161 Stafford Heritage Designation Issues

Executive Summary:

The listing and designation of 161 Stafford as a heritage building will produce a significant financial hardship for the owners.

The owner is strongly opposed to designation under the current provisions. We request the City of Winnipeg review the attached document, accept the strategy to designate the building and at the same time accept the owner's proposal to designate specific architectural elements and avoid designating other elements as well as to install the $54,000 stock of windows that have been purchased.

The Historic Building Advisory Committee is requested to meaningfully consult with the Winnipeg PVC window manufacturing industry and Manitoba Housing (MHRC} to reassess their statements regarding the durability of PVC window systems.

The owner's analysis and concerns are detailed within this document.

Preferred outcome:

Proposed Motion for the Committee:

"The Committee accepts the position presented by Lawrence Campbell and agrees to the designation of 161 Stafford, recognizing:

- The Main Floor Commercial windows and doors to be of heritage value.
- The North and South building windows will not be considered to have heritage value
- Purchased PVC Windows as described within Lawrence Campbell's submission are acceptable for the second, third, and fourth floor except for cases where fire rated windows may be required to address life-safety concerns at some time in the future.
- North and West Elevations, with the exception of the masonry and its features are too be considered as NOT of heritage value.
- The remainder of the Heritage Defining Elements shall be accepted as proposed by the Historical Buildings and Resources Committee.

To The Standing Policy Committee on Property and Development, Heritage and Downtown Development

Distinguished Councillors and Committee Members,

I am Lawrence Campbell the nephew and representative of Jean Gugin. Aunt Jean has owned and operated 161 Stafford, The Grosvenor Court, for almost 40 years. Her age and condition make it impossible for her to be here today. Following my retirement from property management in 2015 I stepped in to help manage the building and steer it through some maintenance issues and a $100,000 fire bylaw upgrade The City of Winnipeg had necessitated in its re-visitation of buildings subject to Bylaw 4304/86. Extensive, invasive work would be required on the second floor and so it was decided that additional financing would be secured to do window replacement on the Stafford St. side of the building along with the fire bylaw work. Tenants had long lamented the noise and poor insulating qualities of the existing windows and while some window replacements on the west and north sides of the building were completed in previous years it was always felt that the Stafford face needed special attention to detail to maintain the buildings character.

In the summer of 2017 a project was undertaken to restore the stucco, paint, soffit, eaves and masonry on the Stafford face. The Old Clock was repaired and put back in service and we looked forward to new windows being installed in conjunction with the fire bylaw construction.

We were aware that the building was nominated for Heritage Listing and we submitted a request to be on the Commemorative list. The City of Winnipeg had sent (with the Notice of Evaluation to List as a Heritage Resource) a 2 page Frequently Asked Questions sheet in which the following paragraph appears under section 1. ***What is the Nominated List my property is currently on?***

"The restrictions placed on resources on the Nominated list are similar to those placed on buildings on the Inventory. They have always been permitted to be altered without special approval, and they will continue to be bought and sold without encumbrance. However, as in the past they cannot be demolished until an evaluation determines that they should not be designated as Historical Resources, nominated buildings are not eligible for financial assistance, nor is heritage status registered on the title."

This, I understood to mean that any work is acceptable prior to Listing but demolition is prohibited. Demolition was taken in its vernacular sense – "tear down" as the paragraph also describes the sale of resources. Since it is not possible to sell only a feature of the building I assumed that the demolition applied to the building in its entirety.

Given this, we were shocked to be advised by a Historic Buildings Officer that the planned window replacement mentioned off- hand in a permit application for some renovations to one of the residential suites not only could not be done without Heritage Permit – but in any event could not be done with Polyvinyl Chloride windows. This information came to us two days prior to the scheduled installation of the windows on the Stafford face of the building. The windows had been manufactured and purchased. Installation of the $54,816 worth of windows was put on hold and we find ourselves at this juncture with the City. $55,000 worth of carefully colored, designed, planned and manufactured windows – stored in the basement of the building A building that is Nominated but not Listed.

This situation is more than an inconvenience; the loss of the nearly $55,000 in windows, if we are prohibited from installing them far outweighs any benefits available to us from heritage designation should the building be listed. We are, however prepared to accept the heritage designation of 161 Stafford should the Committee accept our carefully considered strategy towards the building and the upgrade of the windows.

To that end, here are the components of our strategy:

1. The windows purchased feature divided lights, sash profiles, and window sizes that were carefully considered to be sympathetic to and 'hearken' to the original heritage character of the building. **We request that the City permit the design solution we have produced that utilizes the purchased windows**. For your reference we have included shop drawings in Appendix "A".

2. **We request that the Standing Committee set aside the Historic Buildings Advisory Committee position on PVC windows because this position does not reflect improvements in PVC technology over the last decade and it definitely is out of sync with Manitoba Hydro, Manitoba Housing, current building codes, CMHC, and the architectural and construction industry in Manitoba.**

   We understand the Heritage Advisory Committee has produced a 'position paper' indicating that PVC windows are not durable and that they will warp, shrink, and crack. We respectfully disagree with this assessment.

   A City of Winnipeg Heritage Planner, references a 1999 era technical CMHC bulletin that defines technical problems associated with PVC windows that were manufactured twenty years ago. The PVC Window industry has changed over the past twenty years. **The referenced technical bulletin regarding PVC window failures twenty years ago is obsolete**. It is unfair to rule that PVC windows are not acceptable based on this obsolete information. It is very unfair to arbitrarily make such a sweeping judgement without consulting the Winnipeg PVC Manufacturing Industry or Manitoba Housing for their opinion.

   In 1999 one of the two Canadian suppliers of PVC window components produced substandard PVC components that resulted in widespread failures. The supply and manufacturing of PVC window components and windows is very different in 2018. It is true that the expansion coefficient of PVC windows will create problems if the incorrect sealant is used, however any window system can be installed incorrectly. The bottom line is that PVC windows manufactured in Canada meet the requirements of the National Building Code, CMHC, and Manitoba Housing. It is wrong for the Heritage Building Advisory Committee to assert otherwise.

   The windows we have selected comply with the applicable building code Can/CSA standard. It is unreasonable for a Heritage Advisory Committee to undertake to limit the commercially available design options by broadly claiming PVC windows are not durable. The position of the Historic Buildings Advisory Committee that PVC windows are associated with durability and building envelope failures is, in our opinion not conclusive. We would cite, for example, Manitoba Housing requires PVC Windows in their projects. PVC window quality and durability has improved over the last decade.

3. **We request the City consider the financial implications of not accepting the purchased windows and approve our preferred design solution**. Our design incorporates the heritage character of the building and addresses both efficiency values required by the Manitoba Hydro "Power Smart" program as well as mitigates the noise on this now very busy corner in a way that the existing windows cannot Current competition in rental markets has prospective tenants heavily favoring new windows as most of our competition has upgraded their windows. In addition, removing the heritage designation from the North and West back elevation openings allows us more flexibility to maintain the building and meet window and door related life safety concerns and bylaws.

4. **We request the City consider the context of 161 Stafford in terms of economic viability.** Please recognize that each heritage building has unique circumstances and it is not possible to apply a standard process in evaluating what works for different buildings. 161 Stafford is of Heritage significance within the community. it is not significant enough to utilise the higher standard of care that is applied to a regionally significant building such as the Manitoba Legislature or the Dalnavert Museum or a heritage railway station. We cannot afford to archivally consolidate or restore this building. We can maintain the building in a manner that respects the heritage values of the building and is economically sustainable at the same time.

   We would point out that there is a range of heritage buildings and heritage values. 161 Stafford is at the low end of the 'heritage significance' scale. It is simply not feasible to take a rigorous "conservation" approach to it.

   Many of the windows on the North and West rear facades have been modified or replaced with metal or PVC windows over the last decade. We request that the North and West Elevation, not be designated as 'heritage defining elements'. With the exception of the masonry and its features very few of the elements on the west and north elevations are original to the building. We would accept the designation of the masonry and its features (Arched window openings, Flemish Gables, window and door openings but not the windows and doors themselves. Along the west wall there is an increasing requirement by the City Bylaw enforcement inspectors and plan examiners to utilize fire rated metal frame with fire rated glazing. Six windows serving commercial rental space on the main and second floors along the south Grosvenor façade may require fire rated metal frames and fire rated glazing. Should the heritage designation proceed then we require the ability to use PVC windows if feasible and commercial metal fire rated insulated doors and windows if necessary.

5. We appreciate the intent of the heritage designation relative to the main floor building elevations notably the commercial space windows, doors, and signage along Grosvenor and Stafford. It should be noted that the signage, windows and doors are not original except for two main floor windows on Stafford and three smaller windows on Grosvenor. **If the building is designated as a heritage structure then we would comply with the provisions of the Heritage Bylaw when alterations to the existing main floor building elements including commercial windows, doors, and signage along the east and south building facades are contemplated.**

6. The design solution we have produced for the second, third, and fourth floor windows facing Stafford reflects and respects the heritage values of 161 Stafford. **We respectfully request that the City of Winnipeg approve of the design solution detailed within this document for the second, third, and fourth floor elevations. Namely the installation of the purchased windows.**

   The Fourth Floor –Stafford facing residential windows are bedroom windows and subject to egress codes and therefore should accommodate opening in a manner that provides a means whereby residents can be evacuated by firefighting crews. The purchased PVC windows were designed for this emergency egress function.

Details of the proposed solution and an analysis of the building is attached to this submission.

This process has been time consuming, has resulted in delays in work within the building and has resulted in at least one prolonged vacancy. We are confident, though that common sense and good judgement will prevail in this matter and that this committee will see that the solution we have proposed is a win-win and good for all concerned.

I trust that this clearly identifies our concerns and provides the basis for a swift decision in this matter.

Sincerely

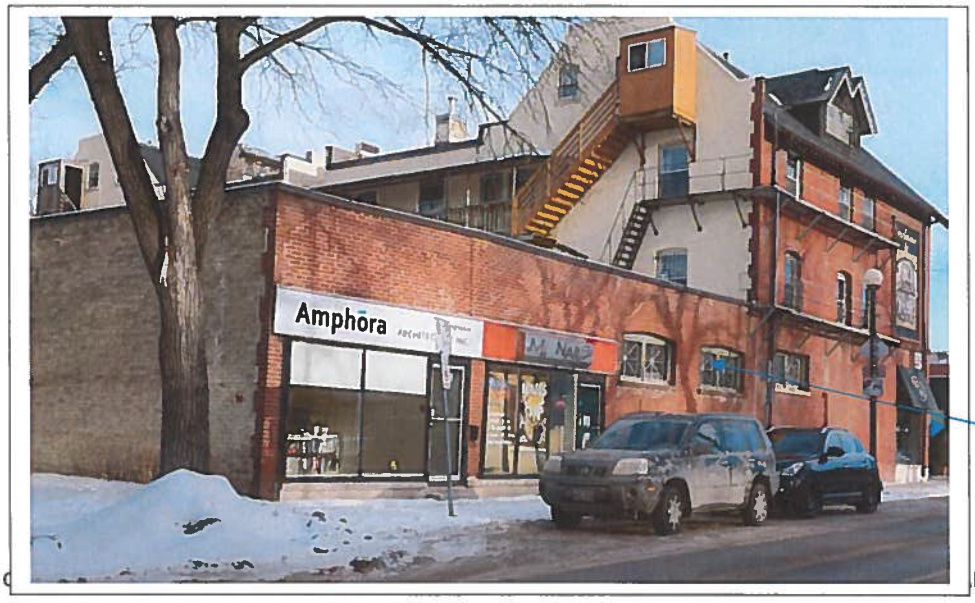
Lawrence Campbell

TECHNICAL ANALYSIS 161 STAFFORD

The Main Façade Windows along Grosvenor Avenue and Stafford Street have been significantly altered from the original:

1. Most of the main floor windows and doors along Stafford and Grosvenor are not original. The 4-commercial grade access store fronts feature large commercial glazing and newer commercial doors. The exterior entrances to the stairways leading to the upper levels feature contemporary metal doors. The Barber Shop windows (labelled A below) date back to the original construction are in fair condition. The higher main floor windows along the south façade facing Grosvenor (labelled B below) are also original and in fair condition. We are prepared to consider type A and B windows as heritage defining. We propose replacing the 2nd, 3rd, and 4th flr windows with the PVC design referenced below.





rchitect
johnwhitearchitect@shaw.ca

TECHNICAL ANALYSIS 161 STAFFORD



The Existing Main Floor Doors are not original. Note the aluminum door facing Stafford.

We are willing to accept designation of the glass upper lights indicated in this photo and should this door require replacement then we would be pleased to respect the original character of the door in any replacement analysis.

2. Most of the windows and doors along the rear portions of the building are not original. PVC Windows and aluminum windows are featured along the North and the West building elevations. We request that the North and West Elevation windows and doors not be listed as heritage defining elements.



West Elevation mostly features PVC Windows or aging older windows.

Prepared by John White Architect
johnwhitearchitect@shaw.ca

TECHNICAL ANALYSIS 161 STAFFORD



<<< Example of Existing PVC Window on West Façade.



Photo of North Elevation, note the PVC windows currently in use. >>>>>>

Prepared by John White Architect
johnwhitearchitect@shaw.ca

TECHNICAL ANALYSIS 161 STAFFORD



We have purchased twelve large PVC units that are sized and configured to replace the twelve very similar existing units identified as "TYPE AA" in the photo below.

Please note that the opening double hung sashes are similar to the existing and the glazing is configured in a patter of 'divided lights' similar to the existing windows.

Please note that the new windows have a "Power Smart" Label and are thereby eligible for the Manitoba Hydro incentives for installing energy efficient windows.



Window Type AA
(12 new windows on Stafford Elevation)

Existing Main Floor Windows have already been replaced.

Existing Aluminum entrance door

Barber Shop Windows are not being altered at this time

Existing Stafford Basement newer aluminum windows

Prepared by John White Architect
johnwhitearchitect@shaw.ca

TECHNICAL ANALYSIS 161 STAFFORD



Window
Type
BB



The fourth floor windows will serve as a means of emergency egress in the event of a fire where a fire truck ladder can reach up to this window in order to facilitate exiting. The configuration of the existing fire stairs and fairly recent building code requirements influence this design decision.

The units have four divided "lites' however they do not exactly match the original nine divided "lites". It is unlikely that the average passer by would notice this change to the fourth floor windows from the original configuration.

While 161 Stafford has heritage value, it does not have the high heritage value of a building such as the Dalnavert Museum or the Provincial Legislature.

Prepared by John White Architect
johnwhitearchitect@shaw.ca

TECHNICAL ANALYSIS 161 STAFFORD

REGARDING THE TECHNICAL SUITABILITY OF PVC WINDOWS

The following two pages responds to the City of Winnipeg's HBRC's position on PVC windows in heritage buildings in response to the January 5, 2018 email from RRicci which is included in the next page.

The Historic Buildings Advisory Committee position on PVC windows because this position does not reflect improvements in PVC technology over the last decade and it out of sync with Manitoba Hydro, Manitoba Housing, current building codes, CMHC, and the architectural and construction industry in Manitoba.

We understand the Heritage Advisory Committee has produced a 'position paper' indicating that PVC windows are not durable and that they will warp, shrink, and crack. We respectfully disagree with this assessment. **It would be reasonable for the HBAC to reconsider their position regarding PVC windows.**

City of Winnipeg Heritage Planner Rina Ricci references a 1999 era technical CMHC bulletin that defines technical problems associated with PVC windows that were manufactured twenty years ago. The PVC Window industry has changed over the past twenty years. **The referenced technical bulletin regarding PVC window failures twenty years ago is obsolete**. It is unfair to rule that PVC windows are not acceptable based on this obsolete information. It is very unfair to arbitrarily make such a sweeping judgement without consulting the Winnipeg PVC Manufacturing Industry or Manitoba Housing for their opinion.

In 1999 one of the two Canadian suppliers of PVC window components produced substandard PVC components that resulted in widespread failures. The supply and manufacturing of PVC window components and windows is very different in 2018. It is true that the expansion coefficient of PVC windows will create problems if the incorrect sealant is used, however any window system can be installed incorrectly. The bottom line is that PVC windows manufactured in Canada meet the requirements of the National Building Code, CMHC, and Manitoba Housing. It is wrong for the Heritage Building Advisory Committee to assert otherwise.

The windows we have selected comply with the applicable building code Can/CSA standard. It is unreasonable for a Heritage Advisory Committee to undertake to limit the commercially available design options by broadly claiming PVC windows are not durable. The position of the Historic Buildings Advisory Committee that PVC windows are associated with durability and building envelope failures is, in our opinion not conclusive. We would cite, for example, Manitoba Housing requires PVC Windows in their projects. PVC window quality and durability has significantly improved over the last decade.

Prepared by John White Architect
johnwhitearchitect@shaw.ca

ORIGINAL JANUARY 5 EMAIL FROM CITY OF WINNIPEG REGARDING PVC WINDOWS:

From: *Ricci, Rina [mailto:RRicci@winnipeg.ca]*
Sent: *January 5, 2018 4:09 PM*
To: *John White <johnwhitearchitect@shaw.ca>; Andreoglou, Thalia <TAndreoglou@winnipeg.ca>*
Cc: *'Camfield' <cam-field@shaw.ca>*
Subject: *RE: 161 Stafford - re*

Good afternoon John,

As a follow-up to our phone conversation earlier this afternoon, please review the following information regarding the HBRC's position on PVC windows in heritage buildings. Should you have any other questions, please let me know.

Thanks,
Rina

Information of PVC windows
The Historical Buildings and Resources Committee has compiled the following information that outlines the reasons why PVC is not an approved material for windows installed on Listed Historical Resources. The committee is comprised of volunteers with expertise in heritage conservation and includes member representatives from the Manitoba Association of Architects and Association of Professional Engineers and Geoscientists of Manitoba and Manitoba Association of Architects.

"The primary reason we do not recommend PVC windows for historical buildings is due to the significant difference in the thermal coefficient of expansion between the PVC and the base building materials, typically masonry or sometimes concrete. The thermal coefficient of expansion for PVC is approximately 10 to 16 times higher than that of masonry (Source: CMHC Research Highlight Technical Series 03-107, https://www.cmhc-schl.gc.ca/publications/en/rh-pr/tech/03-107-e.htm **(A 1999 TECHNICAL DOCUMENT)** *Thus, PVC frames will undergo significantly greater expansion in summer and contraction in winter with changing ambient temperatures relative to the masonry. A window frame 2 meters long will therefore experience about 12 mm or 0.5" of movement from winter to summer. The significant dimensional change requires a large caulked joint between the window and the masonry substrate, typically double the calculated movement for the most high performing sealants, thus about 1.0 inch for the highest performing sealants which have 50% movement capability. Problems also arise due to heat-aging of sealants in which the cohesive and adhesive strength of the sealant exceed the cohesive strength of the masonry which can result in fracture of the masonry as the frame contracts in winter, generating tension along the sealant bond line. Fiberglass framed windows, however, have a thermal coefficient of expansion almost identical to brick masonry.*

Another concern for us regarding PVC windows is that due to their softer composition, frame warpage happens in larger operable units in a shorter period of time, particularly for triple pane window units. Stress on the frames create cracks at joints in the framing and the inability to obtain an effective air seal after several years of exposure. Fiberglass on the other hand is a much stiffer and stronger material compared to PVC. From a life-cycle costing perspective, and in order to minimize on-going maintenance, to reduce the need for future replacement, and to avoid potential damage to the heritage building, fibreglass windows are accepted as suitable replacements over PVC windows."

Rina Ricci
Heritage Planner
Planning, Property and Development
P: 204-986-4722

<<<<<<<<<<<<<< END OF JAN 5 EMAIL >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>

TECHNICAL ANALYSIS 161 STAFFORD

CONCLUSION:

I have advised and worked with Lawrence Campbell with the above mentioned technical information regarding the Heritage Designation of 161 Stafford. I appreciate the heritage value of 161 Stafford as described within Murray Peterson's research document.

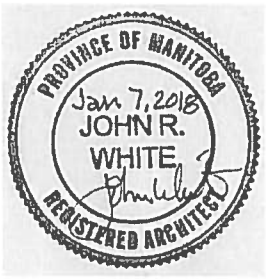
I served as a member of the City of Winnipeg Historic Building Advisory Committee during the 1980s and 1990s. My professional and technical interest in Heritage Buildings includes years of experience as a Conservation Architect with the Government of Canada Public Works and Government Services and with Parks Canada. I participated in the preparation of and have a solid working knowledge of Federal Government of Canada Heritage Building Standards and Guidelines. The federal standards evolved into the The Standards and Guidelines for the Conservation of Historic Places in Canada (S&G CHPC).

My analysis and advice to Lawrence Campbell reflects an understand of the underlying values of heritage conservation as referenced in the above mentioned 'standards and guidelines' referenced by the City of Winnipeg HBAC and the Heritage Report. It also reflects my understanding that each heritage building requires a unique approach.

I disagree with the HBAC's utilization of the S&G CHPC 's methodology for the assessment and reuse of existing windows. This methodology was developed by Parks Canada and utilized to assess windows in Nationally and Regionally significant heritage buildings such as St Andrews on the Red, the Manitoba Legislature or the Law Courts building. Typically Parks Canada's conservation methodology did not give a priority to the cost of the work. It is problematic to apply this methodology to a privately owned commercial building of local heritage value where the owner has income and expenses to consider along with heritage value. The Winnipeg building maintenance and construction industry is not geared to the artisan skilled trade of carefully deconstructing, conserving, and maintaining 50+ year old windows.

I disagree with the HBAC's blanket statement regarding PVC windows referencing an old, cherry picked technical document. I am aware of the heritage architectural bias against PVC windows. I appreciate the philosophy of reusing the original windows or, if necessary, replacing the original windows with components that are similar to the original components. I believe the HBAC should be appreciate of the requirements of Hydro's "Power Smart" program. I believe the HBAC can state a preference to avoid using PVC windows in cases where the heritage character of a building (and the economic viability of a building) can afford to use a strict conservation methodology.

I have tried to take a balanced approach to my advice balancing financial viability and the practicality of certain maintenance issues with the heritage values associated with 161 Stafford's architectural elements.



Sincerely

John White, MAA Architect
311 Ash Street, Winnipeg 204 771-5624

Prepared by John White Architect
johnwhitearchitect@shaw.ca



EAST ELEVATION

EDITED DRAWING FROM CIVIC FILES

161 STAFFORD

Notes:

1. Grade level, basement windows and doors not original except for windows labeled A
2. Fourth Floor Attic windows labeled B are bedroom secondary emergency fire escape exits
3. PVC units have been purchased for the Second and Third story windows (see shop drawings)

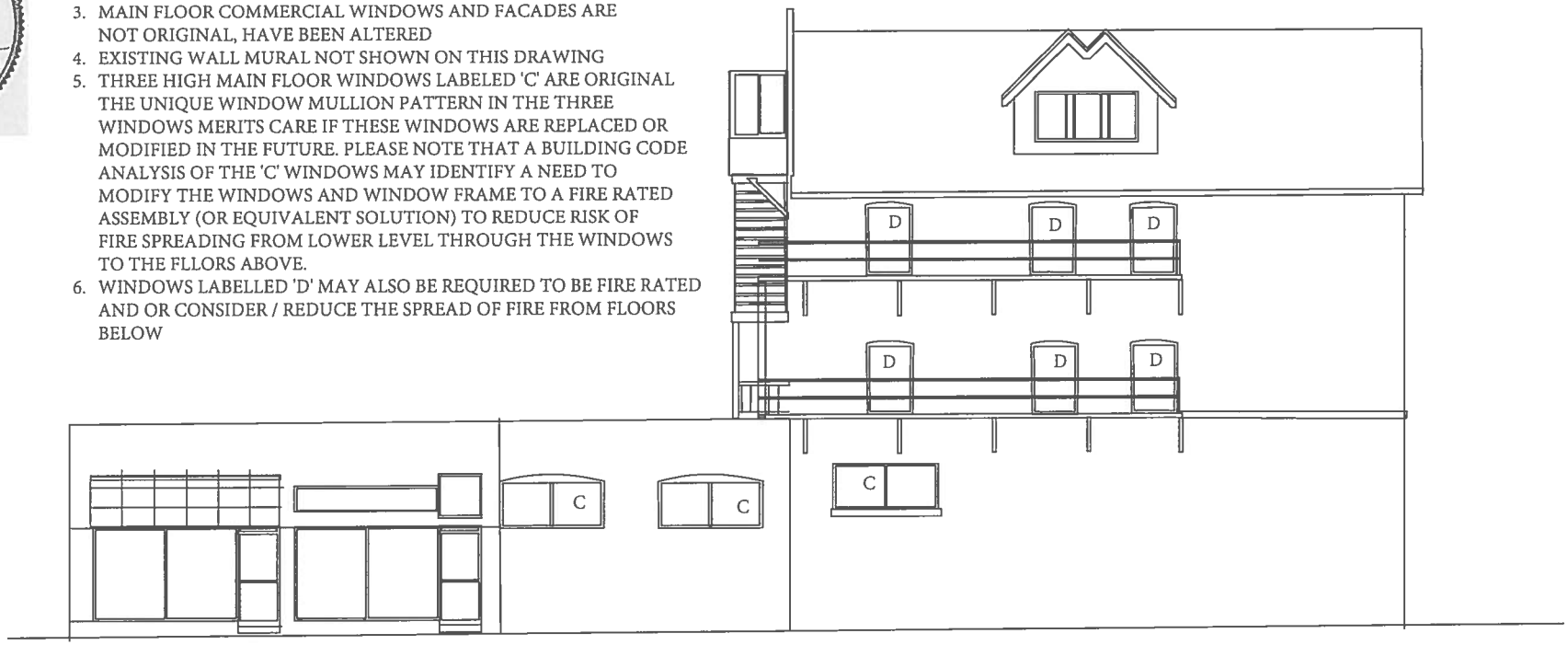
PRELIMINARY CONCEPT ONLY
JOHN WHITE ARCHITECT

PROVINCE OF MANITOBA
Jan 7, 2016
JOHN R.
WHITE
REGISTERED ARCHITECT

PROVINCE OF MANITOBA
Jan 7, 2018
JOHN R.
WHITE
REGISTERED ARCHITECT

NOTES:

1. WOOD FIRE ESCAPE STRUCTURE HAS BEEN ALTERED OVER YEARS. EXISTING METAL FIRE ESCAPE AND BUILDING CODE LIFESAFETY ISSUES MAY INFLUENCE SOUTH ELEVATION AT SOME LATER DATE
2. FOURTH FLOOR RESIDENTIAL WINDOW FACING SOUTH
3. MAIN FLOOR COMMERCIAL WINDOWS AND FACADES ARE NOT ORIGINAL, HAVE BEEN ALTERED
4. EXISTING WALL MURAL NOT SHOWN ON THIS DRAWING
5. THREE HIGH MAIN FLOOR WINDOWS LABELED 'C' ARE ORIGINAL THE UNIQUE WINDOW MULLION PATTERN IN THE THREE WINDOWS MERITS CARE IF THESE WINDOWS ARE REPLACED OR MODIFIED IN THE FUTURE. PLEASE NOTE THAT A BUILDING CODE ANALYSIS OF THE 'C' WINDOWS MAY IDENTIFY A NEED TO MODIFY THE WINDOWS AND WINDOW FRAME TO A FIRE RATED ASSEMBLY (OR EQUIVALENT SOLUTION) TO REDUCE RISK OF FIRE SPREADING FROM LOWER LEVEL THROUGH THE WINDOWS TO THE FLLORS ABOVE.
6. WINDOWS LABELLED 'D' MAY ALSO BE REQUIRED TO BE FIRE RATED AND OR CONSIDER / REDUCE THE SPREAD OF FIRE FROM FLOORS BELOW



SOUTH ELEVATION

GROVESNOR FACING ELEVATION - 161 STAFFORD

PRELIMINARY CONCEPT ONLY
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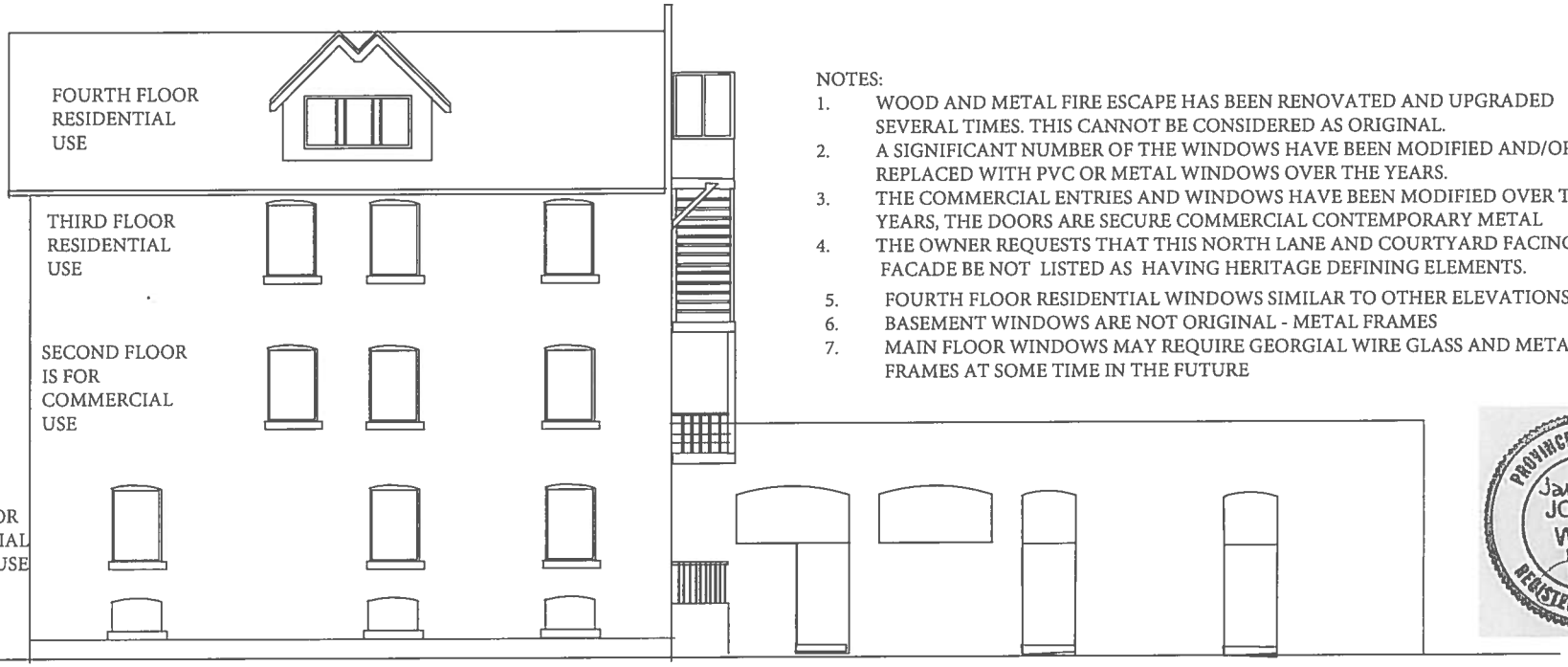
WEST ELEVATION

PRELIMINARY CONCEPT ONLY
JOHN WHITE ARCHITECT
161 STAFFORD

PROVINCE OF MANITOBA
Jan 7, 2018
JOHN R.
WHITE
REGISTERED ARCHITECT

NOTES:

1. WOOD AND METAL FIRE ESCAPE HAS BEEN RENOVATED AND UPGRADED SEVERAL TIMES. tHIS CANNOT BE CONSIDERED AS ORIGINAL.
2. MAIN FLOOR DOORS, BASEMENT WINDOWS ARE NOT ORIGINAL. TYPICALLY THEY ARE METAL.
3. THE MAJORITY OF THE RESIDENTIAL DOORS ARE NOT ORIGINAL, THEY HAVE BEEN REPLACED WITH CONTEMPORARY DOORS OVER THE YEARS
4. A SIGNIFICANT NUMBER OF THE WINDOWS HAVE BEEN MODIFIED AND/OR REPLACED OVER THE YEARS.
5. THE OWNER REQUESTS THAT THIS REAR WEST FACADE BE NOT LISTED AS HAVING HERITAGE DEFINING ELEMENTS.



NOTES:

1. WOOD AND METAL FIRE ESCAPE HAS BEEN RENOVATED AND UPGRADED SEVERAL TIMES. THIS CANNOT BE CONSIDERED AS ORIGINAL.
2. A SIGNIFICANT NUMBER OF THE WINDOWS HAVE BEEN MODIFIED AND/OR REPLACED WITH PVC OR METAL WINDOWS OVER THE YEARS.
3. THE COMMERCIAL ENTRIES AND WINDOWS HAVE BEEN MODIFIED OVER THE YEARS, THE DOORS ARE SECURE COMMERCIAL CONTEMPORARY METAL
4. THE OWNER REQUESTS THAT THIS NORTH LANE AND COURTYARD FACING FACADE BE NOT LISTED AS HAVING HERITAGE DEFINING ELEMENTS.
5. FOURTH FLOOR RESIDENTIAL WINDOWS SIMILAR TO OTHER ELEVATIONS
6. BASEMENT WINDOWS ARE NOT ORIGINAL - METAL FRAMES
7. MAIN FLOOR WINDOWS MAY REQUIRE GEORGIAL WIRE GLASS AND METAL FRAMES AT SOME TIME IN THE FUTURE

PROVINCE OF MANITOBA
Jan 7, 2018
JOHN R.
WHITE
REGISTERED ARCHITECT

NORTH ELEVATION

161 STAFFORD FACING LANE / COURTYARD

PRELIMINARY CONCEPT ONLY
JOHN WHITE ARCHITECT

duraco® windows

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www.DURACO.CA

167 STAFFORD

SHOP DRAWINGS

NOVEMBER 13 2017

SPECIFICATIONS

WINDOW FRAMES

- SERIES BOREAL 3723 SERIES SINGLE HUNG
- COLOUR EXTERIOR: DARK GREEN
- COLOUR INTERIOR WHITE

GLAZING

- 3mm DUAL LOW-E &ARGON
- LOE SURFACE 2 GARDIAN 70/36
- ARGON FILLED
- SUPER SPACER
- C/W ⅝ DARK GREEN GRILL

PERIMETER & BRICKMOULD

- C-56 2" BRICKMOULD 4 SIDES
- ON W-9 & W-10 ONLY

INTERNAL OPTIONS

- BOX

NOTES

SEAL UNITS 3mmCL/S.S./ 3mm LOW-E
ALL LOW-E GLASS ON # 2 SURFACE GARDIAN 70/36
DARK GREEN GRILLS

GENERAL NOTES

- ALL FRAME ELEVATIONS ARE DRAWN AS VIEWED FROM THE EXTERIOR
- ALL ROUGH OPENING DIMENSIONS AND FRAME SIZES MUST BE CONFIRMED ON SITE PRIOR TO FABRICATION
- ALL WORK SHOWN BY OTHER TRADES IS FOR REFERENCE ONLY

DRAWING INDEX

SHEET NUMBER	DESCRIPTION
C1	COVER / GENERAL NOTES
E1-10	ELEVATIONS
D1-8	DETAILS

ABBREVIATIONS

	DESCRIPTION
R.O.	ROUGH OPENING
F.S.	FRAME SIZE
D.L.O.	DAY LIGHT OPENING
B.M.	BRICKMOULD
NSG.	NOSING
N.T.S.	NOT TO SCALE
TYP.	TYPICAL
OSM	OUTSIDE MEASUREMENT
DIM.	DIMENSION
S.S.	SUPER SPACER
CL / ℄	CENTER LINE
O.C.	ON CENTER
DWG.	DRAWING
EQ.	EQUAL
QTY.	QUANTITY

SYMBOLS LEGEND

SYMBOL	DESCRIPTION
W1 QTY. HEAD	UNIT REFERENCE, QUANTITY, DESCRIPTION
A D-1	SECTION REFERENCE (SECTION #, SHEET #)

MATERIAL HATCHES

FIBERGLASS
STEEL
PLYWOOD
CAULKING
WOOD BLOCKING
INSULATION

DURACO.CA
90 HUTCHINGS STREET WPG, MB, R2X 2X1
Phone:204.222.3388 Fax: 204.224.5072
Email: AURELEROBIN@DURACO.com

duraco® windows

REVISION	DATE	DESCRIPTION

167 STAFFORD

DATE:	13/11/2017
DRAWN BY:	AURELER
CHECKED BY:	

SCALE

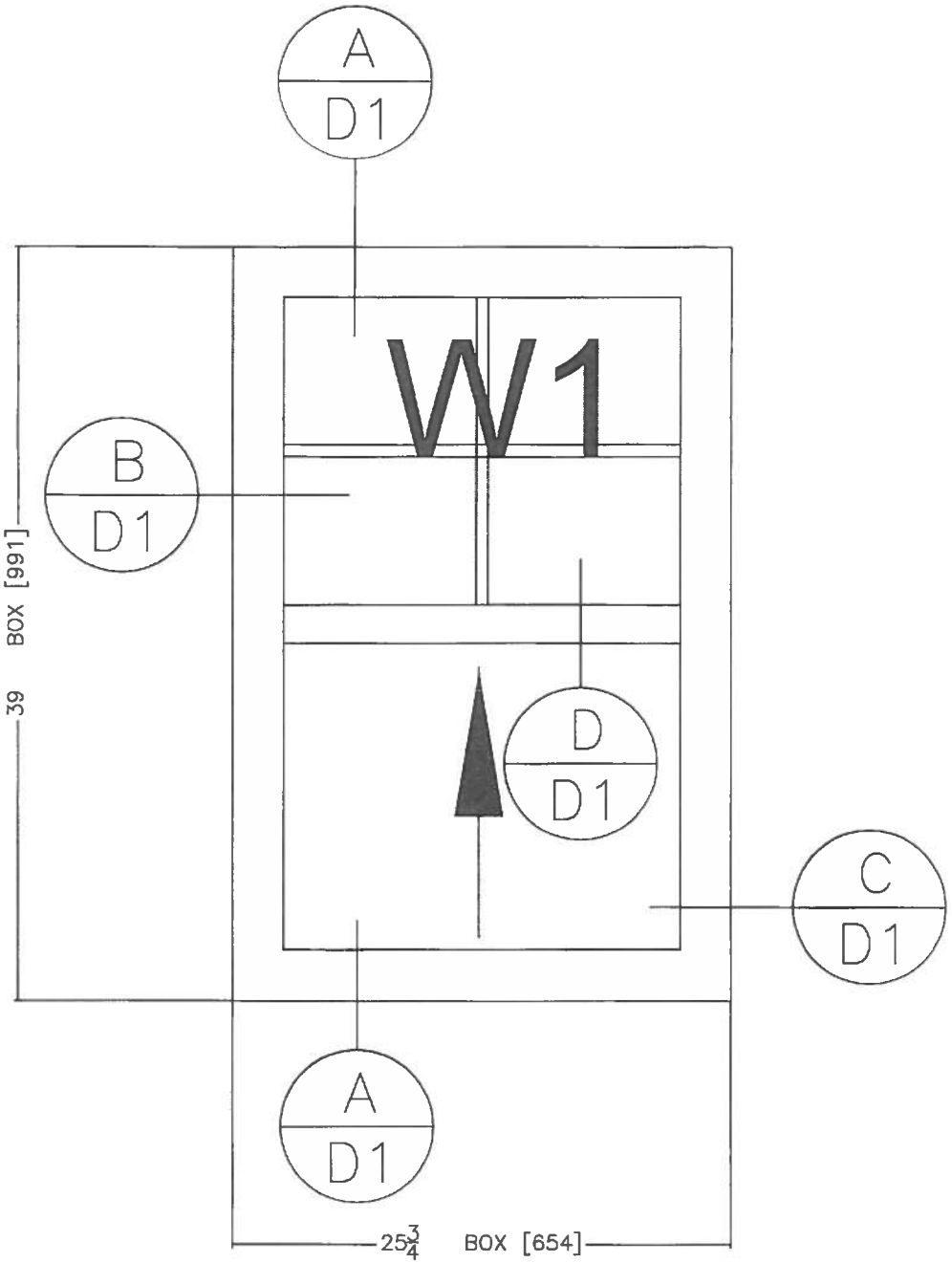
NTS

DRAWING TITLE

COVER PAGE

PAGE NUMBER

C1



3 UNITS

DURACO.CA
90 HUTCHINGS STREET WPG, MB, R2X 2X1
Phone:204.222.3388 Fax: 204.224.5072
Email: AURELEROBIN@DURACO.com

duraco windows

REVISION	DATE	DESCRIPTION

167 STAFFORD

DATE:	13/11/2017
DRAWN BY:	AURELER
CHECKED BY:	

SCALE

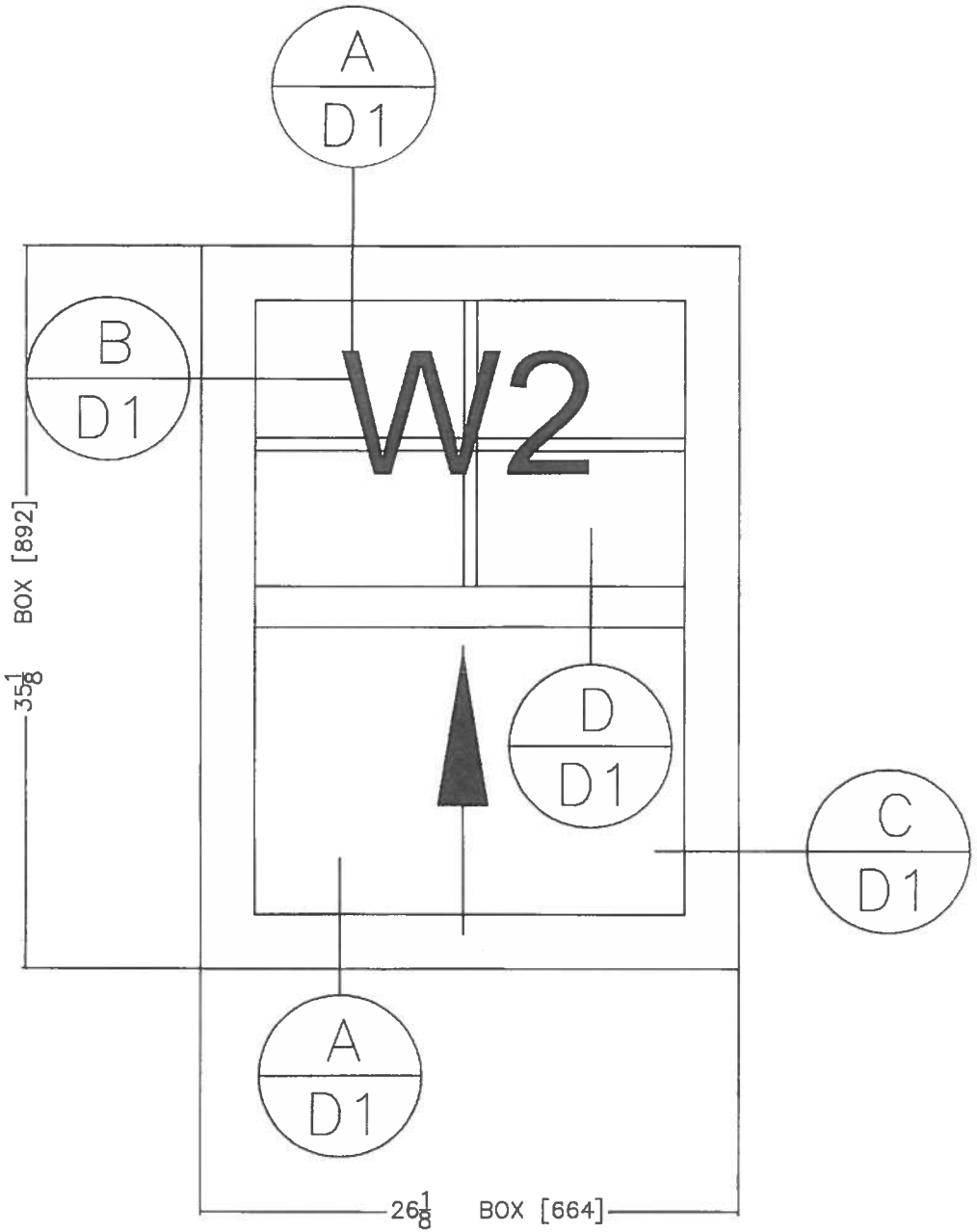
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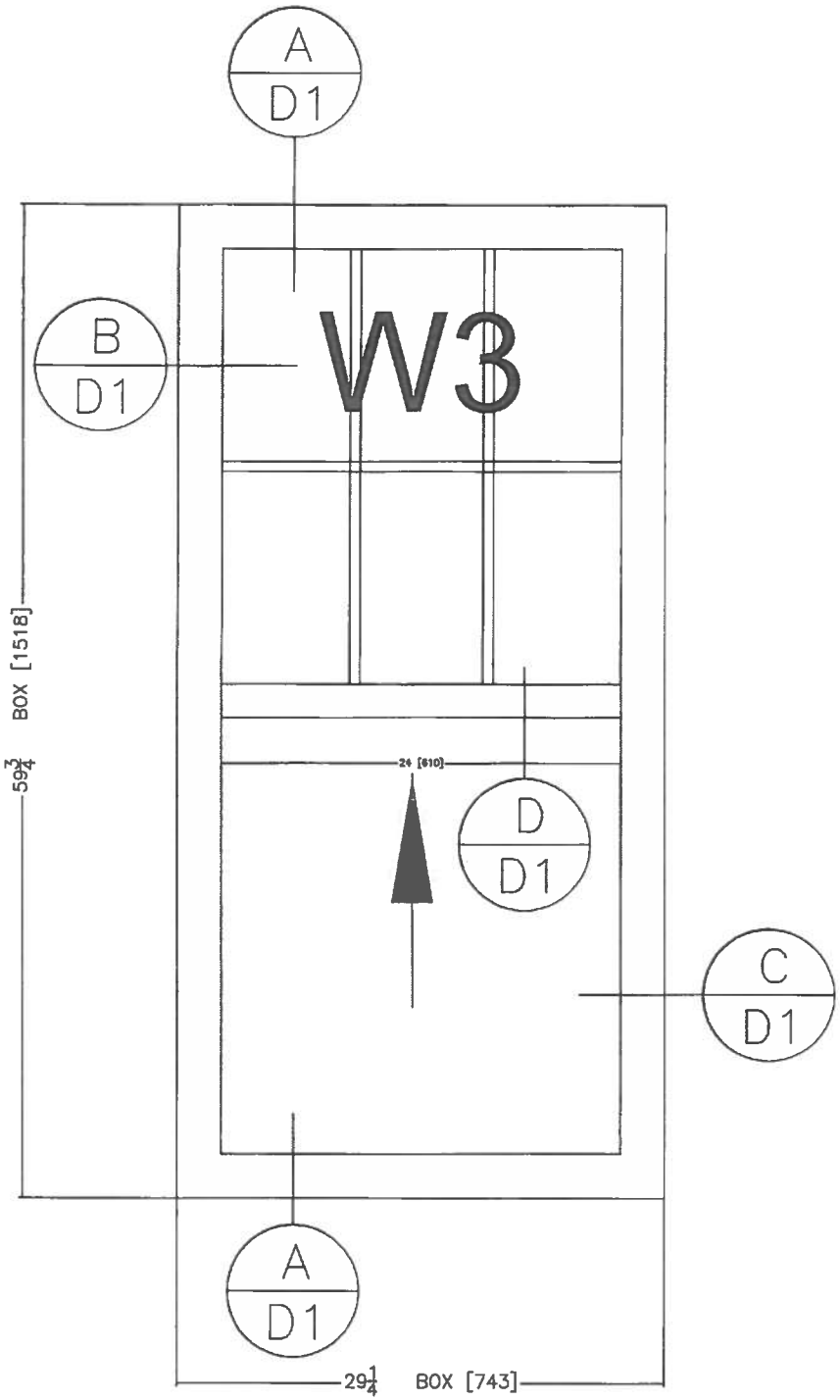
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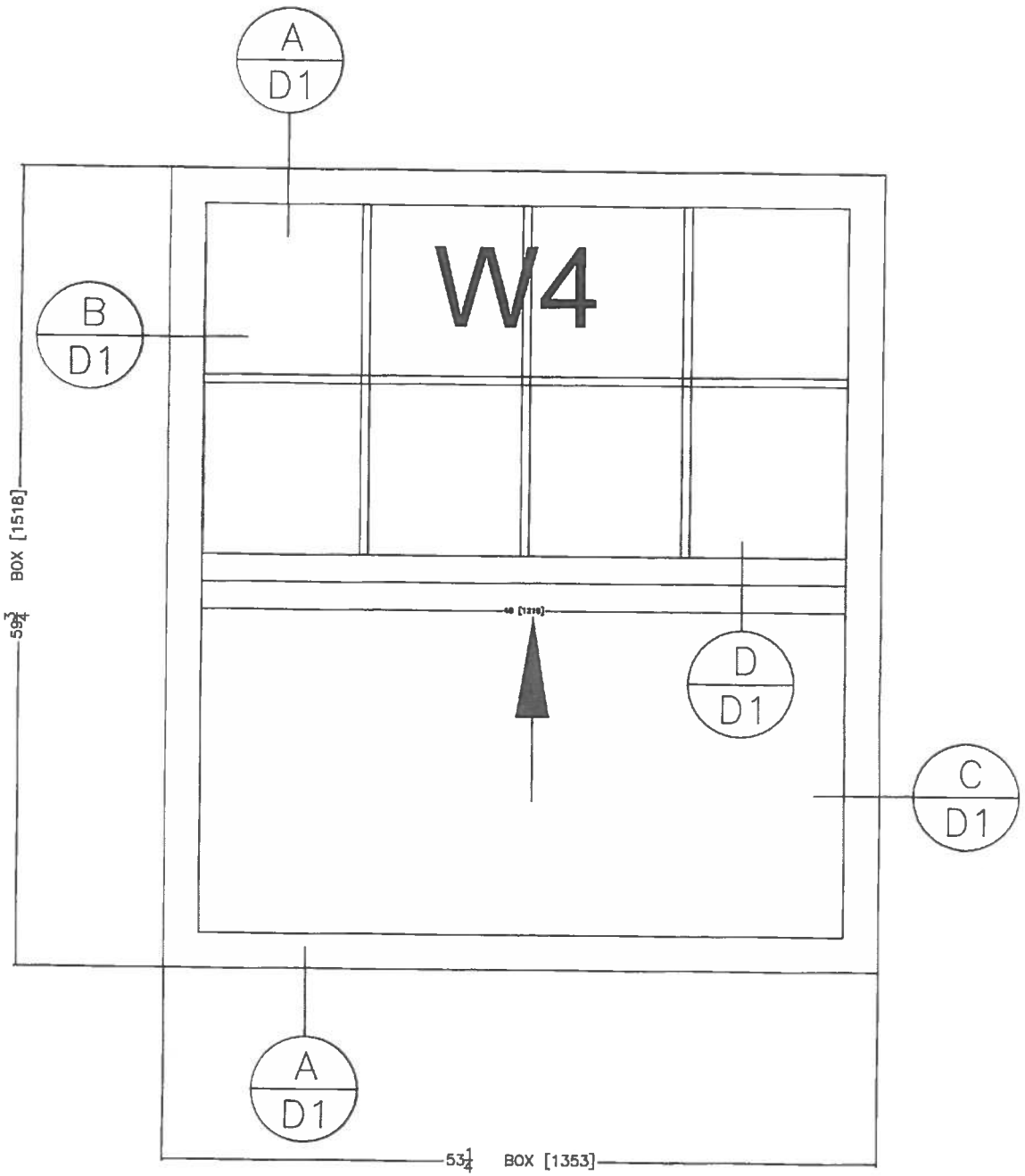
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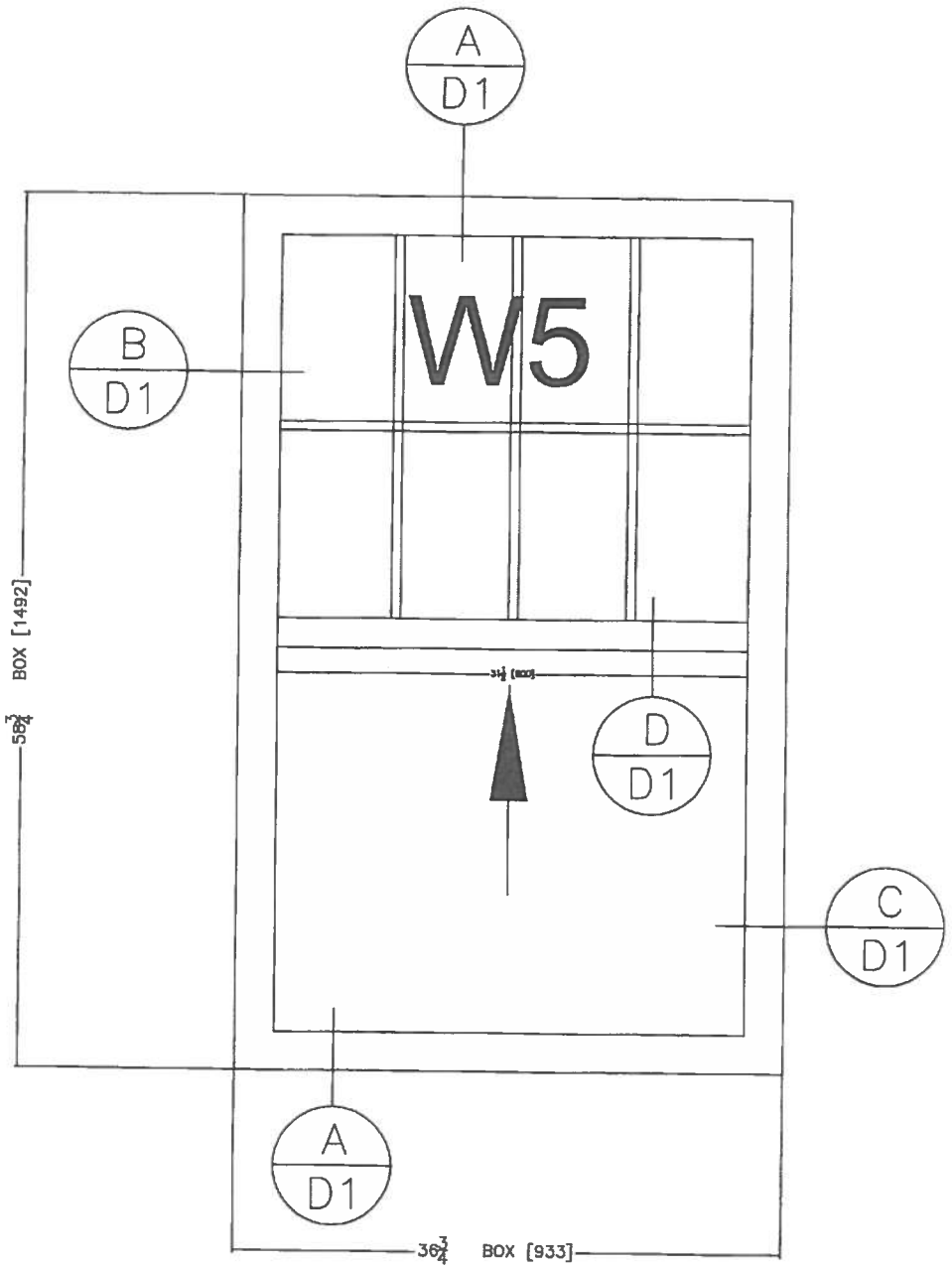
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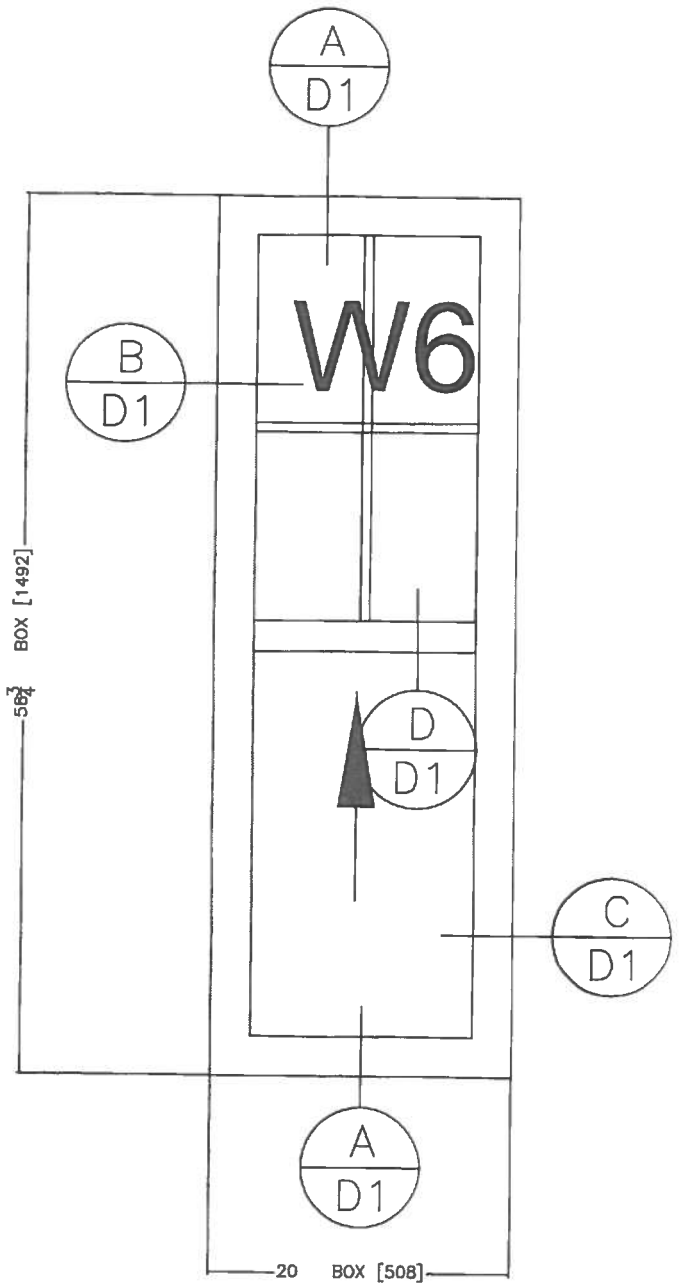
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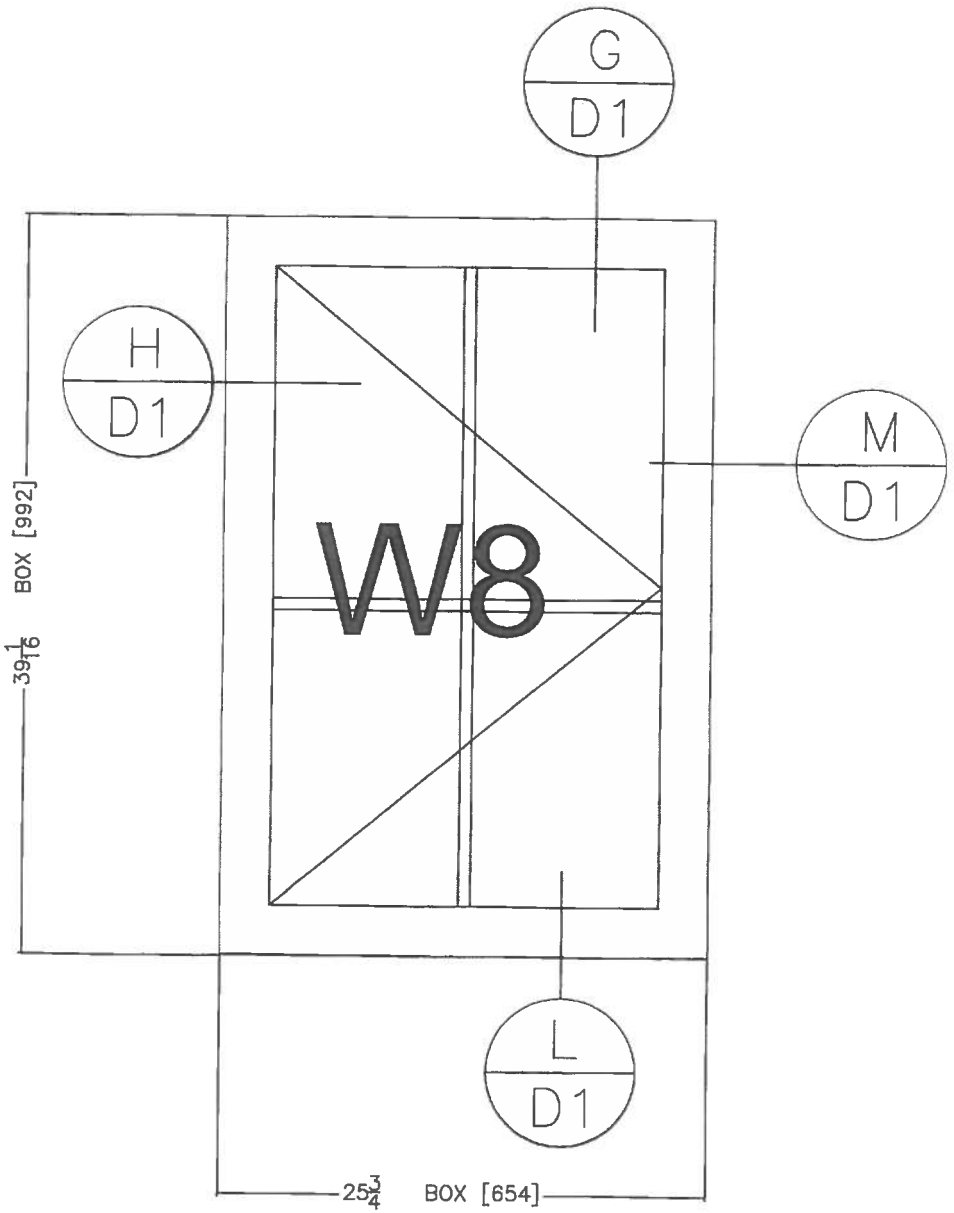
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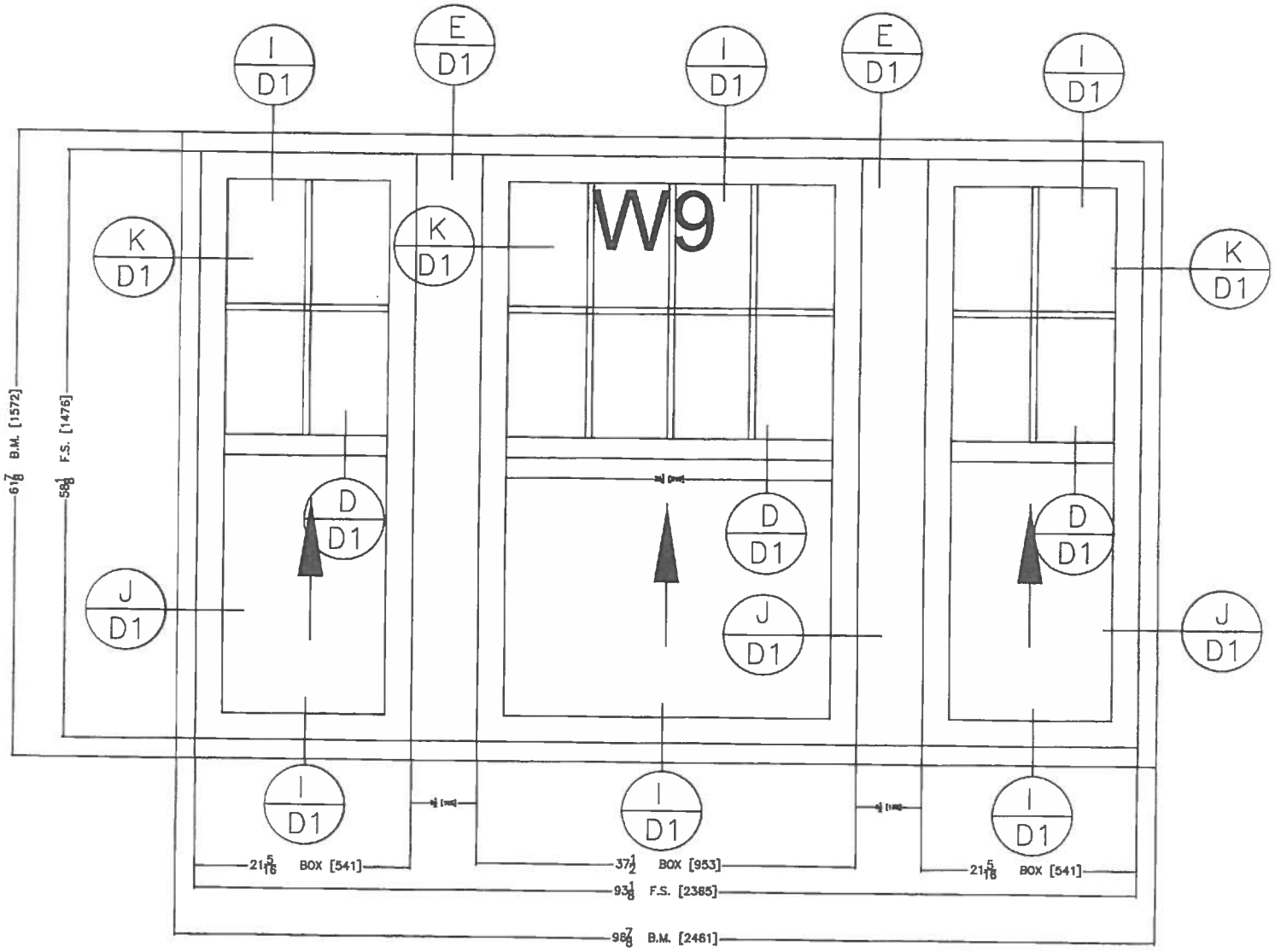
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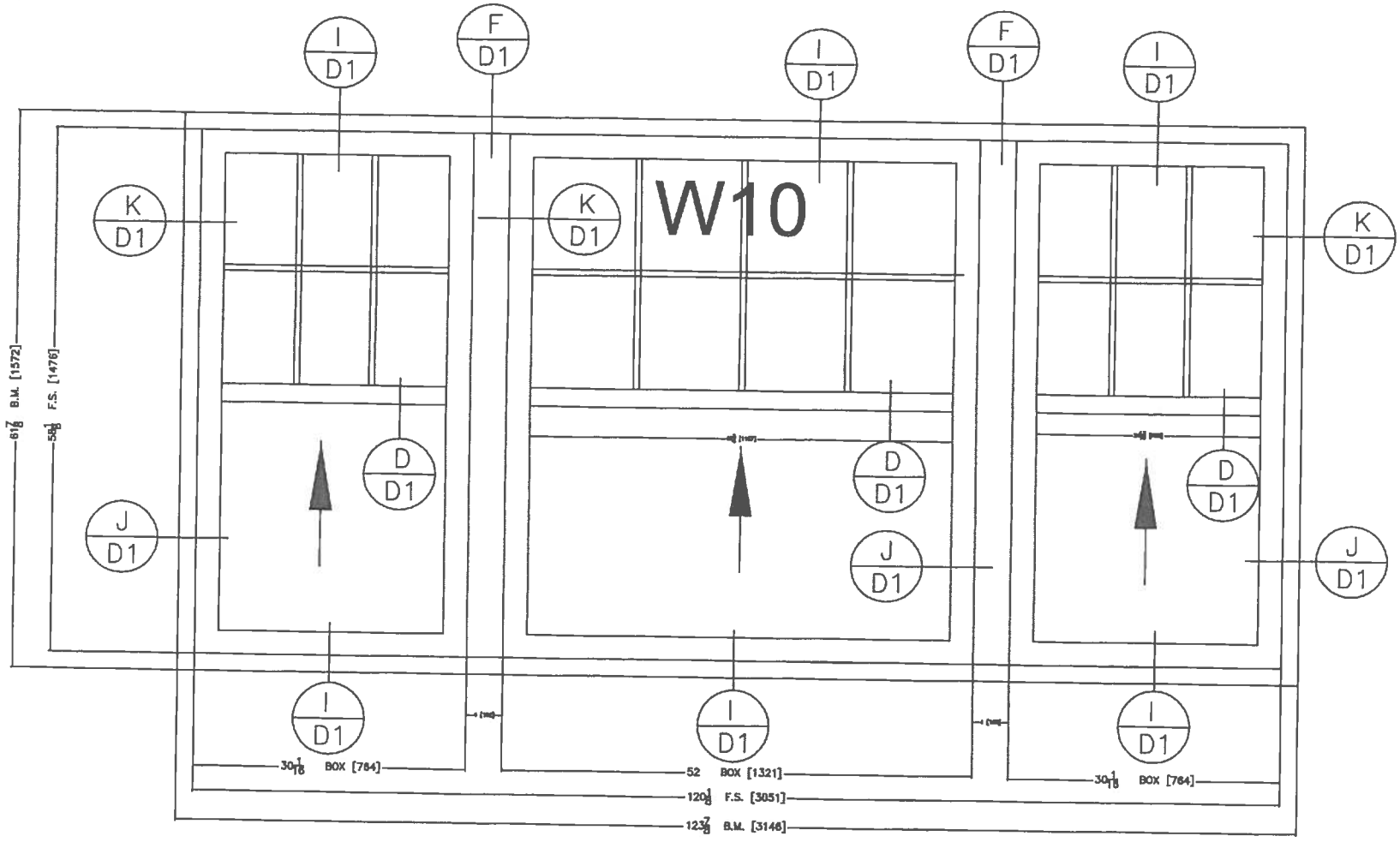
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