

GENERAL SPECIFICATIONS

- 1.0 THESE DRAWINGS ARE FOR PERMIT, AND FOR FILING, AND MAY BE ALTERED BY THE CONTRACTOR. IF THE CONTRACTOR WISHES TO ALTER DRAWINGS, THEN HE IS RESPONSIBLE FOR NOTIFYING THE CONTRACTOR.
- 2.0 CONTRACTOR TO SUPPLY AND INSTALL A COMPLETE AND FULLY OPERATIONAL AUTOMATIC SPRINKLER SYSTEM AS PER THE DRAWINGS, SPECIFICATIONS, AND IN THE REQUIREMENTS OF THE LOCAL AUTHORITIES.
- 3.0 UPON COMPLETION OF THE INSTALLATION, THE CONTRACTOR SHALL PROVIDE THE LOCAL FIRE AUTHORITY AND THE COMPLETED CONTRACTORS TEST CERTIFICATES STATING THAT THE SYSTEMS HAVE BEEN INSTALLED, TESTED AND APPROVED IN ACCORDANCE WITH THE DRAWINGS IN ACCORDANCE WITH N.F.P.A. #13, LATEST OR APPLICABLE EDITION.
- 4.0 ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL CODES, STANDARDS, BY-LAWS AND AUTHORITIES HAVING JURISDICTION.
- 5.0 SYSTEMS TO BE INSTALLED AS PER N.F.P.A. STANDARDS, AND LOCAL AUTHORITIES.
- 6.0 SPRINKLER CONTRACTOR TO CO-ORDINATE INSTALLATION WITH EXISTING SITE CONDITIONS, ACCORDING TO PIPING TO AVOID INTERFERENCE WITH MECHANICAL, ELECTRICAL AND OTHER SYSTEMS IN THE BUILDING.
- 7.0 SPRINKLER CONTRACTOR TO INCLUDE FOR OFFSETS IN SPRINKLER PIPING AND MUST SUPPLY AND INSTALL TEE'S AND COUPLINGS TO PROVIDE ACCESS FOR MAINS TO BE INSTALLED AT PANEL POINTS OF JOISTS.
- * 8.0 ALL SPRINKLER VALVES TO BE SUPERVISED, AND U.L.C. LISTED.
- * 9.0 SPRINKLER CONTRACTOR TO ALLOW FOR ADDITIONAL PRESSURE SWITCHES WHERE REQUIRED FOR ALARM SYSTEM.
- 10.0 CONTRACTOR TO PROVIDE ALL SPRINKLER TUBING AND FITTINGS TO INSTALL PENDENT SPRINKLERS WITHIN A 5 FT. RADIUS OF THE LOCATION SHOWN ON DRAWINGS.
- 11.0 ALL MATERIALS USED IN THE INSTALLATION OF THE SYSTEM MUST BE APPROVED BY THE LOCAL FIRE AUTHORITY UNLESS SPECIFICALLY APPROVED IN WRITING PRIOR TO INSTALLATION BY THE ARCHITECTS AND/OR ENGINEERS RESPONSIBLE FOR THE SYSTEM DESIGN.
- 12.0 ALL SPRINKLER EQUIPMENT SHALL BE OF ONE MANUFACTURER FROM THE FOLLOWING: SPRINKLER HEADS, CEILING SPRINKLERS OR APPROVED EQUAL. ALL SHALL BE U.L.C. LISTED FOR THEIR SPECIFIC USE.
- 13.0 DIMENSIONS ARE NOT TO BE SCALED.
- 14.0 THESE DRAWINGS ARE THE PROPERTY OF THE ENGINEERS AND SHALL NOT BE ALTERED WITHOUT APPROVAL DRAWINGS SHALL BE RETURNED UPON REQUEST.
- 15.0 SPRINKLER HEADS SHALL BE U.L.C. LISTED AND SHALL NOT EXCEED THE SUITABLE TEMPERATURE RATING SPECIFIED ON THE DRAWINGS.
- 16.0 PROVIDE SPARE SPRINKLER HEADS IN A METAL CABINET, MOUNTED ON THE WALL NEAR THE MAIN SPRINKLER ROOM. AND APPROVED BY N.F.P.A. STANDARDS # 13 LATEST APPLICABLE EDITION.
- 17.0 SPRINKLERS OF SUITABLE TEMPERATURE RATING SHALL BE PROVIDED AND APPROVED BY N.F.P.A. STANDARDS # 13 LATEST OR APPLICABLE EDITION.
- 18.0 PROVIDE ALL NECESSARY TRIM REQUIRED FOR ALARM CHECK REQUIREMENTS.
- 19.0 PENDENT SPRINKLERS INSTALLED WHERE SUSPENDED CEILING TILES OR DRYWALL OCCUR ARE TO BE EQUIPPED WITH TWO HANGERS AND APPROVED BY N.F.P.A. STANDARDS # 13 LATEST APPLICABLE EDITION.
- 20.0 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF THE FIRE PROTECTION SYSTEMS, CONTRACTOR TO PROVIDE NECESSARY HANGERS AND ASSEMBLY TO COMPLY WITH THE FOLLOWING: SPRINKLER AND LAST HANGER SHALL NOT EXCEED 36 INCHES AND 60° FOR 1 1/2" DIA. PIPE OR LARGER. NOTE: WIRE SIZE 14 GA. 100 PSI REFER TO N.F.P.A. STANDARD # 13.
- 21.0 CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB AND REPORT DISCREPANCIES TO THE ENGINEER AND CONTRACTOR FOR CORRECTION OF THE WORK.
- 22.0 PROVIDE FLOW ALARM DEVICE, SUPERVISED FLOW AND PRESSURE SWITCHES WHERE SHOWN ON DRAWINGS. WIRING TO THE ALARMS SHALL BE BY ELECTRICAL CONTRACTOR. AND ALL NECESSARY SIGNS WHERE REQUIRED BY THE LOCAL FIRE AUTHORITIES.
- 23.0 EXACT LOCATION AND ELEVATION OF MAINS TO BE DETERMINED BY CONTRACTOR TO SUIT SITE CONDITIONS.
- * DENOTES * IF APPLICABLE *

NOTES

THIS DRAWING ASSOCIATED CALCULATIONS AND SPECIFICATIONS ARE FOR INFORMATION ONLY AND ARE NOT TO BE RETURNED AT THE COMPLETION OF THE WORK OR UPON REQUEST. DIMENSIONS TAKE PREDOMINANT OVER SCALE. SPRINKLER SYSTEM IS TO BE INSTALLED AS PER N.F.P.A. STANDARDS AND U.L.C. STANDARDS. (IF APPLICABLE).

1. CONTRACTOR TO CO-ORDINATE WITH HVAC AND LIGHTING

NEW SPRINKLER LINE
NEW SPRINKLER MAN

N.C. DENOTES NEW CONNECTION
S.R. DENOTES STANDARD RESPONSE
Q.R. DENOTES QUICK RESPONSE
N.L. DENOTES NORMAL TEMPERATURE
H.T. DENOTES HIGH TEMPERATURE

XX HYDRAULIC ID'S POINT

NOTE:

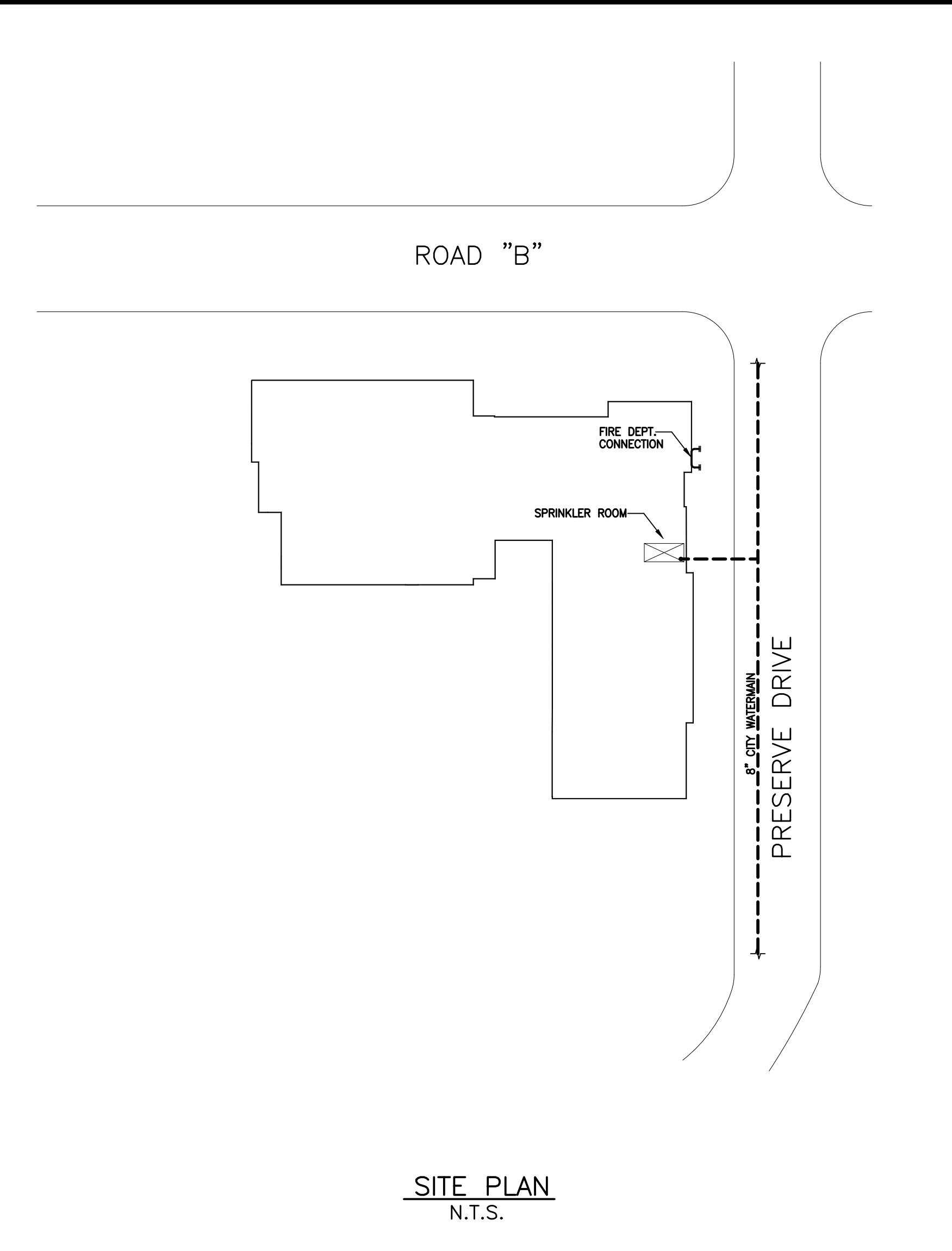
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ROAD "B"



SITE PLAN
N.T.S.

WINDOW SPRINKLER ASSEMBLY

O.B.C. 2012 SECTION 3.1.8.18

TYCO MODEL WS SPECIFIC APPLICATION WINDOW SPRINKLERS
HORIZONTAL AND PENDENT VERTICAL SIDEWALL

DESIGN CRITERIA

THE MODEL WS WINDOW SPRINKLERS ARE LISTED BY UL AND C-UL, AND NYC APPROVED (MEA 335-01-E) FOR USE AS A "SPECIFIC APPLICATION" SPRINKLER. THE CONTRACTOR IS RESPONSIBLE FOR "OUTSIDE" USE THESE SPRINKLERS ARE ALSO RECOGNIZED BY THE INTERNATIONAL CODE COUNCIL EVALUATION SERVICE. UNDER THE CANADIAN NATIONAL BUILDING CODE AND THE BUILDING MATERIALS EVALUATION COMMISSION (BMEC) FOR USE IN THE PROVINCE OF ONTARIO. THE CONTRACTOR IS RESPONSIBLE FOR A FIRE SEPARATION ASSEMBLY, WHEN INSTALLED IN ACCORDANCE WITH THE NES REPORT (NER 516), ULC/ORD-C263.1 APPENDIX A, AND BMEC REPORT (01-11-263).

NOTE:
NER 516 CAN BE OBTAINED AT WWW.ICC-ES.ORG, ULC/ORD-C263.1 APPENDIX A AND BMEC 01-11-263 MAY BE OBTAINED BY CONTACTING TECHNICAL SERVICES.

AREA OF USE:
WHEN ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION AND UNLESS MODIFIED BY ONE OF THE REPORTS MENTIONED ABOVE, THE MODEL WS SPECIFIC APPLICATION SPRINKLERS ARE TO BE USED IN EITHER A SPRINKLER ASSEMBLY OR UNPENDED BUILDING TO PROTECT NON-MULLED WINDOW OPENINGS THAT ARE PART OF A FIRE SEPARATION PROVIDED:

A) IN AN INTERIOR FIRE SEPARATION, THE WINDOW SPRINKLERS ARE INSTALLED ON BOTH SIDES OF THE WINDOW IN THE FIRE SEPARATION

B) IN JURISDICTIONS WHERE EXTERIOR SPATIAL SEPARATION (I.E. SEPARATION FROM ADJACENT JEWEL) IS DEFINED AS PROTECTING AN ADJACENT BUILDING, THE SPRINKLERS ARE INSTALLED ON THE EXTERIOR SIDE OF THE BUILDING

C) IN JURISDICTIONS WHERE EXTERIOR SPATIAL SEPARATION IS DEFINED AS PROTECTING YOUR BUILDING FROM A FIRE IN AN ADJACENT JEWEL (I.E. EXPOSURE PROTECTION), OPEN WINDOW SPRINKLERS ARE INSTALLED ON THE EXTERIOR SIDE OF THE JEWEL

SYSTEM TYPE:
INTERIOR PROTECTION - WET SYSTEMS.
OUTSIDE EXPOSURE PROTECTION - DULGE.

GLASS TYPE:
NON-OPERABLE, HEAT-STRENGTHENED, TEMPERED, SINGLE-GLAZED (1/4" IN. THICK); NON-OPERABLE, HEAT-STRENGTHENED, TEMPERED, DOUBLE-GLAZED (DOUBLE PANE OR INSULATED); OR, NON-OPERABLE, STORM GLASS. THE INDIVIDUAL PANE OF THE WINDOW ASSEMBLY IS TO BE A MINIMUM 6 MM (1/4" IN. THICK).

TYPE OF WINDOW FRAME/SIDEWALL:
NONCOMBUSTIBLE FRAME WITH A STANDARD EPDM RUBBER GASKET. SEAL. VERTICAL JOINTS OF GLASS PANES MUST BE CONNECTED BY BUTT-JOINTS WITH A SILICONE SEALANT BETWEEN THE INDIVIDUAL PANES OR BY NONCOMBUSTIBLE MULLIONS.

MAXIMUM LENGTH OF WINDOW ASSEMBLY:
UNLISTED.

MAXIMUM HEIGHT OF WINDOW ASSEMBLY:
13'-0" (3.96 M)

MAXIMUM DISTANCE BETWEEN WINDOW SPRINKLERS:
8'-0" (2.44 M)

MINIMUM DISTANCE BETWEEN WINDOW SPRINKLERS:
6'-0" (1.83 M) UNLESS SEPARATED BY A BAFFLE OR MULLION OF SUFFICIENT DEPTH. IF THIS IS THE CASE, THE MULLION WILL ACT AS A BAFFLE, WHEN IN THE CASE OF THE PENDENT VERTICAL SIDEWALL, AND IN THE CASE OF THE HORIZONTAL SIDEWALL, THE MULLION EXTENDS TO THE SPRINKLER WRENCH FLAT).

MINIMUM DISTANCE FROM STANDARD SPRINKLERS:
6'-0" (1.83 M) UNLESS SEPARATED BY A BAFFLE.

SPRINKLER LOCATION:
MULLIONED GLAZING ASSEMBLIES - LOCATE WINDOW SPRINKLERS WITHIN EACH MULLIONED GLAZING SEGMENT. BUTT-JOINTED GLAZING ASSEMBLIES - LOCATE WINDOW SPRINKLERS ON MAXIMUM 8'-0" (2.44 M) CENTRES.

MAXIMUM DISTANCE FROM VERTICAL MULLION:

4'-0" (1.22 M)

MINIMUM DISTANCE FROM VERTICAL MULLIONS:

0'-4" (10.16 MM)

INTERMEDIATE HORIZONTAL MULLIONS:
INTERMEDIATE HORIZONTAL MULLIONS WERE NOT TESTED WITH THE SPECIFIC APPLICATION LISTING FOR THE WINDOW SPRINKLERS

DEFLECTOR LOCATION:

SPRINKLER DEFLECTORS MUST BE LOCATED AS DESCRIBED BELOW IN ORDER TO ENSURE THAT THE ENTIRE SURFACE OF THE GLASS WINDOW IS COVERED BY THE DEFLECTOR. THE DEFLECTORS ARE POSITIONED WITH RESPECT TO THE WINDOW FRAME, NOT THE CEILING.

HORIZONTAL SIDEWALL - LOCATE WITHIN THE OUTSIDE EDGE OF THE WINDOW FRAME 1/2" TO 4" (12.7 MM TO 101.6 MM) AWAY FROM THE GLASS FACE. (100.6 MM ± 24.4 MM) DOWN FROM THE EXPOSED GLASS.

PENDENT VERTICAL SIDEWALL - LOCATE 4" TO 12" (101.6 MM TO 304.8 MM) FROM THE EXPOSED GLASS. (76.2 MM ± 25.4 MM) DOWN FROM THE TOP OF THE EXPOSED GLASS.

MINIMUM CLEARANCE FROM FACE OF GLASS TO COMBUSTIBLE MATERIALS:
ALL COMBUSTIBLE MATERIALS SHALL BE KEPT 2" (50.8 MM) FROM THE FRONT FACE OF THE GLASS. THIS CAN BE ACCOMPLISHED BY A MINIMUM 3" (76.2 MM) DEPTH, OR OTHER METHOD ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION.

ESCAPUTCHEN ASSEMBLIES:

THE WINDOW SPRINKLERS CAN BE USED WITH ANY METALLIC FLUSH OR EXTENDED ESCUTCHEN, PROVIDED THE DIMENSIONS FROM THE SPRINKLER DEFLECTOR TO THE EXPOSED GLASS AND GLAZING SURFACE AS SPECIFIED IN THIS DATA SHEET ARE MAINTAINED. THESE SPRINKLERS ARE NOT LISTED FOR RECESSED APPLICATIONS.

MECHANICAL AND ELECTRICAL REQUIREMENTS:

THE WINDOW SPRINKLER SYSTEM MUST BE SERVED BY A SIAMESE CONNECTION OF 1" DIA. REINFORCED SIAMESE WINDOW SPRINKLERS AND THE FLOOR SPRINKLERS IS UTILIZED, THE SIAMESE CONNECTION FEEDING THE FLOOR SPRINKLERS. THE SIAMESE CONNECTION PROVIDED THE CONNECTION IS LABELED "WINDOW AND FLOOR SPRINKLERS".

IF A PRE-PUMP IS EMPLOYED, THE PUMP AND ASSOCIATED CONTROL VALVES ARE TO BE ELECTRICALLY SUPERVISED.

EMERGENCY POWER SUPPLY IS REQUIRED TO BE PROVIDED TO THE FIRE PUMP SERVING THE WINDOW SPRINKLER SYSTEM TO MAINTAIN AUTOMATICALLY OPERATION OF THE FIRE PUMP FOR AT LEAST 2 HOURS. THE EMERGENCY GENERATOR IS REQUIRED TO BE SUPERVISED.

RECOMMENDED HYDRAULIC REQUIREMENTS:
THE INTERIOR HYDRAULIC JACKET SHOULD BE CONSULTED TO DETERMINE THE HYDRAULIC REQUIREMENTS FOR EACH INSTALLATION.

INTERIOR PROTECTION SPRINKLERED BUILDING - IDENTIFY WHICH COMPARTMENT THE SPRINKLER IS LOCATED IN. CALCULATE ALL OF THE SPRINKLERS WITHIN A COMPARTMENTED AREA OR SYSTEM AREA OF OPERATION, WHICHEVER IS GREATER. FOR EXAMPLE, IF THE SPRINKLER IS LOCATED IN A 10' X 10' AREA, ADD 1/2 LINEAR METERS OF GLASS, ADD THE WINDOW SPRINKLER DEMAND TO YOUR MOST DEMANDING HYDRAULIC DESIGN AREA.

INTERIOR PROTECTION NON-SPRINKLERED - CALCULATE ALL THE SPRINKLERS ON THE MOST DEMANDING SIDE OF THE GLAZING ASSEMBLY WITHIN THE ENCLOSURE.

EXTERIOR EXPOSURE PROTECTION - CALCULATE ALL SPRINKLERS CONTROLLED BY THE DELUXE VALVE USING THE DESIGN REQUIREMENTS OF NFPA.

DURATION OF WATER SUPPLY:

THE DURATION OF THE WATER SUPPLY MUST COMPLY WITH THE REQUIREMENTS OF NFPA. IN THE EVENT THE WINDOW SPRINKLERS ARE BEING USED AS PART OF A FIRE SEPARATION, THE WATER SUPPLY MUST BE CAPABLE OF SUPPLYING WATER FOR THE REQUIRED RATING PERIOD.

MINIMUM FLOW PER SPRINKLER:

20 GPM (75.7 LPM) FOR SPRINKLER SPACING 6 TO 8 FT. (1.83 TO 2.44 M) AND 24 GPM (90.6 LPM) FOR SPRINKLER SPACING LESS THAN 6FT. (1.83 M).

MAXIMUM PRESSURE PER SPRINKLER:

HORIZONTAL SIDEWALL = 70 PSI (4.83 BAR)
VERTICAL SIDEWALL = 175 PSI (12.07 BAR)
6FT. (1.83 M).

* THE 70 PSI IS ONLY FOR COLD SOLDER PURPOSES. IF THERE IS A BAFFLE OR MULLION OF SUFFICIENT DEPTH TO ACT AS A BAFFLE, SEPARATING THE SPRINKLERS, THE MAXIMUM PRESSURE IS 175 PSI.

SPRINKLER LOCATION:
MULLIONED GLAZING ASSEMBLIES - LOCATE WINDOW SPRINKLERS WITHIN EACH MULLIONED GLAZING SEGMENT. BUTT-JOINTED GLAZING ASSEMBLIES - LOCATE WINDOW SPRINKLERS ON MAXIMUM 8'-0" (2.44 M) CENTRES.

- SPECIFIC REQUIREMENTS**
- SEPARATE FLOW SWITCHES OR ALARM CHECK VALVES AND SUPERPOSED CONTROL VALVES FOR EACH FIRE COMPARTMENT ON EACH SYSTEM SHALL BE ELECTRICALLY SUPERVISED AND INDICATED SEPARATELY AT THE FIRE/SPRINKLER ALARM ANNUNCIATOR PANEL.
- WHERE THE WATER SUPPLY IS FROM A STANDPIPE SYSTEM CONFORMING TO THE CAN/CSA-B149.1-09, THE STANDPIPE SHALL BE LABELED AS PER THE STANDARD EXCEPT FOR THIS DUAL PURPOSE WHICH SHALL READ STANDPIPE WITH SPRINKLER ASSEMBLY WHICH SHALL READ
- A NONCOMBUSTIBLE SIGN LEAD-PRINTED IN NOT LESS THAN 12.7 mm (1/2 IN.) BLOCK LETTERS WITH CONTRASTING WHITE BACKGROUND AND RED LETTERS SHALL BE PERMANENTLY MOUNTED AND MAINTAINED ON THE EXPOSED GLASS. THE SIGN SHALL ONLY REFER TO THIS WINDOW SPRINKLER ASSEMBLY TO INDICATE.
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- RECOMMENDED HYDRAULIC REQUIREMENTS:
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- INTERIOR PROTECTION SPRINKLERED BUILDING - IDENTIFY WHICH COMPARTMENT THE SPRINKLER IS LOCATED IN. CALCULATE ALL OF THE SPRINKLERS WITHIN A COMPARTMENTED AREA OR SYSTEM AREA OF OPERATION, WHICHEVER IS GREATER. FOR EXAMPLE, IF THE SPRINKLER IS LOCATED IN A 10' X 10' AREA, ADD 1/2 LINEAR METERS OF GLASS, ADD THE WINDOW SPRINKLER DEMAND TO YOUR MOST DEMANDING HYDRAULIC DESIGN AREA.
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
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
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SUBMISSION	
1. ISSUED FOR PERMIT.	DEC.07 2023
2. ISSUED FOR TENDER.	MAR.30 2024
3. ISSUED FOR CONTRACT. PROVIDED GAP CONNECTION FOR FUTURE SPRINKLER PROTECTION. IN ADDITION, MOVE A SPRINKLER HEAD TO THE REQUEST.	MAR.07 2025
4. REVISED SPRINKLER LAYOUT TO SUIT NEW GROUND, SECOND AND THIRD FLOOR PLAN. SEE THE ACTUAL FLOOR FOR NEW SPRINKLER LOCATIONS IDENTIFIED IN CLOUD.	MAR.25 2025
5. ISSUED FOR TENDER.	JAN.13 2026

DESIGN CRITERIA

DYNA-SIM:
SPRINKLER SYSTEM DESIGNED FOR
ORIGINAL HAZARD GROUP
0.15 GPM/SQ.FT. FOR 1500 SQ.FT.
PLUS 250 GPM FOR HOSES.
AS PER NFPA 13, 2013 EDITION.

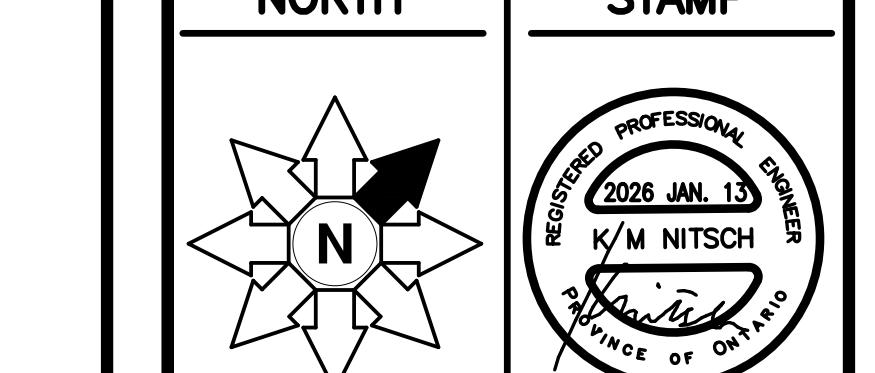
S/R=STANDARD RESPONSE Q/R=QUICK RESPONSE
C/W GUARD
1/2" 16SF STANDARD COVERAGE (K=4.6) Q/R
1/2" 21SF STANDARD COVERAGE (K=4.6) Q/R
1/2" 16SF CONCEALED PENDENT (K=4.6) Q/R
1/2" 21SF STANDARD COVERAGE (K=4.6) Q/R
1/2" 16SF STANDARD RESPONSE (K=4.6) Q/R
WINDOW SPRINKLERS (K=5.6) —

HALTON DISTRICT SCHOOL BOARD
J.W. SINGLETON ELEMENTARY SCHOOL
2050 QUELPH LINE
BURLINGTON, ON, L7R 3Z2
TEL: (905) 335-3663
FAX: (905) 335-3922

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NORTH



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PUBLIC SCHOOL
CORNER OF PRESERVE DRIVE AND STREET B
OAKVILLE ONTARIO

DWG TITLE
SPRINKLER SYSTEM & DETAILS
SECOND FLOOR

DATE	APR. 2024	PROJECT NO.	23-14793
SCALE	1:100		
DWG NO.			
DWG BY	F.C.		
ISSUED FOR REVISION NO.	SP-3	G.K.	
OF 4			

