

300-275 Carlton Street
Winnipeg, Manitoba R3C 5R6
T 204-943-7501
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2017-1334



Crosier Kilgour & Partners Ltd.
CONSULTING STRUCTURAL ENGINEERS

STONY MOUNTAIN INSTITUTION PERIMETER WALL GUARDRAIL REPAIRS & UPGRADES

PROJECT R.090151.001

PROJECT TEAM

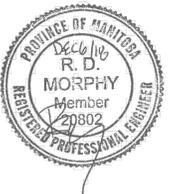
STRUCTURAL:

CROSIER KILGOUR & PARTNERS LTD.
300 - 275 CARLTON STREET
WINNIPEG, MB
CANADA R3C 5R6
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DRAWING LIST

STRUCTURAL:

- S1 PARTIAL GUARDRAIL PLAN, PLAN NOTES & GENERAL NOTES
- S2 PARTIAL GUARDRAIL PLAN & PLAN NOTES
- S3 SECTION & DETAILS



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0	ISSUED FOR CONSTRUCTION	18/12/06
Revision/	Description/Description	Date/Date

Client/client
**CANADA
GOVERNMENT SERVICES
PUBLIC WORKS AND**

Project title/Titre du projet
**STONY MOUNTAIN INSTITUTION
STONY MOUNTAIN, MANITOBA**

**PERIMETER WALL
GUARDRAIL REPAIRS
& UPGRADES**

Consultant Signature Only
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Designed by/Concept par
RDM
Drawn by/Dessiné par
CL
PWGSC Project Manager/Administrateur de Projets TPSGC
-
Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC
-

Drawing title/Titre du dessin
COVER SHEET



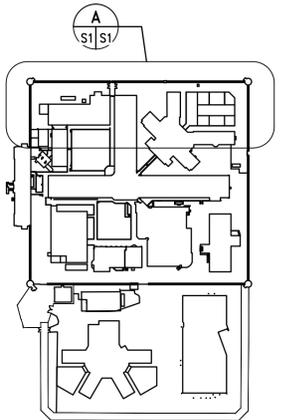
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KEY PLAN
NOT TO SCALE



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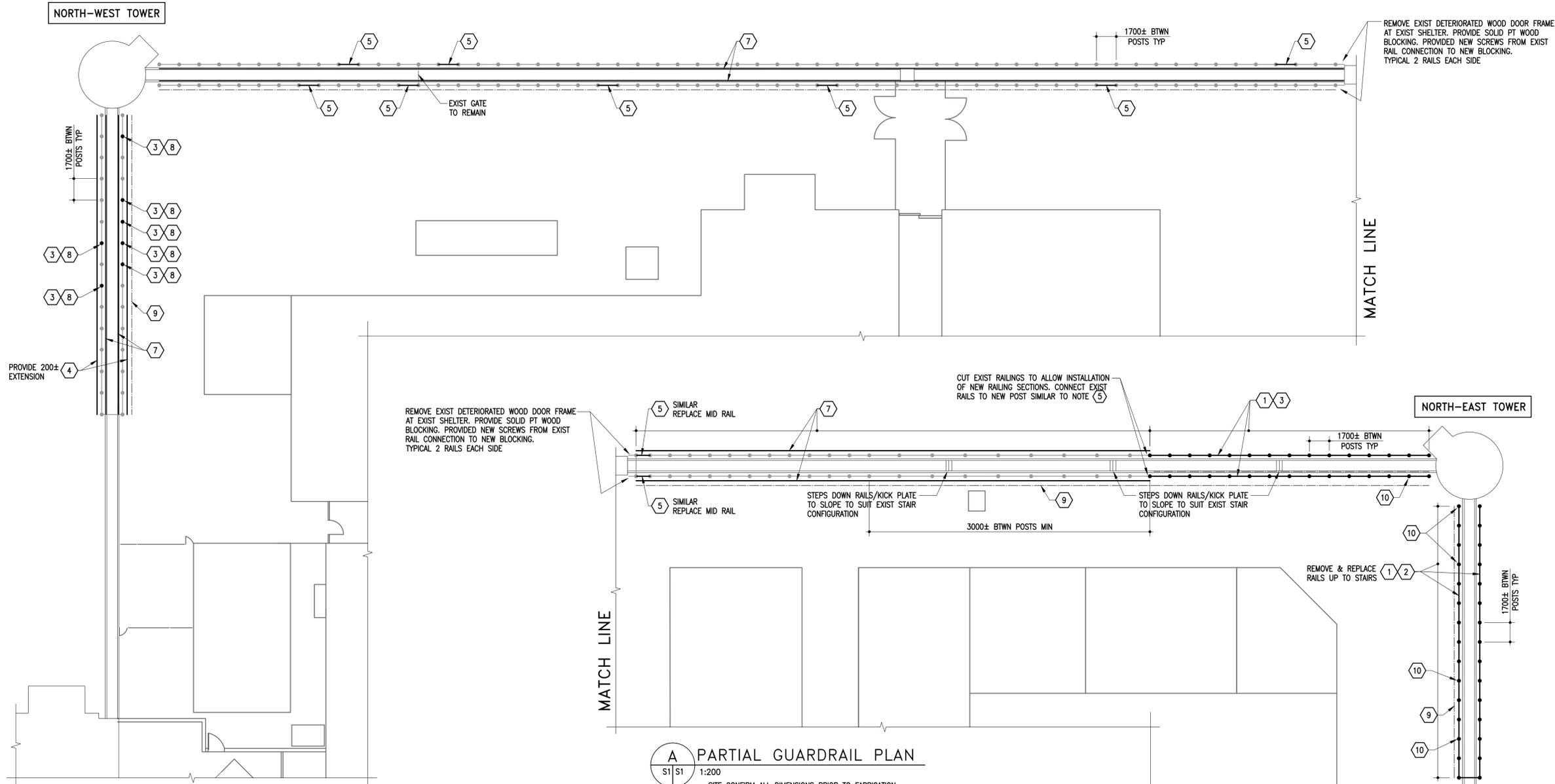
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PWGSC Project Manager/Administrateur de Projets TPSCG

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Gestionnaire régionale, Services d'architectural et de génie, TPSCG

Drawing title/Titre du dessin
PARTIAL GUARDRAIL PLAN, PLAN NOTES & GENERAL NOTES

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	OF 3	



A PARTIAL GUARDRAIL PLAN
1:200

- SITE CONFIRM ALL DIMENSIONS PRIOR TO FABRICATION.
- ALL NEW STEEL TO BE HOT-DIPPED GALVANIZED. EXIST GUARDRAIL TO REMAIN AS GALVANIZED.
- GRIND & SMOOTH ALL WELDS/SHARP EDGES & BURRS.
- CONFIRM ALL EXIST SERVICE LOCATIONS. TEMPORARY DETACH/MOVE SERVICES WHICH ARE CONNECTED TO EXIST RAILS TO FACILITATE WORK. CONFIRM SERVICES WITH SMI PRIOR TO WORK. RECONNECT TO GUARDRAIL FOLLOWING WORK.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL SAFETY PROVISIONS NECESSARY FOR ACCESS & INSTALLATION. CONFIRM ACCESS REQUIREMENTS & TIMES WITH SMI.
- EXIST CHAIN LINK/NETTING IS TO REMAIN. REMOVE & RE-INSTALL AS REQUIRED TO FACILITATE WORK. EXIST DAMAGED PLASTIC NETTING TO BE REMOVED.
- EXIST GUARDRAIL AROUND TOWERS & ALONG STAIRS FROM TOWERS TO TOP OF WALL NOT SHOWN FOR CLARITY.

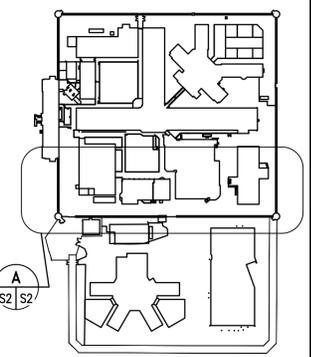
PLAN NOTES

- REMOVE EXIST GUARDRAIL & REPLACE WITH NEW GUARDRAIL & POSTS AS PER ELEVATION A/S3.
- NEW POST BASE CONNECTION AS PER SECTION 1/S3.
- NEW POST BASE CONNECTION AS PER DETAIL G/S3.
- PROVIDE GUARDRAIL EXTENSION AS PER DETAIL B/S3.
- PROVIDE LOW RAIL REPLACEMENT AS PER DETAIL C/S3.
- PROVIDE BENT KICK PLATE ON INSIDE OF NEW/EXIST POSTS AS PER DETAIL D/S3.
- PROVIDE FLAT KICK PLATE ON INSIDE OF NEW/EXIST POST AS PER DETAIL E/S3.
- REPLACE DAMAGED POST AS PER DETAIL F/S3.
- EXIST ANGLED CHAINLINK/NETTING AT TOP OF WALL TO REMAIN.
- NEW POST CONNECTION PLATE TO BE SHIFTED TO LINE UP ADJACENT TO NETTING POST CONNECTION.

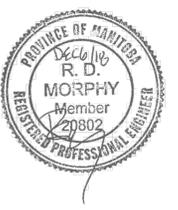
GENERAL NOTES

- STRUCTURAL DESIGN BASED ON THE NATIONAL BUILDING CODE OF CANADA 2015 AND MANITOBA BUILDING CODE 2011 EDITION.
- IMPORTANCE CATEGORY: NORMAL
- DO NOT SCALE DRAWINGS.
- ALL DIMENSIONS ARE TO BE VERIFIED WITH THE EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION.
- THESE STRUCTURAL DRAWINGS SHOW THE COMPLETED STRUCTURE AND DO NOT INDICATE ALL COMPONENTS NECESSARY FOR SAFETY DURING CONSTRUCTION. THE CONSTRUCTION MANAGER SHALL BE SOLELY RESPONSIBLE FOR SAFETY ON AND AROUND THE JOBSITE DURING CONSTRUCTION.
- THE STRUCTURAL STEEL FABRICATOR'S ENGINEER SHALL BE RESPONSIBLE FOR LOCATING AND DESIGNING PROVISIONS FOR ALL TEMPORARY FALL PROTECTION SYSTEMS REQUIRED DURING CONSTRUCTION TO MEET MANITOBA WORKPLACE HEALTH AND SAFETY REGULATIONS.
- THE CONTRACTOR SHALL FOLLOW SAFETY REQUIREMENTS OF PROVINCIAL AND LOCAL AUTHORITIES HAVING JURISDICTION AS WELL AS CSC STAFF AT STONY MOUNTAIN INSTITUTION.
- STRUCTURAL STEEL TO CONFORM TO CSA-G40.21, "STRUCTURAL QUALITY STEELS" AND CSA-G40.20 "GENERAL REQUIREMENTS FOR ROLLED OR WELDED STRUCTURAL QUALITY STEEL".
- ALL ROLLED OR STEEL STRUCTURAL SECTIONS SHALL BE C40.21-350W. ALL ANGLES, CHANNELS AND PLATES SHALL BE C40.21-300W. STANDARD PIPE TO BE ASTM A53 (240 MPA GRADE).
- FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL BE PERFORMED IN ACCORDANCE WITH CSA S16-14, "DESIGN OF STEEL STRUCTURES".
- ALL WELDING SHALL CONFORM TO THE LATEST EDITION OF CSA W59, "WELDED STEEL CONSTRUCTION". FABRICATORS SHALL BE PROPERLY CERTIFIED IN ACCORDANCE WITH CSA W47.1, "CERTIFICATION OF COMPANIES FOR FUSION WELDING OF STEEL STRUCTURES".
- ALL BOLTED CONNECTIONS TO USE A325 HIGH STRENGTH BOLTS. MINIMUM CONNECTION SHALL CONSIST OF 2 BOLTS.
- ALL NEW STEEL TO BE HOT DIPPED GALVANIZED WITH ZINC COATING 600G/SQ.M TO CSA-G164.
- ALL WELDING ON GALVANIZED STEEL TO BE TOUCHED UP WITH BRUSH APPLIED ZINC RICH PAINT, CONTAINING MORE THAN 92% METALLIC ZINC BY WEIGHT.
- FABRICATOR TO NOTIFY ENGINEER OF ANY PROPOSED MEMBER SUBSTITUTIONS AND CHANGED CONNECTION DETAILS.
- THE STRUCTURAL STEEL SUPPLIER IS TO SUBMIT ENGINEERED SHOP DRAWINGS BEARING THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA FOR THE FABRICATED WORK AND CONNECTIONS FOR REVIEW PRIOR TO FABRICATION. CONNECTION DESIGN TO INCLUDE FOR ALL ADJUSTABLE OR SITE CONNECTIONS REQUIRED FOR DELIVERY AND ERECTION PROCEDURES AND TOLERANCES.





KEY PLAN
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STONY MOUNTAIN, MANITOBA**

**PERIMETER WALL
GUARDRAIL REPAIRS
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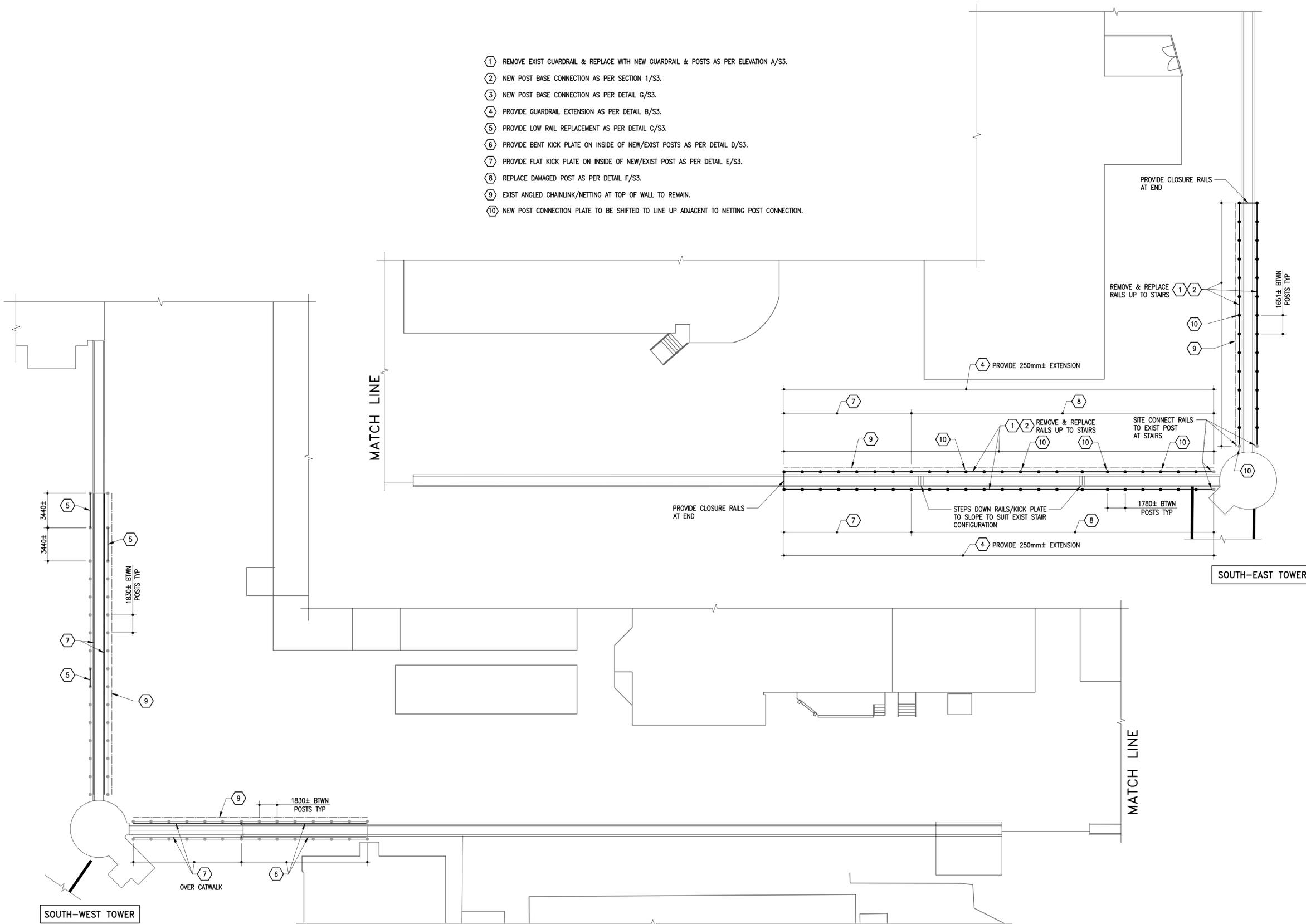
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Drawing title/Titre du dessin
**PARTIAL GUARDRAIL PLAN,
& PLAN NOTES**

Project No./No. du projet	Sheet/Feuille	Revision no./Révision no.
R.090151.001	S2 OF 3	0



- ① REMOVE EXIST GUARDRAIL & REPLACE WITH NEW GUARDRAIL & POSTS AS PER ELEVATION A/S3.
- ② NEW POST BASE CONNECTION AS PER SECTION 1/S3.
- ③ NEW POST BASE CONNECTION AS PER DETAIL G/S3.
- ④ PROVIDE GUARDRAIL EXTENSION AS PER DETAIL B/S3.
- ⑤ PROVIDE LOW RAIL REPLACEMENT AS PER DETAIL C/S3.
- ⑥ PROVIDE BENT KICK PLATE ON INSIDE OF NEW/EXIST POSTS AS PER DETAIL D/S3.
- ⑦ PROVIDE FLAT KICK PLATE ON INSIDE OF NEW/EXIST POST AS PER DETAIL E/S3.
- ⑧ REPLACE DAMAGED POST AS PER DETAIL F/S3.
- ⑨ EXIST ANGLED CHAINLINK/NETTING AT TOP OF WALL TO REMAIN.
- ⑩ NEW POST CONNECTION PLATE TO BE SHIFTED TO LINE UP ADJACENT TO NETTING POST CONNECTION.



A PARTIAL GUARDRAIL PLAN
S2 S2

- 1:200
- SITE CONFIRM ALL DIMENSIONS PRIOR TO FABRICATION.
 - ALL STEEL TO BE HOT-DIPPED GALVANIZED.
 - GRIND & SMOOTH ALL WELDS/SHARP EDGES & BURRS.
 - CONFIRM ALL EXIST SERVICE LOCATIONS. TEMPORARY DETACH/MOVE SERVICES WHICH ARE CONNECTED TO EXIST RAILS TO FACILITATE WORK. CONFIRM SERVICES WITH SMI PRIOR TO WORK. RECONNECT TO GUARDRAIL FOLLOWING WORK.
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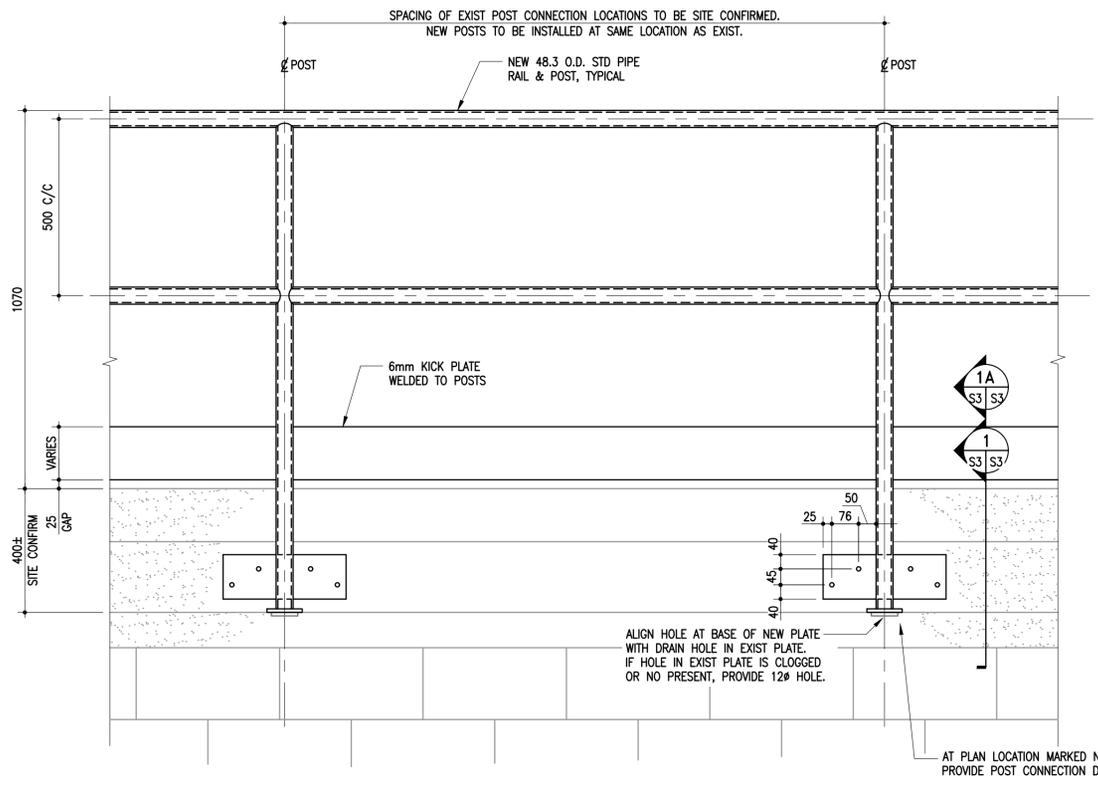
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SECTIONS & DETAILS

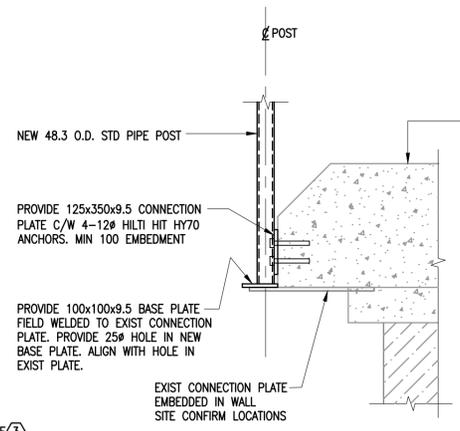
Project No./No. du projet R.090151.001	Sheet/Fauille S3 OF 3	Revision no./ La Révision no. 0
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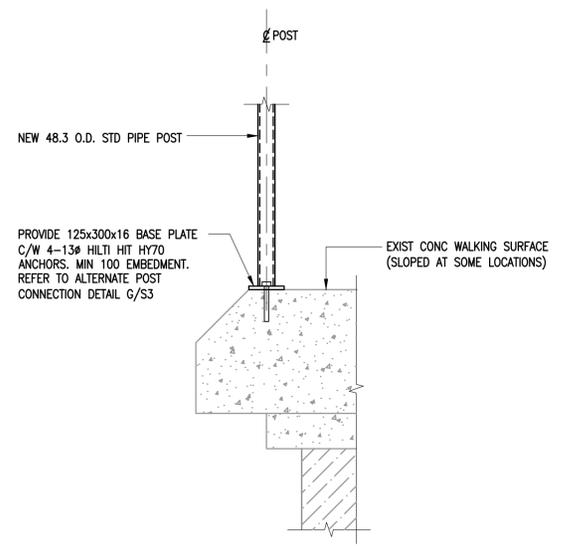
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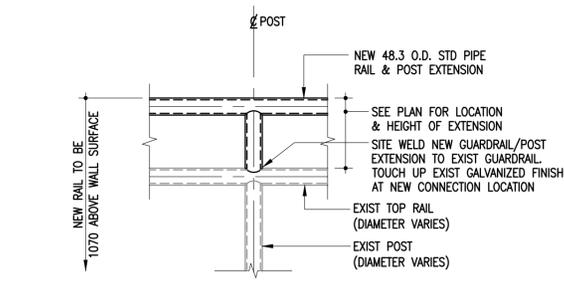
A NEW REPLACEMENT GUARDRAIL ELEVATION
S1 S3 1:10



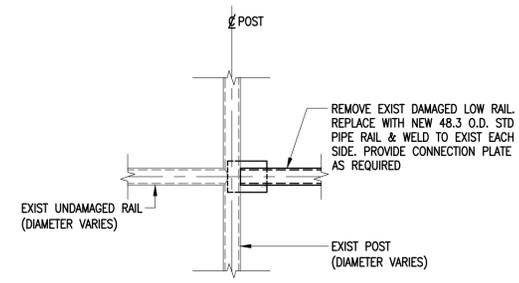
1 SECTION
S3 S3 1:10



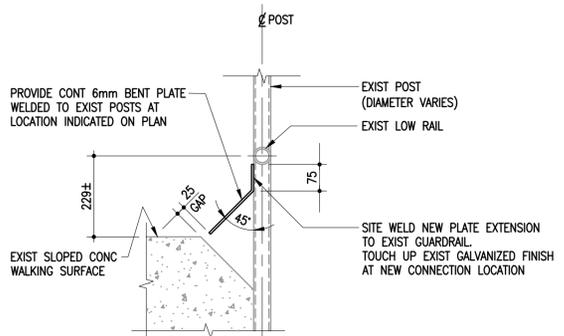
1A SECTION
S3 S3 1:10



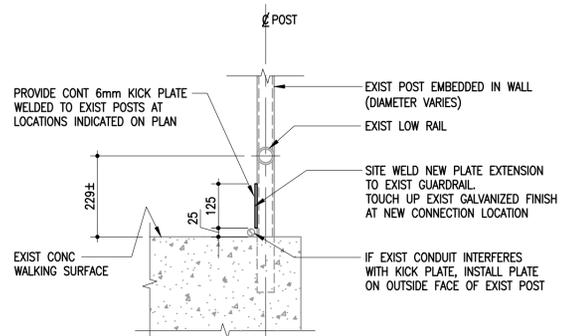
B GUARDRAIL EXTENSION DETAIL
S1 S3 1:10



C RAIL REPLACEMENT DETAIL
S1 S3 1:10

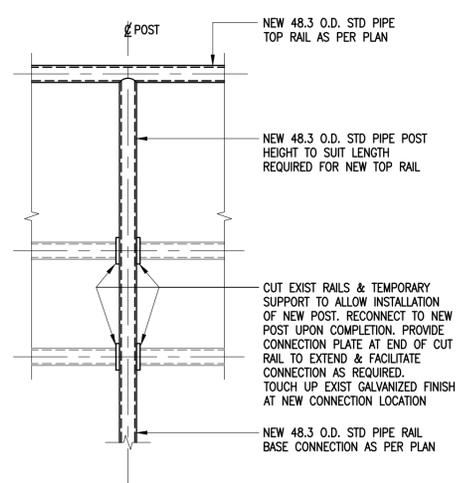


D BENT KICK PLATE DETAIL
S1 S3 1:10

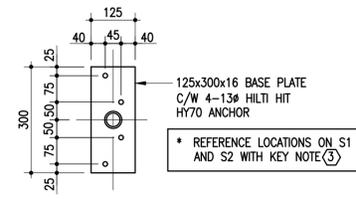


E FLAT KICK PLATE DETAIL
S1 S3 1:10

• ELIMINATE KICK PLATE AT CAMERA LOCATIONS WHERE CAMERA ACCESS IS REQUIRED.



F POST REPLACEMENT DETAIL
S1 S3 1:10



G ALTERNATE POST CONNECTION DETAIL
S1 S3 1:10

