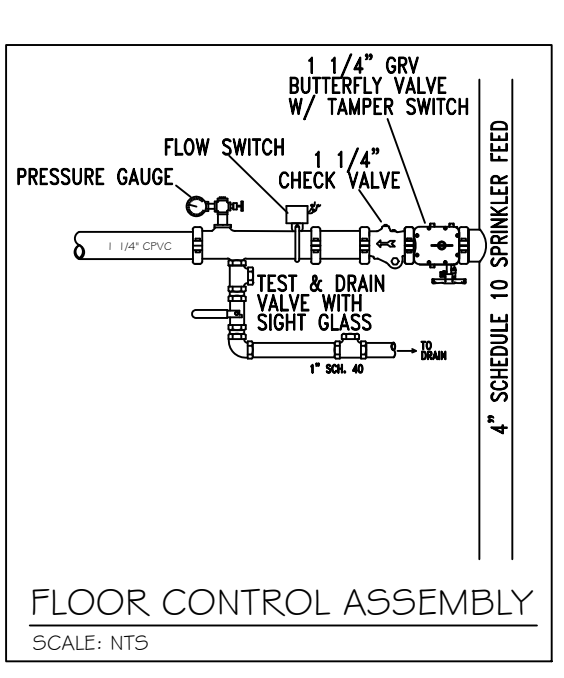
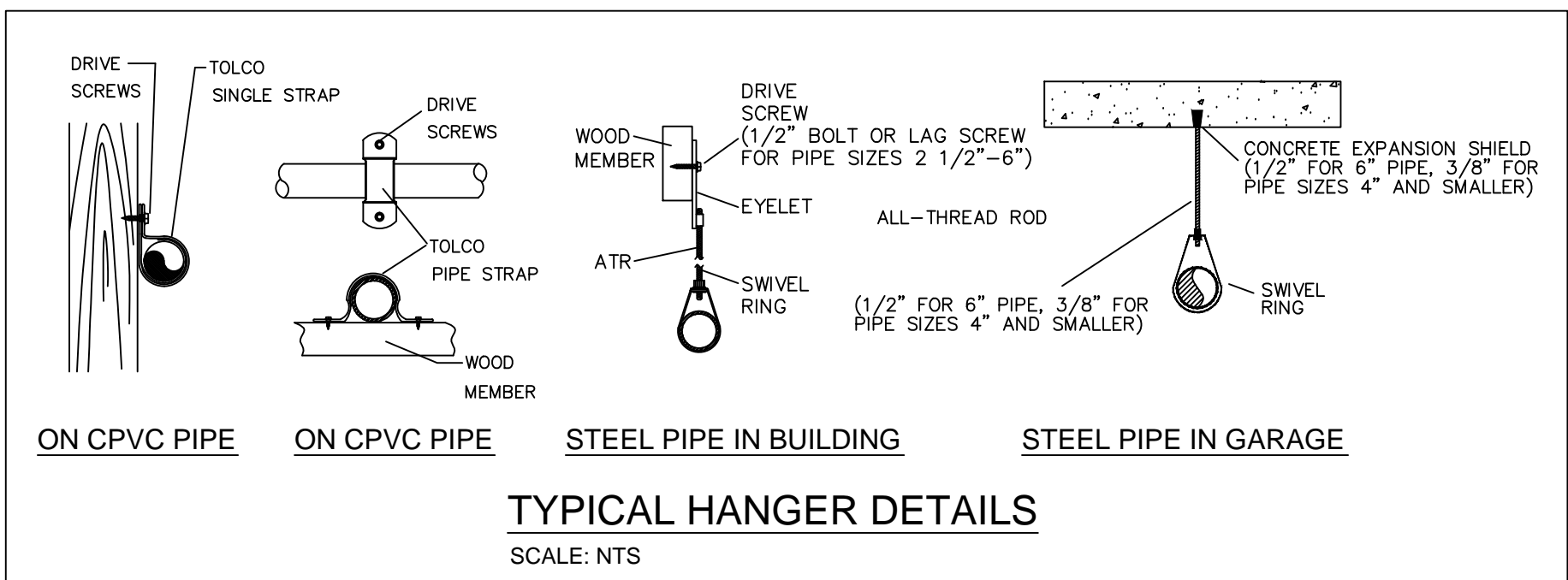
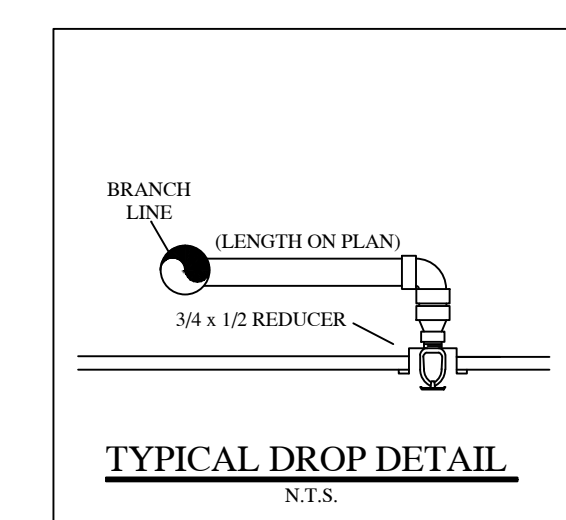
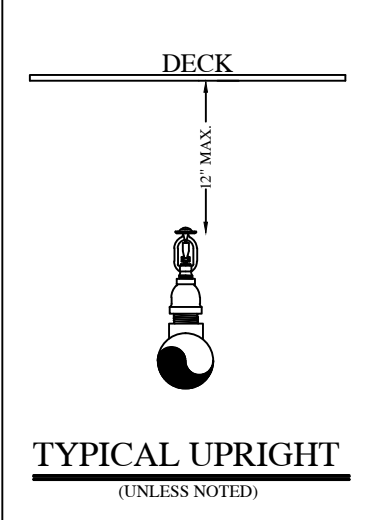
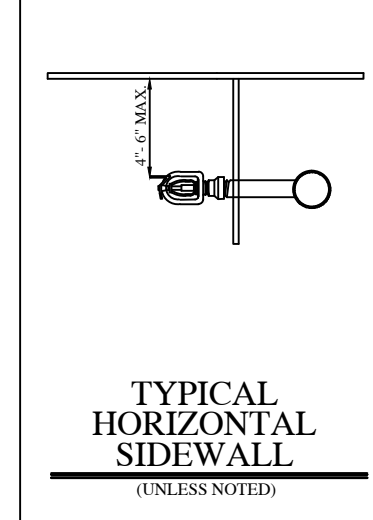
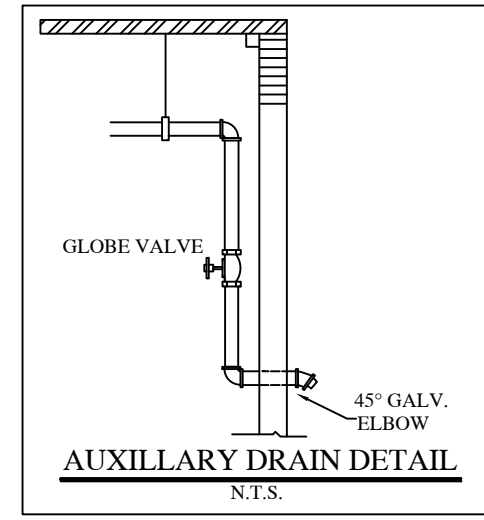
RANGER FIRE



INSTALLATION PLAN
Scale 1/8" = 1'-0"
POOL AND AMENITY
3rd FLOOR



PIPE SIZE	SLEEVE DIA.
1"	2"
1-1/4"	2"
1-1/2"	2-1/2"
2"	3"
2-1/2"	4"
3"	5"
4"	6"
5"	8"
6"	10"



RESIDENTIAL BUILDING INFO	
OCCUPANCY: R-2/A-3	
GROSS BLDG AREA: 424,139 S.F.	
TYPE OF CONSTRUCTION: V-A	
GARAGE BUILDING INFO	
OCCUPANCY: S-2	
GROSS BLDG AREA: 181,834 S.F.	
TYPE OF CONSTRUCTION: 2-B	

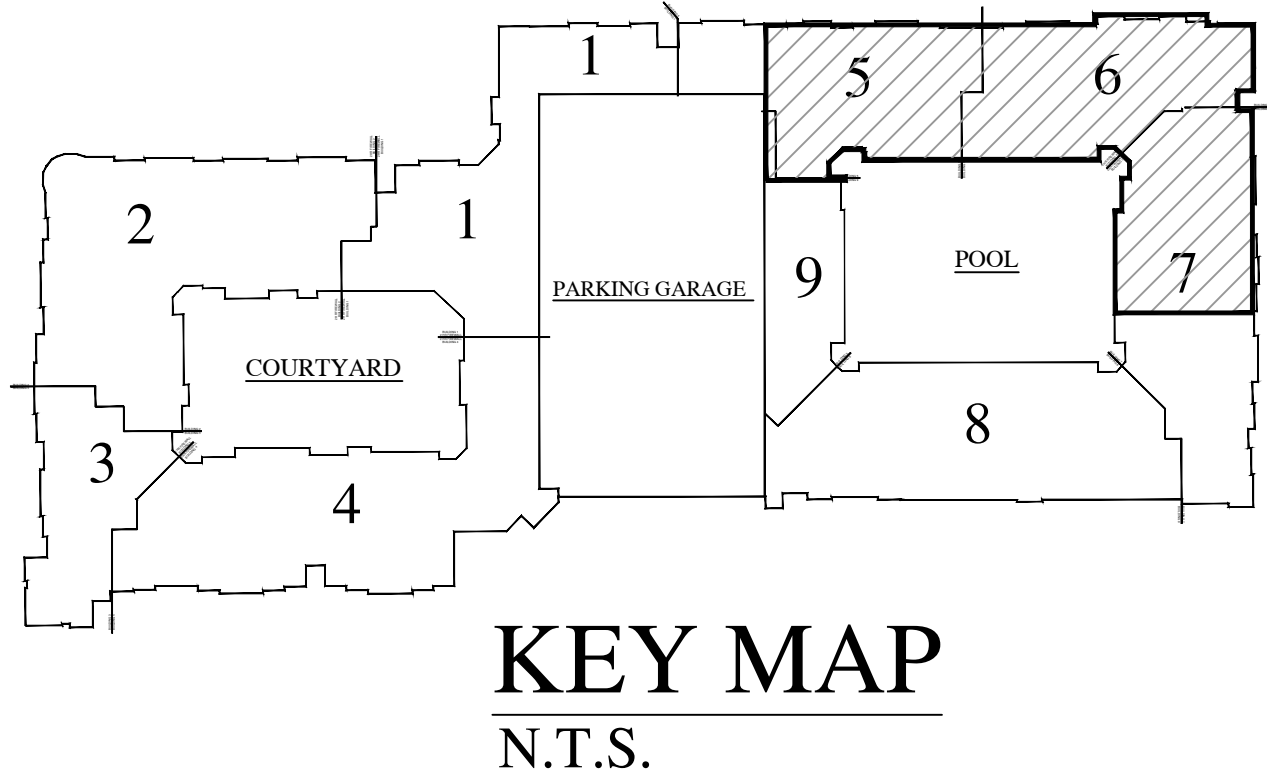
HANGER SPACING CHART									
TABLE 9.2.2.1 MAXIMUM DISTANCE BETWEEN HANGERS (FT-IN.)									
PIPE SIZE (IN)	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	6
STEEL PIPE	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0
THREADED	N/A	12-0	12-0	12-0	12-0	12-0	12-0	N/A	N/A
COPPER	8-0	8-0	10-0	10-0	12-0	12-0	12-0	15-0	15-0
CPVC	5-6	6-0	6-6	7-0	8-0	9-0	10-0	N/A	N/A

GENERAL NOTES:

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- All hangers shall be in accordance with NFPA 13 requirements.
- All systems shall be tested at 200 psi for 2 hours and witnessed by a representative of the Addison Fire Department. Any leaks shall be repaired.
- The system has been hydraulically calculated per NFPA 13, 13R, 14, & 20 requirements.
- Install Black steel piping in Parking Garage.

LEGEND:

- SYSTEM RISER
- 4" X 2 1/2" X 2 1/2" F.D.C.
- VERTICAL PIPE (UP OR DN)
- HYDRAULIC NODE POINT
- REMOTE AREA OUTLINE
- 2 1/2" HOSE VALVE
- BUTTERFLY VALVE
- HANGERS (SIZE VARIES)
- CEILING ELEVATION
- C PIPE ELEVATION



RANGER FIRE, INC.
920 SOUTH MAIN STREET
GRAPEVINE, TEXAS 76051
PHONE: 817-410-9070
TEXAS LICENSE: 0590

CONFIDENTIALITY STATEMENT: This drawing, the information and design application herein, contained, shall remain the property of Ranger Fire, Inc. and shall not be reproduced or transmitted in any form or by any means without the prior written consent of Ranger Fire, Inc.

REV#	REVISIONS	DATE	BY

GENERAL CONTRACTOR:	DATE:
EMBBREY PARTNERS LTD 1000 NE LOOP 410 STE 700 SAN ANTONIO, TX 78248	02-20-2024

SYMBOL	MAKE	MODEL	SIN	K	GR/ST	TEMP	FINISH

SPRINKLERS		TOTAL FOR THIS SHEET	
ESUTCHCOEN	95	95	95

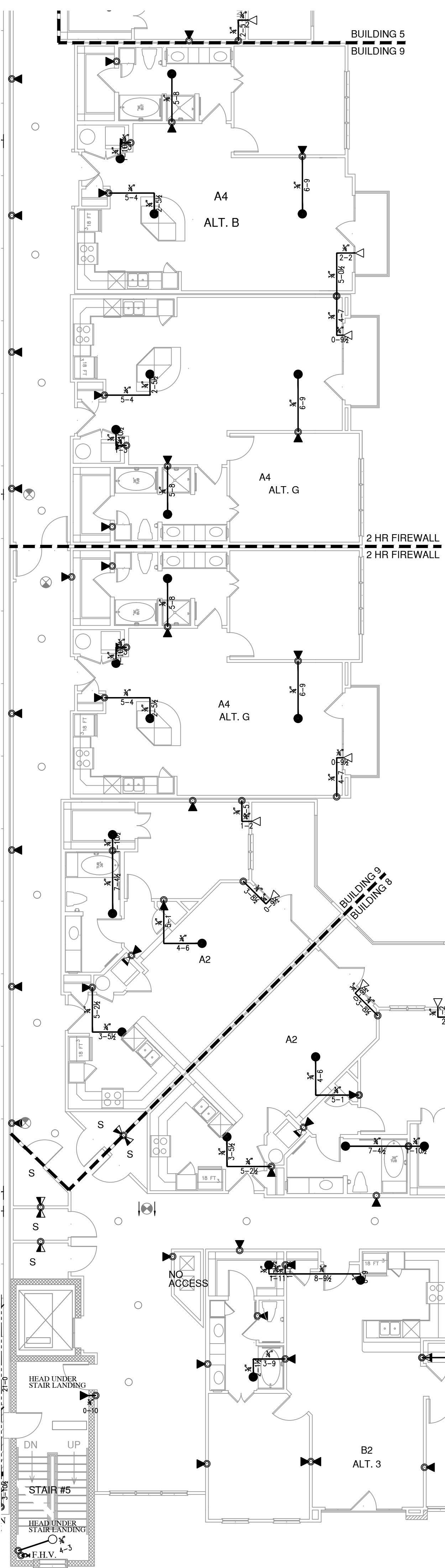
RANGER FIRE
KELLER SPRINGS LOFTS
4800 KELLER SPRINGS PKWY
ADDISON, TEXAS 75001

I have reviewed these plans and certify that they comply with the adopted NFPA standards.
Ranger Fire, Inc.
920 South Main Street
Suite 200
Grapevine, Texas 76051
Phone: 817-410-9070
SCR- 0590

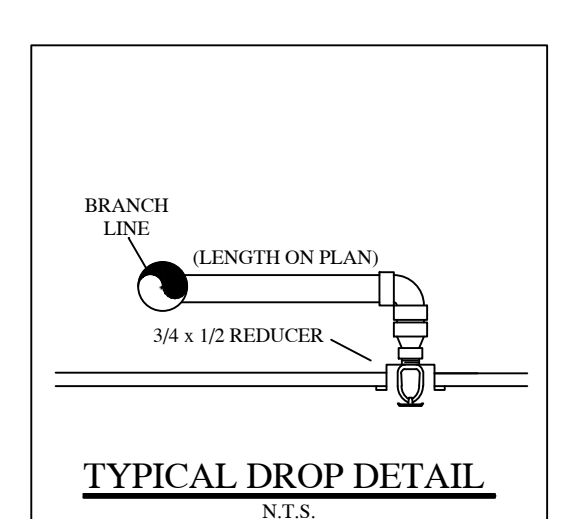
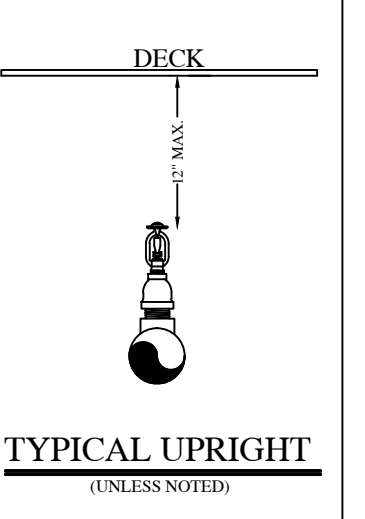
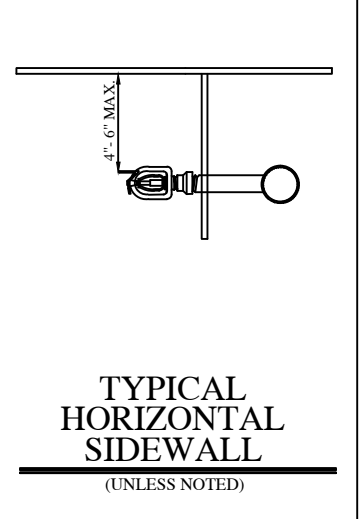
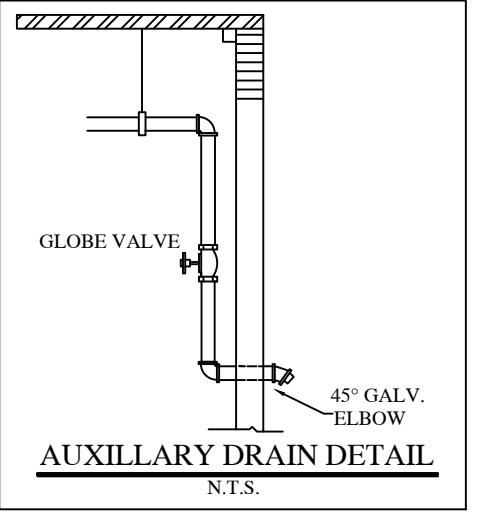
AS-BUILT
PER FIELD CONDITIONS

RME SIGNATURE: _____
PRINTED RME NAME: Roger F. Pichardo
RME NUMBER: 1275-GD DATE: _____
 AS-BUILT SUBMITTAL OTHER

SCALE:	CONTRACT NAME:	DESCRIPTION:
1/8" = 1'-0"	KELLER SPRINGS LOFTS	3RD FLOOR

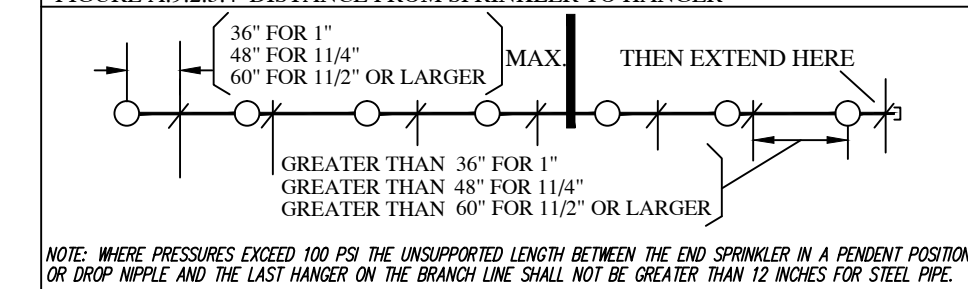


PIPE SIZE	SLEEVE DIA.
1"	2"
1-1/4"	2"
1-1/2"	2-1/2"
2"	3"
2-1/2"	4"
3"	5"
4"	5"
5"	6"
6"	8"
8"	10"

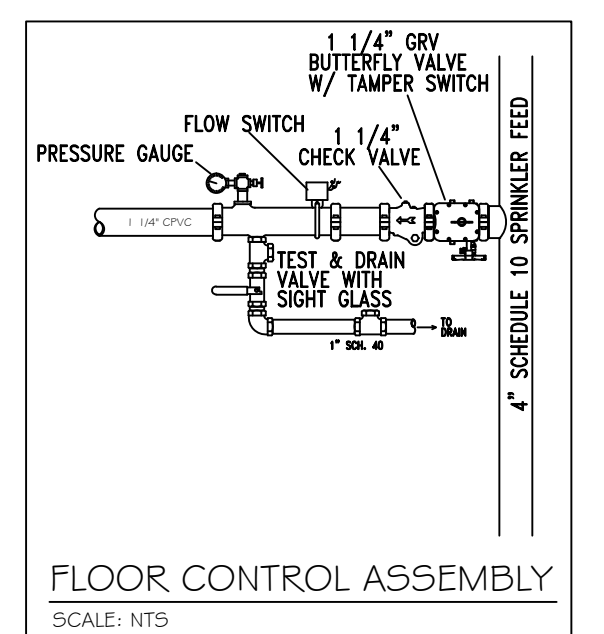
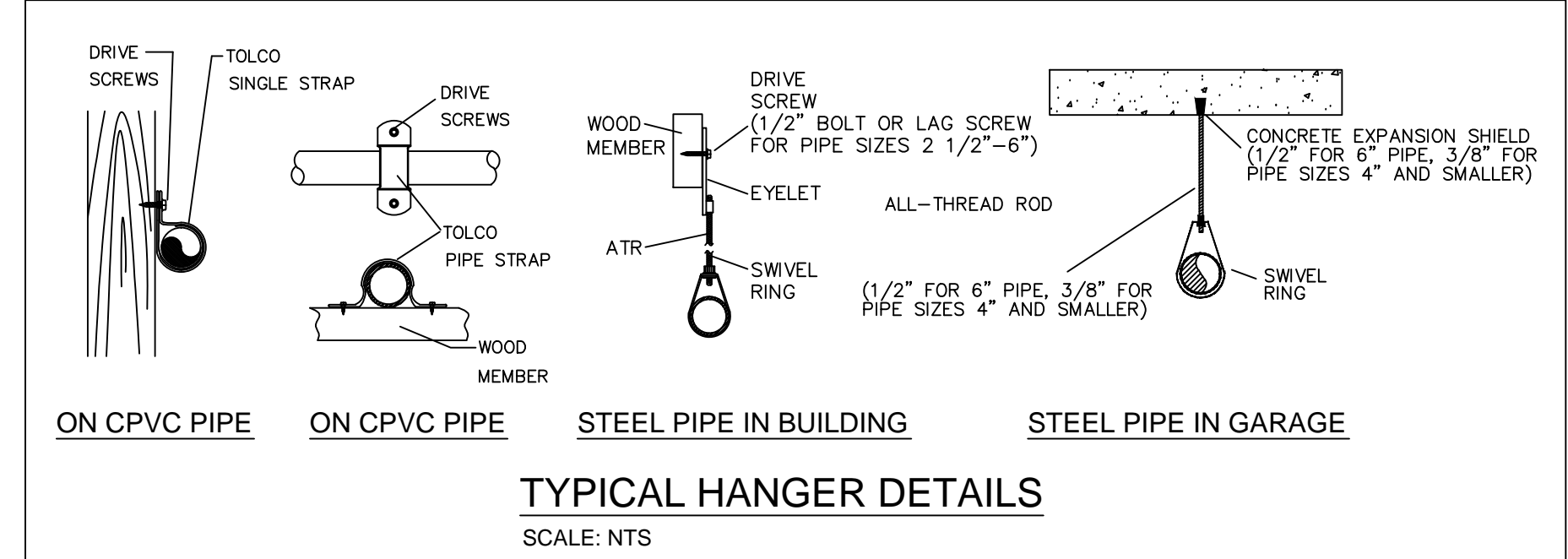


HANGER SPACING CHART

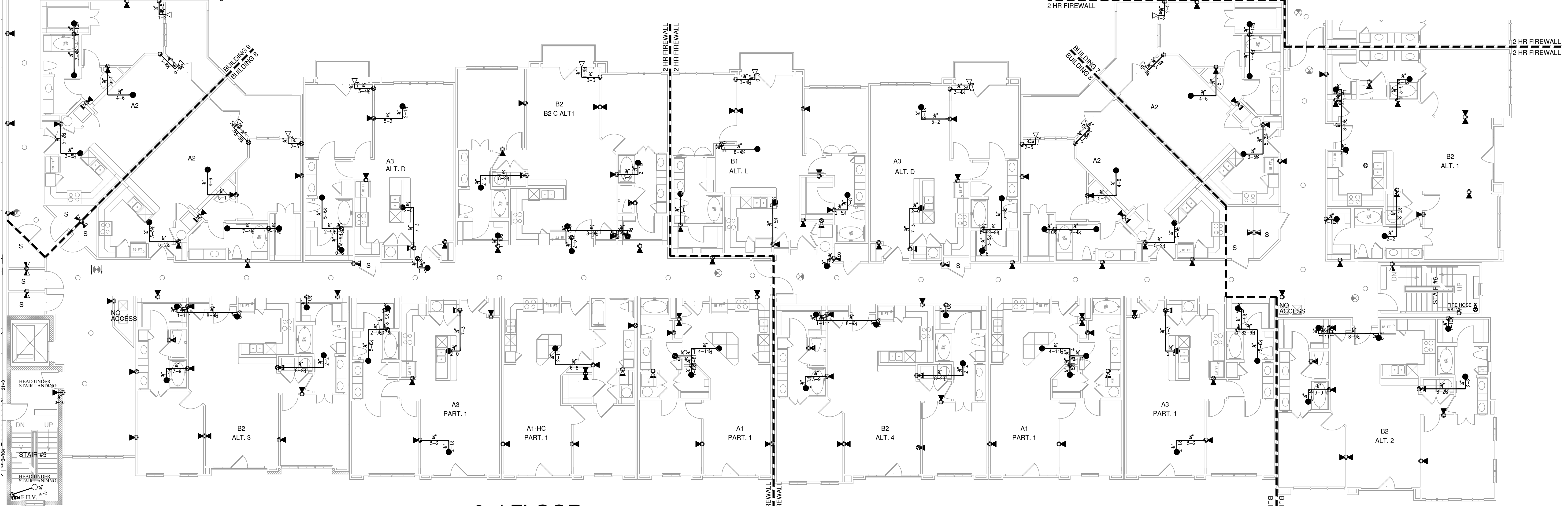
PIPE SIZE (IN)	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	6
STEEL PIPE	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0
THREADS	N/A	12-0	12-0	12-0	12-0	12-0	N/A	N/A	N/A
LIGHTWALL	N/A	12-0	12-0	12-0	12-0	12-0	N/A	N/A	N/A
COPPER	8-0	8-0	10-0	10-0	12-0	12-0	15-0	15-0	
CPVC	5-6	6-0	6-6	7-0	8-0	9-0	10-0	N/A	N/A



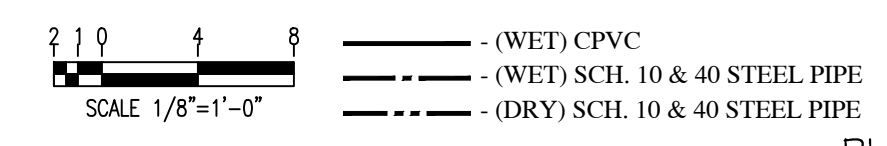
PIPE SIZE	DIAM. OF ROD	PIPE SIZE	DIAM. OF ROD
UP TO AND INCLUDING 4"	3/8"	6 AND 8	1/2"



POOL AND AMENITY



3rd FLOOR



INSTALLATION PLAN

Scale 1/8" = 1'-0"



- LEGEND:**
- — SYSTEM RISER
 - ⊕ — 4" X 2 1/2" X 2 1/2" F.D.C.
 - — VERTICAL PIPE (UP or DN)
 - REF — HYDRAULIC NODE POINT
 - — REMOTE AREA OUTLINE
 - ⊕ — 2 1/2" HOSE VALVE
 - ⊕ — BUTTERFLY VALVE
 - ⊕ — HANGERS (SIZE VARIES)
 - ⊕ — CEILING ELEVATION
 - ⊕ — PIPE ELEVATION

GENERAL NOTES:

1. Ranger Fire's work shall consist of all necessary labor and material to design and install new automatic fire sprinkler systems in the referenced (9) Apartment Buildings and attached Parking Garage.
2. Ranger Fire excludes all electrical and ceiling work.
3. All design and installation shall conform to NFPA 13, 13R, 14, 20, & the City of Addison requirements.
4. All material to be UL/FM approved for fire services.
5. All new plastic piping shall be Schedule 40 CPVC with CPVC plastic fittings (u.o.n.). All steel piping shall be Black Sch. 10 with grooved fittings for the mains and Black Sch. 40 with threaded fittings for the branchlines.
6. Owner or tenant is responsible for maintaining adequate heat to prevent the system from freezing (Min. 40 degrees F.).
7. Sprinkler equipment room and equipment components shall be properly identified.
8. Install signage on sprinkler equipment room door stating "Sprinkler Valve Room" in at least 4 inches in height.
9. All hangers shall be in accordance with NFPA 13 requirements.
10. All systems shall be tested at 200 psi for 2 hours and witnessed by a representative of the Addison Fire Department. Any leaks shall be repaired.
11. The system has been hydraulically calculated per NFPA 13, 13R, 14, & 20 requirements.
12. Install Black steel piping in Parking Garage.

RESIDENTIAL BUILDING INFO	
OCCUPANCY:	R-2 / A-3
GROSS BLDG AREA:	424,139 S.F.
TYPE OF CONSTRUCTION:	V-A
GARAGE BUILDING INFO	
OCCUPANCY:	S-2
GROSS BLDG AREA:	181,834 S.F.
TYPE OF CONSTRUCTION:	2-B

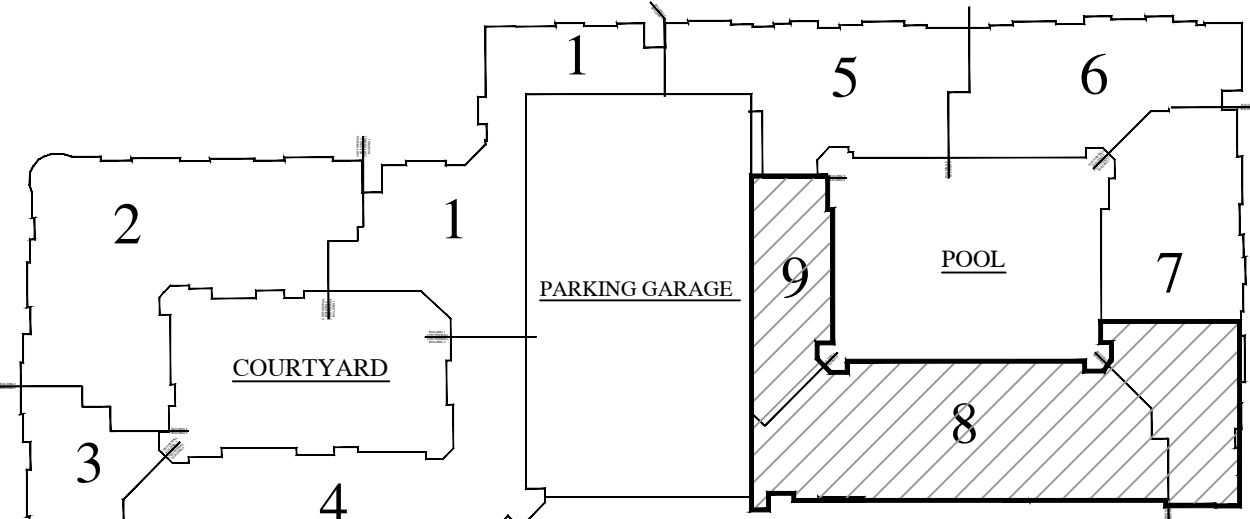
AS-BUILT
PER FIELD CONDITIONS

I have reviewed these plans and certify that they comply with the adopted NFPA standards.

Ranger Fire, Inc.
920 South Main Street
Suite 200
Grapevine, Texas 76051
Phone: 817-410-9070
SCR- 0590

RME SIGNATURE: _____
PRINTED RME NAME: Roger F. Pichardo
RME NUMBER: 1275-GD DATE: _____

AS-BUILT SUBMITTAL OTHER



KEY MAP

N.T.S.

RANGER FIRE, INC.
920 SOUTH MAIN STREET
GRAPEVINE, TEXAS 76051
PHONE: 817-410-9070
TEXAS LICENSE: 0590

AS-BUILT SUBMITTAL OTHER

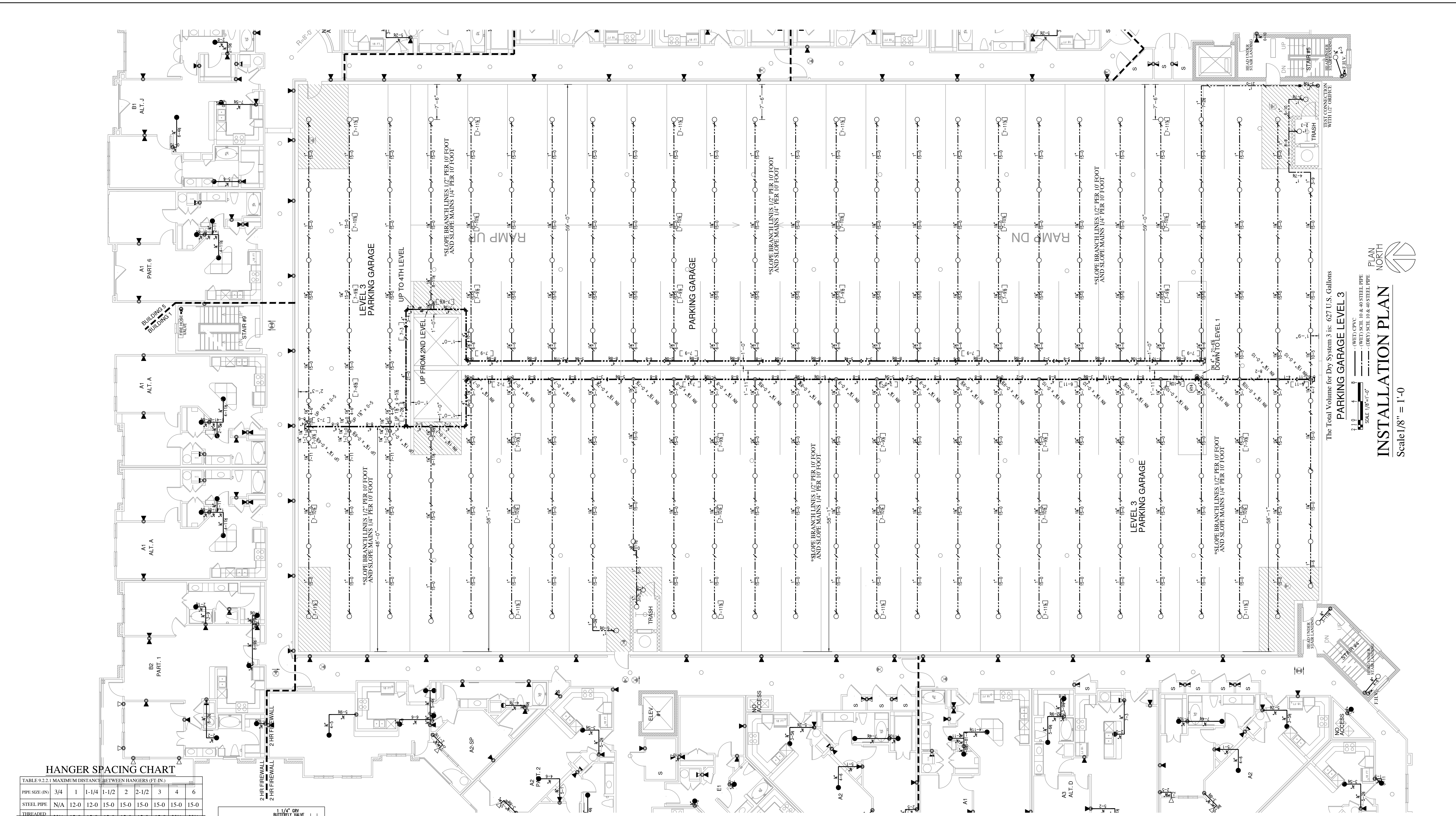
GENERAL CONTRACTOR: EMBREY PARTNERS LTD.
1020 NE LOOP 410, STE 700
SAN ANTONIO, TX 78202-4944
PHONE: 214-944-1111
FAX: 214-944-1112
WWW.EMBREYPARTNERS.COM

DATE: 04-01-12
BY: C. ALEXANDER
CHECKED BY: _____

CONTRACT # 11-655
DESCRIPTION: 3RD FLOOR

KELLER SPRINGS LOFTS
4800 KELLER SPRINGS PKWY
ADDISON, TEXAS 75001

SCALE: 1/8" = 1'-0"
DRAWN BY: C. ALEXANDER
DATE: 04-01-12



The Total Volume for Dry System 3 is: 627 U.S. Gallons
PARKING GARAGE LEVEL 3
 SCALE 1/8" = 1'-0"
INSTALLATION PLAN
 Scale 1/8" = 1'-0"

RANGER FIRE, INC.
 920 SOUTH MAIN STREET
 GRAPEVINE, TEXAS 76051
 PHONE: 817-410-9070
 TEXAS LICENSE: 0590

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 This drawing, the information and design contained herein, is the property of Ranger Fire, Inc. and is to be used only for the project and location specified. No part of this drawing may be reproduced or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of Ranger Fire, Inc.

REV#	DATE	BY	REVISIONS
1	02-20-2024	RF	ISSUE FOR PERMIT
2	03-01-2024	RF	REVISED PER COMMENTS
3	03-01-2024	RF	REVISED PER COMMENTS
4	03-01-2024	RF	REVISED PER COMMENTS
5	03-01-2024	RF	REVISED PER COMMENTS
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98	03-01-2024	RF	REVISED PER COMMENTS
99	03-01-2024	RF	REVISED PER COMMENTS
100	03-01-2024	RF	REVISED PER COMMENTS

HANGER SPACING CHART

TABLE 9.2.2.1 MAXIMUM DISTANCE BETWEEN HANGERS (F.T.-IN.)

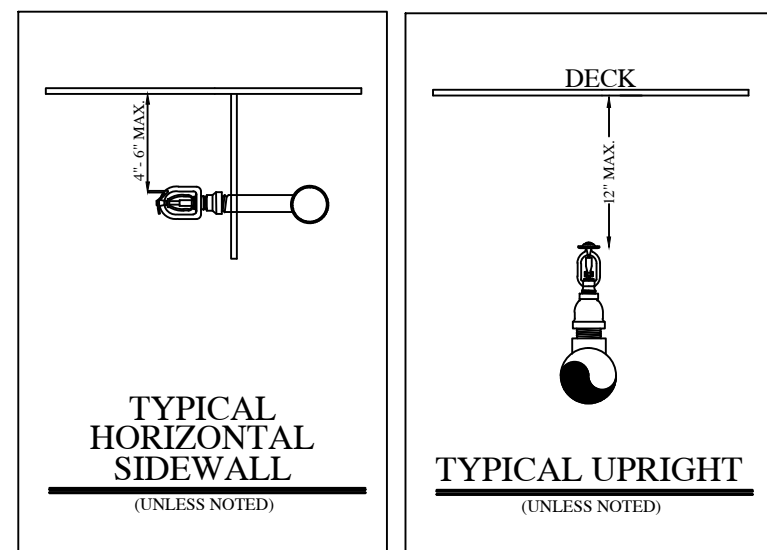
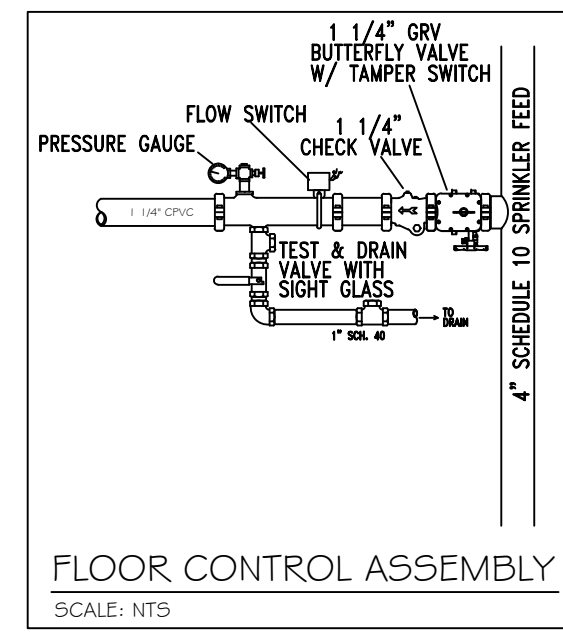
PIPE SIZE (DN)	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	6"
STEEL PIPE	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0
THREAD	N/A	12-0	12-0	12-0	12-0	12-0	N/A	N/A	N/A
COPPER	8-0	8-0	10-0	10-0	12-0	12-0	15-0	15-0	15-0
CPVC	5-6	6-0	6-6	7-0	8-0	9-0	10-0	N/A	N/A

FIGURE A.9.2.3.4 DISTANCE FROM SPRINKLER TO HANGER

NOTE: WHERE PRESSURES EXCEED 100 PSI THE UNAPPORTIONED LENGTH BETWEEN THE TWO SPRINKLERS IN A PARENT PORTION OF DROP PIPE AND THE LAST HANGER ON THE BRANCH LINE SHALL NOT BE GREATER THAN 12 INCHES FOR STEEL PIPE.

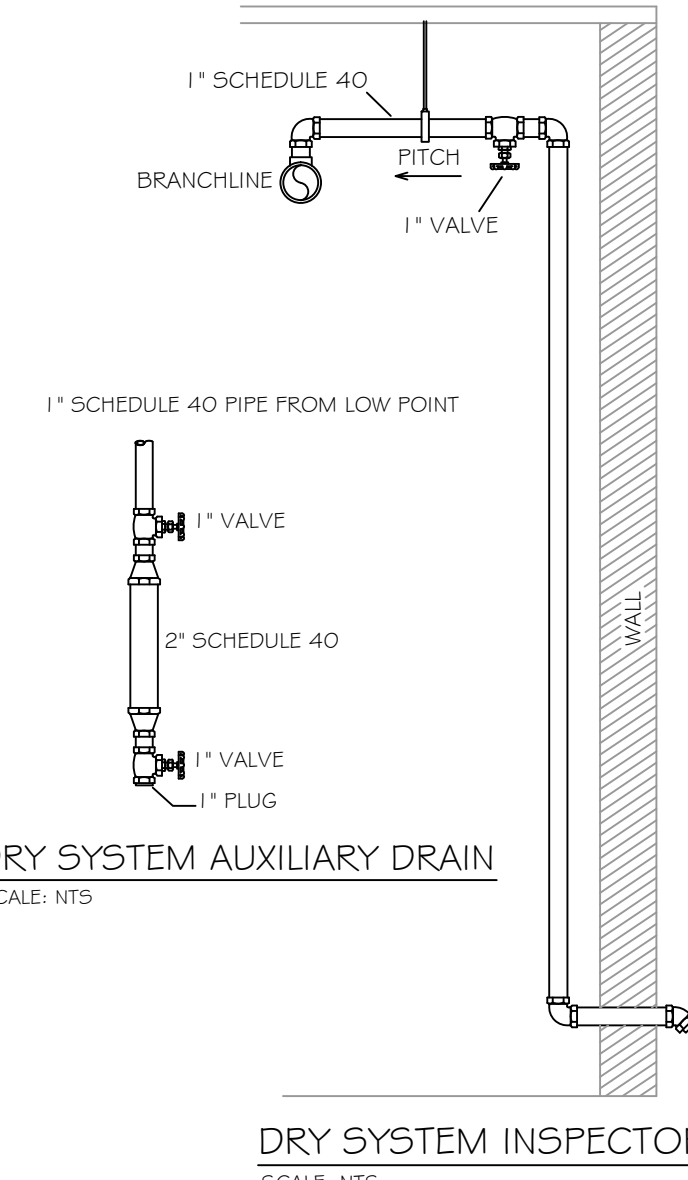
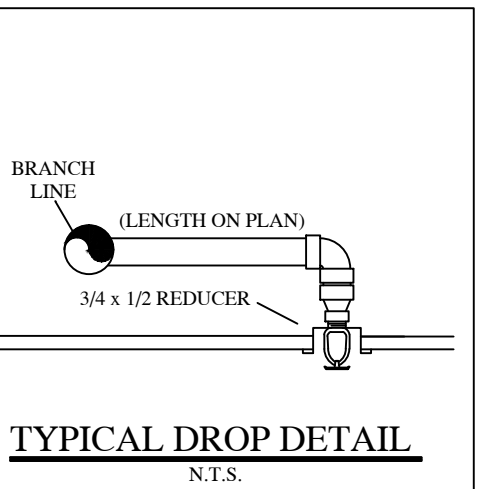
TABLE 9.1.2.1 HANGER ROD SIZES

PIPE SIZE	DIAM. OF ROD	PIPE SIZE	DIAM. OF ROD
UP TO AND INCLUDING 4"	3/8"	6 AND 8	1/2"



SLEEVE SCHEDULE

PIPE SIZE	SLEEVE DIA.
1-1/4"	2-1/2"
1-1/2"	3"
2-1/2"	4"
3"	5"
4"	6"
6"	8"
8"	10"



- LEGEND:**
- SYSTEM RISER
 - 4" X 2 1/2" X 2 1/2" F.D.C.
 - VERTICAL PIPE (UP or DN)
 - HYDRAULIC NODE POINT
 - REMOTE AREA OUTLINE
 - 2 1/2" HOSE VALVE
 - BUTTERFLY VALVE
 - HANGERS (SIZE VARIES)
 - CEILING ELEVATION
 - C PIPE ELEVATION

- GENERAL NOTES:**
- Ranger Fire's work shall consist of all necessary labor and material to design and install new automatic fire sprinkler systems in the referenced (9) Apartment Buildings and attached Parking Garage.
 - Ranger Fire excludes all electrical and ceiling work.
 - All design and installation shall conform to NFPA 13, 13R, 14, 20, and the City of Addison requirements.
 - All material to be UL/FM approved for fire services.
 - All new plastic piping shall be Schedule 40 CPVC with CPVC plastic fittings (u.o.n.). All steel piping shall be Black Sch. 10 with grooved fittings for the mains and Black Sch. 40 with threaded fittings for the branches.
 - Owner or tenant is responsible for maintaining adequate heat to prevent the system from freezing (Min. 40 degrees F.).
 - Sprinkler equipment room and equipment components shall be properly identified.
 - Install signage on sprinkler equipment room door stating "Sprinkler Valve Room" in at least 4 inches in height.
 - All hangers shall be in accordance with NFPA 13 requirements.
 - All systems shall be tested at 200 psi for 2 hours and witnessed by a representative of the Addison Fire Department. Any leaks shall be repaired.
 - The system has been hydraulically calculated per NFPA 13, 13R, 14, & 20 requirements.
 - Install Black steel piping in Parking Garage.

RESIDENTIAL BUILDING INFO

OCCUPANCY: R-2/A-3
 GROSS BLDG AREA: 424,139 S.F.
 TYPE OF CONSTRUCTION: V-A

GARAGE BUILDING INFO

OCCUPANCY: S-2
 GROSS BLDG AREA: 181,834 S.F.
 TYPE OF CONSTRUCTION: 2-B

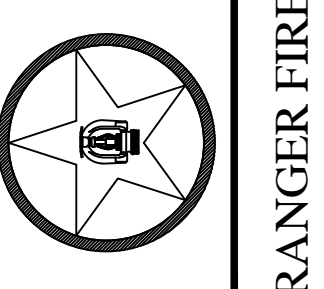
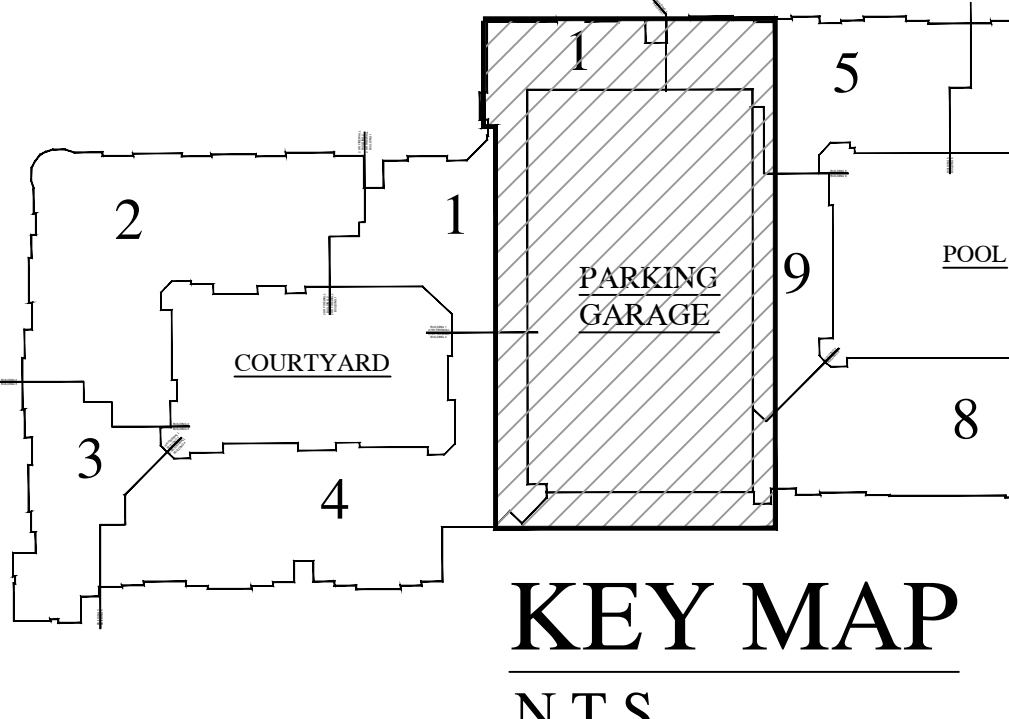
AS-BUILT
 PER FIELD CONDITIONS

I have reviewed these plans and certify that they comply with the adopted NFPA standards.

Ranger Fire, Inc.
 920 South Main Street
 Suite 200
 Grapevine, Texas 76051
 Phone: 817-410-9070
 SCR-0590

RME SIGNATURE: _____
 PRINTED RME NAME: Roger F. Pichardo
 RME NUMBER: 1275-GD DATE: _____

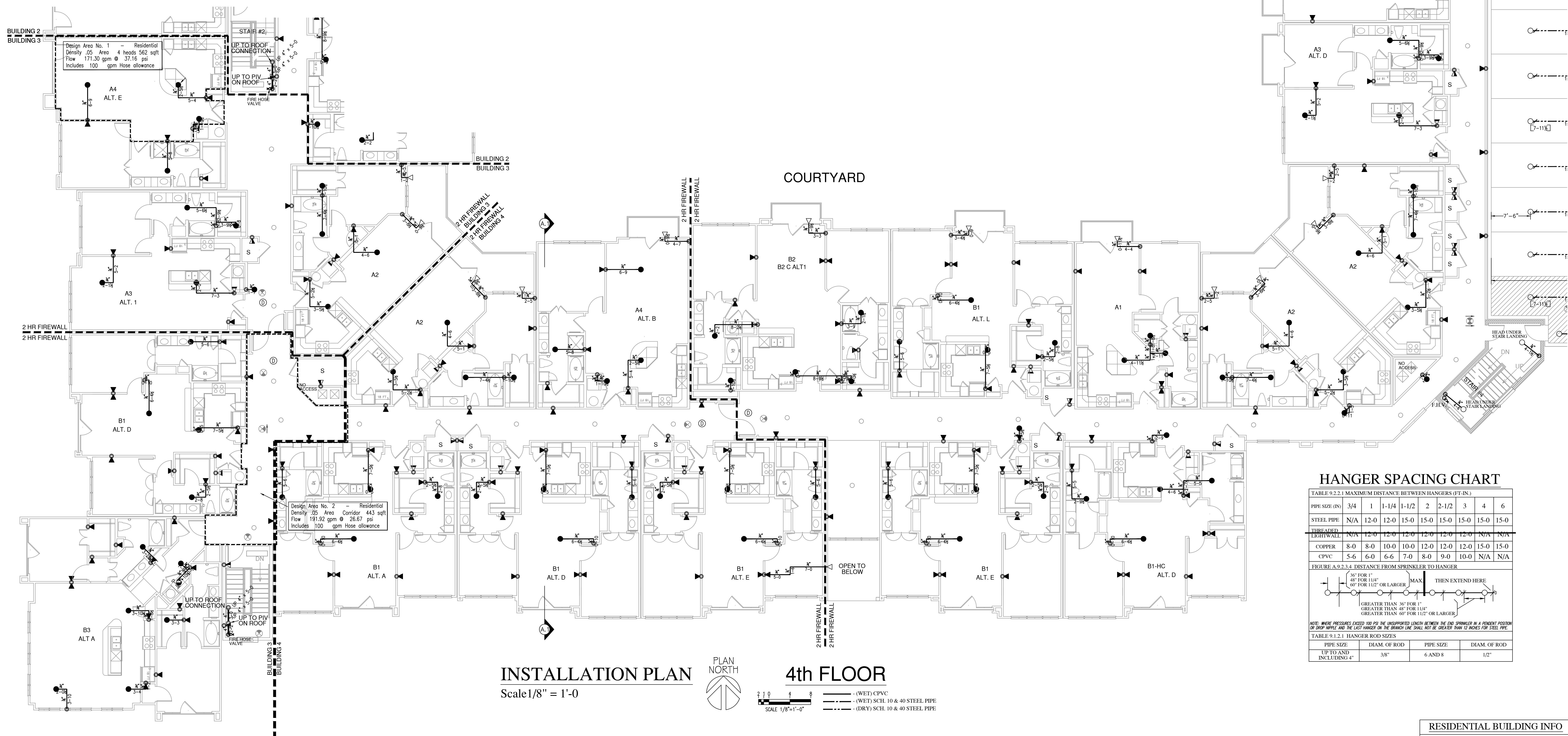
AS-BUILT SUBMITTAL OTHER



RANGER FIRE

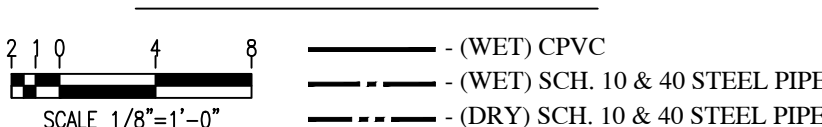
KELLER SPRINGS LOFTS
 4800 KELLER SPRINGS PKWY
 ADDISON, TEXAS 75001

CONTRACT #11-655
 DESCRIPTION: 3RD FLOOR
 SCALE: 1/8" = 1'-0"
 DRAWN BY: C. ALEXANDER
 CHECKED BY: _____
 DATE: 04-01-12
 PROJECT: FP 15 OF 30



INSTALLATION PLAN
4th FLOOR

Scale 1/8" = 1'-0"



HANGER SPACING CHART

TABLE 9.2.2.1 MAXIMUM DISTANCE BETWEEN HANGERS (FT-IN.)

PIPE SIZE (IN)	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	6
STEEL PIPE	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0
THREADED	N/A	12-0	12-0	12-0	12-0	12-0	N/A	N/A	N/A
COPPER	8-0	8-0	10-0	10-0	12-0	12-0	15-0	15-0	15-0
CPVC	5-6	6-0	6-6	7-0	8-0	9-0	10-0	N/A	N/A

FIGURE A.9.2.3.4 DISTANCE FROM SPRINKLER TO HANGER

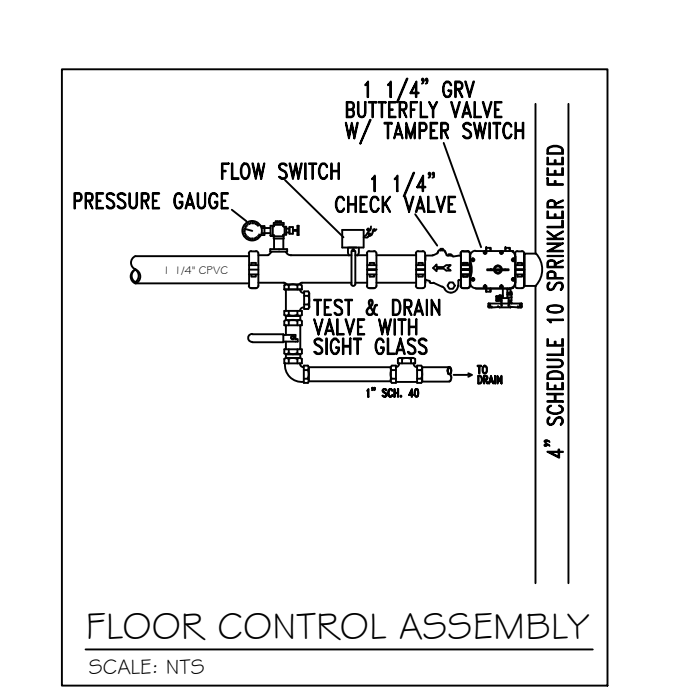
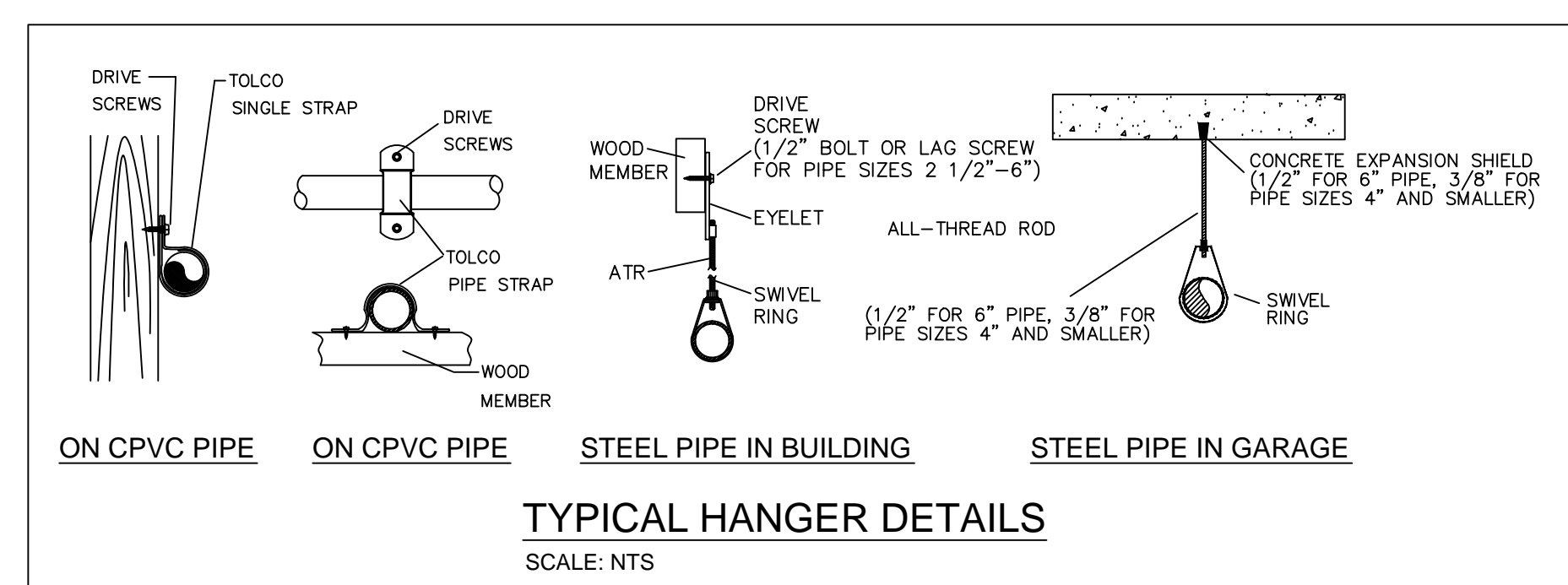
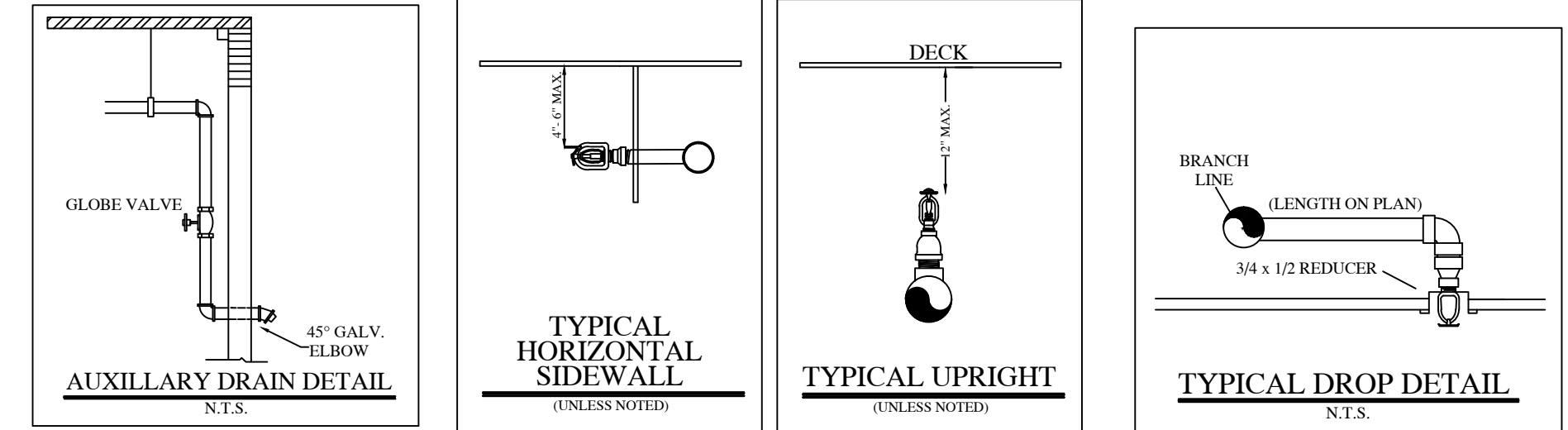
NOTE: WHERE PRESSURES EXCEED 100 PSI THE UNSUPPORTED LENGTH BETWEEN THE END SPRINKLER IN A PENDENT POSITION OR DROP NIPPLE AND THE LAST HANGER ON THE BRANCH LINE SHALL NOT BE GREATER THAN 12 INCHES FOR STEEL PIPE.

TABLE 9.1.2.1 HANGER ROD SIZES

PIPE SIZE	DIAM. OF ROD	PIPE SIZE	DIAM. OF ROD
UP TO AND INCLUDING 4"	3/8"	6 AND 8	1/2"

SLEEVE SCHEDULE

PIPE SIZE	SLEEVE DIA.
1"	2"
1-1/4"	2"
1-1/2"	2-1/2"
2"	3"
2-1/2"	4"
3"	5"
4"	5"
5"	6"
6"	8"
8"	10"



- LEGEND:**
- SYSTEM RISER
 - 4" X 2 1/2" X 2 1/2" F.D.C.
 - VERTICAL PIPE (UP OR DN)
 - HYDRAULIC NODE POINT
 - REMOTE AREA OUTLINE
 - 2 1/2" HOSE VALVE
 - BUTTERFLY VALVE
 - HANGERS (SIZE VARIES)
 - CEILING ELEVATION
 - PIPE ELEVATION

- GENERAL NOTES:**
- Ranger Fire's work shall consist of all necessary labor and material to design and install new automatic fire sprinkler systems in the referenced (9) Apartment Buildings and attached Parking Garage.
 - Ranger Fire excludes all electrical and ceiling work.
 - All design and installation shall conform to NFPA 13, 13R, 14, 20, & the City of Addison requirements.
 - All material to be UL/FM approved for fire services.
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 - Owner or tenant is responsible for maintaining adequate heat to prevent the system from freezing (Min. 40 degrees F.).
 - Sprinkler equipment room and equipment components shall be properly identified.
 - Install signage on sprinkler equipment room door stating "Sprinkler Valve Room" in at least 4 inches in height.
 - All hangers shall be in accordance with NFPA 13 requirements.
 - All systems shall be tested at 200 psi for 2 hours and witnessed by a representative of the Addison Fire Department. Any leaks shall be repaired.
 - The system has been hydraulically calculated per NFPA 13, 13R, 14, & 20 requirements.
 - Install Black steel piping in Parking Garage.

RESIDENTIAL BUILDING INFO

OCCUPANCY: R-2 / A-3
GROSS BLDG AREA: 424,139 S.F.
TYPE OF CONSTRUCTION: V-A

GARAGE BUILDING INFO

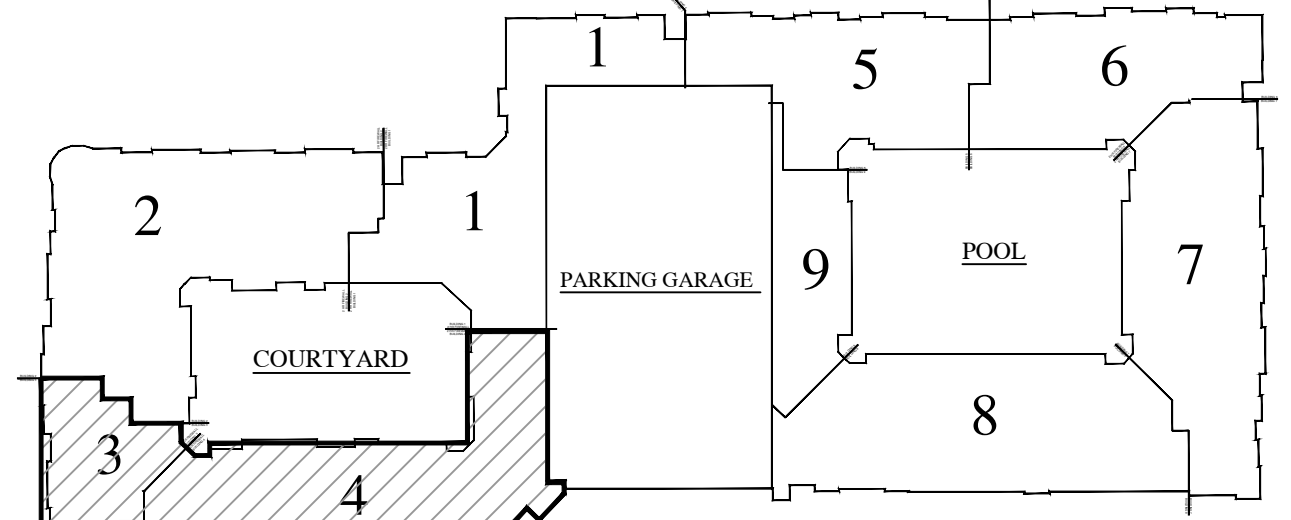
OCCUPANCY: S-2
GROSS BLDG AREA: 181,834 S.F.
TYPE OF CONSTRUCTION: 2-B

AS-BUILT
PER FIELD CONDITIONS

I have reviewed these plans and certify that they comply with the adopted NFPA standards.

Ranger Fire, Inc.
920 South Main Street
Suite 200
Grapevine, Texas 76051
Phone: 817-410-9070
SCR-0590

RME SIGNATURE: _____
PRINTED RME NAME: Roger F. Pichardo
RME NUMBER: 1275-GD DATE: _____
DATE: 04-01-12
SCALE: 1/8" = 1'-0"
DRAWN BY: C. ALEXANDER
CHECKED BY: _____
DATE: 04-01-12
PROJECT: FP 16 OF 30
DESCRIPTION: 4TH FLOOR



KEY MAP
N.T.S.

RANGER FIRE, INC.
920 SOUTH MAIN STREET
GRAPEVINE, TEXAS 76051
PHONE: 817-410-9070
TEXAS LICENSE: 0590

□ AS-BUILT □ SUBMITTAL □ OTHER

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This drawing, the information and design application herein, contained, conditions, shall be deemed to be confidential and proprietary information of Ranger Fire, Inc. and shall not be reproduced, copied, or disseminated in any form without the written consent of Ranger Fire, Inc.

GENERAL CONTRACTOR:
QTY: 80
RUBB: 1000 NE LOOP 410 STE 700
SAN ANTONIO, TX 78240-0044

DATE: 04-01-12

REVISIONS:

NO.	DATE	BY
1	04-01-12	CP
2	04-01-12	CP
3	04-01-12	CP
4	04-01-12	CP
5	04-01-12	CP
6	04-01-12	CP
7	04-01-12	CP
8	04-01-12	CP
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96	04-01-12	CP
97	04-01-12	CP
98	04-01-12	CP
99	04-01-12	CP
100	04-01-12	CP

TOTAL FOR THIS SHEET: 36

1000 NE LOOP 410 STE 700
SAN ANTONIO, TX 78240-0044
210-524-0044

CONFIDENTIALITY STATEMENT
 This drawing, the information and design application herein, contained, conditions, shall be deemed to be confidential and proprietary information of Ranger Fire, Inc. and shall not be reproduced, copied, or disseminated in any form or by any means without the written consent of Ranger Fire, Inc.

REV# REVISIONS:

DATE	BY

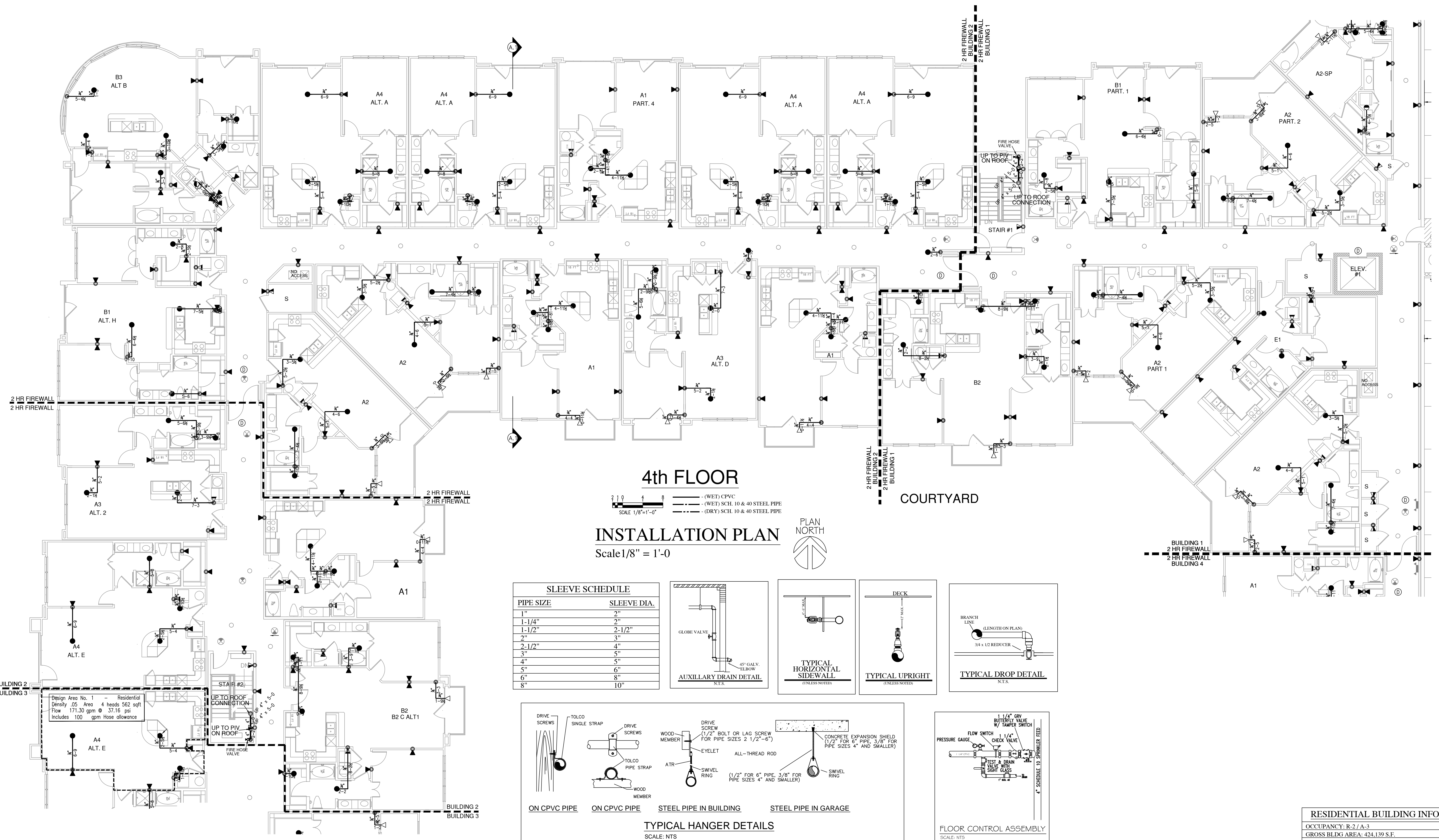
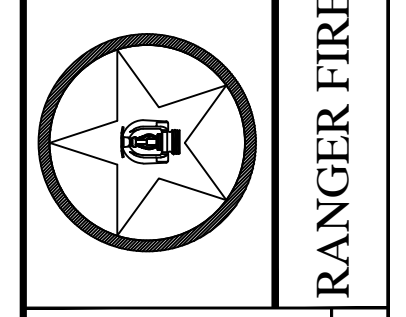
GENERAL CONTRACTOR:
 QTY: EMBREY PARTNERS LTD
 BLDG: 1000 NE LOOP 410 STE 700
 CITY: SAN ANTONIO, TX
 STATE: TX
 ZIP: 78204

DATE: 02-20-2014
BY: EMBREY PARTNERS LTD
 1000 NE LOOP 410 STE 700
 SAN ANTONIO, TX
 78204-4044

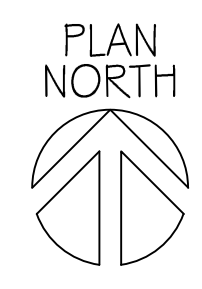
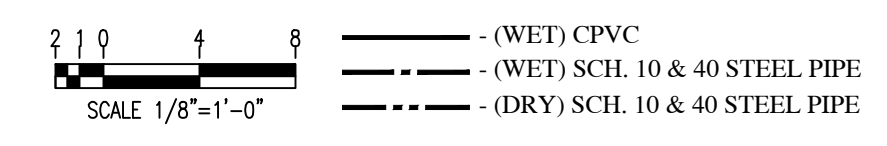
TOTAL FOR THIS SHEET: 207

SPRINKLERS

SYM	MAKE	MODEL	SIN	K	ORIFICE	TEMP	FINISH
ES	ESUTCHISON	ESUTCHISON	ES	ES	ES	ES	ES
ES	ESUTCHISON	ESUTCHISON	ES	ES	ES	ES	ES
ES	ESUTCHISON	ESUTCHISON	ES	ES	ES	ES	ES
ES	ESUTCHISON	ESUTCHISON	ES	ES	ES	ES	ES
ES	ESUTCHISON	ESUTCHISON	ES	ES	ES	ES	ES
ES	ESUTCHISON	ESUTCHISON	ES	ES	ES	ES	ES
ES	ESUTCHISON	ESUTCHISON	ES	ES	ES	ES	ES
ES	ESUTCHISON	ESUTCHISON	ES	ES	ES	ES	ES
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ES	ESUTCHISON	ESUTCHISON	ES	ES	ES	ES	ES

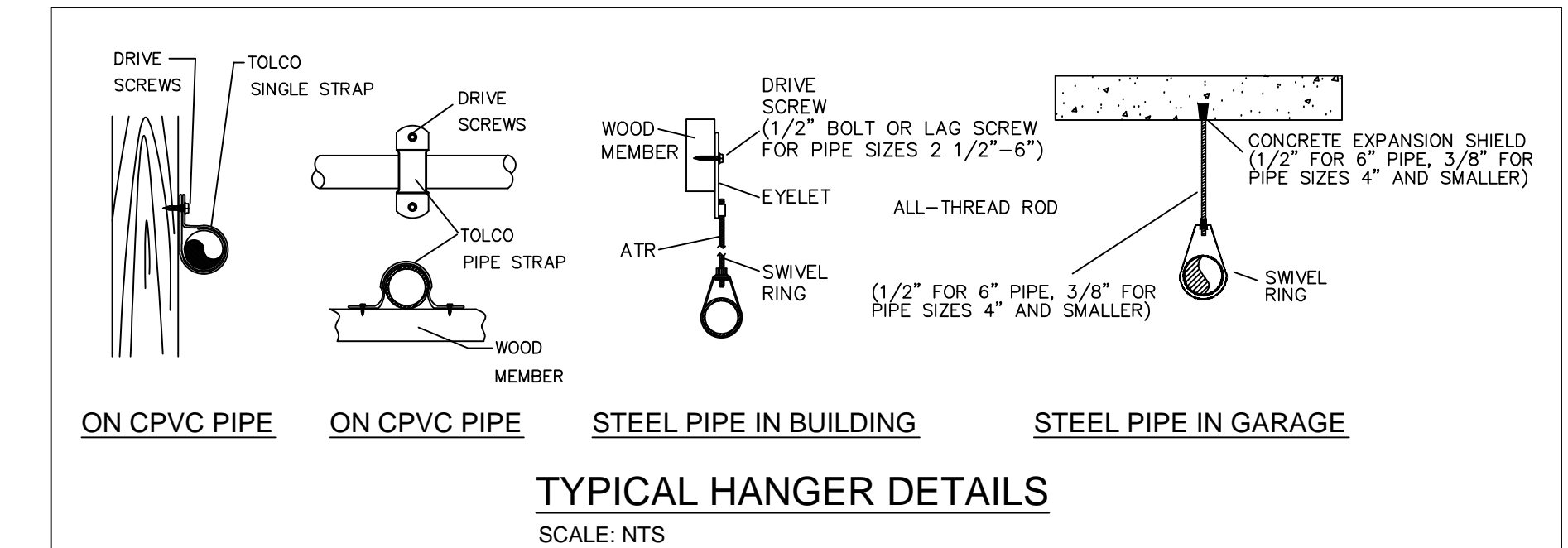
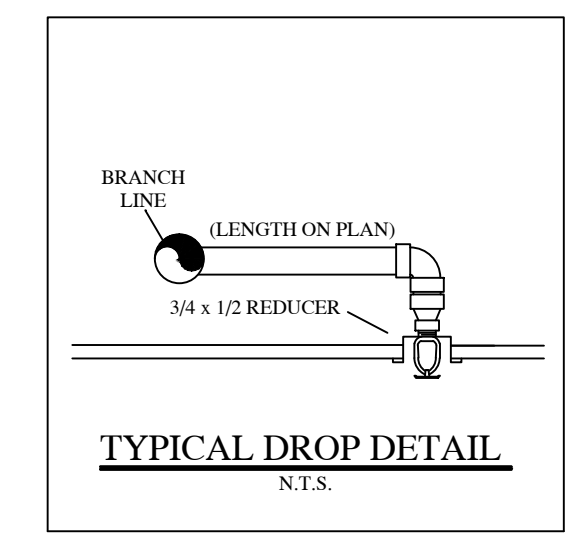
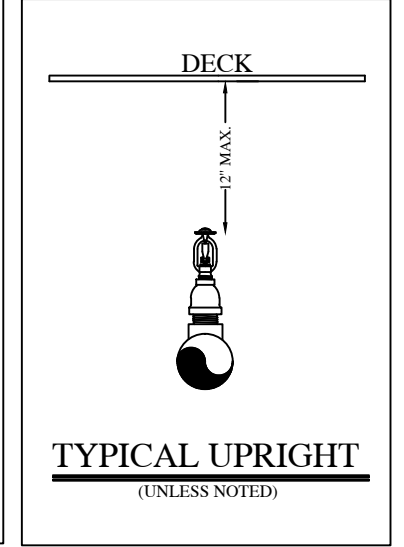
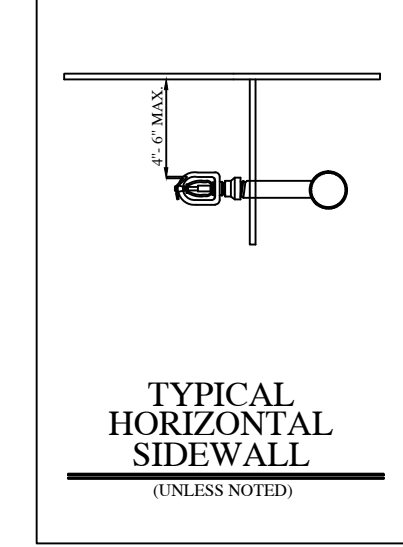
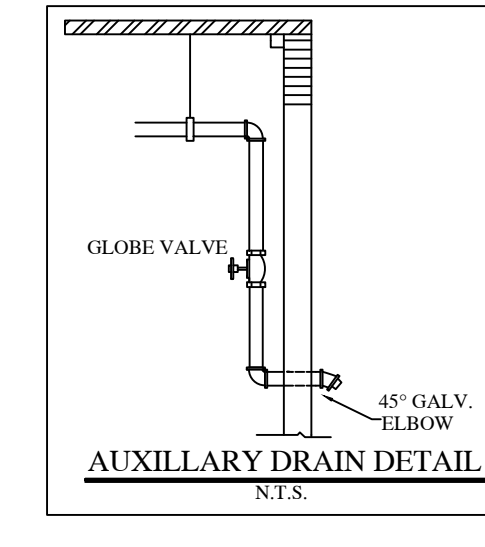


4th FLOOR
INSTALLATION PLAN
 Scale 1/8" = 1'-0"



SLEEVE SCHEDULE

PIPE SIZE	SLEEVE DIA.
1"	2"
1-1/4"	2"
1-1/2"	2-1/2"
2"	3"
2-1/2"	4"
3"	5"
4"	5"
5"	6"
6"	8"
8"	10"



HANGER SPACING CHART

TABLE 9.2.2.1 MAXIMUM DISTANCE BETWEEN HANGERS (FT-IN.)

PIPE SIZE (IN)	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	6
STEEL PIPE	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0
UP TO AND INCLUDING 4"	N/A	12-0	12-0	12-0	12-0	12-0	12-0	N/A	N/A
COPPER	8-0	8-0	10-0	10-0	12-0	12-0	12-0	15-0	15-0
CPVC	5-6	6-0	6-6	7-0	8-0	9-0	10-0	N/A	N/A

FIGURE 9.2.2.4.1 DISTANCE FROM SPRINKLER TO HANGER

NOTE: THESE PRESSURES EXCEED 100 PSI FOR THE UNCOMPRESSED LENGTH BETWEEN THE ONE SPRINKLER IN A REMOTE POSITION OR DROP PIPE AND THE LAST HANGER ON THE BRANCH LINE SHALL NOT BE GREATER THAN 12 INCHES FOR STEEL PIPE.

TABLE 9.1.2.1 HANGER ROD SIZES

PIPE SIZE	DIAM. OF ROD	PIPE SIZE	DIAM. OF ROD
UP TO AND INCLUDING 4"	3/8"	6 AND 8	1/2"

- GENERAL NOTES:**
- Ranger Fire's work shall consist of all necessary labor and material to design and install new automatic fire sprinkler systems in the referenced (9) Apartment Buildings and attached Parking Garage.
 - Ranger Fire excludes all electrical and ceiling work.
 - All design and installation shall conform to NFPA 13, 13R, 14, 20, & the City of Addison requirements.
 - All material to be ULFM approved for fire services.
 - All new plastic piping shall be Schedule 40 CPVC with CPVC plastic fittings (u.o.n.). All steel piping shall be Black Sch. 10 with grooved fittings for the mains and Black Sch. 40 with threaded fittings for the branchlines.
 - Owner or tenant is responsible for maintaining adequate heat to prevent the system from freezing (Min. 40 degrees F.).
 - Sprinkler equipment room and equipment components shall be properly identified.
 - Install signage on sprinkler equipment room door stating "Sprinkler Valve Room" in at least 4 inches in height.
 - All hangers shall be in accordance with NFPA 13 requirements.
 - All systems shall be tested at 200 psi for 2 hours and witnessed by a representative of the Addison Fire Department. Any leaks shall be repaired.
 - The system has been hydraulically calculated per NFPA 13, 13R, 14, & 20 requirements.
 - Install Black steel piping in Parking Garage.

RESIDENTIAL BUILDING INFO

OCCUPANCY: R-2 / A-3
 GROSS BLDG AREA: 424,139 S.F.
 TYPE OF CONSTRUCTION: V-A

GARAGE BUILDING INFO

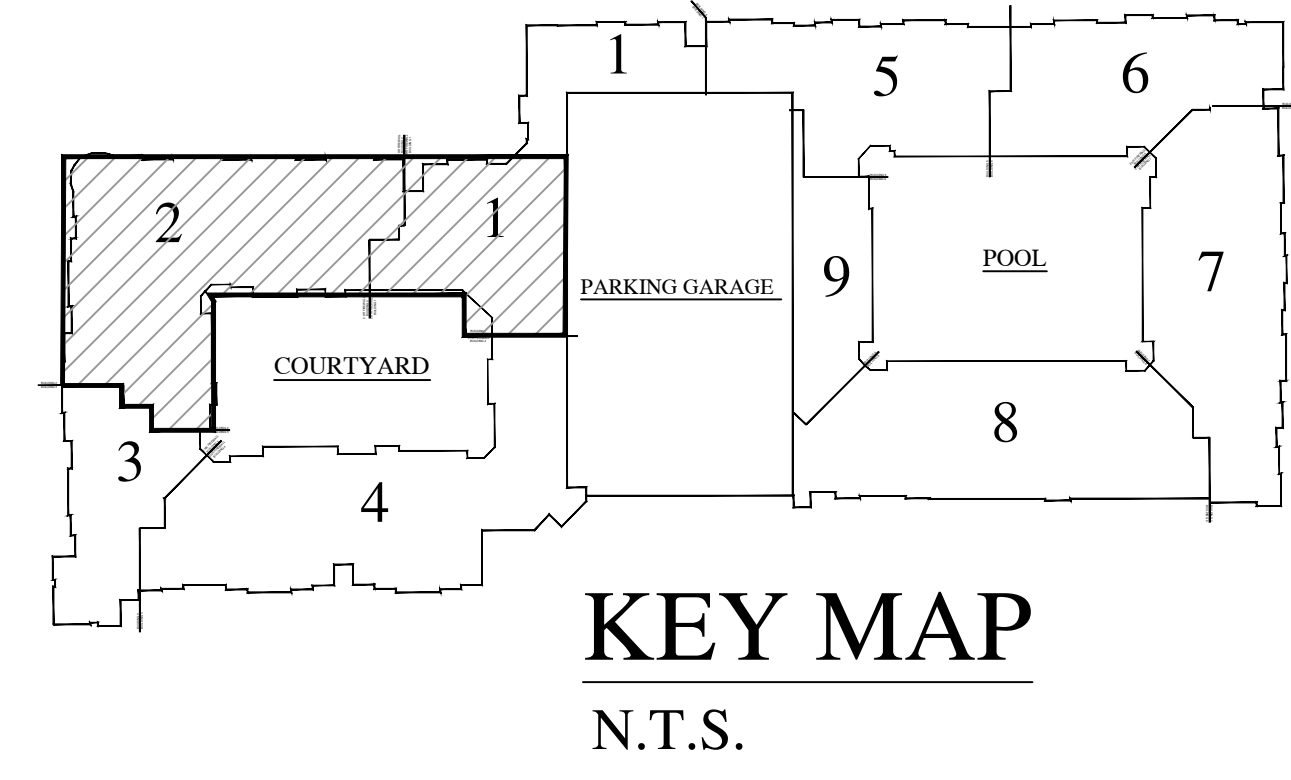
OCCUPANCY: S-2
 GROSS BLDG AREA: 181,834 S.F.
 TYPE OF CONSTRUCTION: 2-B

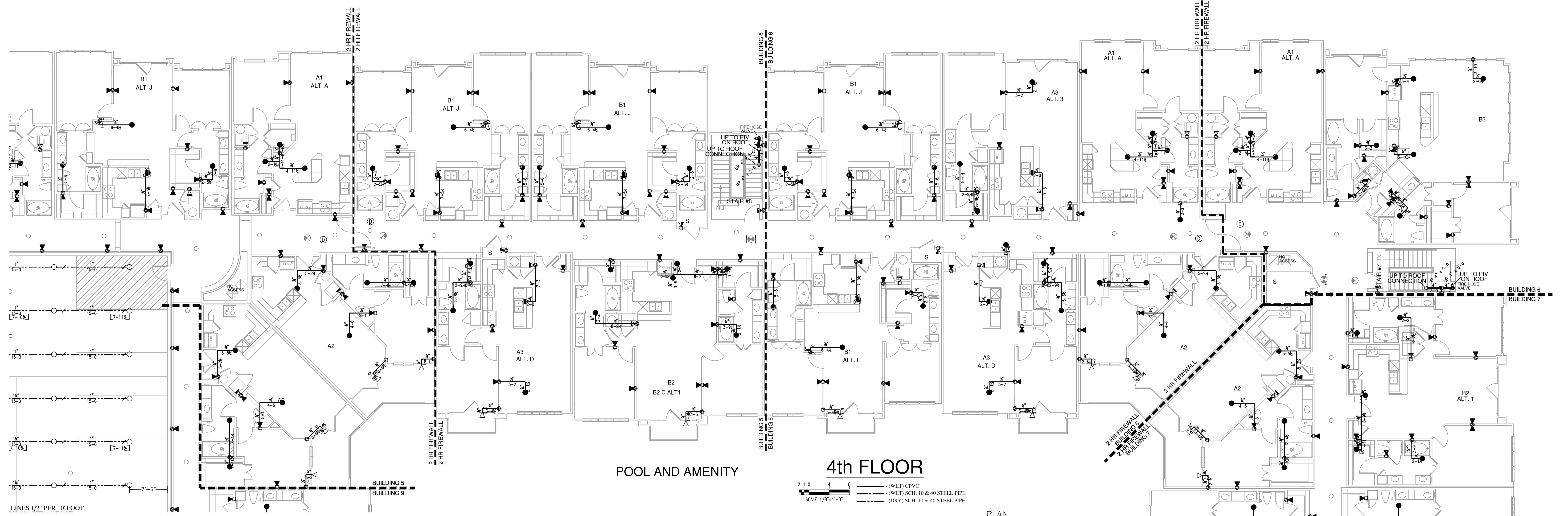
AS-BUILT
 PER FIELD CONDITIONS

I have reviewed these plans and certify that they comply with the adopted NFPA standards.

Ranger Fire, Inc.
 920 South Main Street
 Suite 200
 Grapevine, Texas 76051
 Phone: 817-410-9070
 SCR- 0590

RME SIGNATURE: [Signature]
 PRINTED RME NAME: Roger F. Pichardo
 RME NUMBER: 1275-GD DATE: [Date]
 AS-BUILT SUBMITTAL OTHER





4th FLOOR
INSTALLATION PLAN
 Scale 1/8" = 1'-0"

LINES 1/2" PER 10' FOOT

HANGER SPACING CHART

TABLE 9.2.2.1 MAXIMUM DISTANCE BETWEEN HANGERS (FT-IN.)

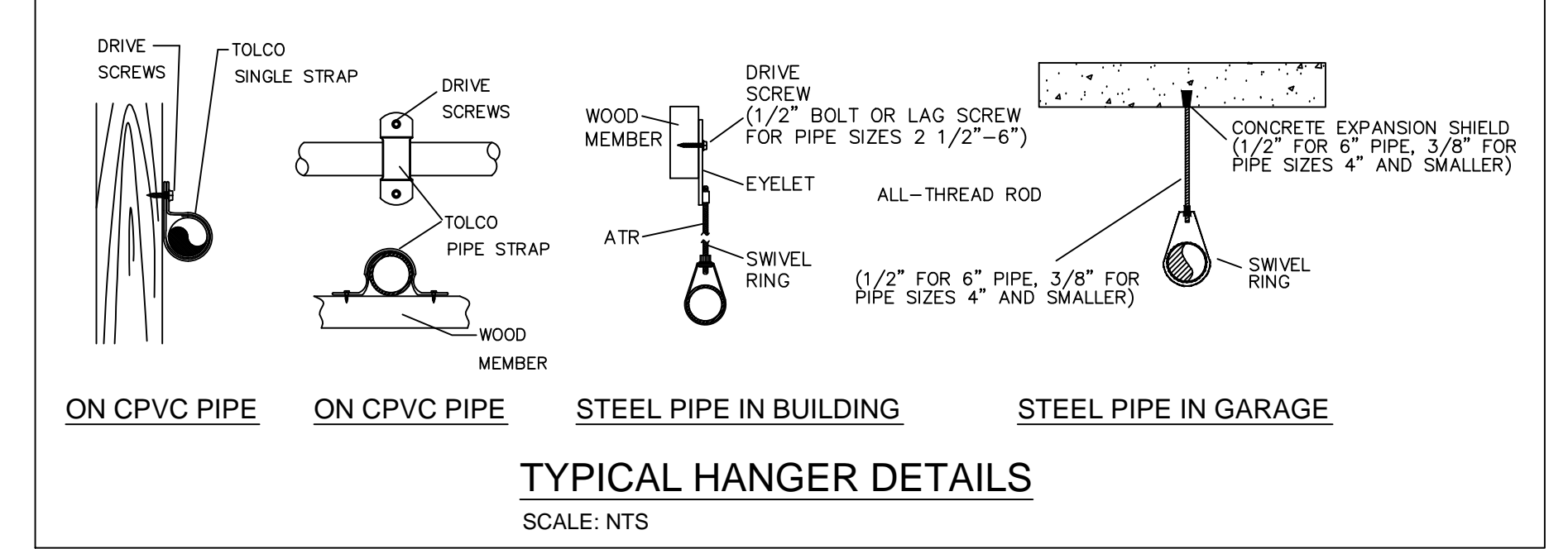
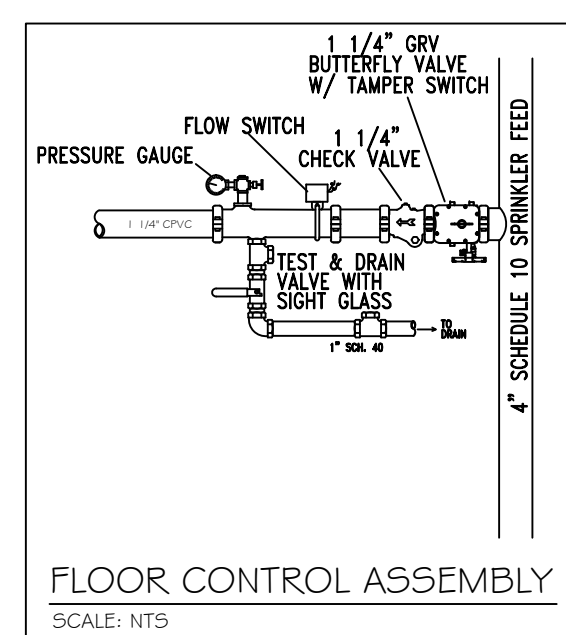
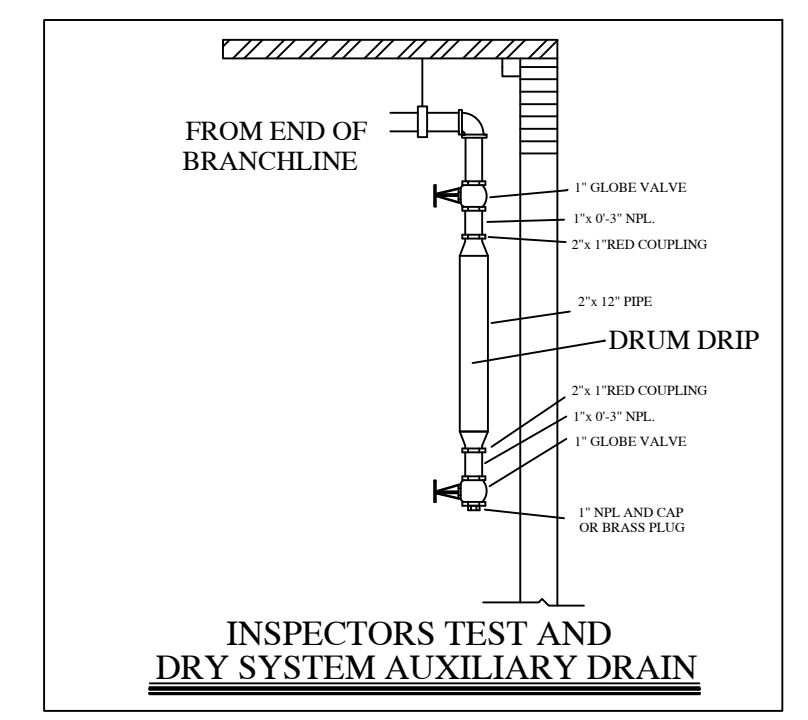
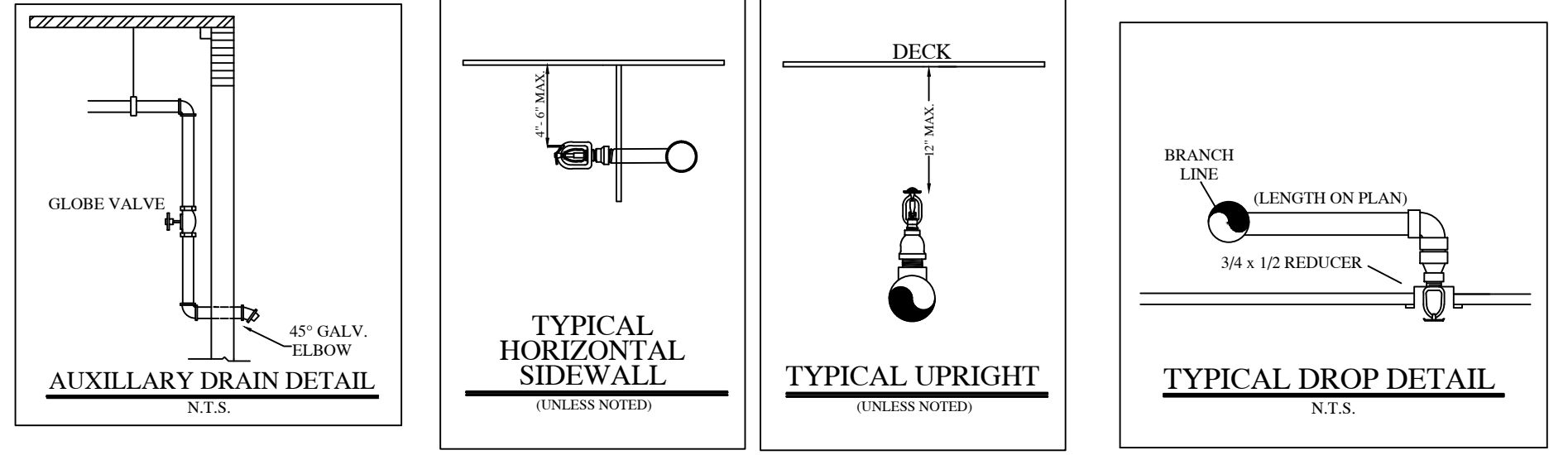
PIPE SIZE (IN)	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	6
STEEL PIPE	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0
THREADED	N/A	12-0	12-0	12-0	12-0	12-0	N/A	N/A	N/A
LIGHTWALL	N/A	12-0	12-0	12-0	12-0	12-0	N/A	N/A	N/A
COPPER	8-0	8-0	10-0	10-0	12-0	12-0	12-0	15-0	15-0
CPVC	5-6	6-0	6-6	7-0	8-0	9-0	10-0	N/A	N/A

FIGURE A.9.2.3.4 DISTANCE FROM SPRINKLER TO HANGER

NOTE: WHEN PRESSURES EXCEED 100 PSI, THE UNCOMPENSATED LENGTH BETWEEN THE END SPRINKLER IN A PENDENT POSITION OR DROP PIPE AND THE LAST HANGER ON THE BRANCHLINE SHALL NOT BE GREATER THAN 12 INCHES FOR STEEL PIPE.

SLEEVE SCHEDULE

PIPE SIZE	SLEEVE DIA.
1"	2"
1-1/4"	2"
1-1/2"	2-1/2"
2"	3"
2-1/2"	4"
3"	5"
4"	5"
5"	6"
6"	8"
8"	10"

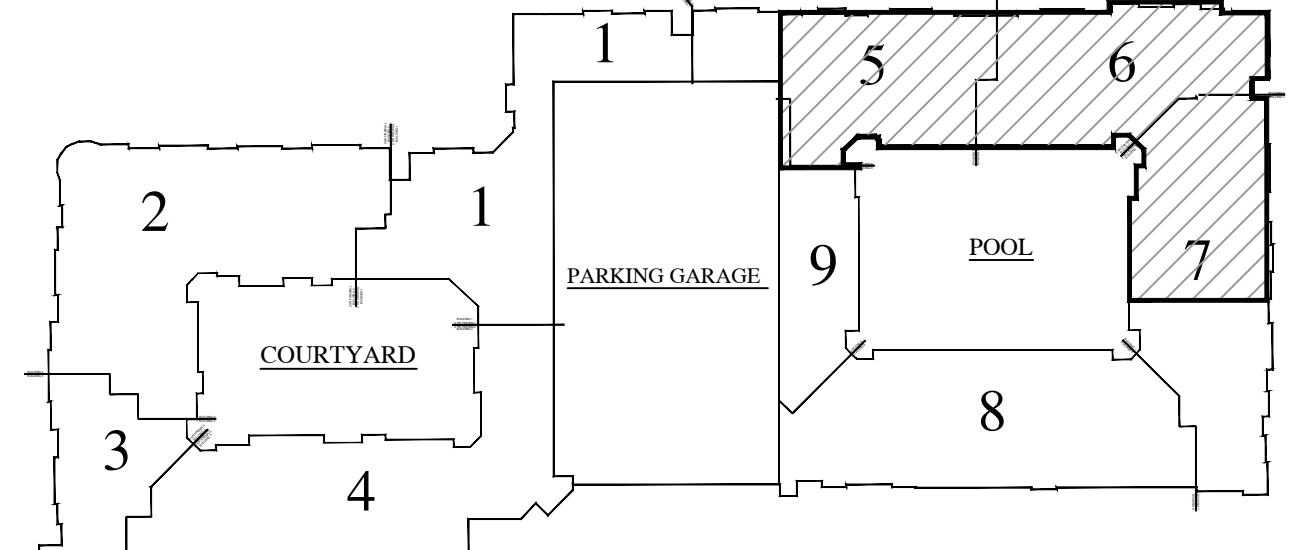


GENERAL NOTES:

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- The system has been hydraulically calculated per NFPA 13, 13R, 14, & 20 requirements.
- Install Black steel piping in Parking Garage.

LEGEND:

- SYSTEM RISER
- 4" X 2 1/2" X 2 1/2" F.D.C.
- VERTICAL PIPE (UP or DN)
- HYDRAULIC NODE POINT
- REMOTE AREA OUTLINE
- 2 1/2" HOSE VALVE
- BUTTERFLY VALVE
- HANGERS (SIZE VARIES)
- CEILING ELEVATION
- PIPE ELEVATION



KEY MAP
 N.T.S.

RESIDENTIAL BUILDING INFO	
OCCUPANCY:	R-2 / A-3
GROSS BLDG AREA:	424,139 S.F.
TYPE OF CONSTRUCTION:	V-A
GARAGE BUILDING INFO	
OCCUPANCY:	S-2
GROSS BLDG AREA:	181,834 S.F.
TYPE OF CONSTRUCTION:	2-B

AS-BUILT
 PER FIELD CONDITIONS

I have reviewed these plans and certify that they comply with the adopted NFPA standards.

Ranger Fire, Inc.
 920 South Main Street
 Suite 200
 Grapevine, Texas 76051
 Phone: 817-410-9070
 SCR-0590

RME SIGNATURE: _____
 PRINTED RME NAME: Roger F. Pichardo
 RME NUMBER: 1275-GD DATE: _____
 AS-BUILT SUBMITTAL OTHER

RANGER FIRE, INC.
 920 SOUTH MAIN STREET
 GRAPEVINE, TEXAS 76051
 PHONE: 817-410-9070
 TEXAS LICENSE: 0590

AS-BUILT SUBMITTAL OTHER

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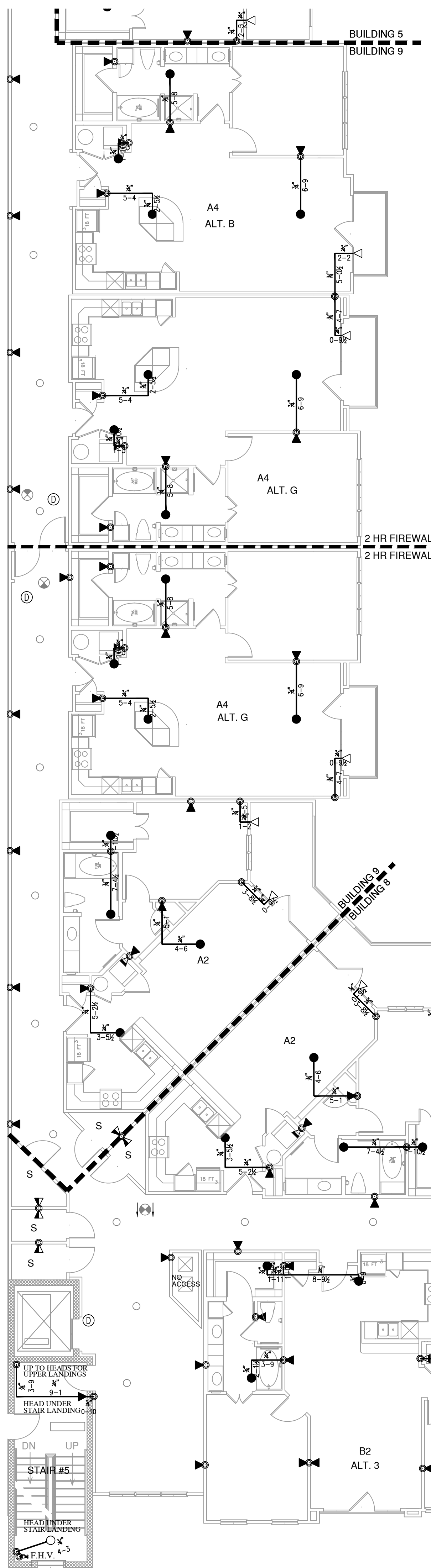
REV#	REVISIONS	DATE	BY
01	ISSUE	04-01-12	RF

GENERAL CONTRACTOR: EMBREY PARTNERS, LTD.
 1000 NE LOOP 410, STE 700
 SAN ANTONIO, TX 78240
 (512) 342-4044

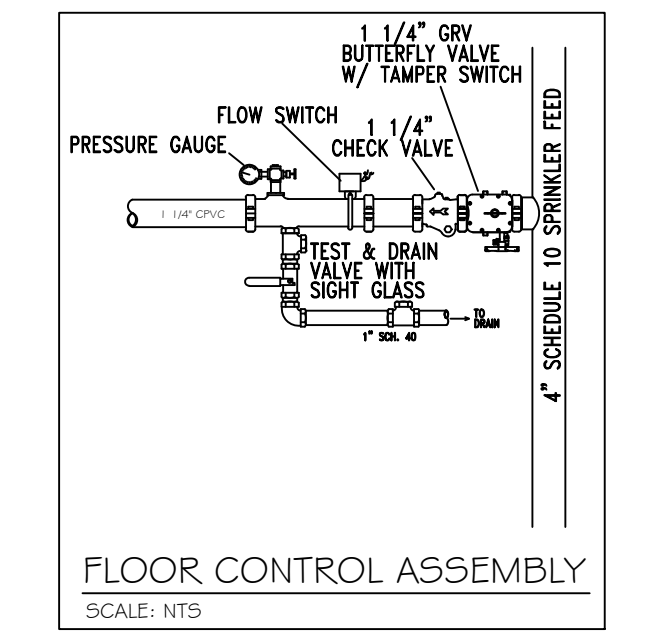
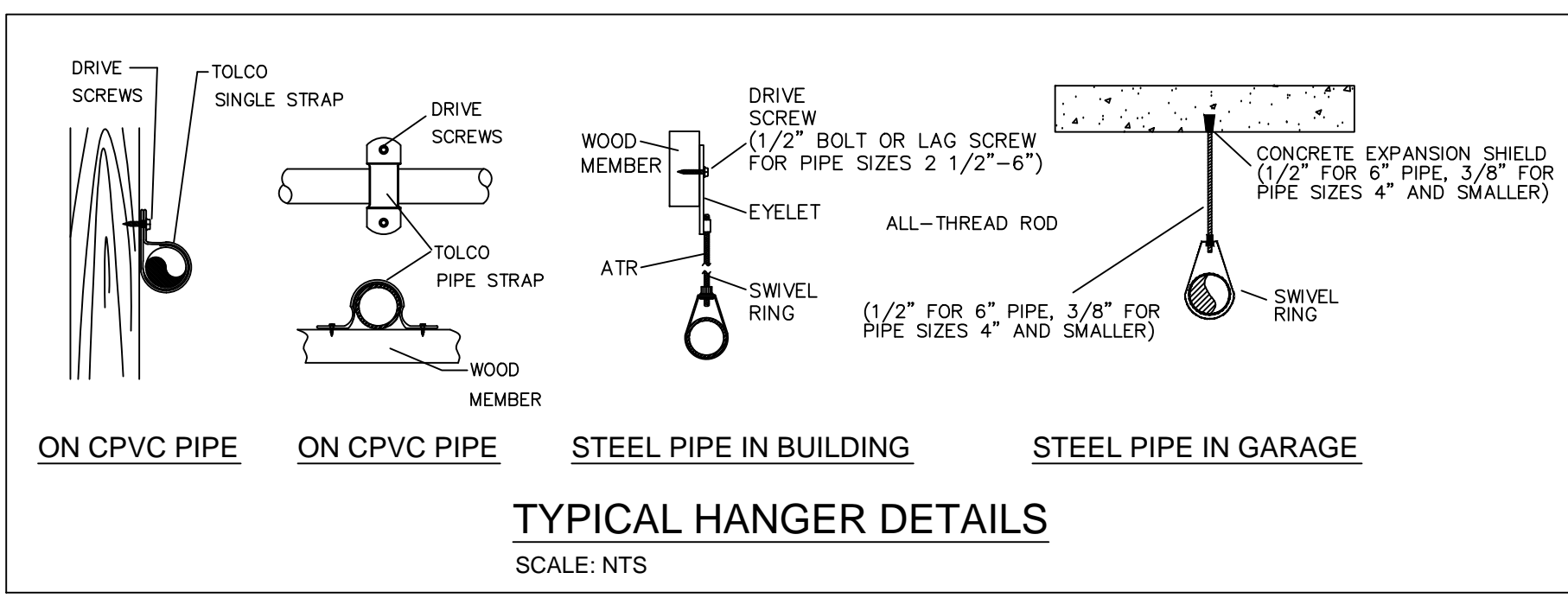
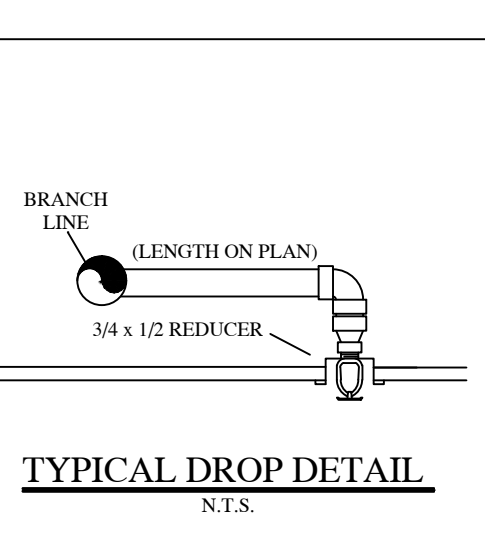
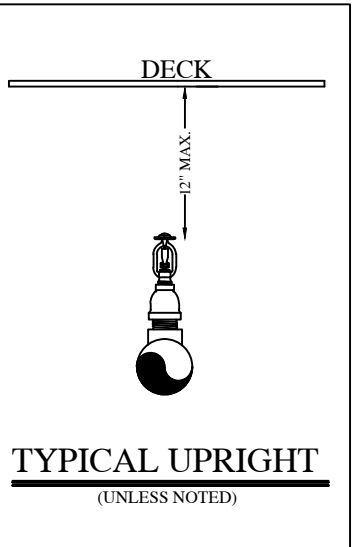
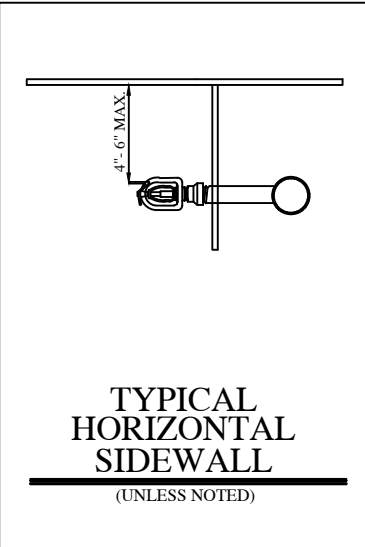
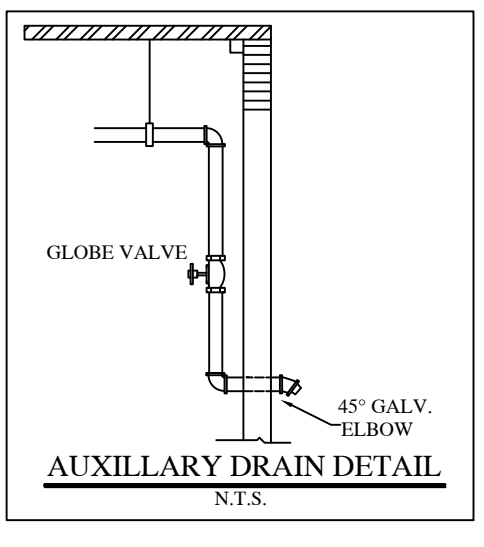
DATE: 04-01-12
 DRAWN BY: RF
 CHECKED BY: RF
 TOTAL FOR THIS SHEET: 30
 CONTRACT #11-1655
 DESCRIPTION: 4TH FLOOR

KELLER SPRINGS LOFTS
 4800 KELLER SPRINGS PKWY
 ADDISON, TEXAS 75001

SCALE: 1/8" = 1'-0"
 CONTRACT NAME: _____
 DRAWN BY: C. ALEXANDER
 CHECKED BY: _____
 DATE: 04-01-12
 REVISED BY: _____
 DATE: _____



PIPE SIZE	SLEEVE DIA.
1"	2"
1-1/4"	2 1/2"
1-1/2"	3"
2"	3 1/2"
2-1/2"	4"
3"	5"
4"	6"
5"	8"
6"	10"



- LEGEND:**
- SYSTEM RISER
 - 4" X 2 1/2" X 2 1/2" F.D.C.
 - VERTICAL PIPE (UP or DN)
 - HYDRAULIC NODE POINT
 - REMOTE AREA OUTLINE
 - 2 1/2" HOSE VALVE
 - BUTTERFLY VALVE
 - HANGERS (SIZE VARIES)
 - CEILING ELEVATION
 - PIPE ELEVATION

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 - The system has been hydraulically calculated per NFPA 13, 13R, 14, & 20 requirements.
 - Install Black steel piping in Parking Garage.

POOL AND AMENITY

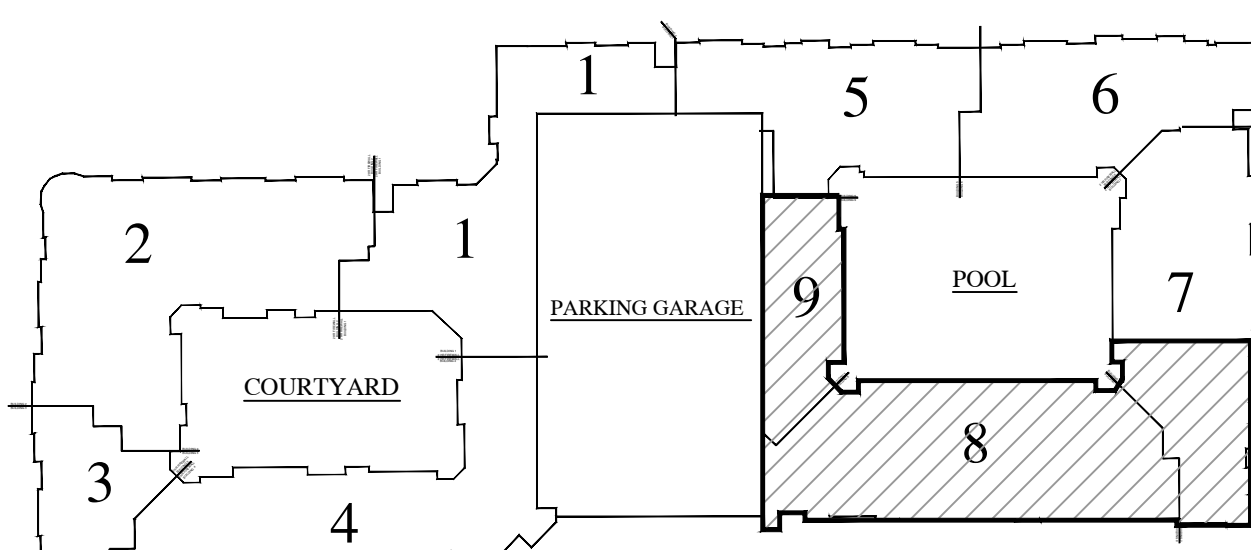
4th FLOOR

Scale 1/8" = 1'-0"

--- (WET) CPVC
 --- (WET) SCH. 10 & 40 STEEL PIPE
 --- (DRY) SCH. 10 & 40 STEEL PIPE

INSTALLATION PLAN

PLAN NORTH



KEY MAP
N.T.S.

HANGER SPACING CHART

PIPE SIZE (IN)	1	1-1/4	1-1/2	2	2-1/2	3	4	6
STEEL PIPE	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0
THREADED LIGHTWALL	N/A	12-0	12-0	12-0	12-0	12-0	N/A	N/A
COPPER	8-0	8-0	10-0	10-0	12-0	12-0	15-0	15-0
CPVC	5-6	6-0	6-6	7-0	8-0	9-0	10-0	N/A

FIGURE A.9.2.3.4 DISTANCE FROM SPRINKLER TO HANGER

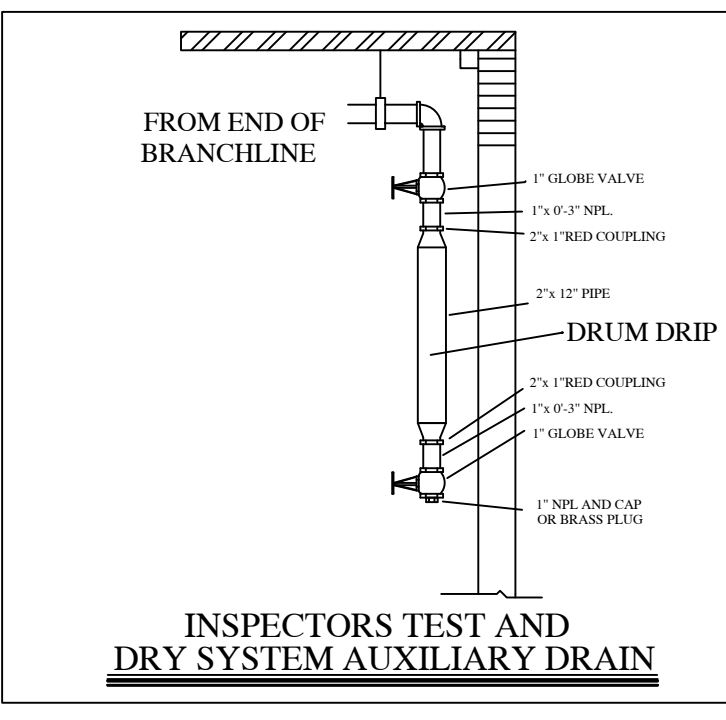
36" FOR 1"
 48" FOR 1 1/4"
 60" FOR 1 1/2" OR LARGER

MAX. THEN EXTEND HERE

GREATER THAN 36" FOR 1"
 GREATER THAN 48" FOR 1 1/4"
 GREATER THAN 60" FOR 1 1/2" OR LARGER

NOTE: MINOR PRESSURES EXCEED 100 PSI THE UNSUPPORTED LENGTH BETWEEN THE END SPRINKLER IN A PENDENT POSITION OR DROP HANGING AND THE LAST HANGER ON THE BRANCH LINE SHALL NOT BE GREATER THAN 12 INCHES FOR STEEL PIPE.

PIPE SIZE	DIAM. OF ROD	PIPE SIZE	DIAM. OF ROD
UP TO AND INCLUDING 4"	3/8"	6 AND 8	1/2"



RESIDENTIAL BUILDING INFO	
OCCUPANCY:	R-2/A-3
GROSS BLDG AREA:	424,139 S.F.
TYPE OF CONSTRUCTION:	V-A

GARAGE BUILDING INFO	
OCCUPANCY:	S-2
GROSS BLDG AREA:	181,834 S.F.
TYPE OF CONSTRUCTION:	2-B

AS-BUILT
PER FIELD CONDITIONS

I have reviewed these plans and certify that they comply with the adopted NFPA standards.

Ranger Fire, Inc.
 920 South Main Street
 Suite 200
 Grapevine, Texas 76051
 Phone: 817-410-9070
 SCR- 0590

RME SIGNATURE: _____
 PRINTED RME NAME: Roger F. Pichardo
 RME NUMBER: 1275-GD DATE: _____
 AS-BUILT SUBMITTAL OTHER

RANGER FIRE, INC.
 920 SOUTH MAIN STREET
 GRAPEVINE, TEXAS 76051
 PHONE: 817-410-9070
 TEXAS LICENSE: 0590

AS-BUILT SUBMITTAL OTHER

GENERAL CONTRACTOR:
 EMBREY PARTNERS LTD.
 1000 NE LOOP 410 STE 700
 SAN ANTONIO, TX 78241
 (214) 242-4944

DATE: 04-01-12

REVISIONS:

NO.	DATE	BY	DESCRIPTION
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

CONTRACTOR'S STATEMENT:
 This drawing, the information and design application herein contained, constitute the entire contract between the undersigned and the client. No other conditions, specifications or drawings shall be used in the construction of the project unless specifically referred to in this drawing. The undersigned shall not be held responsible for any errors or omissions in this drawing or any part thereof. The undersigned shall not be held responsible for any errors or omissions in this drawing or any part thereof. The undersigned shall not be held responsible for any errors or omissions in this drawing or any part thereof.

CONTRACT NO.: 1275-GD

DATE: 04-01-12

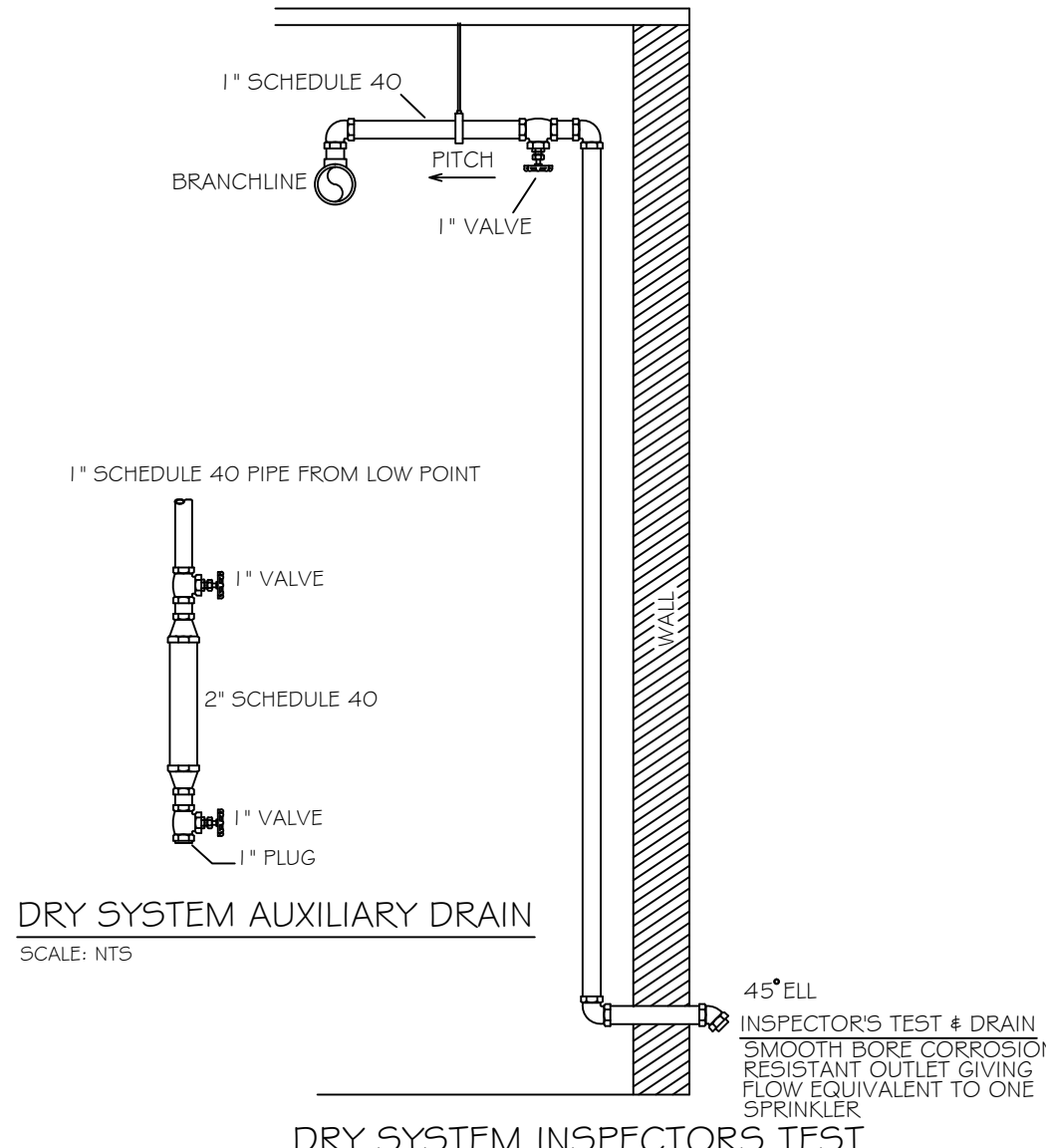
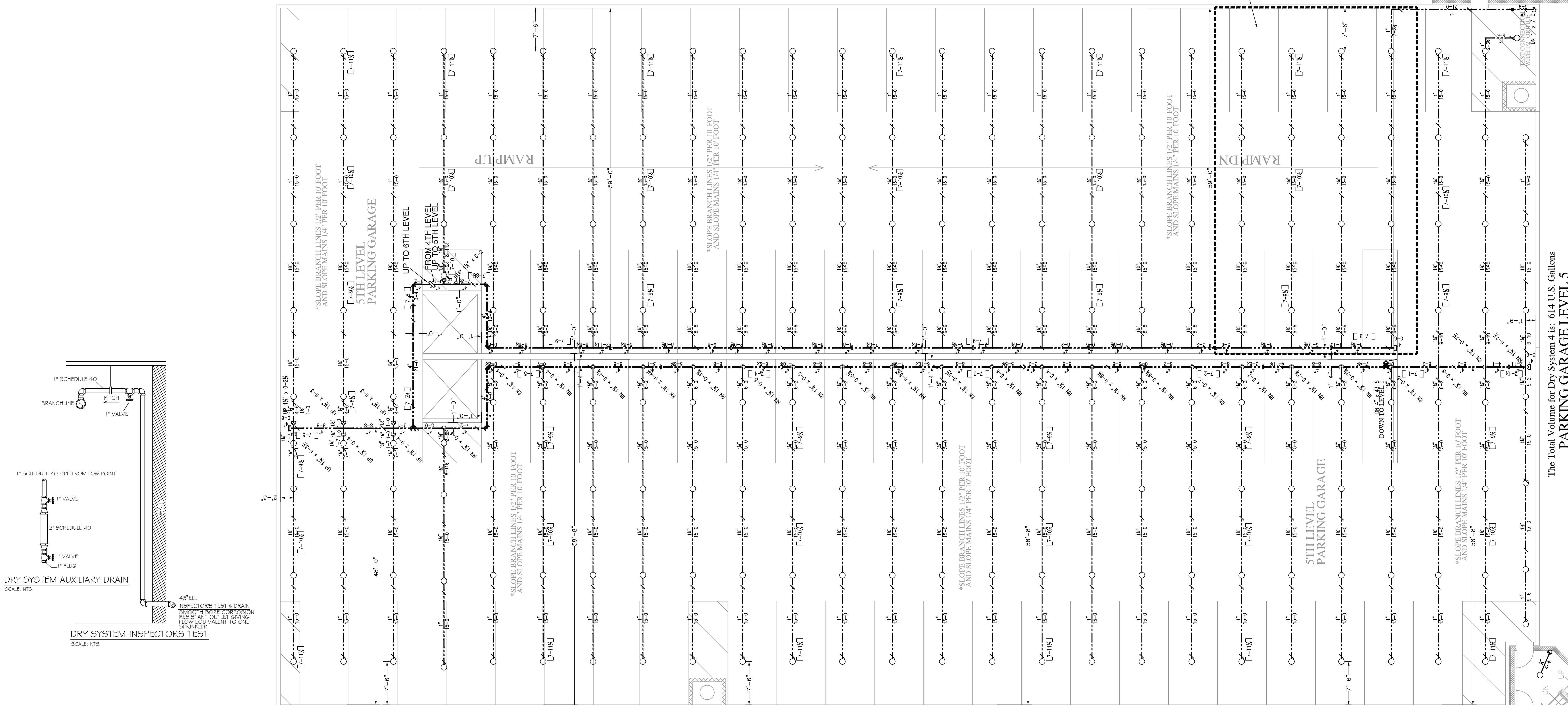
DESCRIPTION: 4TH FLOOR

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

DRAWN BY: C. ALEXANDER

CHECKED BY: _____

DATE: _____



HANGER SPACING CHART

TABLE 9.2.2.1 MAXIMUM DISTANCE BETWEEN HANGERS (FT-IN.)

PIPE SIZE (IN.)	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	6
STEEL PIPE	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0
THREADED LIGHTWALL	N/A	12-0	12-0	12-0	12-0	12-0	N/A	N/A	N/A
COPPER	8-0	8-0	10-0	10-0	12-0	12-0	15-0	15-0	N/A
CPVC	5-6	6-0	6-6	7-0	8-0	9-0	10-0	N/A	N/A

FIGURE A.9.2.3.4 DISTANCE FROM SPRINKLER TO HANGER

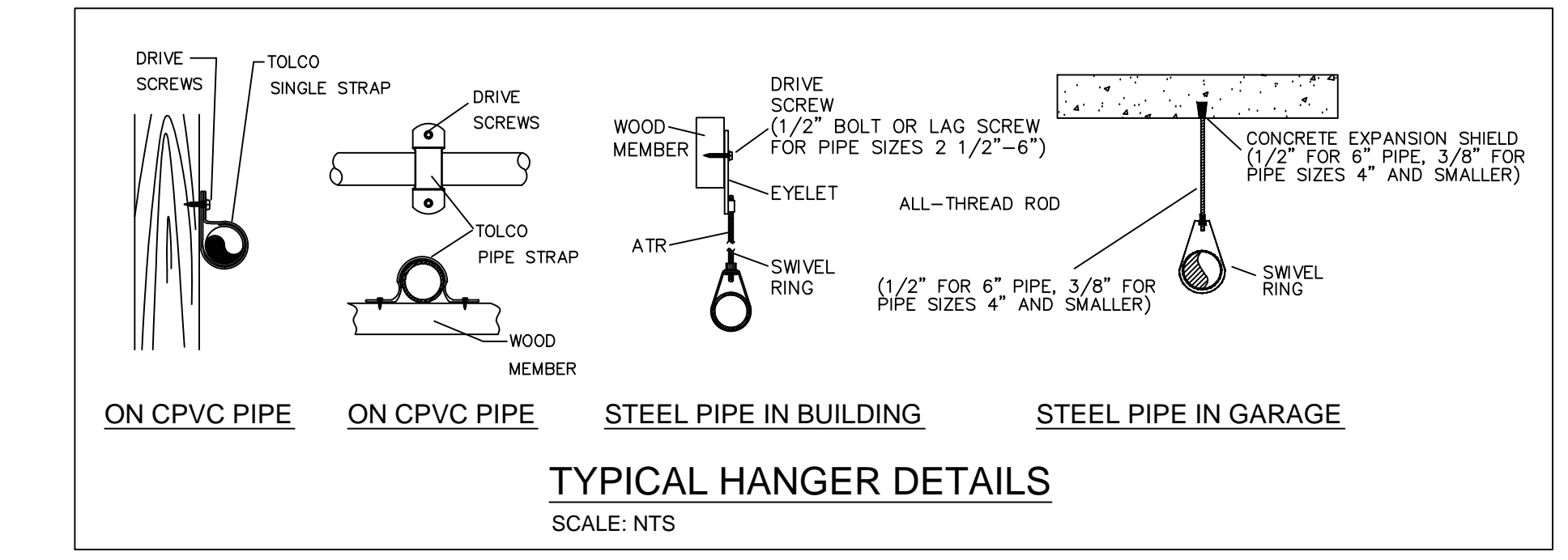
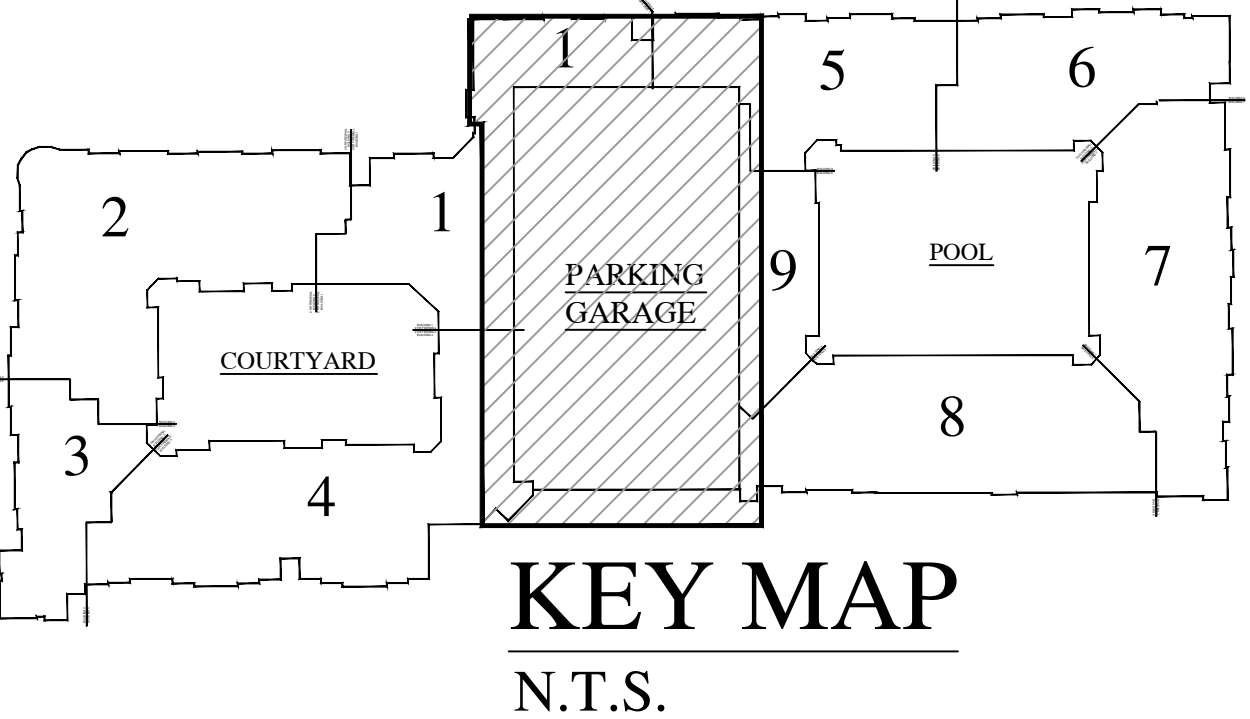
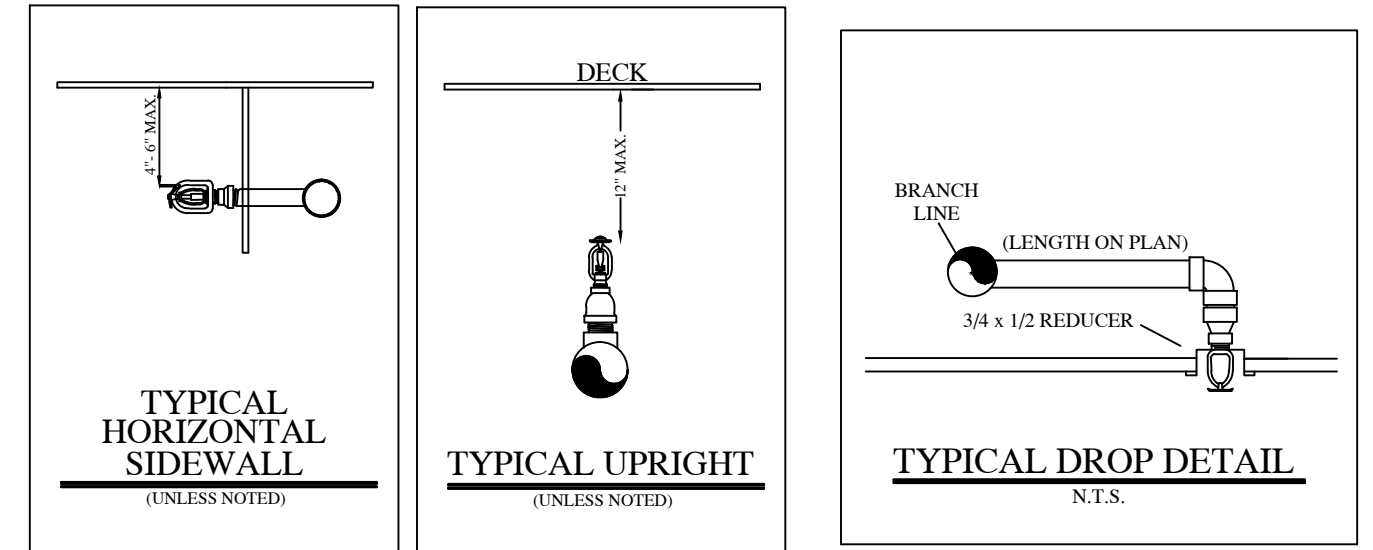
NOTE: WHERE PRESSURES EXCEED 100 PSI, THE UNSUPPORTED LENGTH BETWEEN THE END SPRINKLER IN A PENDANT POSITION OR DROP PIPE AND THE LAST HANGER ON THE BRANCH LINE SHALL NOT BE GREATER THAN 12 INCHES FOR STEEL PIPE.

TABLE 9.1.2.1 HANGER ROD SIZES

PIPE SIZE	DIAM. OF ROD	PIPE SIZE	DIAM. OF ROD
UP TO AND INCLUDING 4"	3/8"	6 AND 8	1/2"

SLEEVE SCHEDULE

PIPE SIZE	SLEEVE DIA.
1"	2"
1-1/4"	2"
1-1/2"	2-1/2"
2"	3"
2-1/2"	4"
3"	5"
4"	5"
5"	6"
6"	8"
8"	10"



- LEGEND:**
- SYSTEM RISER
 - 4" X 2 1/2" X 2 1/2" F.D.C.
 - VERTICAL PIPE (UP OR DN)
 - HYDRAULIC NODE POINT
 - REMOTE AREA OUTLINE
 - 2 1/2" HOSE VALVE
 - BUTTERFLY VALVE
 - HANGERS (SIZE VARIES)
 - CEILING ELEVATION
 - PIPE ELEVATION

RESIDENTIAL BUILDING INFO

OCCUPANCY: R-2 / A-3
 GROSS BLDG AREA: 424,139 S.F.
 TYPE OF CONSTRUCTION: V-A

GARAGE BUILDING INFO

OCCUPANCY: S-2
 GROSS BLDG AREA: 181,834 S.F.
 TYPE OF CONSTRUCTION: 2-B

- GENERAL NOTES:**
- Ranger Fire's work shall consist of all necessary labor and material to design and install new automatic fire sprinkler systems in the referenced (9) Apartment Buildings and attached Parking Garage.
 - Ranger Fire excludes all electrical and ceiling work.
 - All design and installation shall conform to NFPA 13, 13R, 14, 20, & the City of Addison requirements.
 - All material to be UL/FM approved for fire services.
 - All new plastic piping shall be Schedule 40 CPVC with CPVC plastic fittings (u.o.n.). All steel piping shall be Black Sch. 10 with grooved fittings for the mains and Black Sch. 40 with threaded fittings for the branchlines.
 - Owner or tenant is responsible for maintaining adequate heat to prevent the system from freezing (Min. 40 degrees F.).
 - Sprinkler equipment room and equipment components shall be properly identified.
 - Install signage on sprinkler equipment room door stating "Sprinkler Valve Room" in at least 4 inches in height.
 - All hangers shall be in accordance with NFPA 13 requirements.
 - All systems shall be tested at 200 psi for 2 hours and witnessed by a representative of the Addison Fire Department. Any leaks shall be repaired.
 - The system has been hydraulically calculated per NFPA 13, 13R, 14, & 20 requirements.
 - Install Black steel piping in Parking Garage.

AS-BUILT
PER FIELD CONDITIONS

I have reviewed these plans and certify that they comply with the adopted NFPA standards.

Ranger Fire, Inc.
 920 South Main Street
 Suite 200
 Grapevine, Texas 76051
 Phone: 817-410-9070
 SCR- 0590

RME SIGNATURE: _____
 PRINTED RME NAME: Roger F. Pichardo
 RME NUMBER: 1275-GD DATE: _____

AS-BUILT SUBMITTAL OTHER

RANGER FIRE, INC.
 920 SOUTH MAIN STREET
 GRAPEVINE, TEXAS 76051
 PHONE: 817-410-9070
 TEXAS LICENSE: 0590

AS-BUILT SUBMITTAL OTHER

SYM.	MAKE	MODEL	SIN.	K.	ORBIT	TEMP.	FINISH	ES	UTCHISON	DATE	BY
									NONE		

CONTRACTOR: EMBREY PARTNERS LTD
 1020 NE LOOP 410 STE 700
 SAN ANTONIO, TX 78204

DATE: 04-01-12

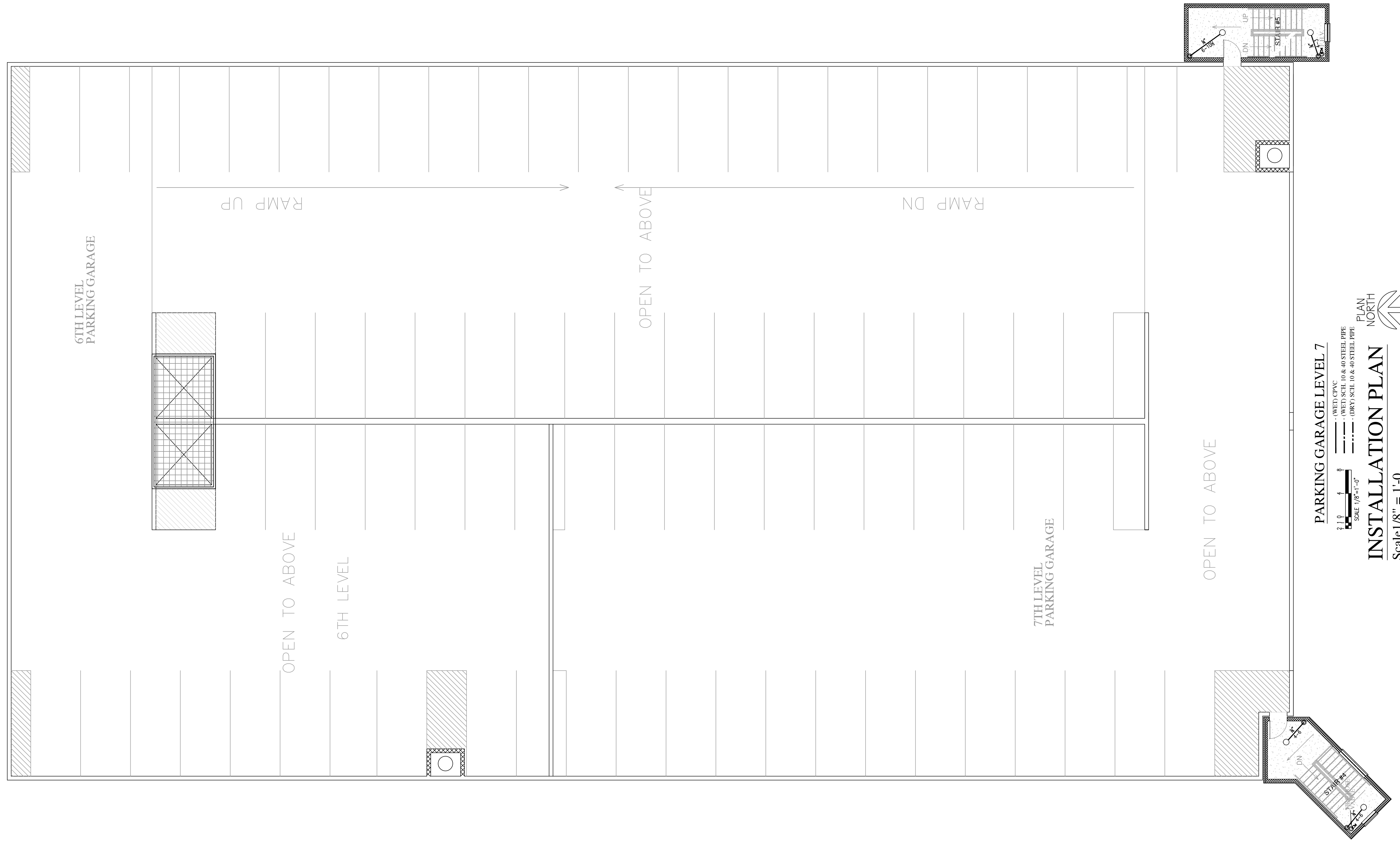
SCALE: 1/8" = 1'-0"

CONTRACT # 11-685

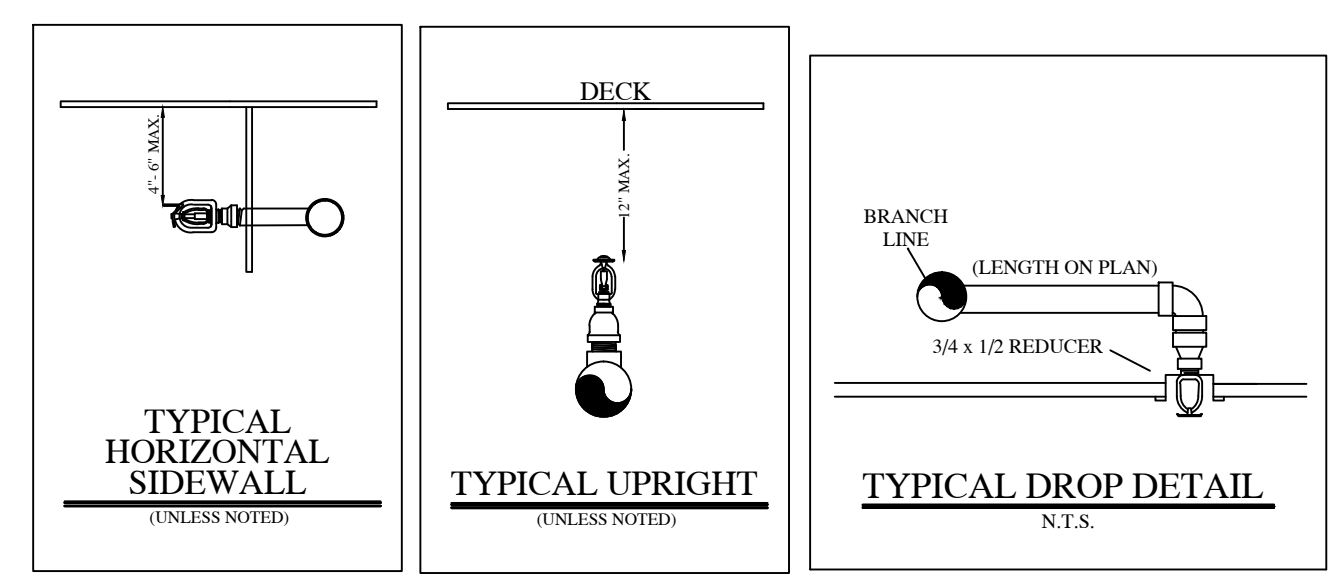
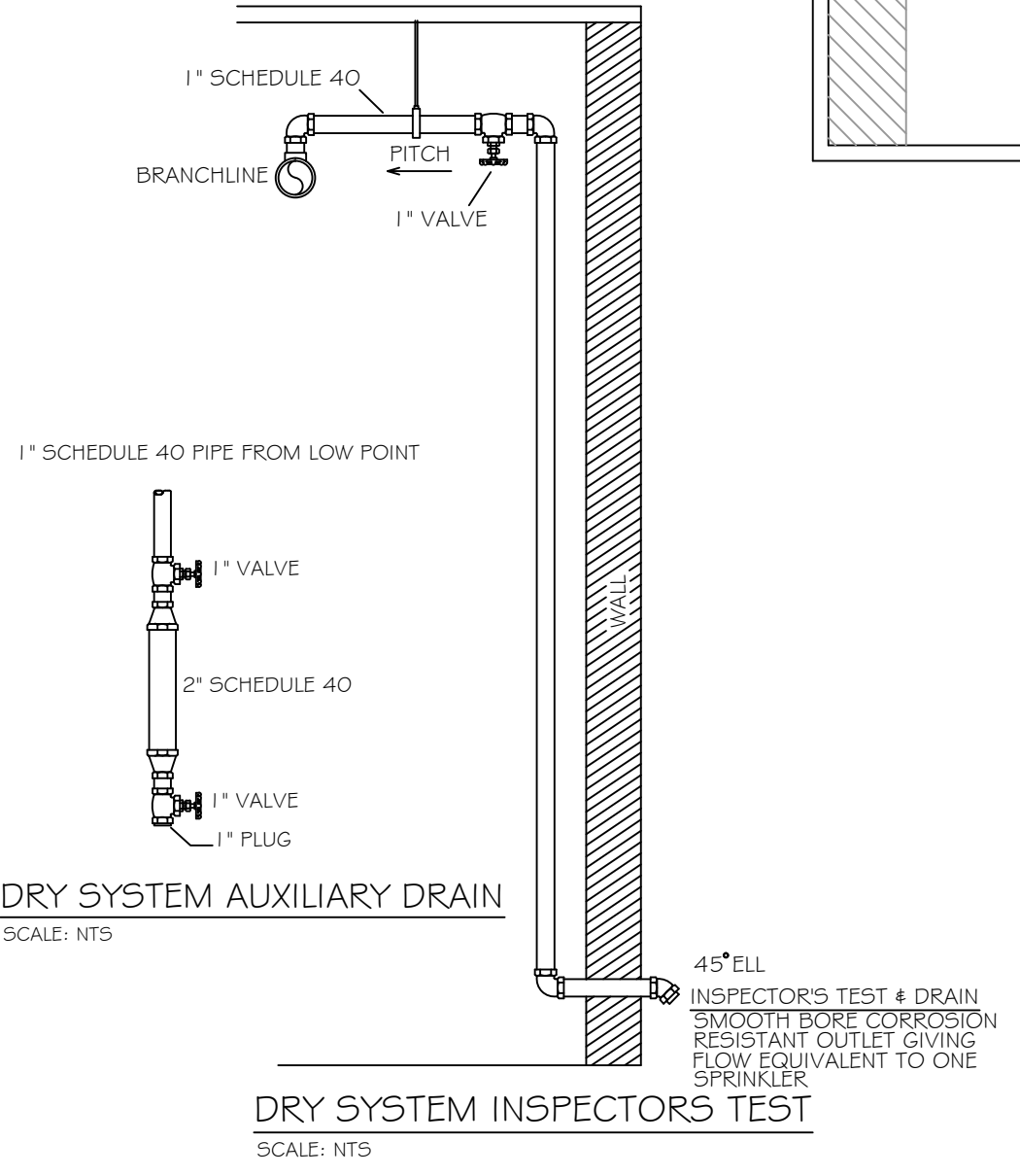
DESCRIPTION: LEVEL 5 PARKING GARAGE

DATE: 04-01-12

FIGS: FP 26 OF 30



PARKING GARAGE LEVEL 7
 SCALE: 1/8" = 1'-0"
INSTALLATION PLAN
 Scale 1/8" = 1'-0"



PIPE SIZE	SLEEVE DIA.
1"	2"
1-1/4"	2"
1-1/2"	2-1/2"
2"	3"
2-1/2"	4"
3"	5"
4"	5"
6"	8"
8"	10"

HANGER SPACING CHART

TABLE 9.2.2.1. MAXIMUM DISTANCE BETWEEN HANGERS (FT-IN.)

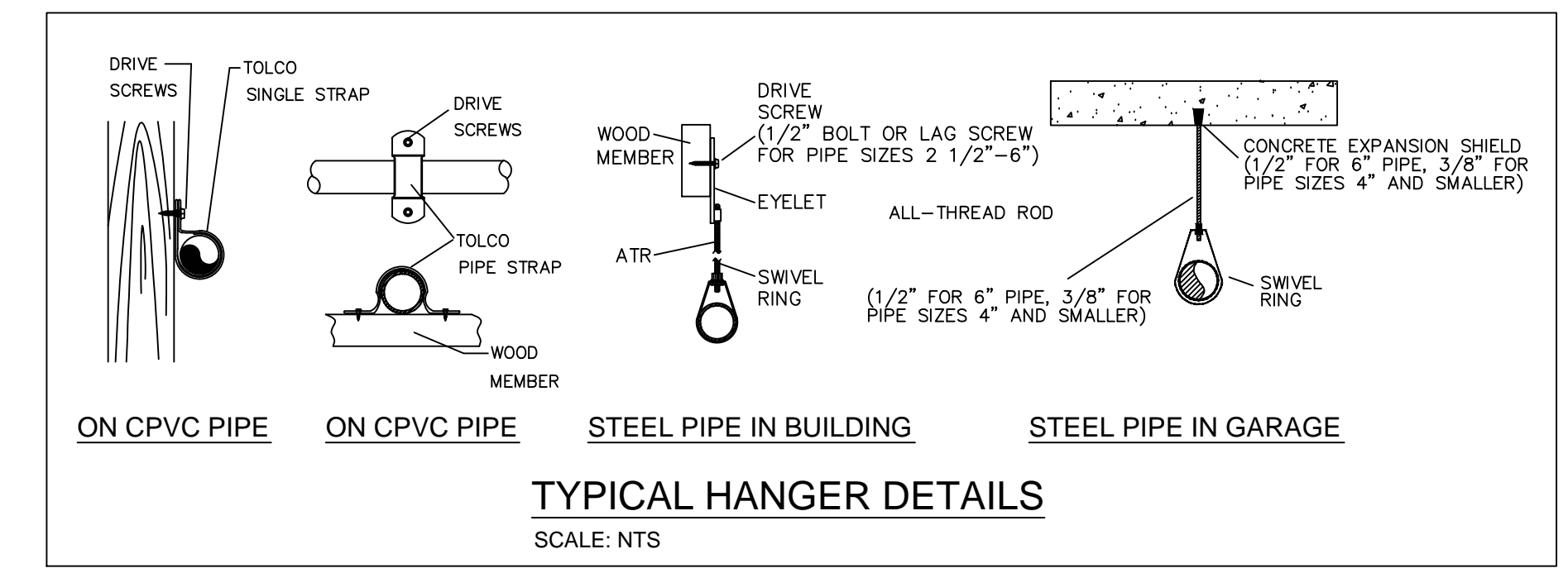
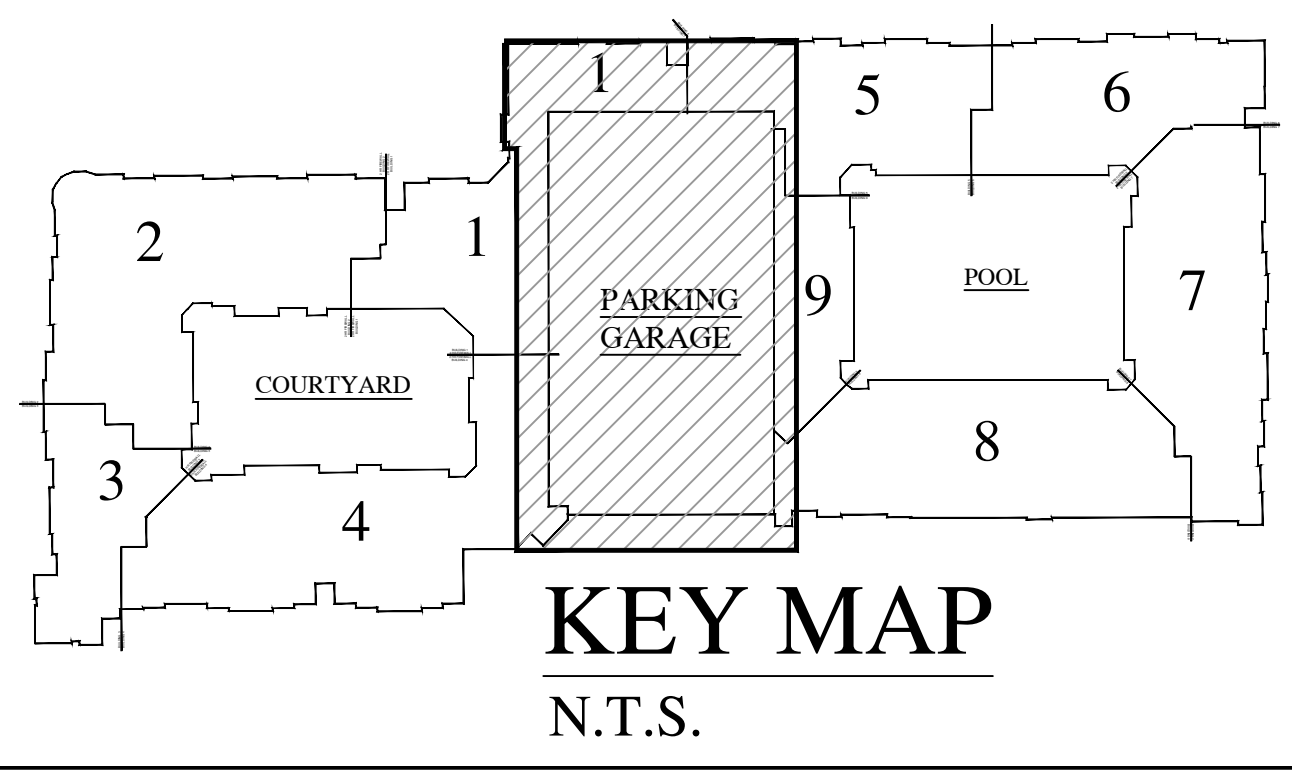
PIPE SIZE (IN.)	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	6
STEEL PIPE	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0
CEILING	N/A	12-0	12-0	12-0	12-0	12-0	N/A	N/A	N/A
COPPER	8-0	8-0	10-0	10-0	12-0	12-0	12-0	15-0	15-0
CPVC	5-6	6-0	6-6	7-0	8-0	9-0	10-0	N/A	N/A

FIGURE 9.2.3.4. DISTANCE FROM SPRINKLER TO HANGER

NOTE: WHERE PRESSURES EXCEED 100 PSI THE UNBARRIQUETED LENGTH BETWEEN THE SPRINKLER IN A RISE/STOP POSITION OR DROP VALVE AND THE LAST HANGER ON THE BRANCH LINE SHALL NOT BE GREATER THAN 12 INCHES FOR STEEL PIPE.

TABLE 9.1.2.1. HANGER ROD SIZES

PIPE SIZE	DIAM. OF ROD	PIPE SIZE	DIAM. OF ROD
UP TO AND INCLUDING 4"	3/8"	6 AND 8	1/2"



RESIDENTIAL BUILDING INFO	
OCCUPANCY:	R-2 / A-3
GROSS BLDG AREA:	424,139 S.F.
TYPE OF CONSTRUCTION:	V-A

GARAGE BUILDING INFO	
OCCUPANCY:	S-2
GROSS BLDG AREA:	181,834 S.F.
TYPE OF CONSTRUCTION:	2-B

AS-BUILT
PER FIELD CONDITIONS

I have reviewed these plans and certify that they comply with the adopted NFPA standards.

Ranger Fire, Inc.
 920 South Main Street
 Suite 200
 Grapevine, Texas 76051
 Phone: 817-410-9070
 SCR- 0590

RME SIGNATURE: _____
 PRINTED RME NAME: Roger F. Pichardo
 RME NUMBER: 1275-GD DATE: _____

AS-BUILT SUBMITTAL OTHER

- GENERAL NOTES:**
- Ranger Fire's work shall consist of all necessary labor and material to design and install new automatic fire sprinkler systems in the referenced (9) Apartment Buildings and attached Parking Garage.
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 - Install signage on sprinkler equipment room door stating "Sprinkler Valve Room" in at least 4 inches in height.
 - All hangers shall be in accordance with NFPA 13 requirements.
 - All systems shall be tested at 200 psi for 2 hours and witnessed by a representative of the Addison Fire Department. Any leaks shall be repaired.
 - The system has been hydraulically calculated per NFPA 13, 13R, 14, & 20 requirements.
 - Install Black steel piping in Parking Garage.

- LEGEND:**
- SYSTEM RISER
 - 4" X 2 1/2" X 2 1/2" F.D.C.
 - VERTICAL PIPE (UP or DN)
 - HYDRAULIC NODE POINT
 - REMOTE AREA OUTLINE
 - 2 1/2" HOSE VALVE
 - BUTTERFLY VALVE
 - HANGERS (SIZE VARIES)
 - CEILING ELEVATION
 - PIPE ELEVATION

RANGER FIRE, INC.
 920 SOUTH MAIN STREET
 GRAPEVINE, TEXAS 76051
 PHONE: 817-410-9070
 TEXAS LICENSE: 0590

AS-BUILT SUBMITTAL OTHER

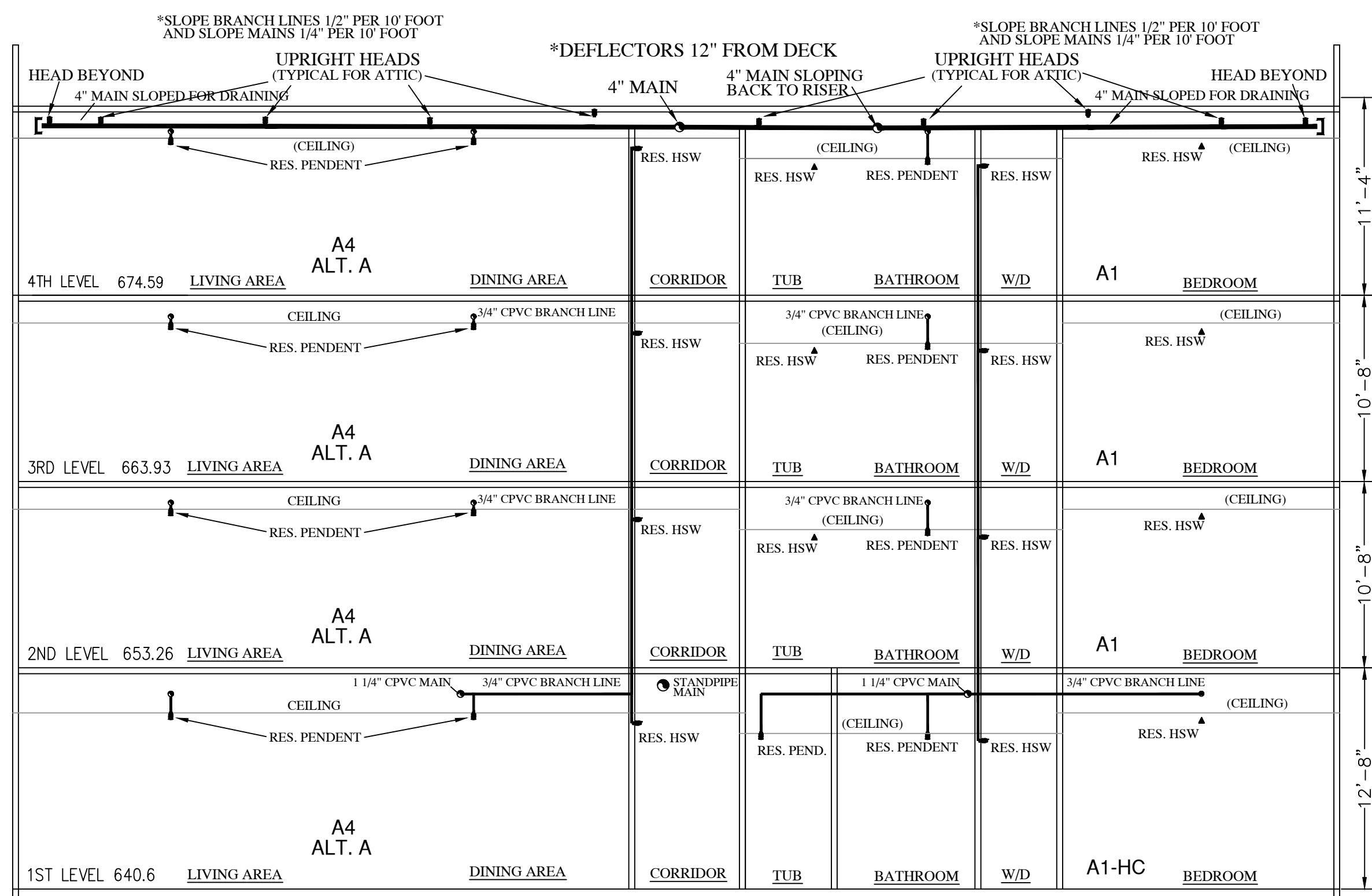
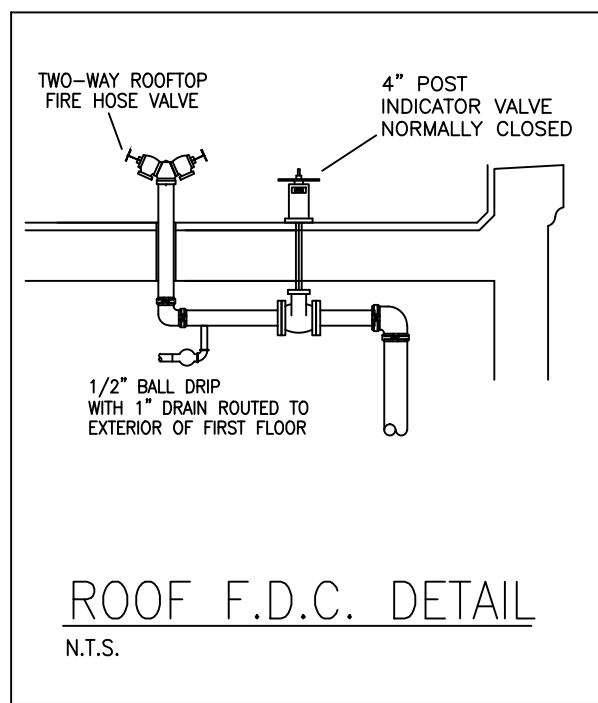
QTY.	GENERAL CONTRACTOR:	CONFIDENTIALITY STATEMENT
	EMBBREY PARTNERS, LTD. 1000 NE LOOP 140, STE 700 SAN ANTONIO, TX	This drawing, the information and design application herein, contained, conditions, shall be returned to Ranger Fire, Inc. upon completion of the project. No reproduction of this drawing or any part thereof shall be made without the written consent of Ranger Fire, Inc.

SYM.	MAKE	MODEL	SPRINKLERS	ESCUTCHION	DATE	BY

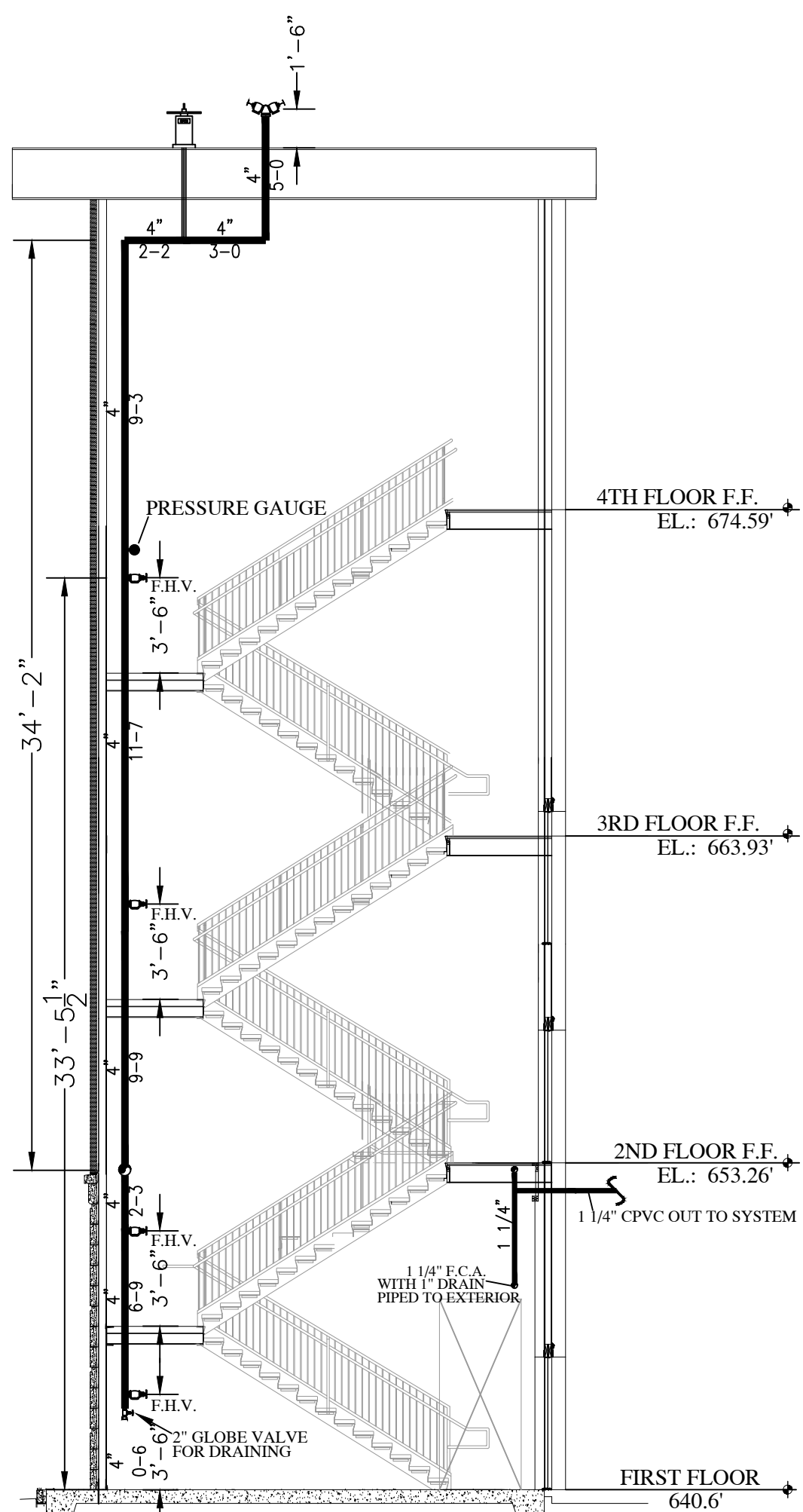
CONTRACT NAME: _____
 CONTRACT #11-1055
 SCALE: 1/8" = 1'-0"
 DRAWN BY: C. ALEXANDER
 CHECKED BY: _____
 DATE: 04-01-12
 PROJ. # FP 28 OF 30
 DESCRIPTION: LEVEL 7 PARKING GARAGE

KELLER SPRINGS LOFTS
 4800 KELLER SPRINGS PKWY
 ADDISON, TEXAS 75001

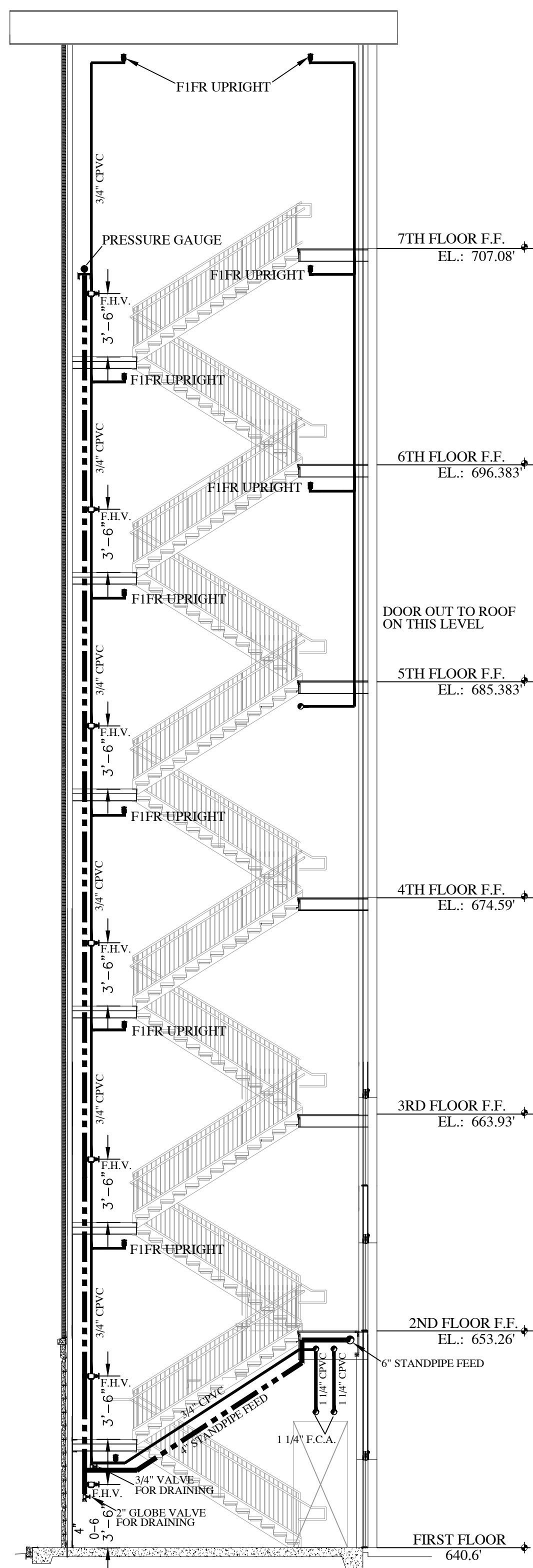
RANGER FIRE



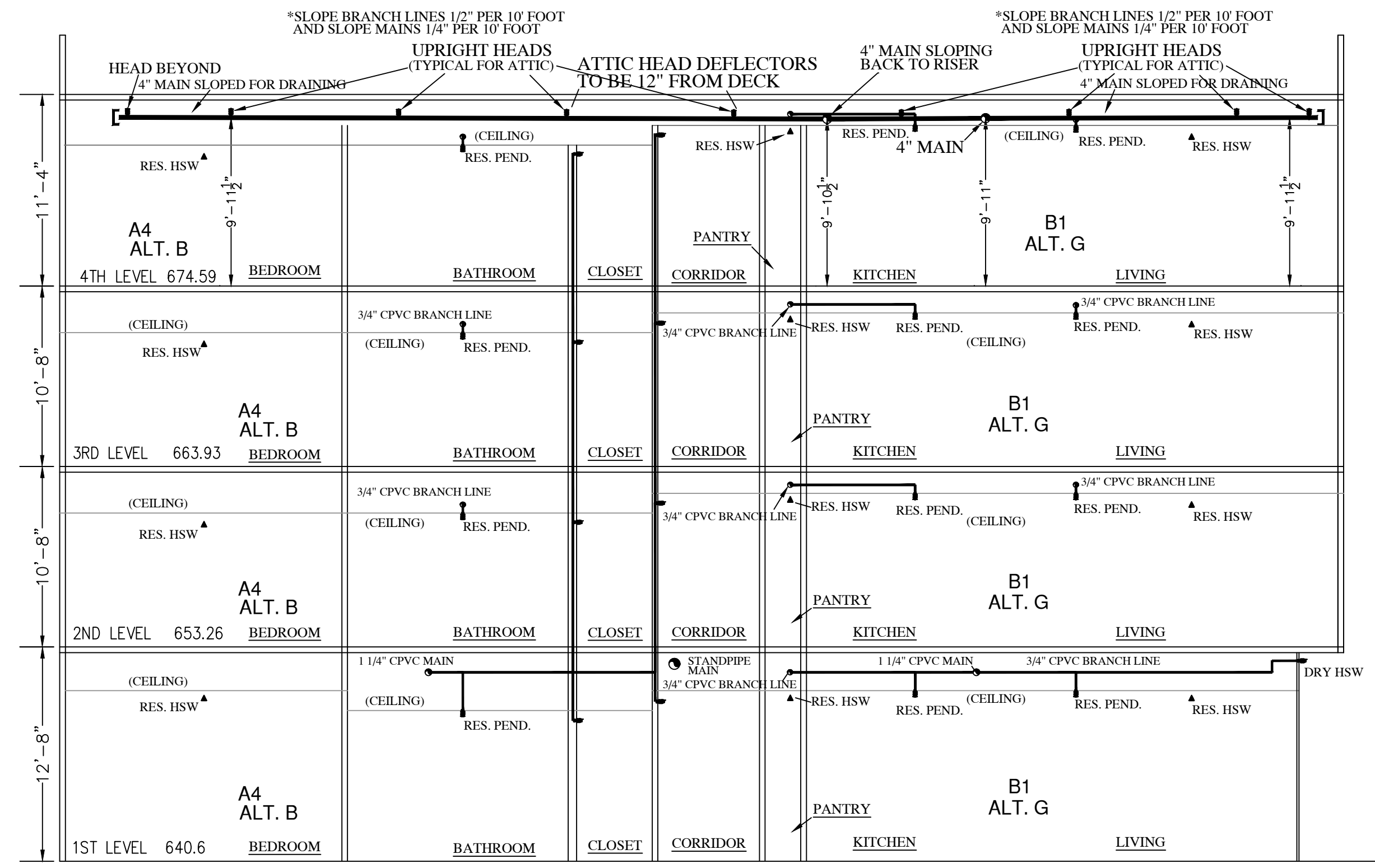
WEST WING BLDG. SECTION
N.T.S.



STAIR #2 SECTION
N.T.S.



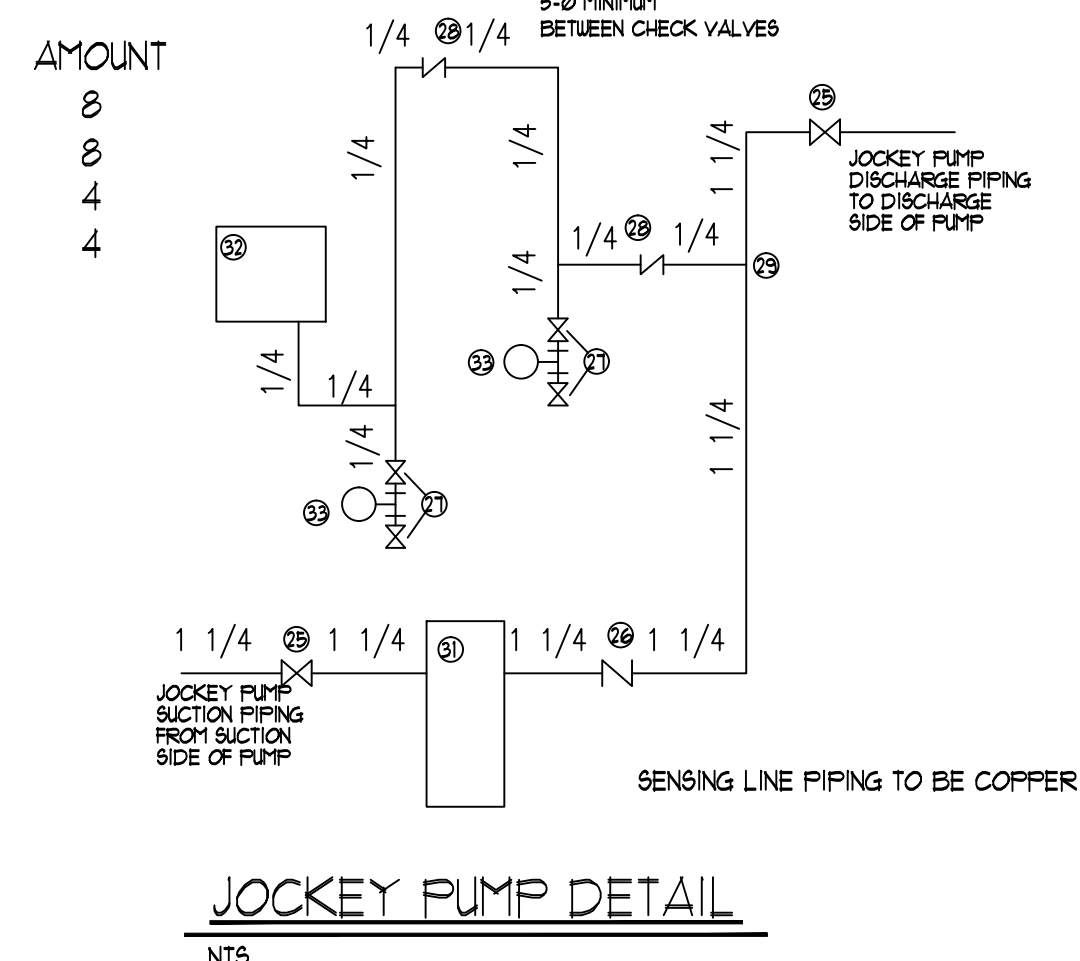
STAIR #5 SECTION
N.T.S.



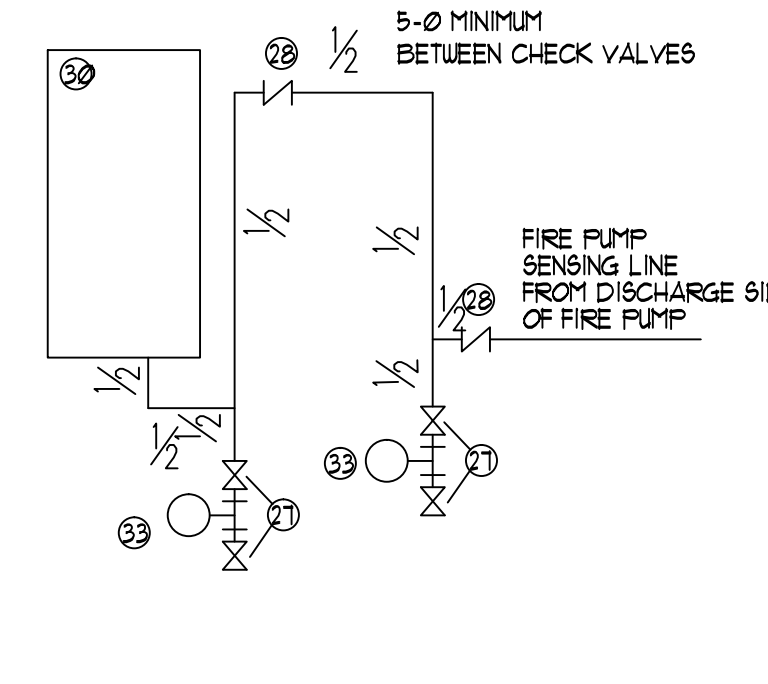
EAST WING BLDG. SECTION
N.T.S.

FIRE PUMP / RISER LEGEND

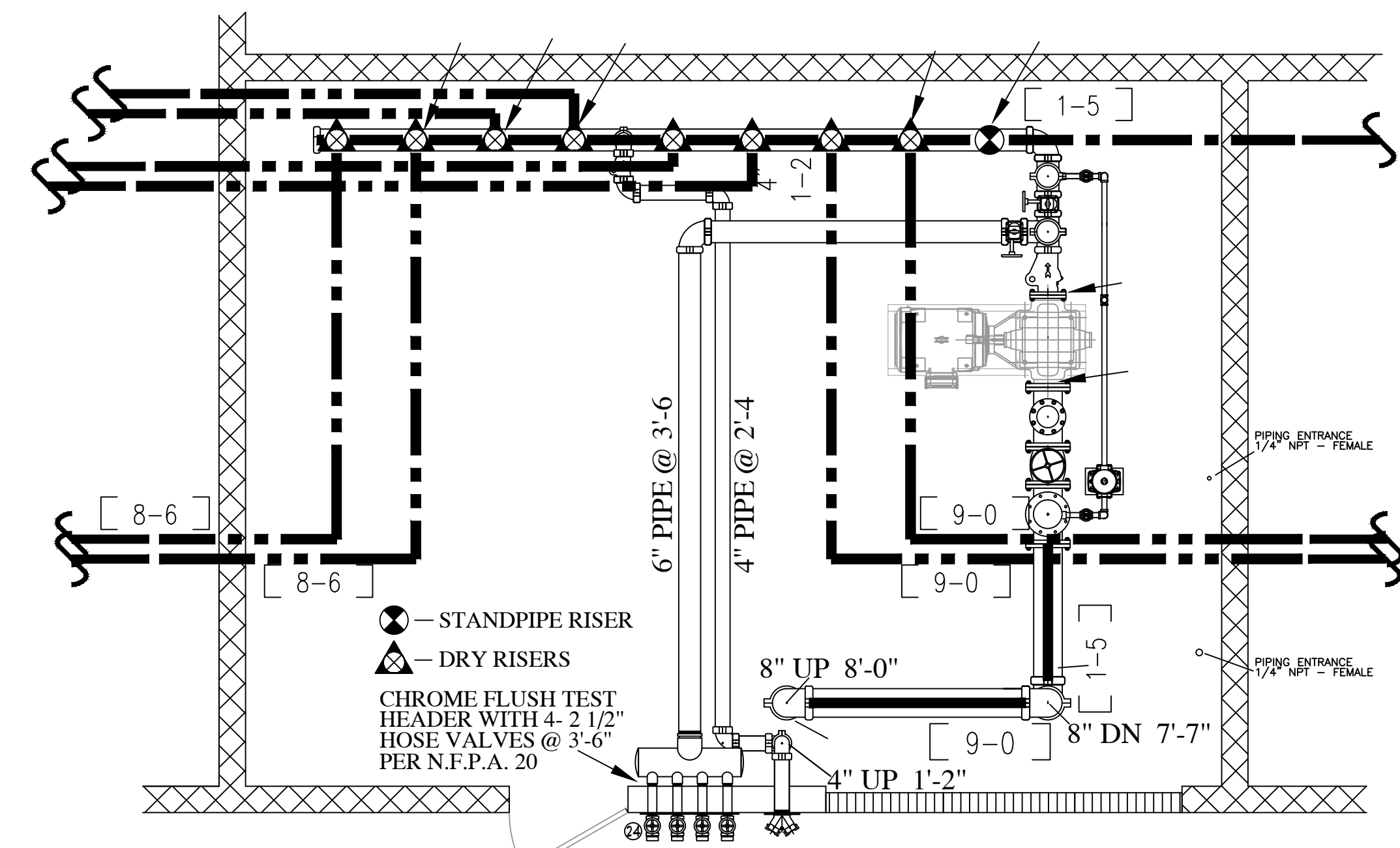
- | | |
|---|---|
| 1. 4" FIRELOCK ELLS | 22. SPARE HEAD BOX RELIABLE MODEL A4-12 (2 REQ) |
| 2. AIR COMPRESSORS | DESCRIPTION |
| 3. 4" DRY PIPE VALVES | RELIABLE FI RES PEND 1/2 155 4.9 WHITE |
| 4. 4" NIBCO BUTTERFLY VALVE STYLE GD-4165-4/8 (8 REQ) | RELIABLE FI RES HSW 1/2 155 4.9 WHITE |
| 5. FIRE PUMP A-C MODEL F-5 1000 GPM @ 50 PSI | RELIABLE FIFR UPRIGHT 1/2 200 5.6 BRASS |
| 50 HP 3 PHASE 60 HZ 460 VOLTS 1710 RPM | RELIABLE FI RES HSW 1/2 175 4.9 WHITE |
| 6. 6" CHECK VALVE RELIABLE MODEL G (2 REQ) | |
| 7. 6" BUTTERFLY VALVE NIBCO GD-4165-4/8 (6 REQ) | |
| 8. 6" TEE FIRELOCK (3 REQ) | |
| 9. 6" 90 ELL FIRELOCK (5 REQ) | |
| 10. 8" FIRELOCK ELLS (5 REQ) | |
| 11. 8" FIRELOCK TEE | |
| 12. 6" FLOW METER | |
| 13. 8" OS&Y GATE VALVE | |
| 14. JOCKEY PUMP | |
| 15. 6" PIPE STANDS (3 REQ) | |
| 16. 4" PIPE STANDS (2 REQ) | |
| 17. 8" FLANGED SPIGOT | |
| 18. 6" FLOW SWITCH | |
| 19. NOT USED | |
| 20. NOT USED | |
| 21. NOT USED | |



JOCKEY PUMP DETAIL
N.T.S.



PUMP CONTROLLER DETAIL
N.T.S.



FIRE PUMP ROOM PLAN VIEW
SCALE: NTS

RESIDENTIAL BUILDING INFO	
OCCUPANCY: R-2/A-3	GROSS BLDG AREA: 424,139 S.F.
TYPE OF CONSTRUCTION: V-A	
GARAGE BUILDING INFO	
OCCUPANCY: S-2	GROSS BLDG AREA: 181,834 S.F.
TYPE OF CONSTRUCTION: 2-B	

GENERAL NOTES:

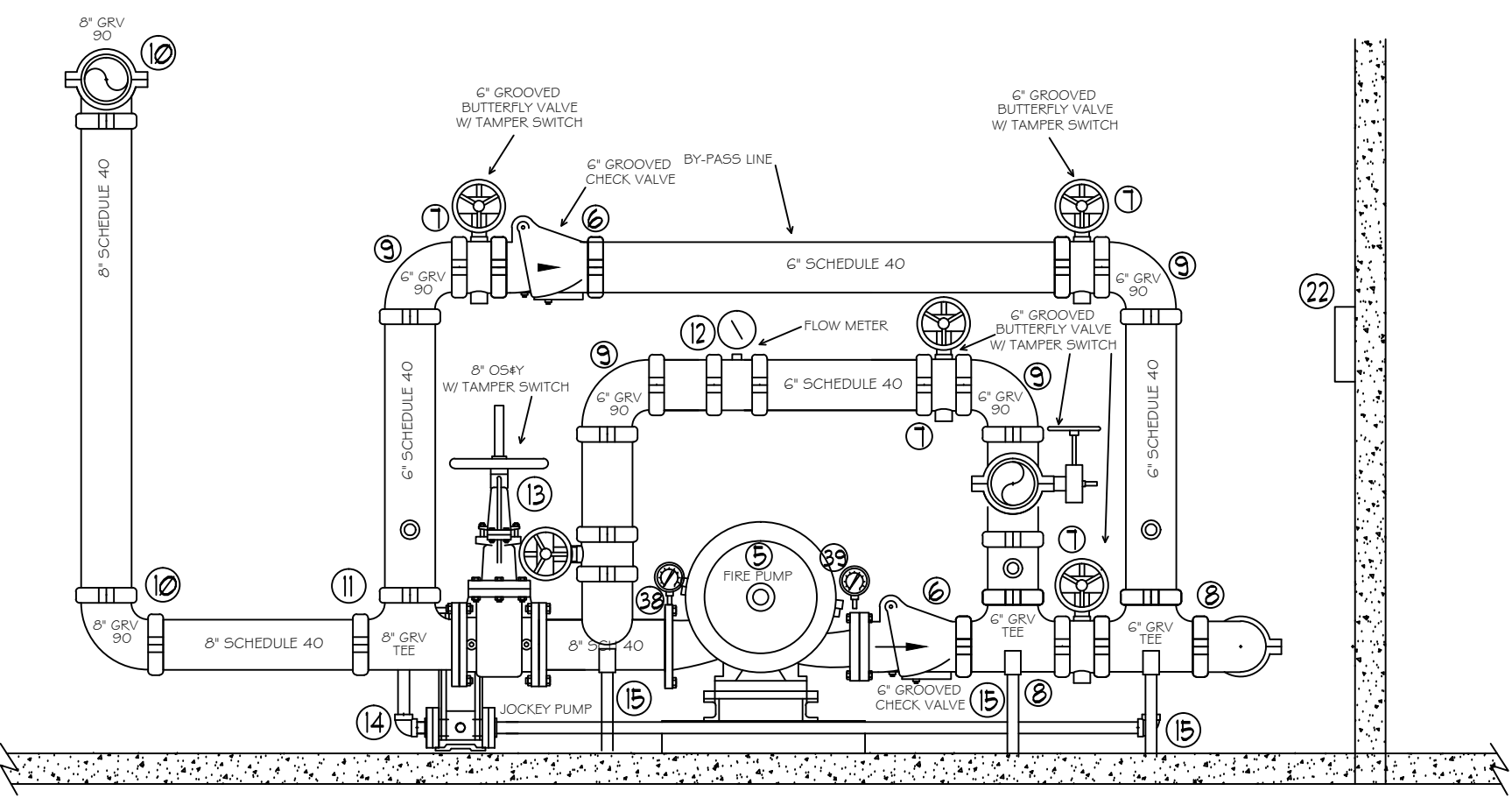
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- Install Black steel piping in Parking Garage.

AS-BUILT
PER FIELD CONDITIONS

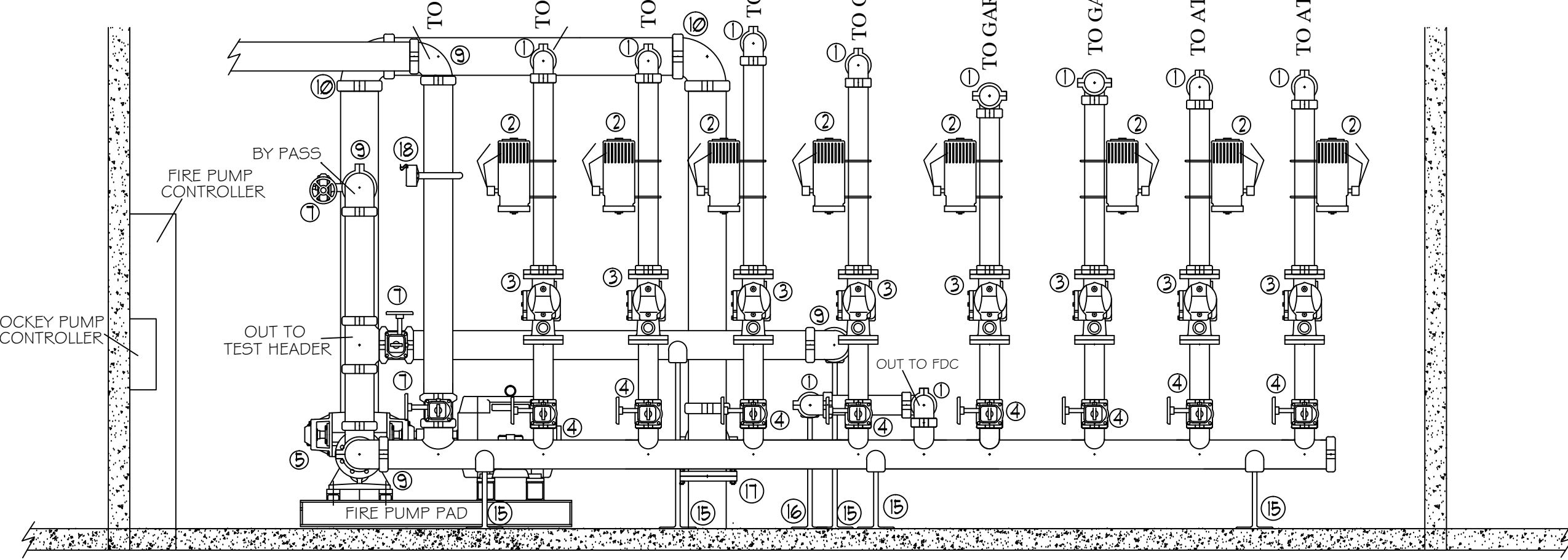
I have reviewed these plans and certify that they comply with the adopted NFPA standards.

Ranger Fire, Inc.
920 South Main Street
Suite 200
Grapevine, Texas 76051
Phone: 817-410-9070
SCR-0590

RME SIGNATURE: _____
PRINTED RME NAME: Roger F. Pichardo
RME NUMBER: 1275-GD DATE: _____
 AS-BUILT SUBMITTAL OTHER



FIRE PUMP ROOM CROSS SECTION
SCALE: NTS



WET AND DRY RISERS CROSS SECTION
SCALE: NTS

RANGER FIRE, INC.
920 SOUTH MAIN STREET
GRAPEVINE, TEXAS 76051
PHONE: 817-410-9070
TEXAS LICENSE: 0590

AS-BUILT SUBMITTAL OTHER

CONFIDENTIALITY STATEMENT: This drawing, the information and design application herein, contained, prepared, or used by Ranger Fire, Inc. is the property of Ranger Fire, Inc. and is not to be reproduced, copied, or disseminated in any form without the written consent of Ranger Fire, Inc.

DATE	BY	REVISIONS

GENERAL CONTRACTOR: EMBREY PARTNERS LTD.
1020 NE LOOP 410 STE 700
SAN ANTONIO, TX 78204
PHONE: 214-344-1111

DATE: 04-01-12
PROJECT: FT 30 OF 30

SYMBOLS: SPRINKLERS, ESCUTCHION, TINSIS, MODEL, MAKE, MATERIAL, TOTAL FOR THIS SHEET

RANGER FIRE

KELLER SPRINGS LOFTS
4800 KELLER SPRINGS PKWY
ADDITION, TEXAS 75001

DESCRIPTION: SECTIONS & DETAILS