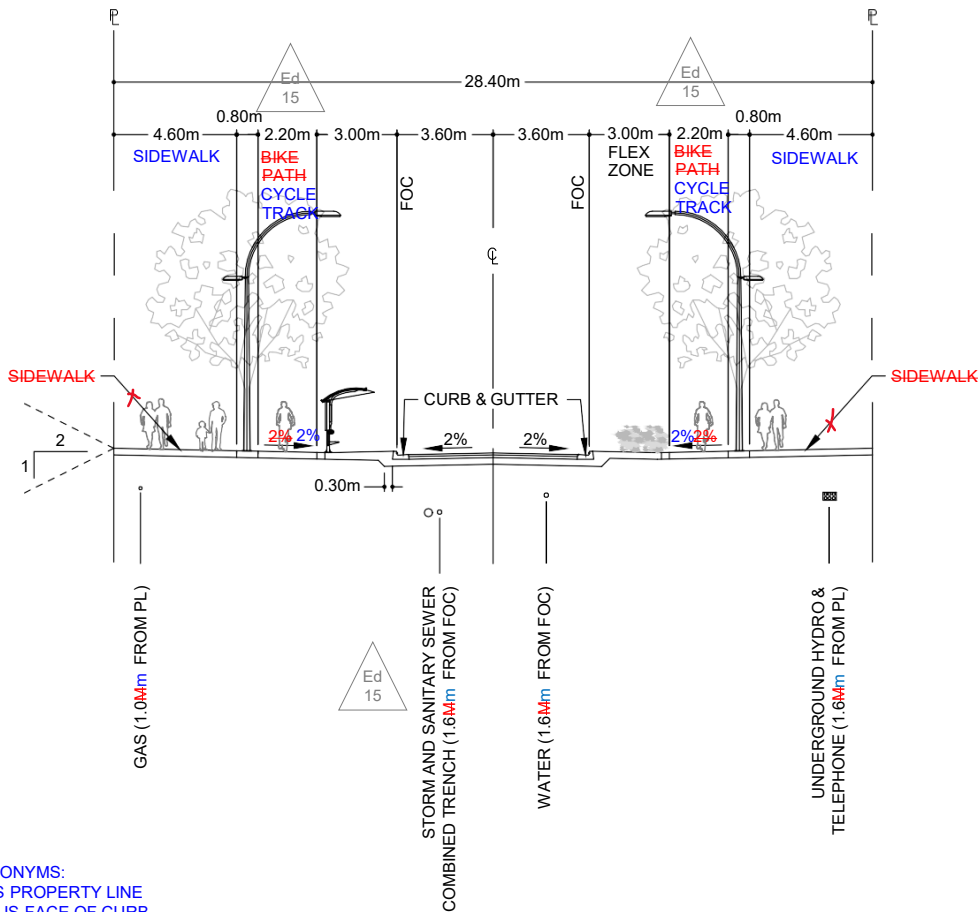


ACRONYMS:
 PL IS PROPERTY LINE
 FOC IS FACE OF CURB
 CL IS CENTER LINE

NOTES:

1. PAVED SURFACE - 125mm ASPHALT (COMPACTED THICKNESS) **AS PER SECTION 9.0 AND SECTION 12.0.**
2. BASE - 200mm **AS PER SECTION 9.0.**
3. SUB-BASE - 250mm **AS PER SECTION 9.0.**
4. BARRIER CURB AND GUTTER **TO BE USED IN ACCORDANCE WITH AS PER STANDARD DRAWING CS-1.**
5. CENTER MEDIANS **TO BE LANDSCAPED WHERE POSSIBLE AND IN ACCORDANCE WITH AS PER STANDARD DRAWING CS-7.**
6. DEPTHS OF SURFACING AND BASE GRAVELS ARE MINIMUM. **AND IN SOME CASES WILL HAVE TO BE INCREASED TO MEET MAXIMUM ALLOWABLE BENKELMAN BEAM DEFLECTION.**
7. FLEX ZONE TO BE UTILIZED FOR: LANDSCAPING, STREET TREES, TRANSIT STOPS, BUS SHELTERS, BIKE PARKING, FURNITURE, UTILITY BOXES/CABINETS, HYDRANTS, POWER POLES, STREETLIGHTS, STORMWATER MANAGEMENT, OR WASTE RECEPTACLES.
8. BANDING/BUFFER ON EITHER SIDE OF THE **BIKE PATH SHALL BE CYCLE TRACK IS 0.3m STAMPED CONCRETE WITH TRANSVERSE SCORE LINES AT 0.3m INTERVALS AS PER SECTION 13.0.** WHERE VERTICAL SEPARATION IS PREFERRED, **A CUSTOM MOUNTABLE MONOLITHIC CURB MAY BE UTILIZED PROPOSED.** ALTERNATIVE TREATMENTS TO BE APPROVED BY THE CITY ENGINEER.
9. **STREET ROAD** HAS CONTROLLED ACCESS. **DRIVEWAY** ACCESS UNDER APPROVAL FROM CITY ENGINEER.
10. CROSS-SECTIONS TO BE USED IN CONJUNCTION WITH CITY'S COMPLETE STREET DESIGN GUIDELINES.
11. STREETLIGHTS ARE DIAGRAPHIC. LIGHTING LEVELS **TO BE IN ACCORDANCE WITH AS PER SECTION 10.0.**
12. LANDSCAPING **TO BE IN ACCORDANCE WITH AS PER SECTION 14.0.**



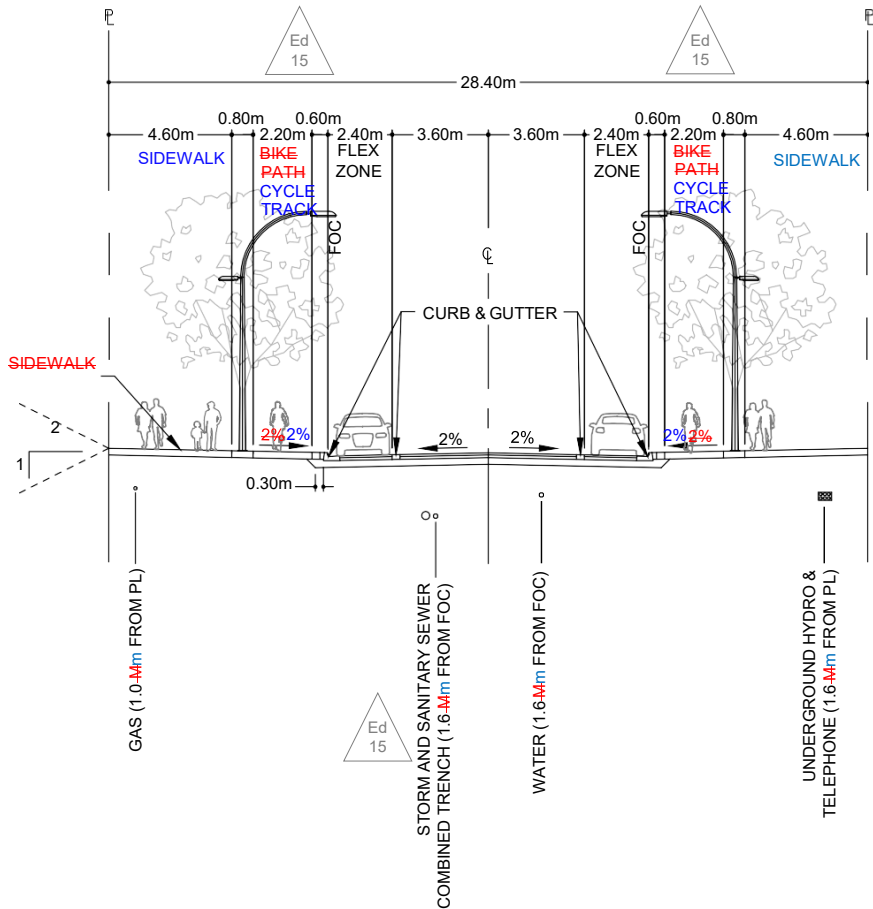
ACRONYMS:
PL IS PROPERTY LINE
FOC IS FACE OF CURB
CL IS CENTER LINE

NOTES:

1. PAVED SURFACE - 100mm ASPHALT (COMPACTED THICKNESS) AS PER SECTION 9.0 AND SECTION 12.0.
2. BASE - 150mm AS PER SECTION 9.0.
3. SUB-BASE - 250mm AS PER SECTION 9.0.
4. BARRIER CURB AND GUTTER **TO BE USED IN ACCORDANCE WITH AS PER** STANDARD DRAWING CS-1.
5. CENTER MEDIANS **TO BE LANDSCAPED WHERE POSSIBLE AND IN ACCORDANCE WITH AS PER** STANDARD DRAWING CS-7.
6. DEPTHS OF SURFACING AND BASE GRAVELS ARE MINIMUM **AND IN SOME CASES WILL HAVE TO BE INCREASED TO MEET MAXIMUM ALLOWABLE BENKELMAN BEAM DEFLECTION.**
7. FLEX ZONE TO BE UTILIZED FOR: LANDSCAPING, STREET TREES, POCKET PARKING, TRANSIT STOPS, BUS SHELTERS, BIKE PARKING, FURNITURE, UTILITY BOXES/CABINETS, HYDRANTS, POWER POLES, STREETLIGHTS, STORMWATER MANAGEMENT, **AND/OR** WASTE RECEPTACLES.
8. SIDEWALK TO INTEGRATE WITH BUILDING FRONTAGE.
9. BANDING/BUFFER ON EITHER SIDE OF THE **BIKE PATH SHALL BE CYCLE TRACK** IS 0.3m STAMPED CONCRETE **WITH TRANSVERSE SCORE LINES AT 0.3m INTERVALS AS PER SECTION 13.0.** WHERE VERTICAL SEPARATION IS PREFERRED, **A CUSTOM** MOUNTABLE MONOLITHIC CURB MAY BE **UTILIZED PROPOSED.** ALTERNATIVE TREATMENTS TO BE APPROVED BY THE CITY ENGINEER.
10. POCKET PARKING DOOR ZONES OR OTHER HARD SURFACES TO USE COLOURED AND/OR STAMPED CONCRETE **AS PER SECTION 13.0.**
11. **ROAD STREET** HAS CONTROLLED ACCESS. **DRIVEWAY** ACCESS UNDER APPROVAL FROM CITY ENGINEER.
12. CROSS-SECTIONS TO BE USED IN CONJUNCTION WITH CITY'S COMPLETE STREET DESIGN GUIDELINES.
13. STREETLIGHTS ARE DIAGNOSTIC. LIGHTING LEVELS **TO BE IN ACCORDANCE WITH AS PER** SECTION 10.0.
14. STREET TREES TO BE DESIGNED USING SOIL VOLUMES OR SILVA CELLS AS PER SECTION 14.0.

Scale: NTS
Created: AUG 2019
Rev Date: **MAY 2020**
Dwg No: MC-XS1

STREET TYPES & CROSS SECTIONS MOBILITY COLLECTOR (BOULEVARDS)



Ed 15
ACRONYMS:
PL IS PROPERTY LINE
FOC IS FACE OF CURB
CL IS CENTER LINE

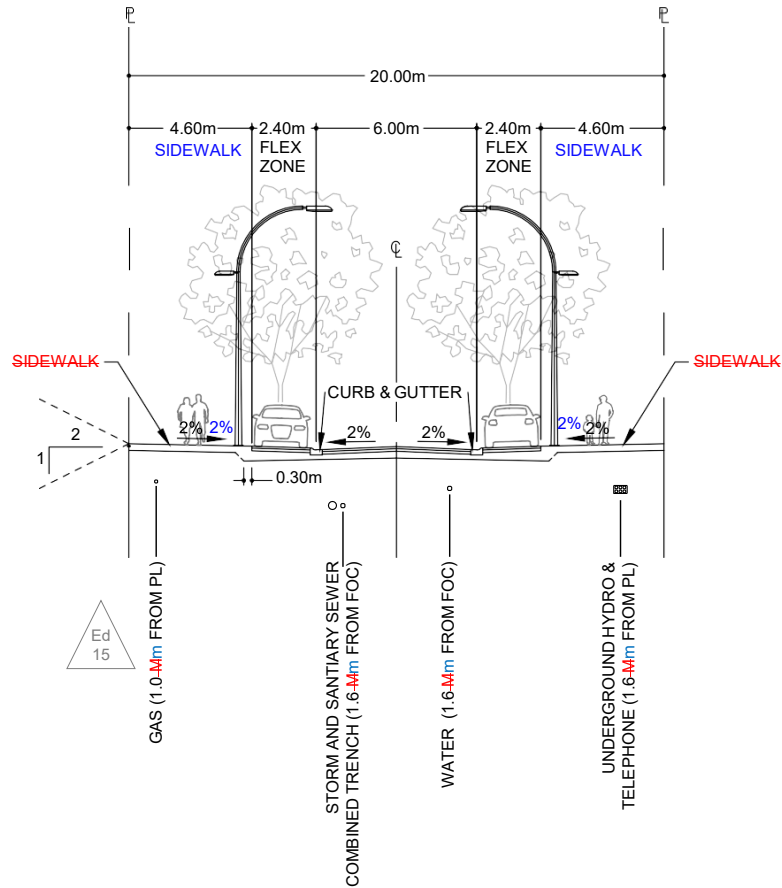
NOTES:

1. PAVED SURFACE - 100mm ASPHALT (COMPACTED THICKNESS) AS PER SECTION 9.0 AND SECTION 12.0.
2. BASE - 150mm AS PER SECTION 9.0.
3. SUB-BASE - 250mm AS PER SECTION 9.0.
4. BARRIER CURB AND GUTTER ~~TO BE USED IN ACCORDANCE WITH AS PER~~ STANDARD DRAWING CS-1. ~~FLAT AND VALLEY CURB AND GUTTER PER STANDARD DRAWING CS-4.~~
5. CENTER MEDIANS ~~TO BE LANDSCAPED WHERE POSSIBLE AND IN ACCORDANCE WITH AS PER~~ STANDARD DRAWING C-7.
6. POCKET PARKING DELINEATION CURB TO BE OPTIONAL UNLESS PARKING HAS BEEN DESIGNED WITH A REVERSE CROSSFALL. ~~MOUNTABLE~~ ROLLOVER OR VALLEY CURB TO BE USED AS GRADE BREAK FOR DRAINAGE PURPOSES.
7. DEPTHS OF SURFACING AND BASE GRAVELS ARE ~~MINIMUM AND IN SOME CASES WILL HAVE TO BE INCREASED TO MEET MAXIMUM ALLOWABLE BENKELMAN BEAM DEFLECTION.~~
8. FLEX ZONE TO BE UTILIZED FOR: LANDSCAPING, STREET TREES, POCKET PARKING, TRANSIT STOPS, BUS SHELTERS, BIKE PARKING, FURNITURE, UTILITY BOXES/CABINETS, HYDRANTS, POWER POLES, STREETLIGHTS, STORMWATER MANAGEMENT, OR WASTE RECEPTACLES.
9. SIDEWALK TO INTEGRATE WITH BUILDING FRONTAGE.
10. BANDING/BUFFER ON EITHER SIDE OF THE ~~BIKE PATH SHALL BE CYCLE TRACK~~ IS 0.3m STAMPED CONCRETE ~~WITH TRANSVERSE SCORE LINES AT 0.3m INTERVALS AS PER SECTION 13.0.~~ WHERE VERTICAL SEPARATION IS PREFERRED, ~~A CUSTOM MOUNTABLE MONOLITHIC CURB MAY BE UTILIZED PROPOSED.~~ ALTERNATIVE TREATMENTS TO BE APPROVED BY THE CITY ENGINEER.
11. POCKET PARKING DOOR ZONES OR OTHER HARD SURFACES TO USE COLOURED AND/OR STAMPED CONCRETE AS PER SECTION 13.0.
12. ~~STREET ROAD~~ HAS CONTROLLED ACCESS. ~~DRIVEWAY~~ ACCESS UNDER APPROVAL FROM CITY ENGINEER.
13. CROSS-SECTIONS TO BE USED IN CONJUNCTION WITH CITY'S COMPLETE STREET DESIGN GUIDELINES.
14. STREETLIGHTS ARE DIAGRAPHIC. LIGHTING LEVELS ~~TO BE IN ACCORDANCE WITH AS PER~~ SECTION 10.0.
15. STREET TREES TO BE DESIGNED USING SOIL VOLUMES OR SILVA CELLS AS PER SECTION 14.0.



STREET TYPES & CROSS SECTIONS
MOBILITY COLLECTOR (PARKING)

Scale: NTS
Created: AUG 2019
Rev Date: MAY 2020
Dwg No: MC-XS2



ACRONYMS:
PL IS PROPERTY LINE
FOC IS FACE OF CURB
CL IS CENTER LINE



NOTES:

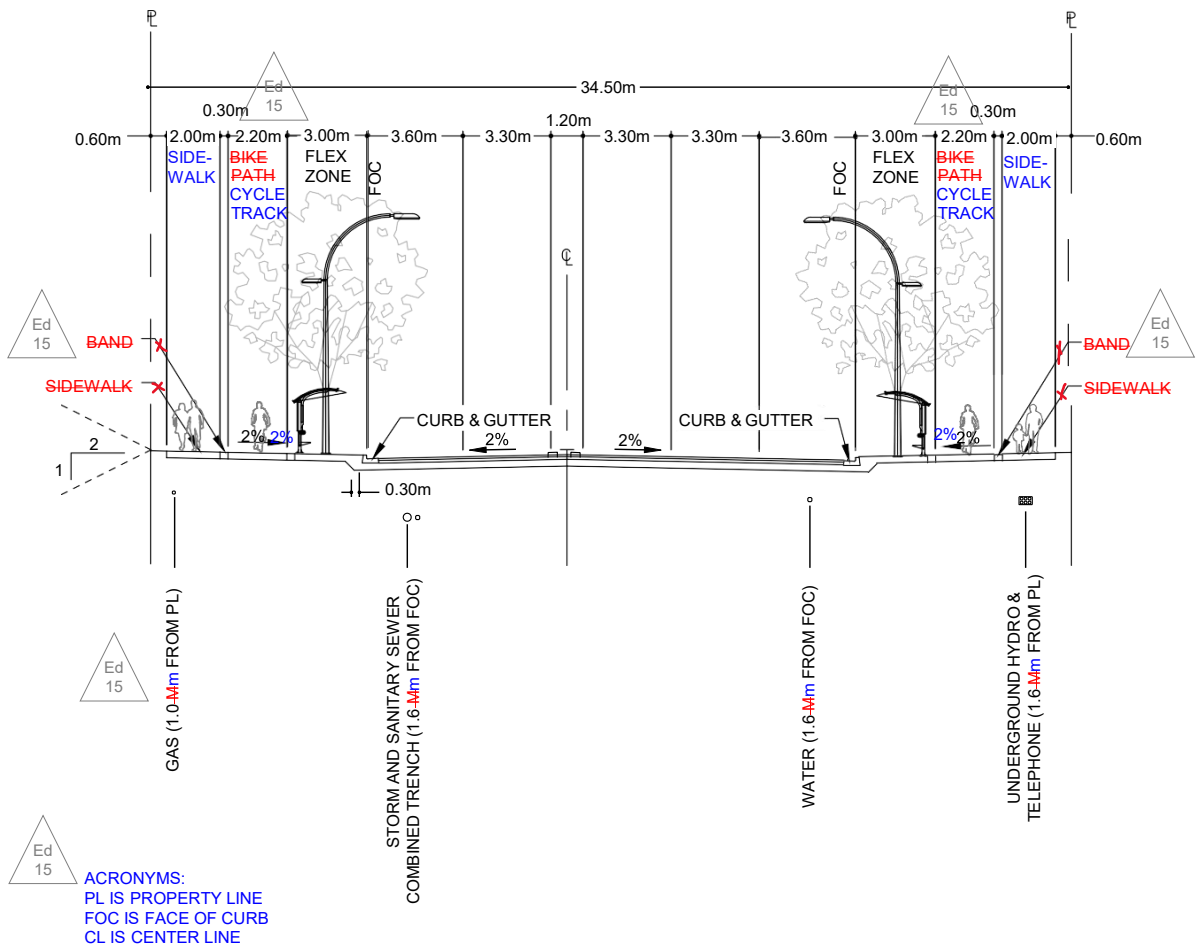
1. PAVED SURFACE - 75mm ASPHALT (COMPACTED THICKNESS) AS PER SECTION 9.0 AND SECTION 12.0.
2. BASE - 100mm AS PER SECTION 9.0.
3. SUB-BASE - 250mm AS PER SECTION 9.0.
4. MOUNTABLE ROLLOVER CURB AND GUTTER TO BE USED IN ACCORDANCE WITH AS PER STANDARD DRAWING CS-3. FLAT OR VALLEY CURB AND GUTTER PER STANDARD DRAWING CS-4.
5. POCKET PARKING DELINEATION CURB TO BE OPTIONAL UNLESS PARKING HAS BEEN DESIGNED WITH A REVERSE CROSSFALL. MOUNTABLE ROLLOVER OR VALLEY CURB TO BE USED AS GRADE BREAK FOR DRAINAGE PURPOSES.
6. DEPTHS OF SURFACING AND BASE GRAVELS ARE MINIMUM AND IN SOME CASES WILL HAVE TO BE INCREASED TO MEET MAXIMUM ALLOWABLE BENKELMAN BEAM DEFLECTION.
7. FLEX ZONE TO BE UTILIZED FOR: LANDSCAPING, STREET TREES, POCKET PARKING, TRANSIT STOPS, BUS SHELTERS, BIKE PARKING, FURNITURE, UTILITY BOXES/CABINETS, HYDRANTS, POWER POLES, STREETLIGHTS, STORMWATER MANAGEMENT, OR WASTE RECEPTACLES.
8. SIDEWALK TO INTEGRATE WITH BUILDING FRONTAGE.
9. BANDING, BUFFERS, POCKET PARKING DOOR ZONES, OR OTHER HARD SURFACES TO USE COLOURED AND/OR STAMPED CONCRETE AS PER SECTION 13.0.
10. CROSS-SECTIONS TO BE USED IN CONJUNCTION WITH CITY'S COMPLETE STREET DESIGN GUIDE LINES.
11. STREETLIGHTS ARE DIAGNOSTIC. LIGHTING LEVELS TO BE IN ACCORDANCE WITH AS PER SECTION 10.0.
12. STREET TREES TO BE DESIGNED USING SOIL VOLUMES OR SILVA CELLS AS PER SECTION 14.0.



STREET TYPES & CROSS SECTIONS MOBILITY LOCAL

Scale: NTS
Created: AUG 2019
Rev Date: MAY-2020
Dwg No: ML-XS1



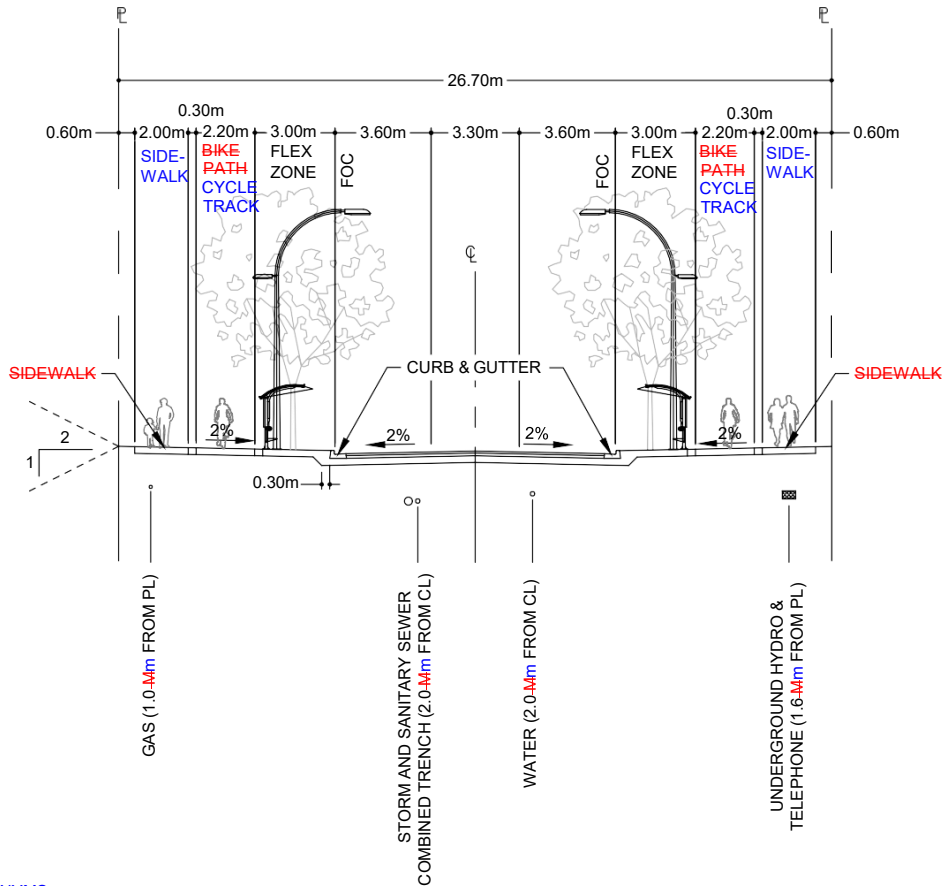


NOTES:

1. PAVED SURFACE - 125mm ASPHALT (COMPACTED THICKNESS) AS PER SECTION 9.0 AND SECTION 12.0.
2. BASE - 200mm AS PER SECTION 9.0.
3. SUB-BASE - 250mm AS PER SECTION 9.0.
4. BARRIER CURB AND GUTTER ~~TO BE USED IN ACCORDANCE WITH AS PER~~ STANDARD DRAWING CS-1. MOUNTABLE CURB AND GUTTER AS PER STANDARD DRAWING CS-3.
5. CENTER MEDIANS ~~TO BE LANDSCAPED WHERE POSSIBLE AND IN ACCORDANCE WITH AS PER~~ STANDARD DRAWING CS-7.
6. DEPTHS OF SURFACING AND BASE GRAVELS ARE MINIMUM ~~AND IN SOME CASES WILL HAVE TO BE INCREASED TO MEET MAXIMUM ALLOWABLE BENKELMAN BEAM DEFLECTION.~~
7. FLEX ZONE TO BE UTILIZED FOR: LANDSCAPING, STREET TREES, TRANSIT STOPS, BUS SHELTERS, BIKE PARKING, FURNITURE, UTILITY BOXES/CABINETS, HYDRANTS, POWER POLES, STREETLIGHTS, STORMWATER MANAGEMENT, OR WASTE RECEPTACLES.
8. BANDING/BUFFER ON EITHER SIDE OF THE ~~BIKE PATH SHALL BE CYCLE TRACK IS~~ 0.3m STAMPED CONCRETE ~~WITH TRANSVERSE SCORE LINES AT 0.3m INTERVALS AS PER SECTION 13.0.~~ WHERE VERTICAL SEPARATION IS PREFERRED, A CUSTOM MOUNTABLE MONOLITHIC CURB MAY BE ~~UTILIZED PROPOSED.~~ ALTERNATIVE TREATMENTS TO BE APPROVED BY THE CITY ENGINEER.
9. STREET ROAD HAS CONTROLLED ACCESS. DRIVEWAY ACCESS UNDER APPROVAL FROM CITY ENGINEER.
10. CROSS-SECTIONS TO BE USED IN CONJUNCTION WITH CITY'S COMPLETE STREET DESIGN GUIDELINES.
11. STREETLIGHTS ARE DIAGNOSTIC. LIGHTING LEVELS ~~TO BE IN ACCORDANCE WITH AS PER~~ SECTION 10.0.
12. LANDSCAPING ~~TO BE IN ACCORDANCE WITH AS PER~~ SECTION 14.0.

STREET TYPES & CROSS SECTIONS
URBAN ARTERIAL

Scale: NTS
 Created: AUG 2019
 Rev Date: MAY 2020
 Dwg No: UA-XS1



ACRONYMS:
 PL IS PROPERTY LINE
 FOC IS FACE OF CURB
 CL IS CENTER LINE

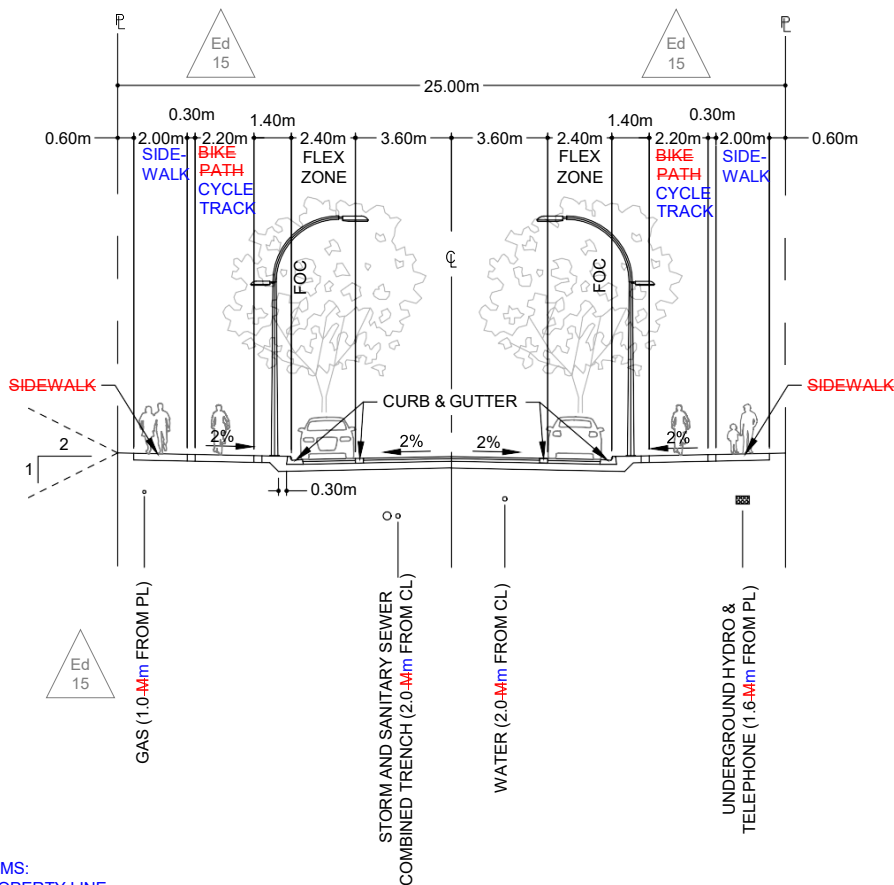
NOTES:

- PAVED SURFACE - 100mm ASPHALT (COMPACTED THICKNESS) AS PER SECTION 9.0 AND SECTION 12.0.
- BASE - 150mm AS PER SECTION 9.0.
- SUB-BASE - 250mm AS PER SECTION 9.0.
- BARRIER CURB AND GUTTER TO BE USED IN ACCORDANCE WITH AS PER STANDARD DRAWING CS-1.
- CENTER MEDIANS TO BE LANDSCAPED WHERE POSSIBLE AND IN ACCORDANCE WITH AS PER STANDARD DRAWING CS-7.
- DEPTHS OF SURFACING AND BASE GRAVELS ARE MINIMUM AND IN SOME CASES WILL HAVE TO BE INCREASED TO MEET MAXIMUM ALLOWABLE BENKELMAN BEAM DEFLECTION.
- FLEX ZONE TO BE UTILIZED FOR: LANDSCAPING, STREET TREES, POCKET PARKING, TRANSIT STOPS, BUS SHELTERS, BIKE PARKING, FURNITURE, UTILITY BOXES/CABINETS, HYDRANTS, POWER POLES, STREETLIGHTS, STORMWATER MANAGEMENT, OR WASTE RECEPTACLES.
- BANDING/BUFFER ON EITHER SIDE OF THE BIKE PATH SHALL BE CYCLE TRACK IS 0.3m STAMPED CONCRETE WITH TRANSVERSE SCORE LINES AT 0.3m INTERVALS AS PER SECTION 13.0. WHERE VERTICAL SEPARATION IS PREFERRED, A CUSTOM MOUNTABLE MONOLITHIC CURB MAY BE UTILIZED PROPOSED. ALTERNATIVE TREATMENTS TO BE APPROVED BY THE CITY ENGINEER.
- POCKET PARKING DOOR ZONES, OR OTHER HARD SURFACES TO USE COLOURED AND/OR STAMPED CONCRETE AS PER SECTION 13.0.
- STREET ROAD HAS CONTROLLED ACCESS. DRIVEWAY ACCESS UNDER APPROVAL FROM CITY ENGINEER.
- CROSS-SECTIONS TO BE USED IN CONJUNCTION WITH CITY'S COMPLETE STREET DESIGN GUIDELINES.
- STREETLIGHTS ARE DIAGRAPHIC. LIGHTING LEVELS TO BE IN ACCORDANCE WITH AS PER SECTION 10.0.
- LANDSCAPING TO BE IN ACCORDANCE WITH AS PER SECTION 14.0.



STREET TYPES & CROSS SECTIONS URBAN COLLECTOR (TURN LANE)

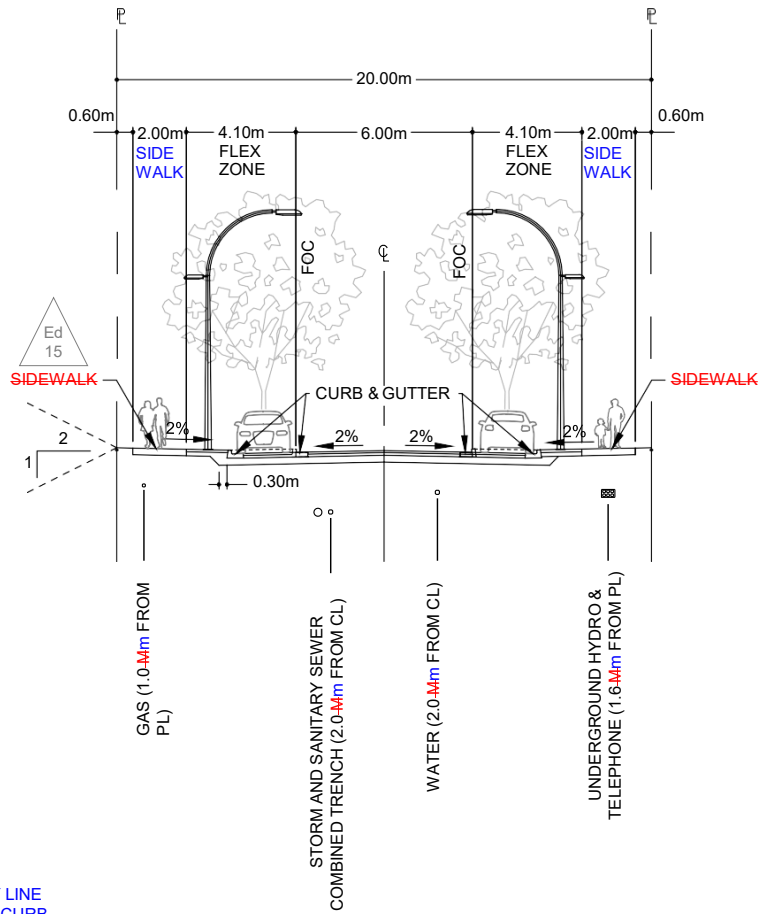
Scale: NTS
 Created: AUG 2019
 Rev Date: MAY-2020
 Dwg No: UC-XS1



Ed 15
ACRONYMS:
 PL IS PROPERTY LINE
 FOC IS FACE OF CURB
 CL IS CENTER LINE

Ed 15
NOTES:

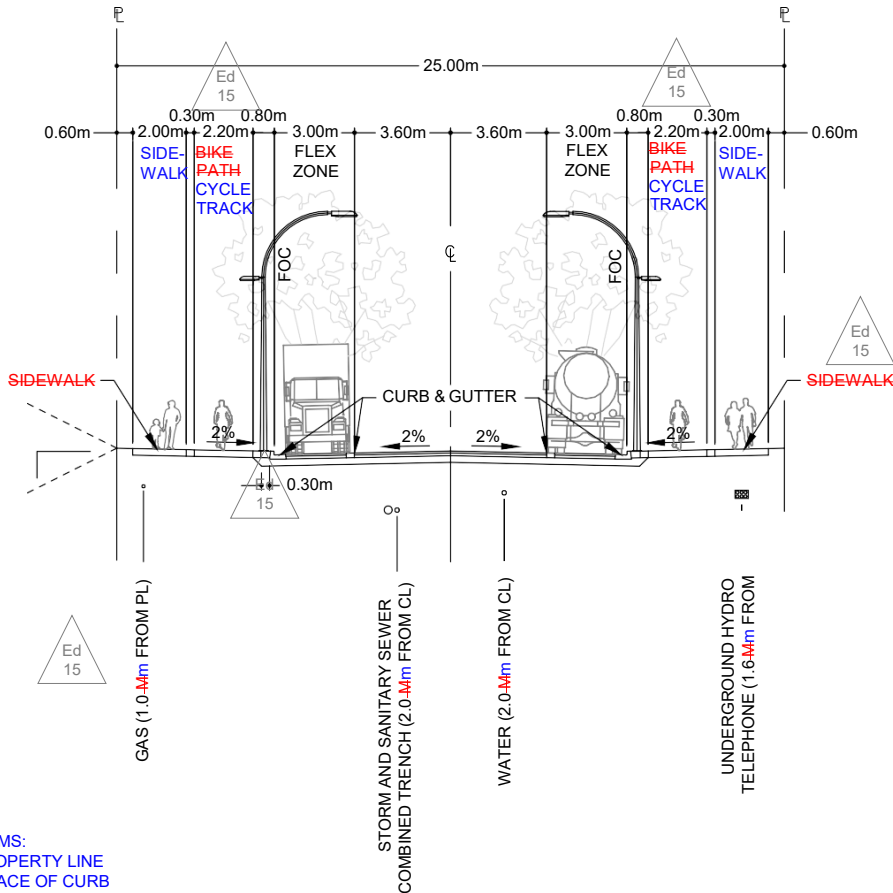
1. PAVED SURFACE - 100mm ASPHALT (COMPACTED THICKNESS) AS PER SECTION 9.0 AND SECTION 12.0.
2. BASE - 150mm AS PER SECTION 9.0.
3. SUB-BASE - 250mm AS PER SECTION 9.0.
4. BARRIER CURB AND GUTTER TO BE USED IN ACCORDANCE WITH AS PER STANDARD DRAWING CS-1. FLAT AND VALLEY CURB AND GUTTER PER STANDARD DRAWING CS-4.
5. POCKET PARKING DELINEATION CURB TO BE OPTIONAL UNLESS PARKING HAS BEEN DESIGNED WITH A REVERSE CROSSFALL. MOUNTABLE ROLLOVER OR VALLEY CURB TO BE USED AS GRADE BREAK FOR DRAINAGE PURPOSES.
6. DEPTHS OF SURFACING AND BASE GRAVELS ARE MINIMUM AND IN SOME CASES WILL HAVE TO BE INCREASED TO MEET MAXIMUM ALLOWABLE BENKELMAN BEAM DEFLECTION.
7. FLEX ZONE TO BE UTILIZED FOR: LANDSCAPING, STREET TREES, POCKET PARKING, TRANSIT STOPS, BUS SHELTERS, BIKE PARKING, FURNITURE, UTILITY BOXES/CABINETS, HYDRANTS, POWER POLES, STREETLIGHTS, STORMWATER MANAGEMENT, OR WASTE RECEPTACLES.
8. BANDING/BUFFER ON EITHER SIDE OF THE BIKE PATH SHALL BE CYCLE TRACK IS 0.3m STAMPED CONCRETE WITH TRANSVERSE SCORE LINES AT 0.3m INTERVALS AS PER SECTION 13.0. WHERE VERTICAL SEPARATION IS PREFERRED, A CUSTOM MOUNTABLE MONOLITHIC CURB MAY BE UTILIZED PROPOSED. ALTERNATIVE TREATMENTS TO BE APPROVED BY THE CITY ENGINEER.
9. POCKET PARKING DOOR ZONES OR OTHER HARD SURFACES TO USE COLOURED AND/OR STAMPED CONCRETE AS PER SECTION 13.0.
10. STREET ROAD HAS CONTROLLED ACCESS. DRIVEWAY ACCESS UNDER APPROVAL FROM CITY ENGINEER.
11. CROSS-SECTIONS TO BE USED IN CONJUNCTION WITH CITY'S COMPLETE STREET DESIGN GUIDELINES.
12. STREETLIGHTS ARE DIAGNAPHIC. LIGHTING LEVELS TO BE IN ACCORDANCE WITH AS PER SECTION 10.
13. LANDSCAPING TO BE IN ACCORDANCE WITH AS PER SECTION 14.0.



ACRONYMS:
 PL IS PROPERTY LINE
 FOC IS FACE OF CURB
 CL IS CENTER LINE

NOTES:

1. PAVED SURFACE - 75mm ASPHALT (COMPACTED THICKNESS) AS PER SECTION 9.0 AND SECTION 12.0.
2. BASE - 100mm AS PER SECTION 9.0.
3. SUB-BASE - 250mm AS PER SECTION 9.0.
4. BARRIER CURB AND GUTTER TO BE USED IN ACCORDANCE WITH AS PER STANDARD DRAWING CS-1. MOUNTABLE CURB AND GUTTER AS PER STANDARD DRAWING CS-3. FLAT AND VALLEY CURB AND GUTTER PER STANDARD DRAWING CS-4.
5. POCKET PARKING DELINEATION CURB TO BE OPTIONAL UNLESS PARKING HAS BEEN DESIGNED WITH A REVERSE CROSSFALL. MOUNTABLE ROLLOVER OR VALLEY CURB TO BE USED AS GRADE BREAK FOR DRAINAGE PURPOSES.
6. DEPTHS OF SURFACING AND BASE GRAVELS ARE MINIMUM AND IN SOME CASES WILL HAVE TO BE INCREASED TO MEET MAXIMUM ALLOWABLE BENKELMAN BEAM DEFLECTION.
7. FLEX ZONE TO BE UTILIZED FOR: LANDSCAPING, STREET TREES, POCKET PARKING, TRANSIT STOPS, BUS SHELTERS, BIKE PARKING, FURNITURE, UTILITY BOXES/CABINETS, HYDRANTS, POWER POLES, STREETLIGHTS, STORMWATER MANAGEMENT, OR WASTE RECEPTACLES.
8. BANDING, BUFFERS, POCKET PARKING DOOR ZONES, OR OTHER HARD SURFACES TO USE COLOURED AND/OR STAMPED CONCRETE AS PER SECTION 13.0.
9. CROSS-SECTIONS TO BE USED IN CONJUNCTION WITH CITY'S COMPLETE STREET DESIGN GUIDELINES.
10. STREETLIGHTS ARE DIAGRAPHIC. LIGHTING LEVELS TO BE IN ACCORDANCE WITH AS PER SECTION 10.0.
11. LANDSCAPING TO BE IN ACCORDANCE WITH AS PER SECTION 14.0.



ACRONYMS:
 PL IS PROPERTY LINE
 FOC IS FACE OF CURB
 CL IS CENTER LINE

NOTES:

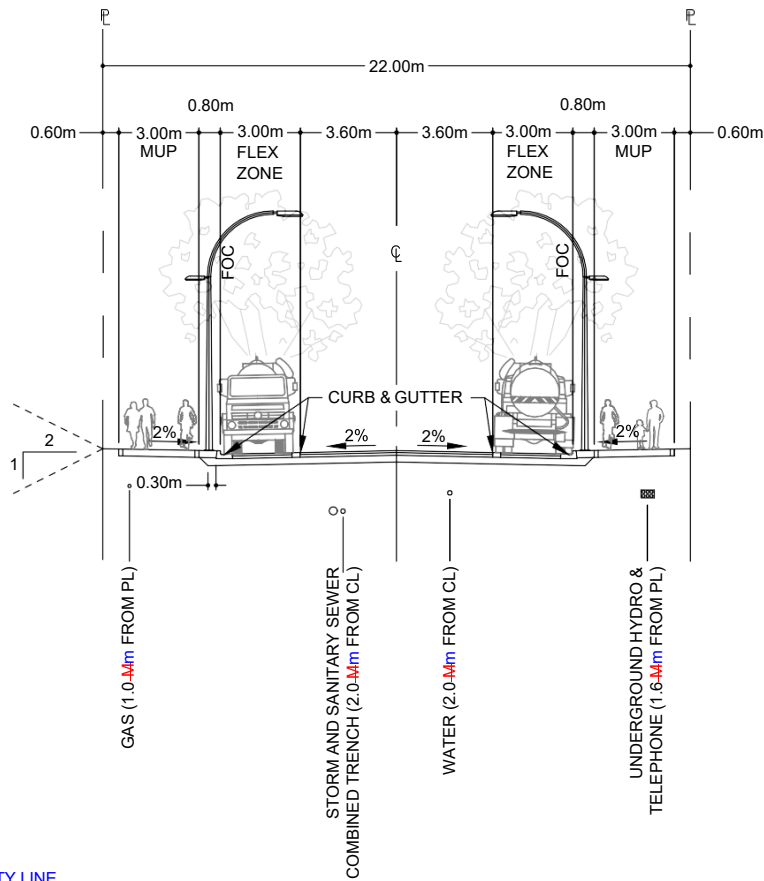
- PAVED SURFACE - 125mm ASPHALT (COMPACTED THICKNESS) AS PER SECTION 9.0 AND SECTION 12.0.
- BASE - 200mm AS PER SECTION 9.0.
- SUB-BASE - 250mm AS PER SECTION 9.0.
- BARRIER CURB AND GUTTER TO BE USED IN ACCORDANCE WITH AS PER STANDARD DRAWING CS-1. FLAT AND VALLEY CURB AND GUTTER PER STANDARD DRAWING CS-4.
- POCKET PARKING DELINEATION CURB TO BE OPTIONAL UNLESS PARKING HAS BEEN DESIGNED WITH A REVERSE CROSSFALL. MOUNTABLE ROLLOVER OR VALLEY CURB TO BE USED AS GRADE BREAK FOR DRAINAGE PURPOSES.
- DEPTHS OF SURFACING AND BASE GRAVELS ARE MINIMUM AND IN SOME CASES WILL HAVE TO BE INCREASED TO MEET MAXIMUM ALLOWABLE BENKELMAN BEAM DEFLECTION.
- FLEX ZONE TO BE UTILIZED FOR: LANDSCAPING, STREET TREES, POCKET PARKING, TRANSIT STOPS, BUS SHELTERS, BIKE PARKING, FURNITURE, UTILITY BOXES/CABINETS, HYDRANTS, POWER POLES, STREETLIGHTS, STORMWATER MANAGEMENT, OR WASTE RECEPTACLES.
- BANDING/BUFFER ON EITHER SIDE OF THE BIKE PATH SHALL BE CYCLE TRACK IS 0.3m STAMPED CONCRETE WITH TRANSVERSE SCORE LINES AT 0.3m INTERVALS AS PER SECTION 13.0. WHERE VERTICAL SEPARATION IS PREFERRED, A CUSTOM MOUNTABLE MONOLITHIC CURB MAY BE UTILIZED PROPOSED. ALTERNATIVE TREATMENTS TO BE APPROVED BY THE CITY ENGINEER.
- POCKET PARKING DOOR ZONES, OR OTHER HARD SURFACES TO USE COLOURED AND/OR STAMPED CONCRETE AS PER SECTION 13.0.
- STREET ROAD HAS CONTROLLED ACCESS. DRIVEWAY ACCESS UNDER APPROVAL FROM CITY ENGINEER.
- CROSS-SECTIONS TO BE USED IN CONJUNCTION WITH CITY'S COMPLETE STREET DESIGN GUIDELINES.
- STREETLIGHTS ARE DIAGRAPHIC. LIGHTING LEVELS TO BE IN ACCORDANCE WITH AS PER SECTION 10.0.
- LANDSCAPING TO BE IN ACCORDANCE WITH AS PER SECTION 14.0.



**STREET TYPES & CROSS SECTIONS
 INDUSTRIAL COLLECTOR**

Engineering Standards & Specifications
 Edition No-14-15

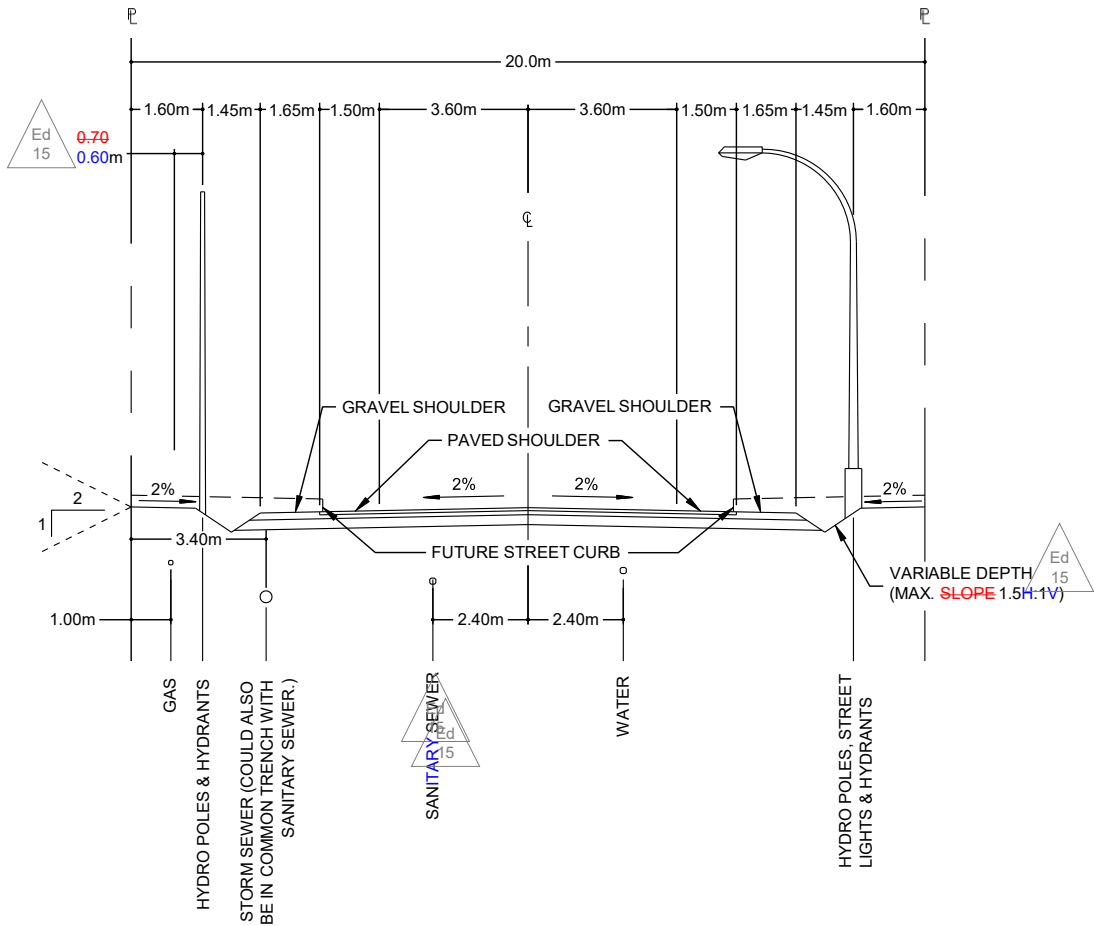
Scale: NTS
 Created: AUG 2019
 Rev Date: JULY 2022
 Dwg No: IC-XS1



ACRONYMS:
 PL IS PROPERTY LINE
 FOC IS FACE OF CURB
 CL IS CENTER LINE
 MUP IS MULTI-USE PATH

NOTES:

- PAVED SURFACE - 125mm ASPHALT (COMPACTED THICKNESS) **AS PER SECTION 9.0 AND SECTION 12.0.**
- BASE - 200mm **AS PER SECTION 9.0.**
- SUB-BASE - 250mm **AS PER SECTION 9.0.**
- BARRIER CURB AND GUTTER **TO BE USED IN ACCORDANCE WITH AS PER STANDARD DRAWING CS-1. MOUNTABLE CURB AND GUTTER AS PER STANDARD DRAWING CS-3. FLAT AND VALLEY CURB AND GUTTER PER STANDARD DRAWING CS-4.**
- POCKET PARKING DELINEATION CURB TO BE OPTIONAL UNLESS PARKING HAS BEEN DESIGNED WITH A REVERSE CROSSFALL. **MOUNTABLE** ROLLOVER OR VALLEY CURB TO BE USED AS GRADE BREAK FOR DRAINAGE PURPOSES. DEPTHS OF SURFACING AND BASE GRAVELS ARE MINIMUM **AND IN SOME CASES WILL HAVE TO BE INCREASED TO MEET MAXIMUM ALLOWABLE BENKELMAN BEAM DEFLECTION.**
- FLEX ZONE TO BE UTILIZED FOR: LANDSCAPING, STREET TREES, POCKET PARKING, TRANSIT STOPS, BUS SHELTERS, BIKE PARKING, FURNITURE, UTILITY BOXES/CABINETS, HYDRANTS, POWER POLES, STREETLIGHTS, STORMWATER MANAGEMENT, OR WASTE RECEPTACLES.
- BANDING, BUFFERS, POCKET PARKING DOOR ZONES, OR OTHER HARD SURFACES TO USE COLOURED AND/OR STAMPED CONCRETE **AS PER SECTION 13.0.**
- CROSS-SECTIONS TO BE USED IN CONJUNCTION WITH CITY'S COMPLETE STREET DESIGN GUIDELINES.
- STREETLIGHTS ARE DIAGRAPHIC. LIGHTING LEVELS **TO BE IN ACCORDANCE WITH AS PER SECTION 10.0.**
- LANDSCAPING **TO BE IN ACCORDANCE WITH AS PER** WITH SECTION 14.0.



ACRONYMS:
PL IS PROPERTY LINE
CL IS CENTER LINE



NOTES:

1. PAVED SURFACE - 75mm ASPHALT (COMPACTED THICKNESS) AS PER SECTION 9.0 AND SECTION 12.0.
2. BASE - 100mm AS PER SECTION 9.0.
3. SUB-BASE - 250mm AS PER SECTION 9.0.
4. SHOULDER - CRUSHED GRAVEL AS PER SECTION 9.0.
5. DEPTHS OF SURFACING AND BASE GRAVELS ARE MINIMUM AND IN SOME CASES WILL HAVE TO BE INCREASED TO MEET MAXIMUM ALLOWABLE BENKELMAN BEAM DEFLECTION.
6. STREETLIGHTS ARE DIAGNOSTIC. LIGHTING LEVELS TO BE IN ACCORDANCE WITH AS PER SECTION 10.0.
7. ACTIVE TRANSPORTATION REQUIREMENTS TO BE DETERMINED BY THE CITY TRANSPORTATION ENGINEER.

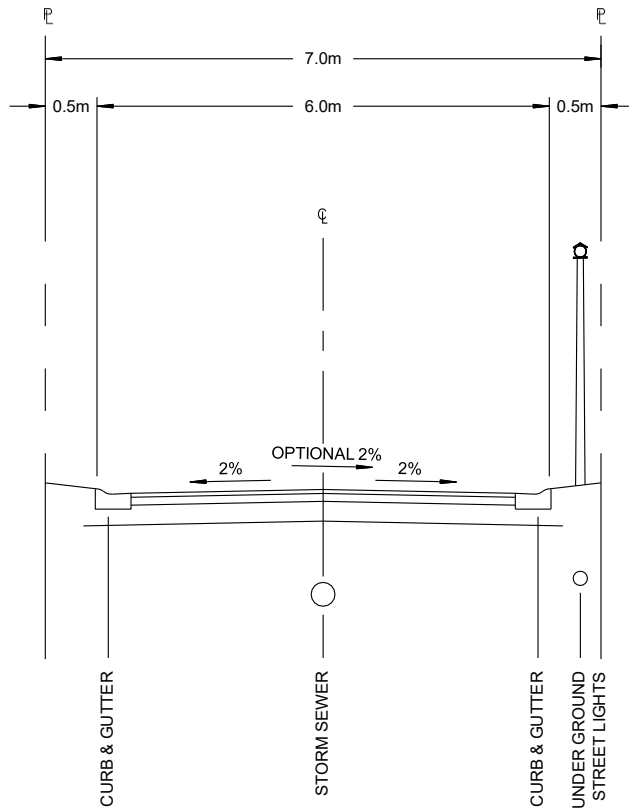


STREET TYPES & CROSS SECTIONS
RURAL LOCAL

Engineering Standards & Specifications
May-2020 Edition 15

Scale: NTS
Created: MAY 2013
Rev Date: MAY-2020
Dwg No: RL-XS1





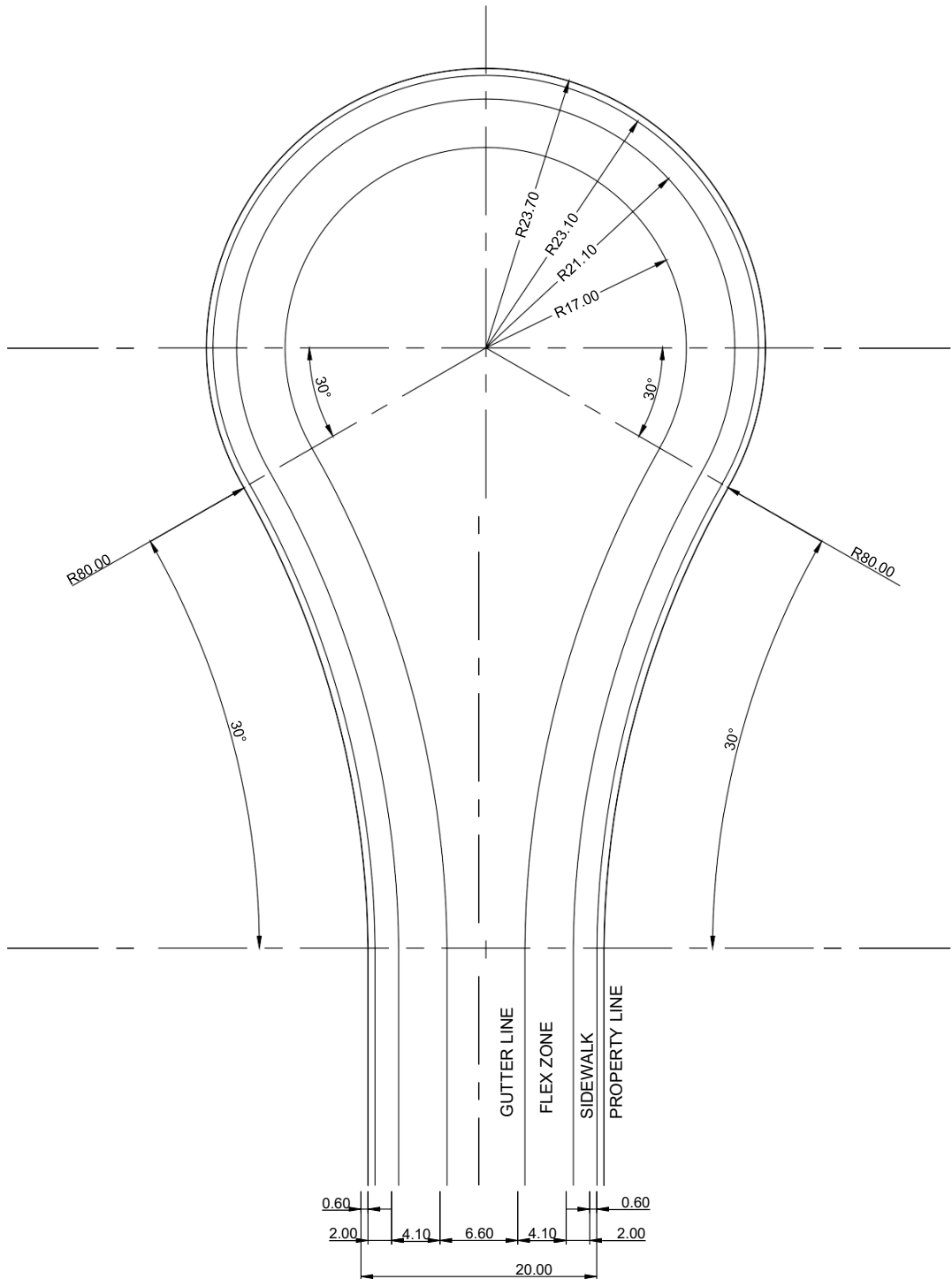
ACRONYMS:
PL IS PROPERTY LINE
CL IS CENTER LINE



NOTES:

1. PAVED SURFACE - 75mm ASPHALT (COMPACTED THICKNESS) AS PER SECTION 9.0 AND SECTION 12.0.
2. BASE - 100mm AS PER SECTION 9.0.
3. SUB-BASE - 250mm AS PER SECTION 9.0.
4. BARRIER CURB AND GUTTER ~~TO BE USED IN ACCORDANCE WITH AS PER~~ STANDARD DRAWING CS-1. MOUNTABLE CURB AND GUTTER AS PER STANDARD DRAWING CS-3.
5. DEPTHS OF SURFACING AND BASE GRAVELS ARE MINIMUM ~~AND IN SOME CASES WILL HAVE TO BE INCREASED TO MEET MAXIMUM ALLOWABLE BENKELMAN BEAM DEFLECTION.~~
6. STREETLIGHTS ARE DIAGRAPHIC. LIGHTING LEVELS ~~TO BE IN ACCORDANCE WITH AS PER~~ SECTION 10.0.





NOTE:

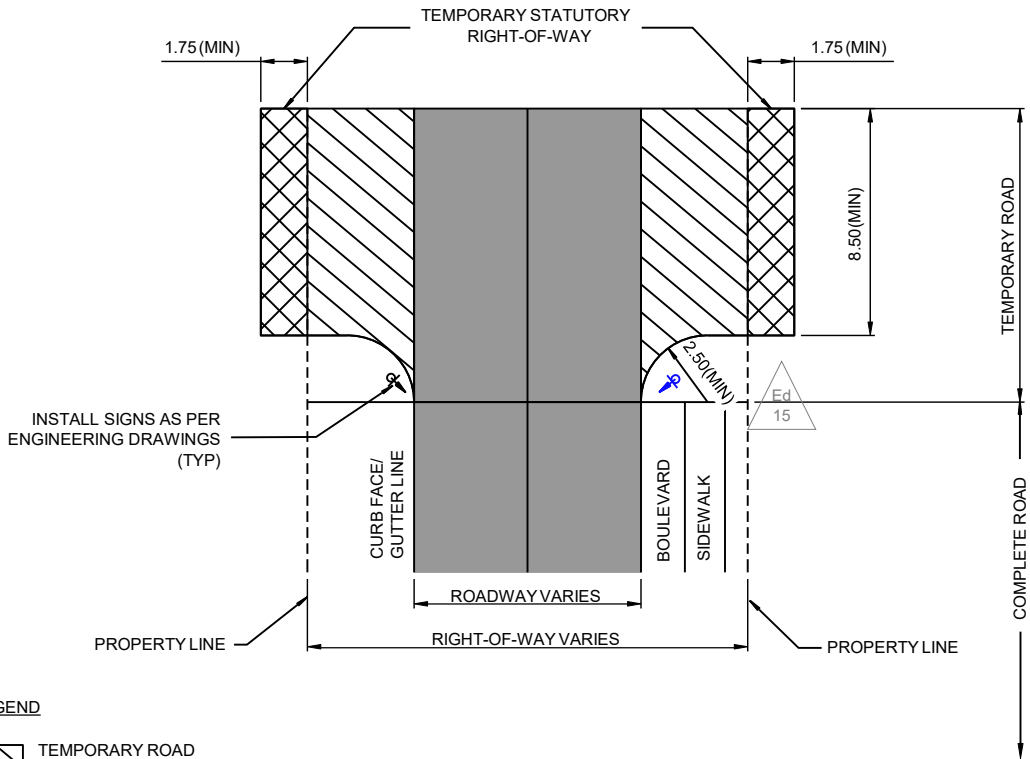
1. ALL DIMENSIONS SHOWN ARE MINIMUM.
2. ALL DIMENSIONS IN **METERS** UNLESS OTHERWISE SHOWN.
3. **APPLIES TO NEW CUL-DE-SACS**

CITY OF NANAIMO
THE HARBOUR CITY

STREET TYPES & CROSS SECTIONS
CUL-DE-SAC

Engineering Standards & Specifications
Edition 15

Scale: NTS
Created: MAY 2020
Rev Date: **MAY-2020**
Dwg No: R-CDS



LEGEND



TEMPORARY ROAD
WITH FULL DEPTH
ROAD STRUCTURE



COMPLETE ROAD



TEMPORARY STATUTORY
RIGHT-OF-WAY OR TEMPORARY
ROAD DEDICATION, WILL BE
RELEASED WHEN ROAD IS
CONNECTED.

TEMPORARY TURNAROUND

NOTES:

1. STANDARD TEMPORARY TURNAROUND SHALL BE USED FOR LOCAL LOW VOLUME ROADS AND A TEMPORARY STATUTORY RIGHT-OF-WAY SHALL BE APPLIED UNTIL THE **ROAD STREET** IS CONNECTED. A TEMPORARY ROAD DEDICATION SHALL BE APPLIED UNTIL THE **ROAD STREET** IS CONNECTED WHEN SUITABLE.
2. PARKING IS NOT PERMITTED WITHIN THE TEMPORARY TURNAROUND, REGULATORY SIGNAGE SHALL BE INSTALLED.
3. ALL DIMENSIONS IN **METERS METRES** UNLESS OTHERWISE SHOWN.
4. IF PROPERTY DOES NOT HAVE SUFFICIENT FIRE TRUCK ACCESS ON-SITE, THE DESIGN WILL REQUIRE FIRE DEPARTMENT APPROVAL.

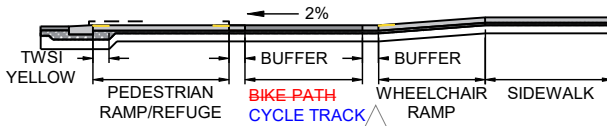
CITY OF NANAIMO
THE HARBOUR CITY

STREET TYPES & CROSS SECTIONS
TEMPORARY TURNAROUND

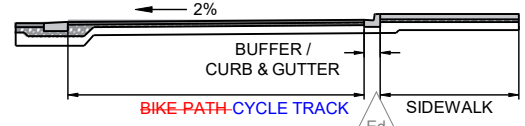
Engineering Standards & Specifications
Edition 15

Scale: NTS
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Rev Date: **MAY-2020**
Dwg No: R-TT

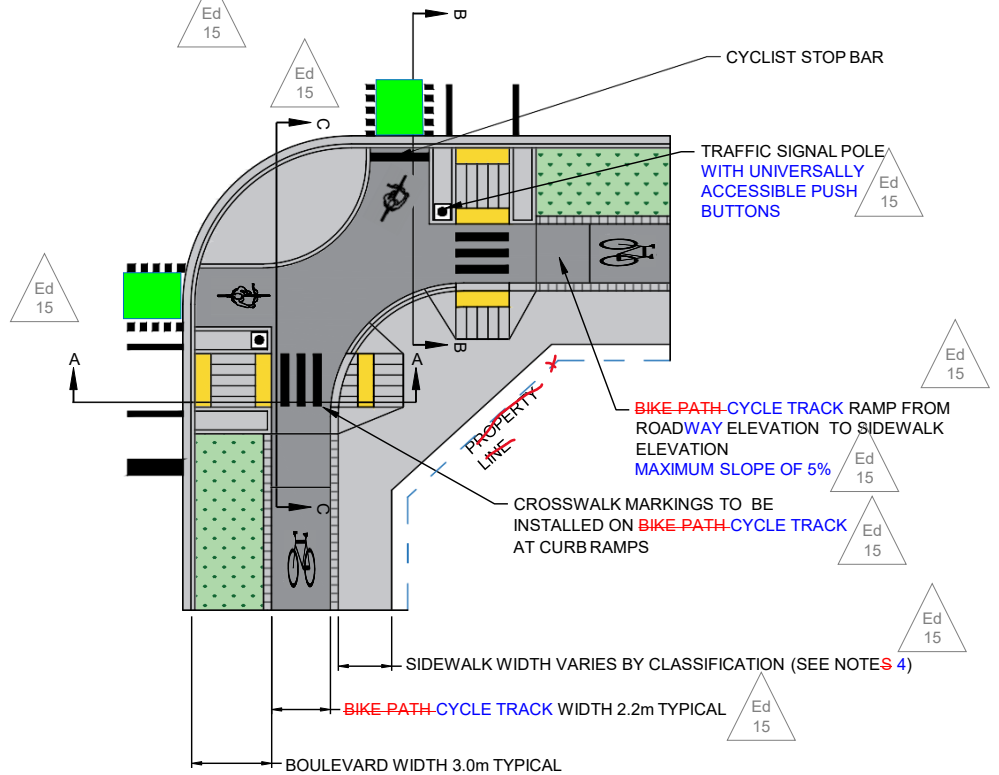
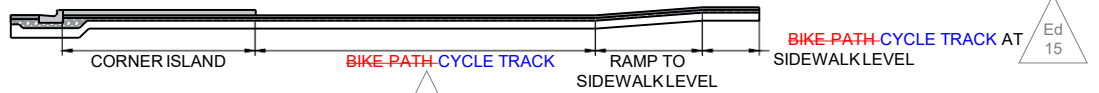
SECTION A-A



SECTION B-B



SECTION C-C



NOTES:

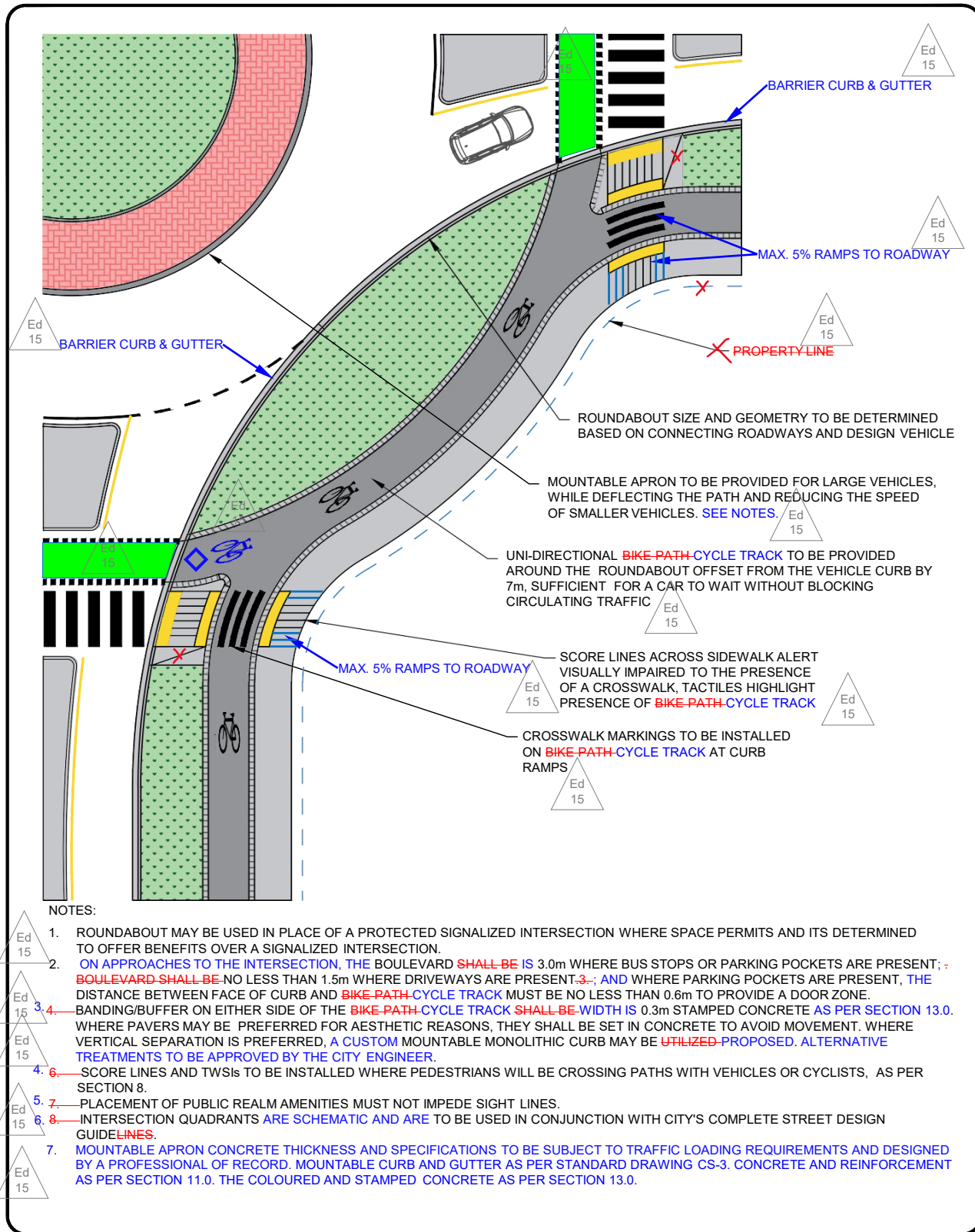
1. PROTECTED INTERSECTIONS REQUIRED AT ALL COLLECTOR AND ARTERIAL INTERSECTIONS WITH **PROTECTED-BIKE LANES CYCLE TRACKS**.
2. ON APPROACHES TO THE INTERSECTION, THE BOULEVARD **SHALL BE** 3.0m WHERE BUS STOPS OR PARKING POCKETS ARE PRESENT; **BOULEVARD SHALL BE** NO LESS THAN 1.5m WHERE DRIVEWAYS ARE PRESENT; **AND** WHERE PARKING POCKETS ARE PRESENT, DISTANCE BETWEEN FACE OF CURB AND BIKE PATH MUST BE NO LESS THAN 0.6m TO PROVIDE A DOOR ZONE.
3. **WHERE PARKING POCKETS ARE PRESENT, DISTANCE BETWEEN FACE OF CURB AND BIKE PATH MUST BE NO LESS THAN 0.6m TO PROVIDE A DOOR ZONE.**
4. **BANDING/BUFFER ON EITHER SIDE OF THE BIKE-PATH CYCLE TRACK SHALL BE 0.3m STAMPED CONCRETE. WHERE PAVERS MAY BE PREFERRED FOR AESTHETIC REASONS, THEY SHALL BE SET IN CONCRETE TO AVOID MOVEMENT AS PER SECTION 13.0. WHERE VERTICAL SEPARATION IS PREFERRED, A CUSTOM MOUNTABLE MONOLITHIC CURB MAY BE UTILIZED PROPOSED. ALTERNATIVE TREATMENTS TO BE APPROVED BY THE CITY ENGINEER.**
5. **SIDEWALK WIDTH VARIES BY CLASSIFICATION, 2.0m MIN. FOR URBAN OR INDUSTRIAL STREETS, 4.0m MIN. FOR MOBILITY STREETS.**
6. **SCORE LINES AND TWSIs TO BE INSTALLED WHERE PEDESTRIANS WILL BE CROSSING PATHS WITH VEHICLES OR CYCLISTS, AS PER SECTION 8.0.**
7. **PLACEMENT OF PUBLIC REALM AMENITIES MUST NOT IMPEDE SIGHT LINES.**
8. **INTERSECTION QUADRANTS ARE SCHEMATIC AND ARE TO BE USED IN CONJUNCTION WITH CITY'S COMPLETE STREET DESIGN GUIDELINES.**

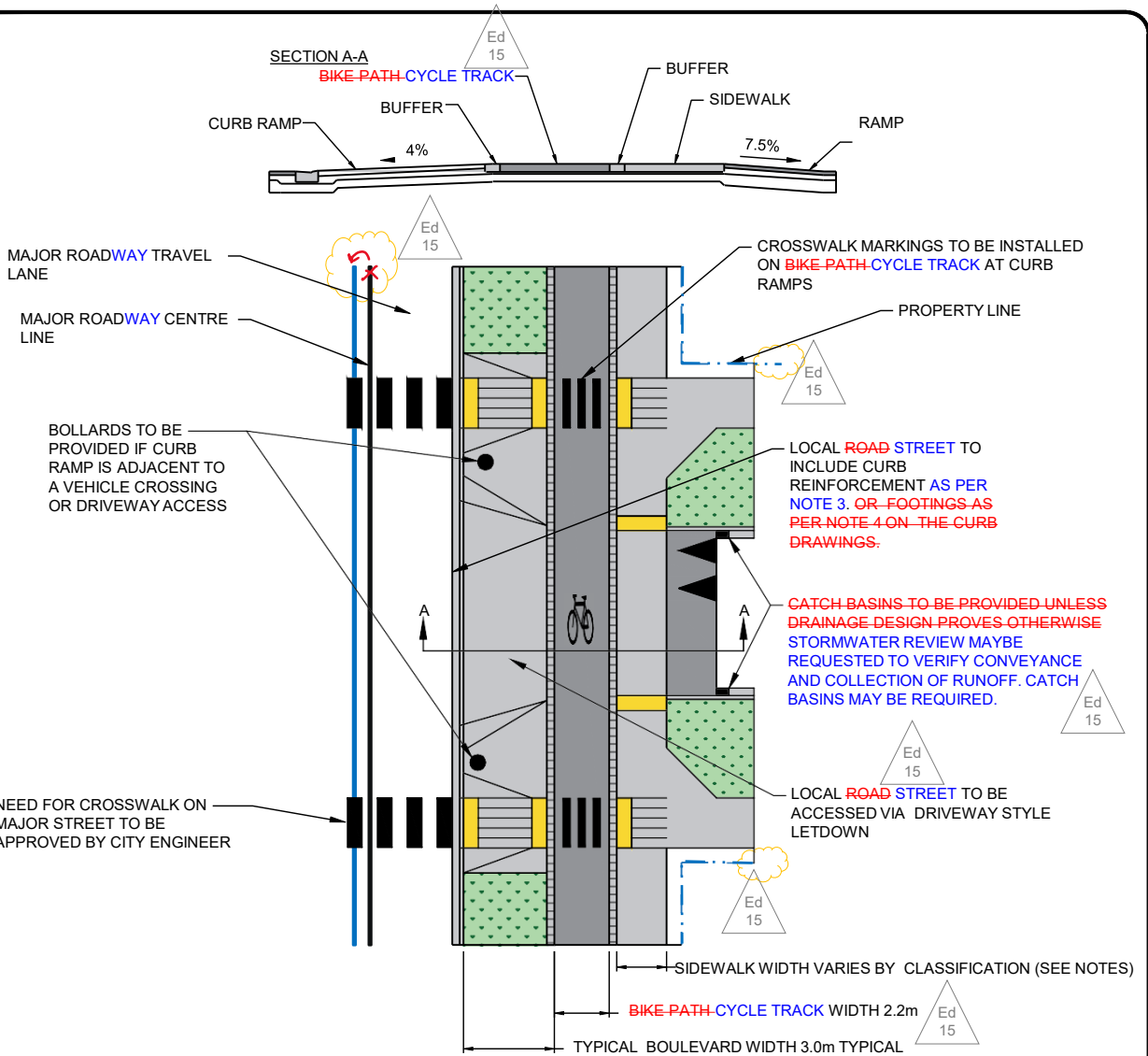
CITY OF NANAIMO
THE HARBOUR CITY

**INTERSECTIONS
PROTECTED**

Engineering Standards & Specifications
Edition **No-14 15**

Scale: NTS
Created: AUG 2019
Rev Date: **JULY 2022**
Dwg No: R-PI





NOTES:

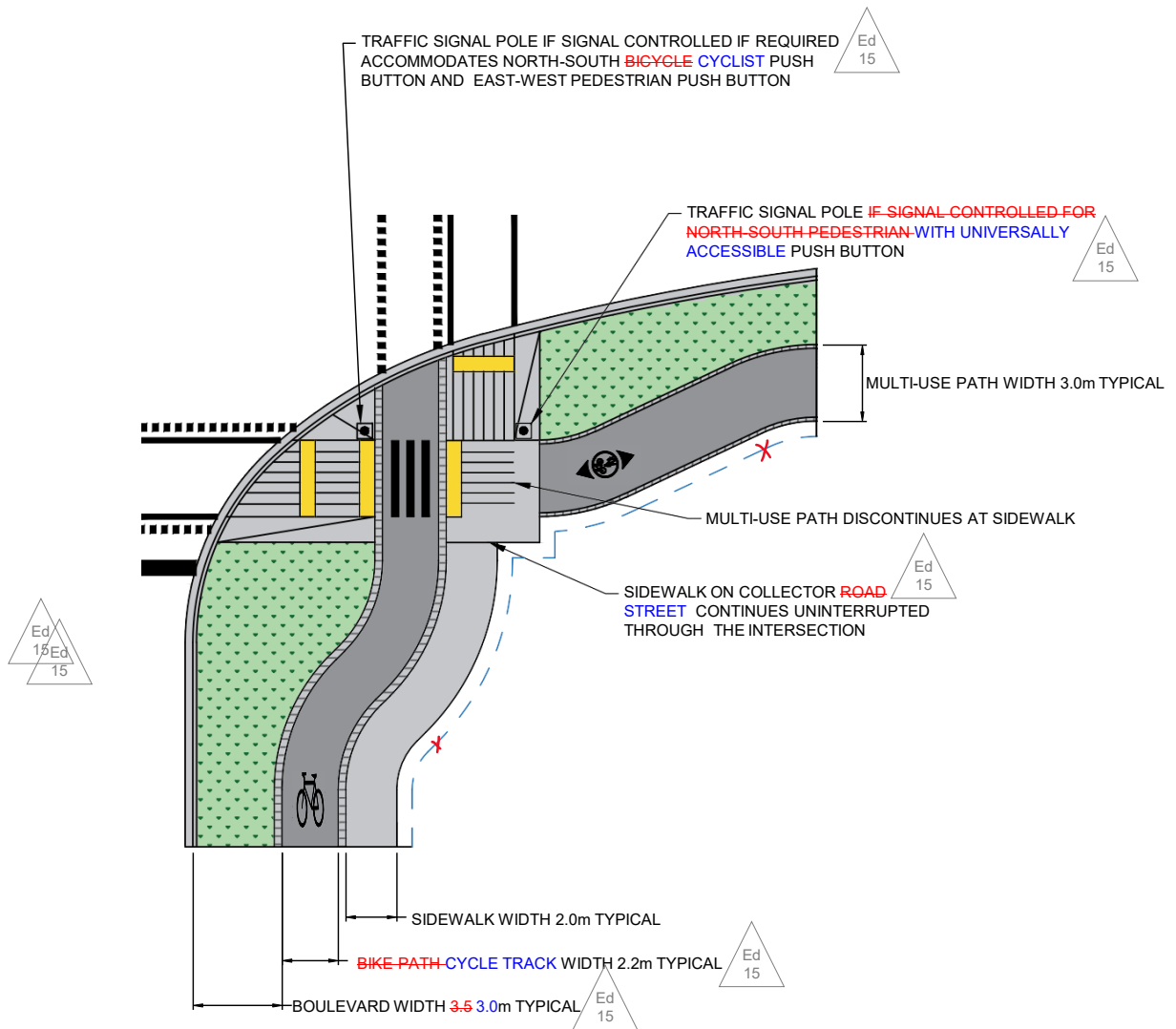
1. BIKE-PATH-CYCLE TRACK AND SIDEWALK TO REMAIN AT LEVEL GRADE THROUGH INTERSECTION.
2. CONCRETE SURFACES TO BE A MINIMUM THICKNESS OF 100mm AND 150mm WHERE VEHICLE TRAFFIC IS ANTICIPATED. CONCRETE REQUIREMENTS AS PER SECTION 11.0.
3. CONCRETE DROP CURB AND GUTTER TO HAVE REINFORCING BARS OR CONCRETE FOOTING AS PER STANDARD DRAWING CS-2.
4. WHERE LOCAL ROAD STREET IS ONLY PRESENT ON ONE SIDE OF THE STREET AND MAJOR ROAD STREET HAS BIKE-PATH-CYCLE TRACK, PROVIDE CURB RAMP LETDOWN OPPOSITE LOCAL ROAD STREET TO PROVIDE ACCESS FROM THE LOCAL ROAD STREET TO THE OPPOSITE BIKE-PATH-CYCLE TRACK.
5. BOULEVARD SHALL BE 3.0m WHERE BUS STOPS OR PARKING POCKETS ARE PRESENT. BOULEVARD SHALL BE NO LESS THAN 1.5m WHERE DRIVEWAYS ARE PRESENT.
6. WHERE PARKING POCKETS ARE PRESENT, DISTANCE BETWEEN FACE OF CURB AND BIKE-PATH-CYCLE TRACK MUST BE NO LESS THAN 0.6m TO PROVIDE A DOOR ZONE.
7. BANDING/BUFFER ON EITHER SIDE OF THE BIKE-PATH-CYCLE TRACK SHALL BE 0.3m STAMPED CONCRETE AS PER SECTION 13.0. WHERE PAVERS MAY BE PREFERRED FOR AESTHETIC REASONS, THEY SHALL BE SET IN CONCRETE TO AVOID MOVEMENT. WHERE VERTICAL SEPARATION IS PREFERRED, A CUSTOM MOUNTABLE MONOLITHIC CURB MAY BE UTILIZED PROPOSED. ALTERNATIVE TREATMENTS TO BE APPROVED BY THE CITY ENGINEER.
8. SIDEWALK WIDTH VARIES BY CLASSIFICATION, 2.0m MIN. FOR URBAN OR INDUSTRIAL STREETS, 4.0m MIN. FOR MOBILITY STREETS.
9. SCORE LINES AND TWSs TO BE INSTALLED WHERE PEDESTRIANS WILL BE CROSSING PATHS WITH VEHICLES OR CYCLISTS.
10. PLACEMENT OF PUBLIC REALM AMENITIES MUST NOT IMPEDE SIGHT LINES.
11. INTERSECTION QUADRANTS TO BE USED IN CONJUNCTION WITH CITY'S COMPLETE STREET DESIGN GUIDELINES.



**INTERSECTIONS
RAISED LOCAL**

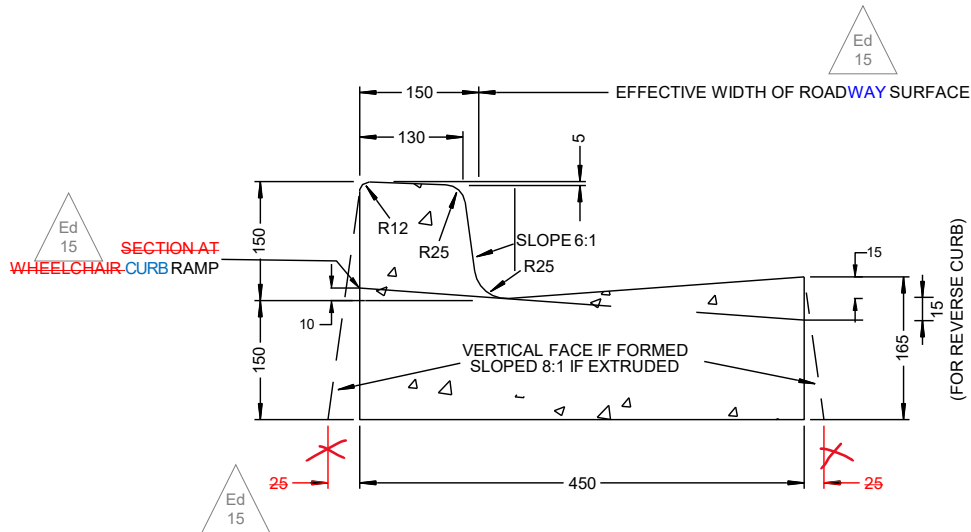
Engineering Standards & Specifications
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Scale: NTS
 Created: AUG 2019
 Rev Date: JULY 2022
 Dwg No: R-RLI



NOTES:

1. ON APPROACHES TO THE INTERSECTION, THE BOULEVARD SHALL BE MINIMUM 3.0m WHERE BUS STOPS OR PARKING POCKETS ARE PRESENT; ~~4. BOULEVARD SHALL BE~~ NO LESS THAN 1.5m WHERE DRIVEWAYS ARE PRESENT; ~~3.;~~ AND WHERE PARKING POCKETS ARE PRESENT, THE DISTANCE BETWEEN FACE OF CURB AND ~~BIKE PATH CYCLE TRACK~~ MUST BE NO LESS THAN 0.6m TO PROVIDE A DOOR ZONE.
2. ~~BOULEVARD SHALL BE MINIMUM 3.5m WHERE PARKING POCKETS ARE PRESENT TO ALLOW WIDER PARKING SPACES.~~
3. ~~WHERE PARKING POCKETS ARE PRESENT, DISTANCE BETWEEN FACE OF CURB AND BIKE PATH MUST BE NO LESS THAN 0.6m TO PROVIDE A DOOR ZONE.~~
4. ~~BOULEVARD SHALL BE NO LESS THAN 1.5m WHERE DRIVEWAYS ARE PRESENT.~~
5. BANDING/BUFFER ON EITHER SIDE OF THE ~~BIKE PATH CYCLE TRACK~~ SHALL BE 0.3m STAMPED CONCRETE ~~AS PER SECTION 13.0.~~ WHERE PAVERS MAY BE PREFERRED FOR AESTHETIC REASONS, THEY SHALL BE SET IN CONCRETE TO AVOID MOVEMENT. ~~WHERE VERTICAL SEPARATION IS PREFERRED, A CUSTOM MOUNTABLE MONOLITHIC CURB MAY BE PROPOSED. ALTERNATIVE TREATMENTS TO BE APPROVED BY THE CITY ENGINEER.~~
6. ~~MULTI-USE PATH ON INDUSTRIAL LOCAL ROADS STREET~~ WILL FEATURE 0.3m STAMPED CONCRETE EDGES ~~WITH TRANSVERSE SCORE LINES AT 0.3m INTERVALS AS PER SECTION 13.0.~~
7. ~~SCORE LINES AND TWSIs TO BE INSTALLED WHERE PEDESTRIANS WILL BE CROSSING PATHS WITH VEHICLES OR CYCLISTS, AS PER SECTION 8.~~
8. ~~PLACEMENT OF PUBLIC REALM AMENITIES MUST NOT IMPEDE SIGHT LINES.~~
9. ~~INTERSECTION QUADRANTS TO BE USED IN CONJUNCTION WITH CITY'S COMPLETE STREET DESIGN GUIDE LINES.~~

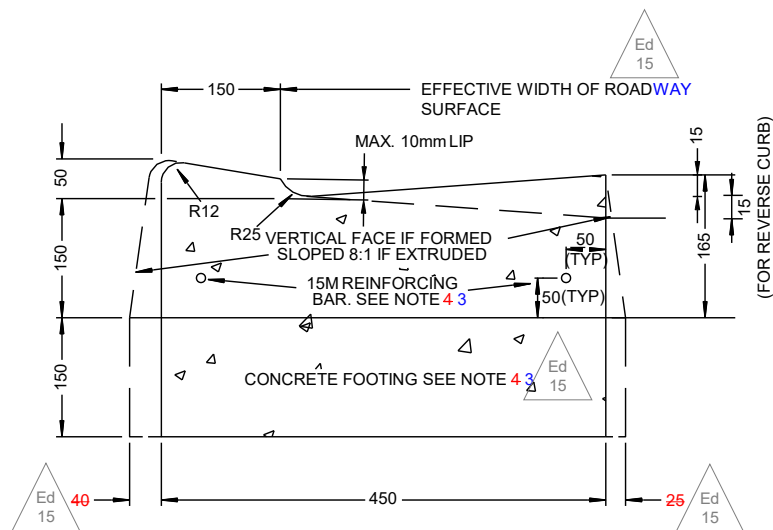


BARRIER CURB AND GUTTER



NOTES:

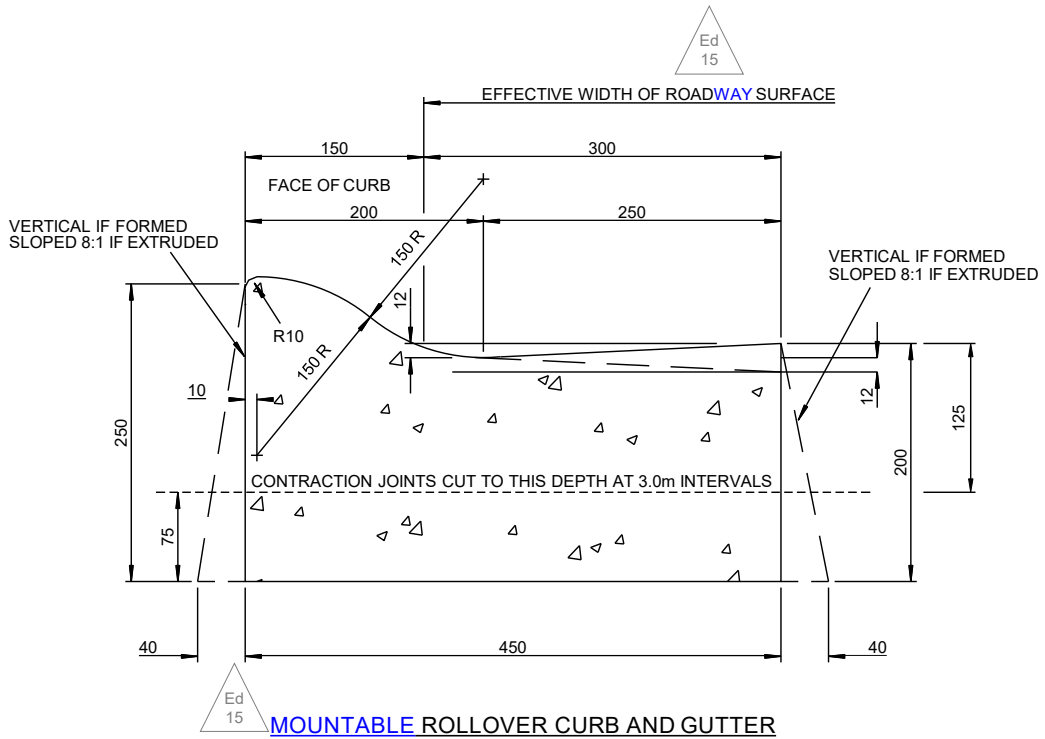
1. ~~FOR~~ BASE AND SUB-BASE REQUIREMENTS, ~~REFER TO AS PER~~ SECTION 9.0.
2. ~~FOR~~ CONCRETE REQUIREMENTS ~~REFER TO AS PER~~ SECTION 11.0.
3. THE LENGTH OF TRANSITION FROM ONE TYPE OF CURB TO ANOTHER SHALL BE THE GREATEST OF:
 - a) 50 x DIFFERENCE IN OVERALL CURB HEIGHTS.
 - b) 25 x DIFFERENCE IN GUTTER WIDTHS.
 - c) 2.0 ~~METERS~~ METRES.
4. ~~REINFORCING BARS OR CONCRETE FOOTING REQUIRED FOR LANE ACCESSSES AND FOR COMMERCIAL AND INDUSTRIAL DRIVEWAY ACCESSSES.~~
4. ~~REVERSE CURB SHALL BE APPROVED BY CITY ENGINEER.~~
5. ~~ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SHOWN.~~
6. ~~LANDSCAPING AS PER SECTION 14.0.~~
7. ~~PAVED ROADWAY SURFACE STRUCTURE AS PER SECTION 9.0 BASED ON STREET CLASSIFICATION.~~



DROP CURB AND GUTTER

NOTES:

1. ~~FOR~~ BASE AND SUB-BASE REQUIREMENTS, ~~REFER TO AS PER~~ SECTION 9.0.
2. ~~FOR~~ CONCRETE REQUIREMENTS ~~REFER TO AS PER~~ TO SECTION 11.
3. ~~THE LENGTH OF TRANSITION FROM ONE TYPE OF CURB TO ANOTHER SHALL BE THE GREATEST OF:~~
 - a) ~~50 x DIFFERENCE IN OVERALL CURB HEIGHTS.~~
 - b) ~~25 x DIFFERENCE IN GUTTER WIDTHS.~~
 - c) ~~2.0 METERS.~~
3. ~~4.~~ REINFORCING BARS OR CONCRETE FOOTING REQUIRED ~~FOR ACCESSES TO LOCAL STREET, LANES, AND DRIVEWAYS FOR COMMERCIAL AND INDUSTRIAL. LANE AGGESSES AND FOR COMMERCIAL AND INDUSTRIAL DRIVEWAY ACCESSSES.~~
4. ~~5.~~ REVERSE CURB SHALL BE APPROVED BY CITY ENGINEER.
5. ~~6.~~ ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SHOWN.



NOTES:

1. MOUNTABLE ROLLOVER CONCRETE CURBS SHALL BE USED WITHIN CUL-DE-SACS, POCKET PARKING, OR WHERE APPROVED BY CITY ENGINEER.
2. FOR BASE AND SUB-BASE REQUIREMENTS, **REFER TO AS PER SECTION 9.0.**
3. FOR CONCRETE REQUIREMENTS **REFER TO AS PER SECTION 11.0.**
4. THE LENGTH OF TRANSITION FROM ONE TYPE OF CURB TO ANOTHER SHALL BE THE GREATEST OF:
 - a) 50 x DIFFERENCE IN OVERALL CURB HEIGHTS.
 - b) 25 x DIFFERENCE IN GUTTER WIDTHS.
 - c) 2.0 **METERS METRES.**
5. REVERSE CURB SHALL BE APPROVED BY CITY ENGINEER.
6. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SHOWN.



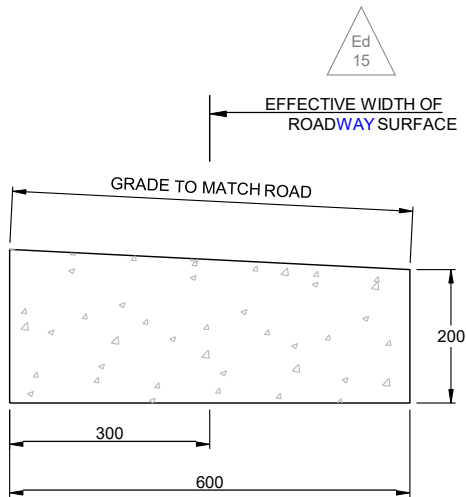
CITY OF NANAIMO
THE HARBOUR CITY



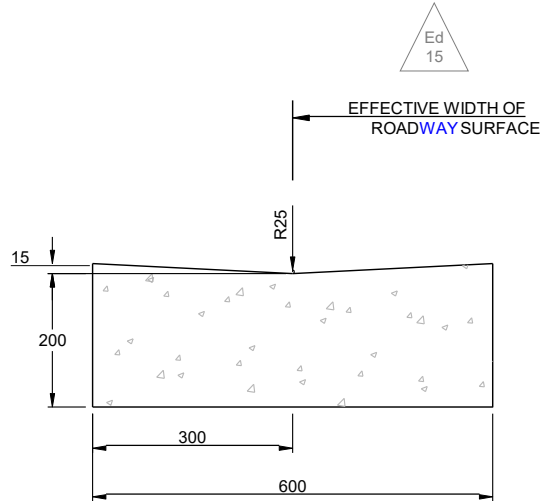
CURBS
MOUNTABLE ROLLOVER CURB AND GUTTER

Scale: NTS
Created: SEP 2012
Rev Date: **MAY 2020**
Dwg No: CS-3





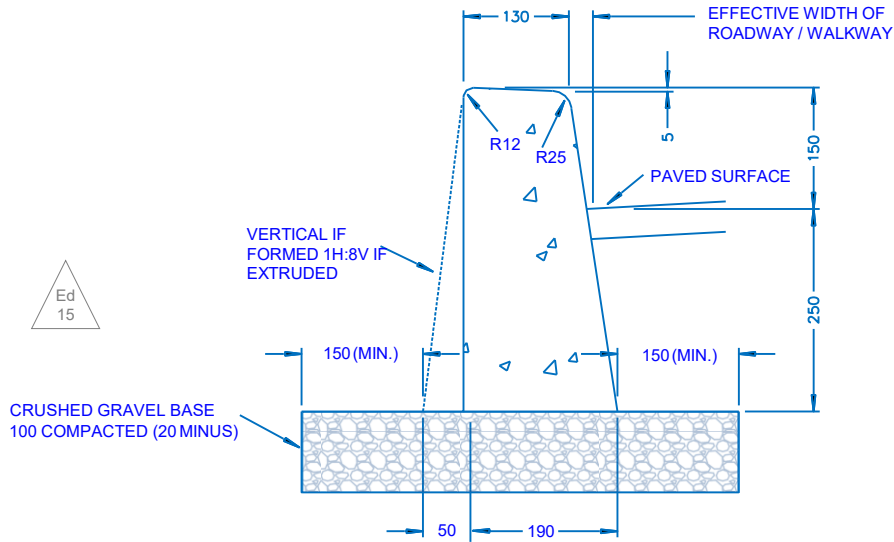
FLAT GUTTER



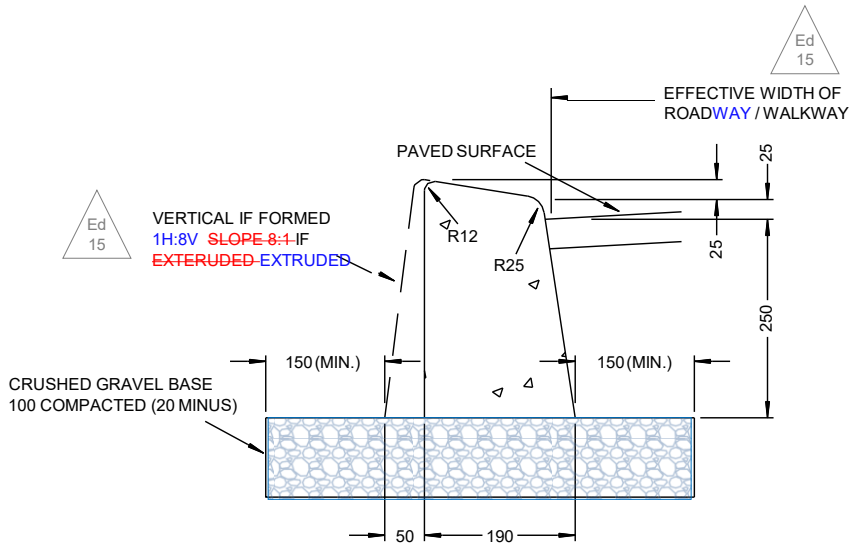
VALLEY GUTTER

NOTES:

1. **FOR** BASE AND SUB-BASE REQUIREMENTS, **REFER TO AS PER** SECTION 9.0.
2. **FOR** CONCRETE REQUIREMENTS **REFER TO AS PER** SECTION 11.0.
3. AT LOCATIONS OTHER THAN PEDESTRIAN CURB RAMPS, THE LENGTH OF TRANSITION FROM ONE TYPE OF CURB TO ANOTHER SHALL BE THE GREATEST OF:
 - a) 50 x DIFFERENCE IN OVERALL CURB HEIGHTS.
 - b) 25 x DIFFERENCE IN GUTTER WIDTHS.
 - c) 2.0 **METERS METRES**.
4. MIDPOINT OF CURB SHALL ALIGN WITH THE UPSTREAM AND DOWN STREAM CURB FACES.
5. REINFORCEMENT BARS OR CONCRETE FOOTING REQUIRED FOR COMMERCIAL AND INDUSTRIAL APPLICATIONS.
6. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SHOWN.



TEMPORARY CURB – TYPE 1 – BARRIER HEIGHT

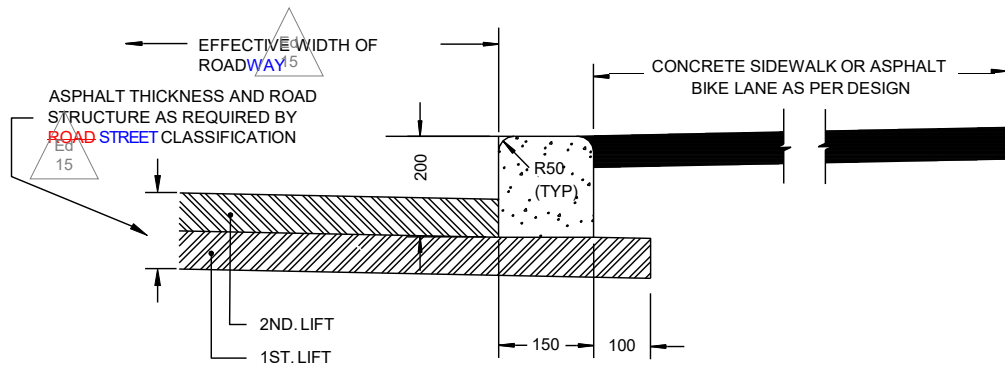


TEMPORARY CURB - TYPE 1 – DROP SECTION

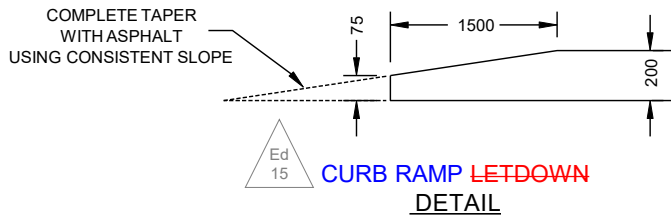
NOTES:

1. **FOR** BASE AND SUB-BASE REQUIREMENTS, **REFER TO AS PER** SECTION 9.0.
2. **FOR** CONCRETE REQUIREMENTS **REFER TO AS PER** SECTION 11.0.
3. THE LENGTH OF TRANSITION FROM ONE TYPE OF CURB TO ANOTHER SHALL BE THE GREATEST OF:
 - a) 50 x DIFFERENCE IN OVERALL CURB HEIGHTS.
 - b) 25 x DIFFERENCE IN GUTTER WIDTHS.
 - c) 2.0 **METERS METRES**.
4. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SHOWN.
5. **APPLICATION OF THIS STANDARD AT THE DISCRETION OF THE CITY ENGINEER.**





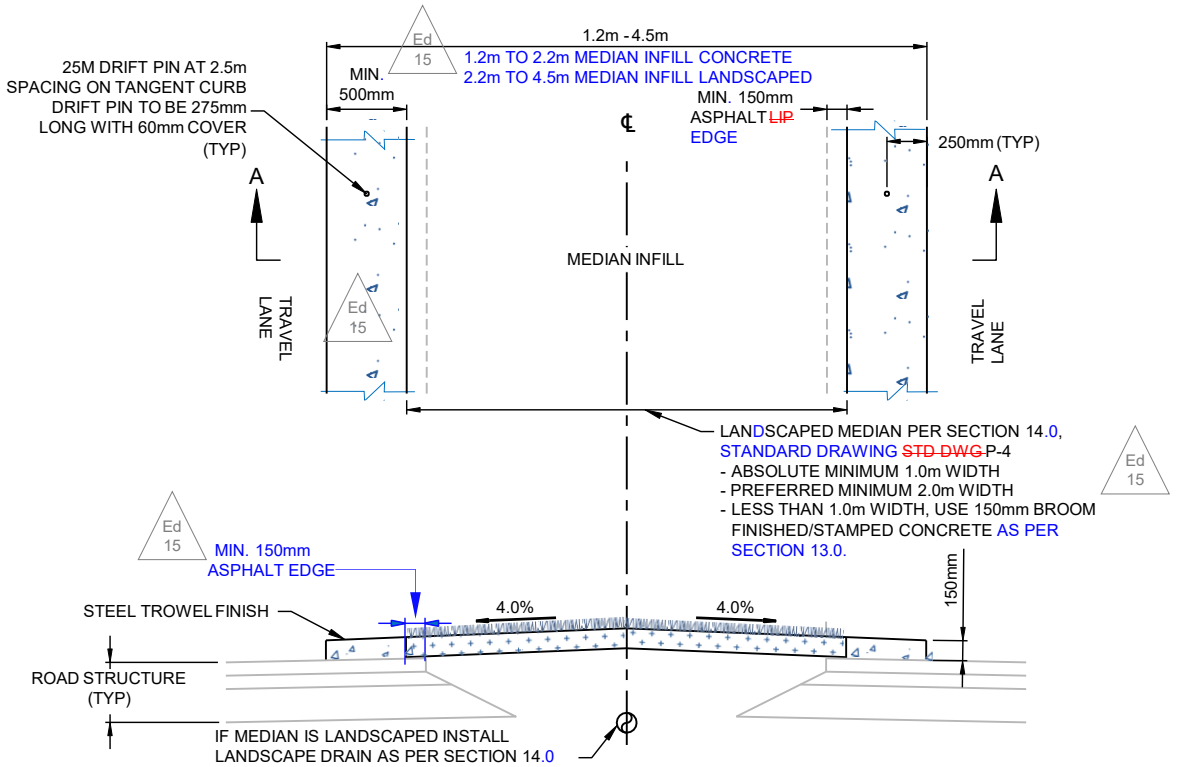
TEMPORARY CURB - TYPE 2



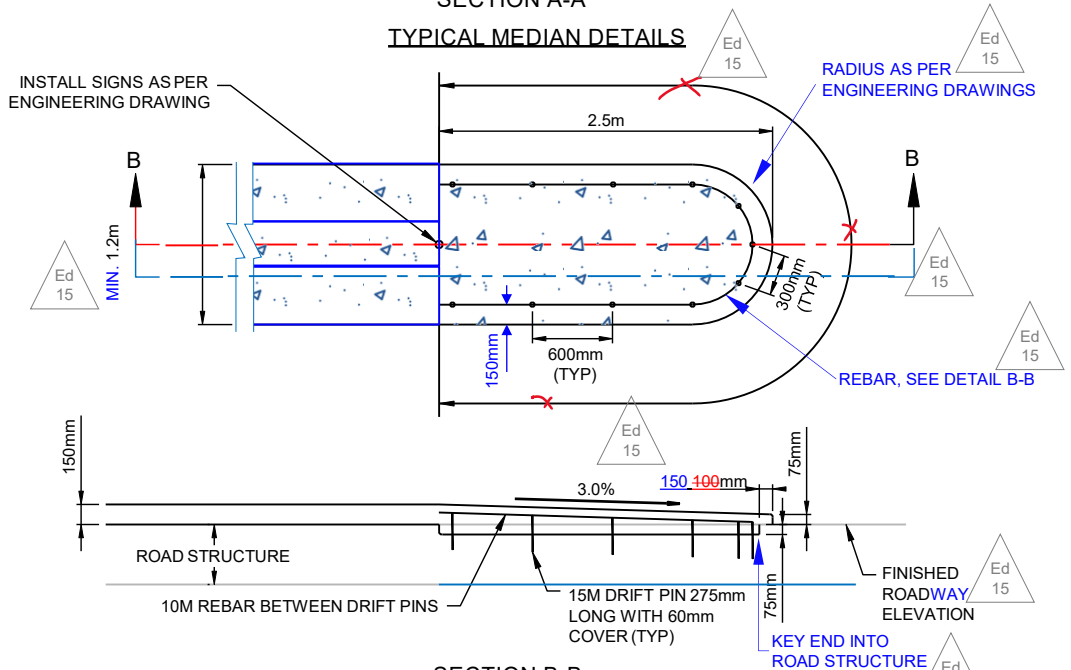
**CURB RAMP LETDOWN
DETAIL**

NOTES:

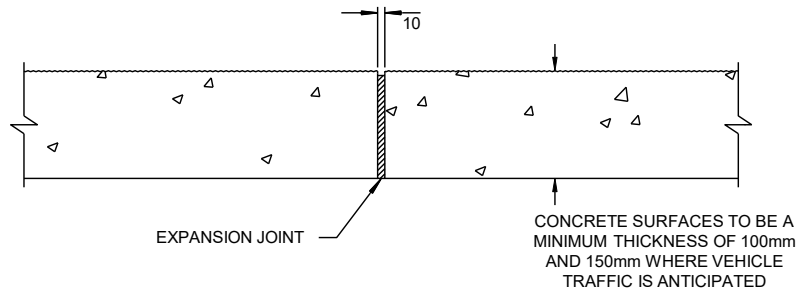
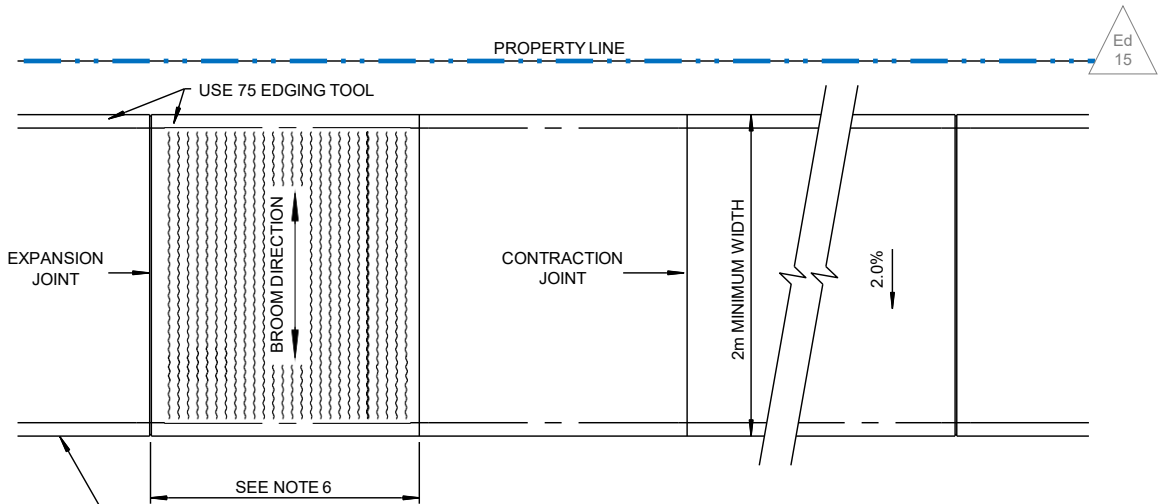
1. APPLICATION OF THIS STANDARD AT THE DISCRETION OF THE CITY ENGINEER.
2. PROVIDE 1500mm TAPER TO ZERO HEIGHT AT DROP LOCATIONS.
3. CURB HEIGHT 150mm IF INSTALLED ON FINAL LIFT AND 200mm IF INSTALLED ON BOTTOM LIFT.
4. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SHOWN.



SECTION A-A
TYPICAL MEDIAN DETAILS



SECTION B-B
TYPICAL MEDIAN END TREATMENT DETAILS



NOTES:

1. FOR DRIVEWAY CROSSING DETAIL SEE DWG-AS PER STANDARD DRAWINGS CS-24, CS-25, & CS-26.
2. SIDEWALKS SHALL HAVE BROOMED FINISH.
3. FOR CONCRETE DETAILS SEE AS PER SECTION 11.0.
4. FOR BASE AND SUB-BASE REQUIREMENTS SEE AS PER SECTION 9.0.
5. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SHOWN.
6. JOINTS DIMENSIONS SHOULD BE OF EQUAL SPACING ALONG SIDEWALK TO BE AS CLOSE TO SQUARE AS POSSIBLE.

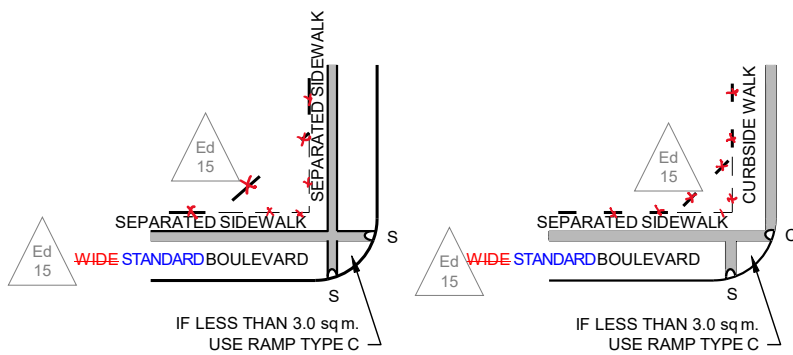


CITY OF NANAIMO
THE HARBOUR CITY

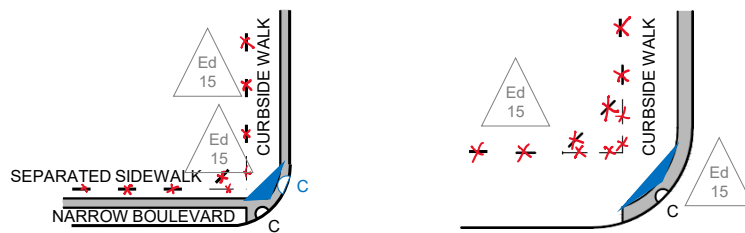
SIDEWALKS
SIDEWALK FINISHING DETAILS

Engineering Standards & Specifications
May-2020 Edition 15

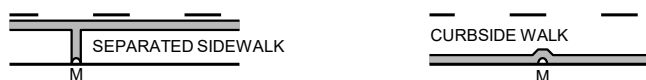
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Rev Date: MAY-2020
Dwg No: CS-8



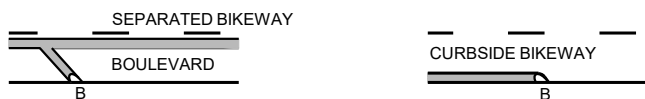
TYPE S - SEPARATED



TYPE C - CONSTRAINED



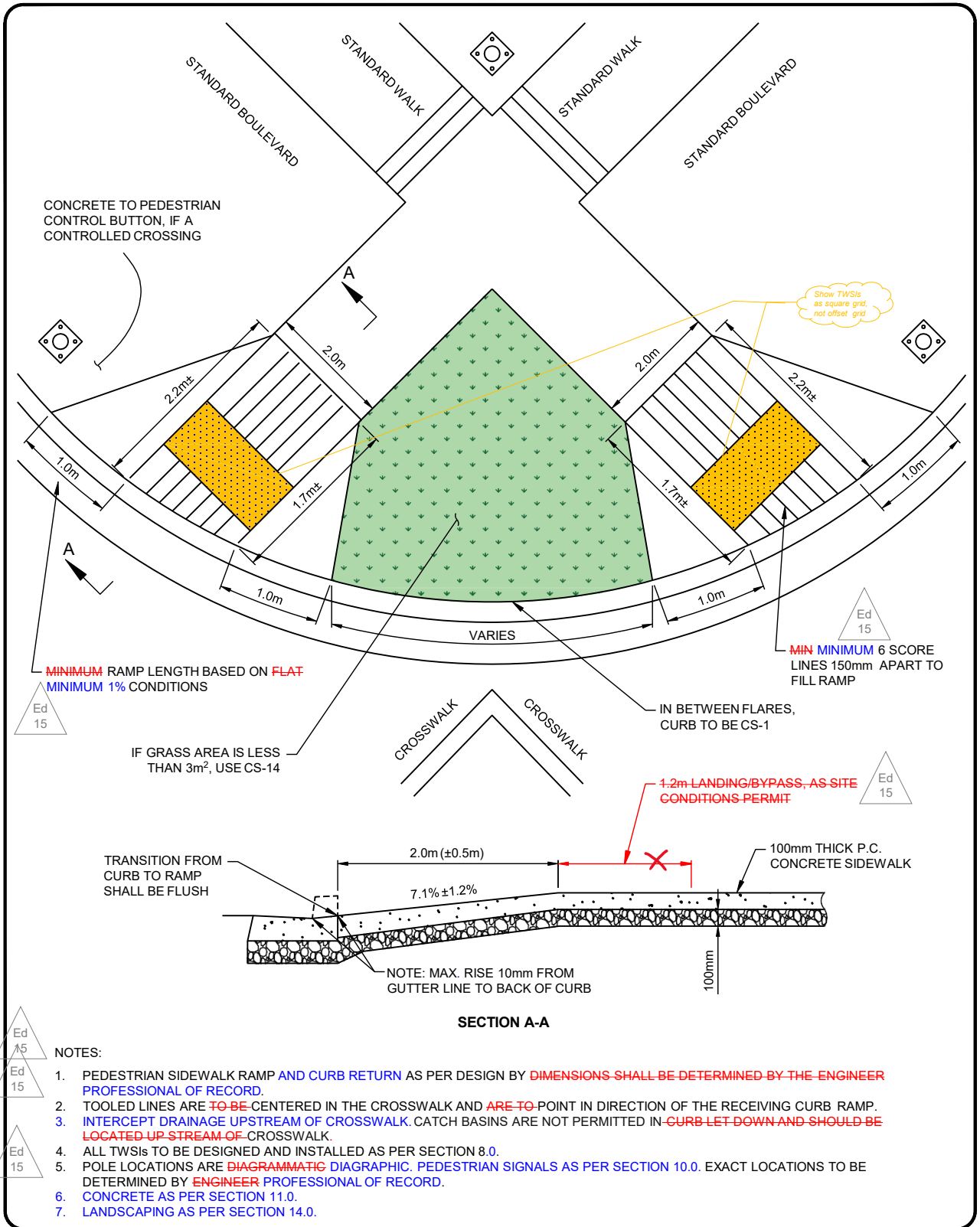
TYPE M - MID-BLOCK

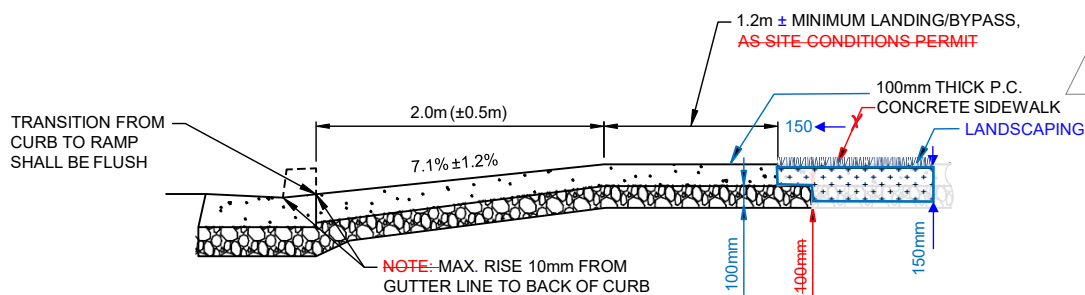
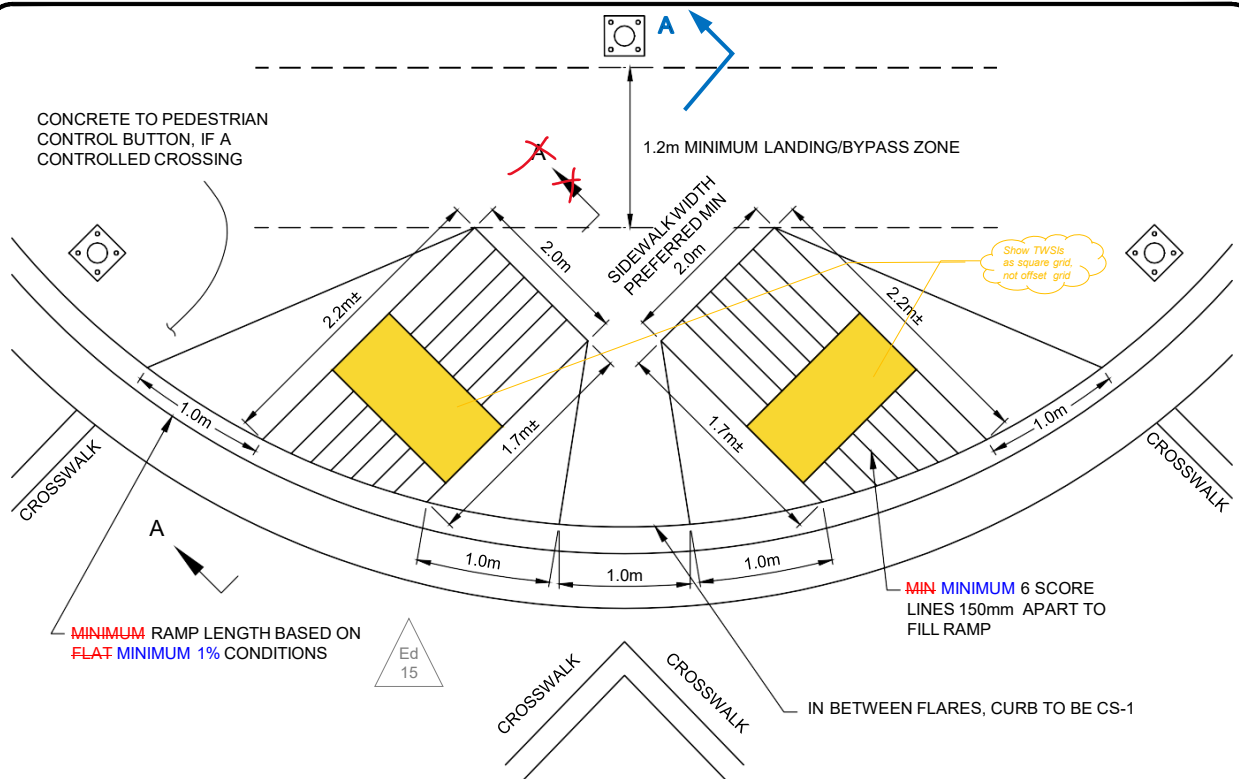


TYPE B - BIKEWAY

NOTES:

- ## 1. CORNER CUT REQUIREMENTS DEPENDENT ON GEOMETRIC DESIGN AND SIGHT LINE REQUIREMENTS.

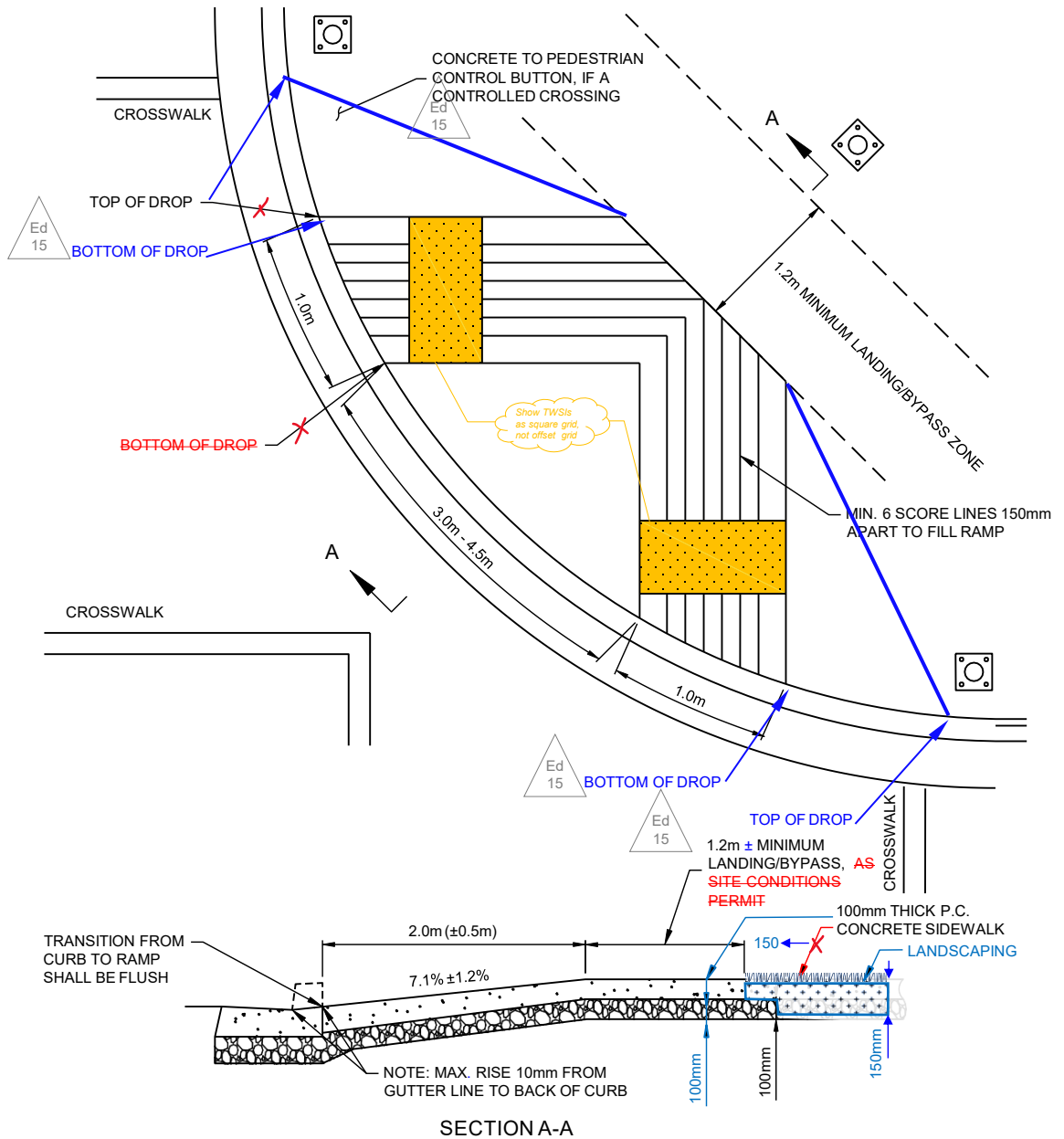




SECTION A-A

NOTES:

1. PEDESTRIAN SIDEWALK RAMP ~~AND CURB RETURN~~ AS PER DESIGN BY ~~DIMENSIONS SHALL BE DETERMINED BY THE ENGINEER PROFESSIONAL OF RECORD.~~
2. TOOLED LINES ARE ~~TO BE~~ CENTERED IN THE CROSSWALK AND ~~ARE TO~~ POINT IN DIRECTION OF THE RECEIVING CURB RAMP.
3. ~~INTERCEPT DRAINAGE UPSTREAM OF CROSSWALK.~~ CATCH BASINS ARE NOT PERMITTED IN ~~CURB LET DOWN AND SHOULD BE LOCATED UP STREAM OF~~ CROSSWALK.
4. ALL TWSIs TO BE DESIGNED AND INSTALLED AS PER SECTION 8.0.
5. POLE LOCATIONS ARE ~~DIAGRAMMATIC~~ DIAGRAPHIC. ~~PEDESTRIAN SIGNALS AS PER SECTION 10.0.~~ EXACT LOCATIONS TO BE DETERMINED BY ~~ENGINEER PROFESSIONAL OF RECORD.~~
6. ~~CONCRETE AS PER SECTION 11.0.~~
7. ~~LANDSCAPING AS PER SECTION 14.0.~~



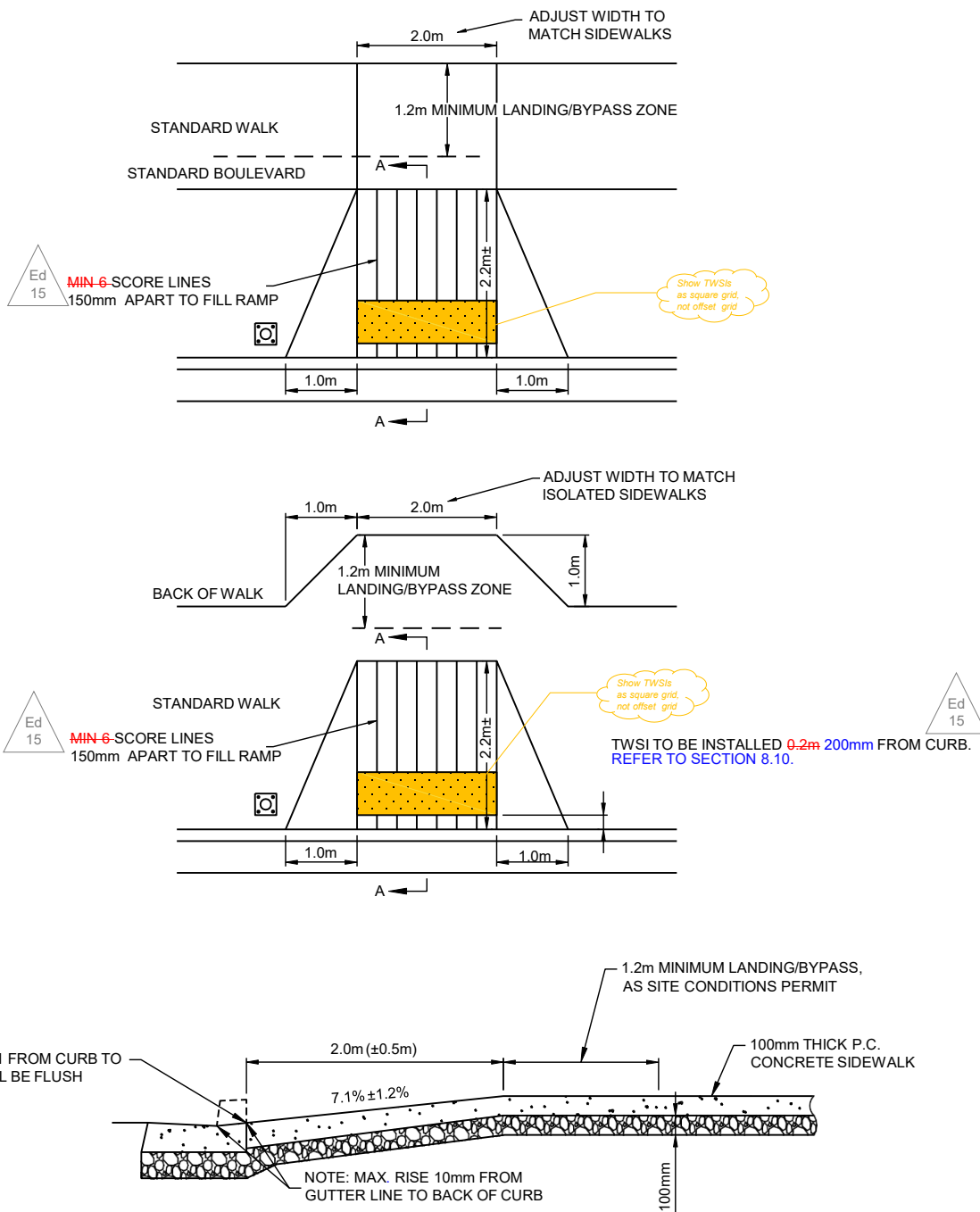
NOTES:

1. PEDESTRIAN SIDEWALK RAMP AND CURB RETURN AS PER DESIGN BY **DIMENSIONS SHALL BE DETERMINED BY THE ENGINEER PROFESSIONAL OF RECORD.**
2. TOOLED LINES ARE **TO BE** CENTERED IN THE CROSSWALK AND **ARE TO** POINT IN DIRECTION OF THE RECEIVING CURB RAMP.
3. **INTERCEPT DRAINAGE UPSTREAM OF CROSSWALK.** CATCH BASINS ARE NOT PERMITTED IN **CURB LET-DOWN AND SHOULD BE LOCATED UP STREAM OF** CROSSWALK.
4. ALL TWSIs TO BE DESIGNED AND INSTALLED AS PER SECTION 8.0.
5. POLE LOCATIONS ARE **DIAGRAMMATIC DIAGNOSTIC.** PEDESTRIAN SIGNALS AS PER SECTION 10.0. EXACT LOCATIONS TO BE DETERMINED BY **ENGINEER** PROFESSIONAL OF RECORD. CONCRETE AS PER SECTION 11.0.
6. CONCRETE AS PER SECTION 11.0.
7. LANDSCAPING AS PER SECTION 14.0.

CITY OF NANAIMO
THE HARBOUR CITY

CURB RAMPS TYPE C - CONSTRAINED

Scale: NTS
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SECTION A-A

NOTES:

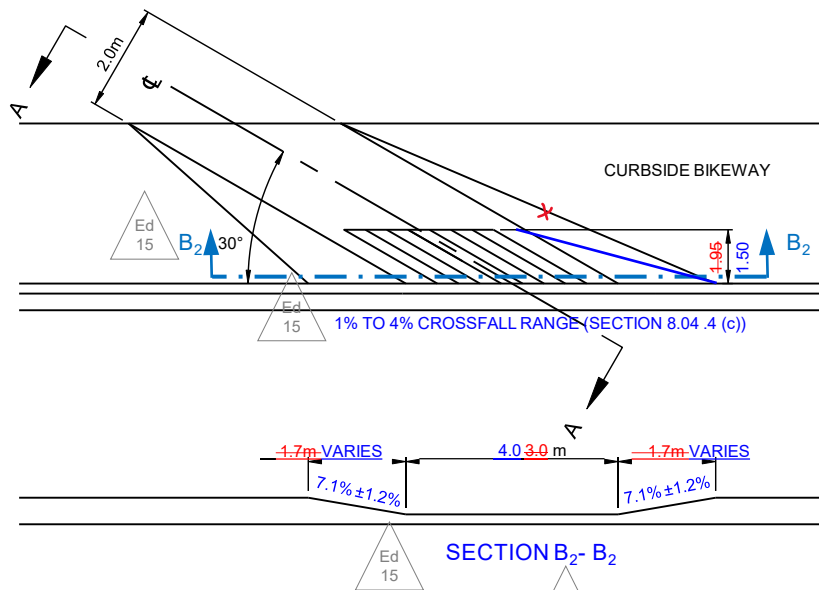
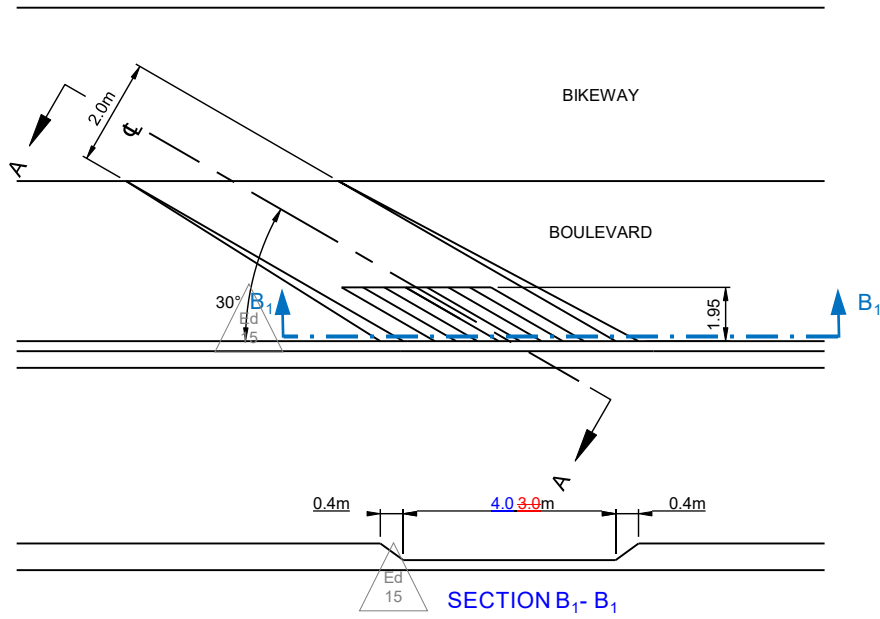
1. PEDESTRIAN SIDEWALK RAMP DIMENSIONS ~~SHALL BE DETERMINED BY THE ENGINEER AS PER DESIGN~~ BY PROFESSIONAL OF RECORD.
2. TOOLED LINES ARE ~~TO BE~~ CENTERED IN THE CROSSWALK AND ~~ARE TO POINT~~ IN DIRECTION OF THE RECEIVING CURB RAMP.
3. ~~INTERCEPT DRAINAGE UPSTREAM OF CROSSWALK.~~ CATCH BASINS ARE NOT PERMITTED IN ~~CURB LET DOWN AND SHOULD BE LOCATED UP STREAM OF~~ CROSSWALK.
4. ALL TWSIs TO BE DESIGNED AND INSTALLED AS PER SECTION 8.0.
5. POLE LOCATIONS ARE ~~DIAGRAMMATIC~~ DIAGNOSTIC. ~~PEDESTRIAN SIGNALS AS PER SECTION 10.0.~~ EXACT LOCATIONS TO BE DETERMINED BY ~~ENGINEER~~ PROFESSIONAL OF RECORD.



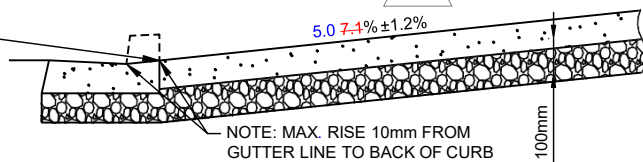
CURB RAMPS
TYPE M - MIDBLOCK

Engineering Standards & Specifications
May-2020 Edition 15

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| Scale: | NTS |
| Created: | OCT 2019 |
| Rev Date: | MAY 2020 |
| Dwg No: | CS-16 |



TRANSITION FROM CURB
TO RAMP SHALL BE FLUSH

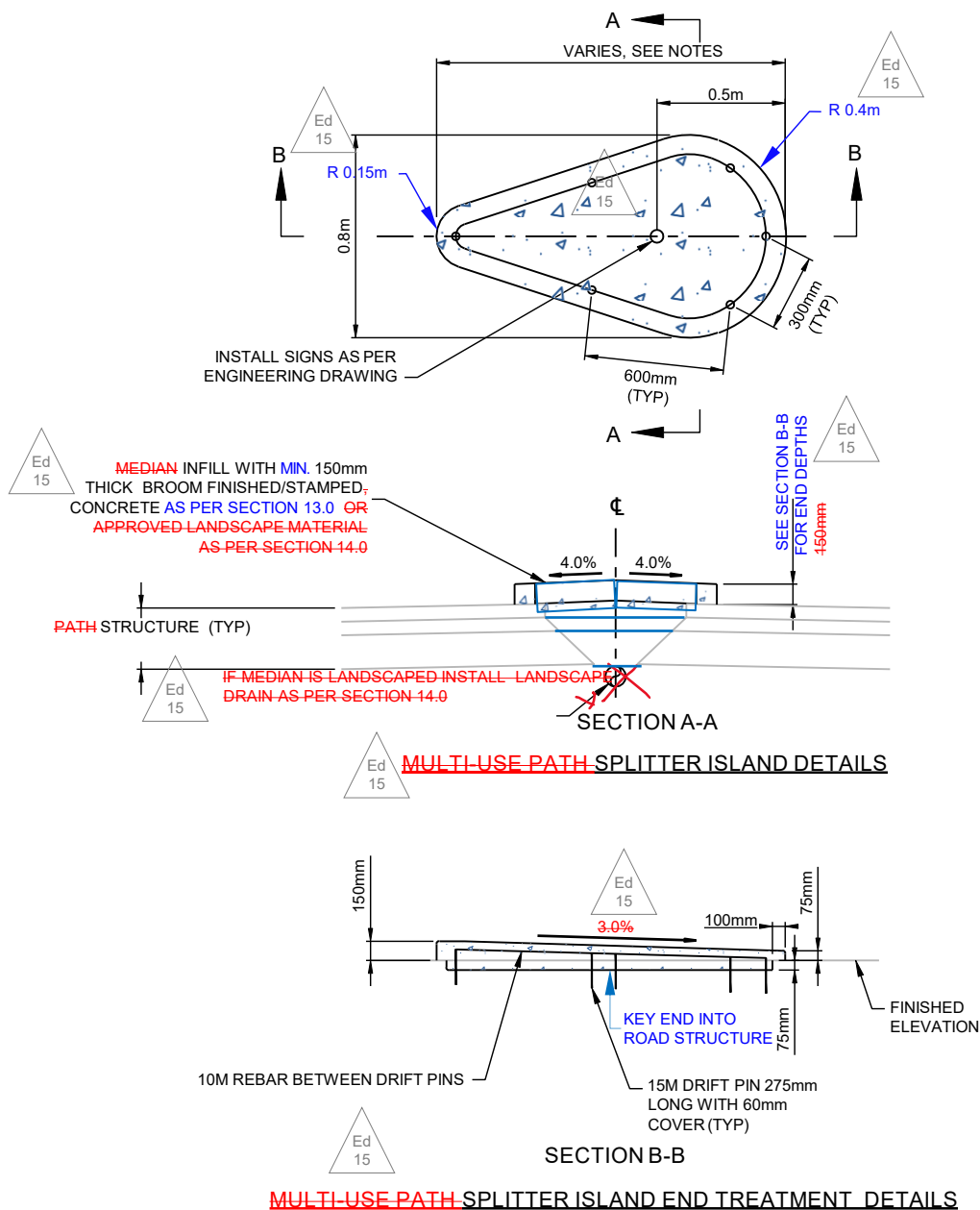


NOTES:

- BIKEWAY SLIP RAMP DIMENSIONS SHALL BE DETERMINED BY THE **ENGINEER PROFESSIONAL OF RECORD**.
- INTERCEPT DRAINAGE UPSTREAM OF CROSSWALK**. CATCH BASINS ARE NOT PERMITTED IN **CURB LET DOWN AND SHOULD BE LOCATED UP STREAM OF CROSSWALK**.

Scale: NTS
Created: OCT 2019
Rev Date: **MAY 2020**
Dwg No: CS-17

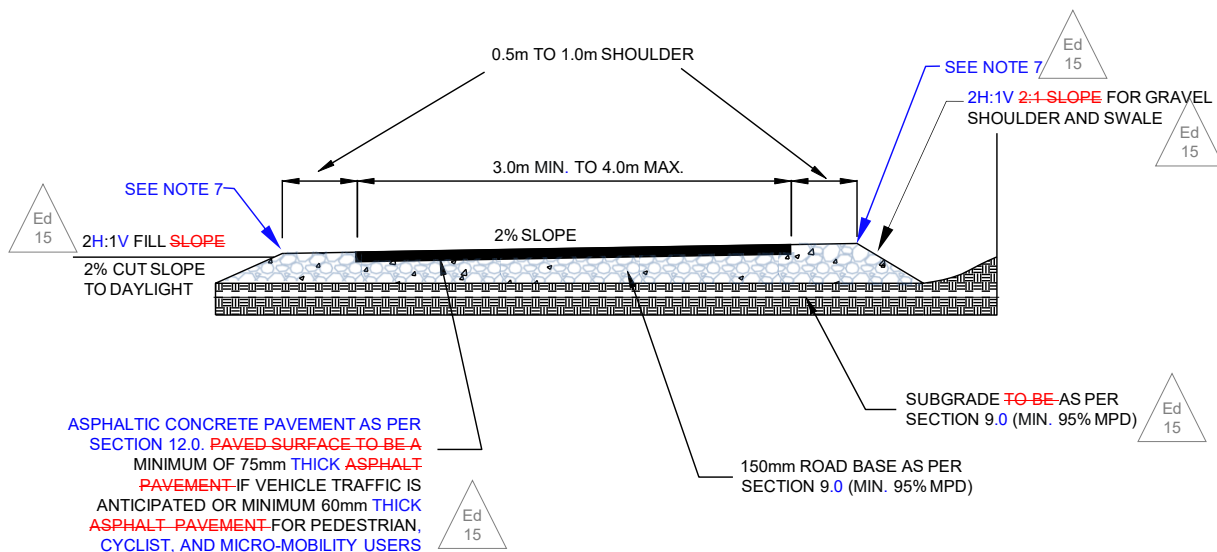
CURB RAMPS TYPE B - BIKEWAY



~~MULTI-USE PATH SPLITTER ISLAND END TREATMENT DETAILS~~

NOTES:

1. CONCRETE AND REINFORCEMENT REQUIREMENTS AS PER SECTION 11.0.
2. CONCRETE SURFACE TREATMENT AS PER SECTION 13.0.
3. PAVED ROADWAY SURFACE PER SECTION 9.0 BASED ON STREET CLASSIFICATION. IN EXISTING CONDITIONS, THE DEPTHS NEED TO BE VERIFIED.
4. LENGTH MAY VARY DEPENDING ON LANE WIDTH, LANE ALIGNMENT AND OPERATING SPEEDS. TYPICALLY, THE TAPER LENGTH IS BETWEEN 10:1 TO 15:1.
5. THIS STANDARD MAY BE USED IN THE ROADWAY FOR TRAFFIC CALMING PURPOSES AT DIRECTIONS OF CITY ENGINEER. REFER TO ENGINEERING DRAWING FOR DIMENSIONS AND SITE-SPECIFIC INSTALLATIONS.



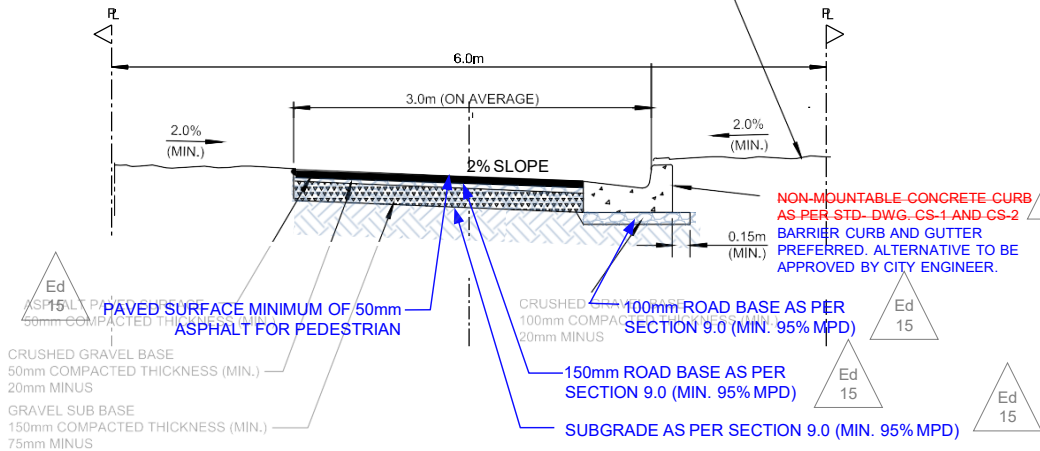
NOTES:

1. VEGETATION CLEARANCE ~~SHALL BE~~ IS A MINIMUM VERTICAL CLEARANCE OF 2.5m 3.0m AND A MINIMUM 1.0 0.9m HORIZONTAL CLEARANCE.
2. MAXIMUM ~~TRAIL~~ LONGITUDINAL GRADES:
 - 3% SUSTAINED GRADE
 - 5% GRADE FOR DISTANCES 30m OR LESS
 - 10% GRADE FOR DISTANCES 15m OR LESS
 - STAIRS PERMITTED ONLY WITH APPROVAL FROM CITY ENGINEER.
3. MINIMIZE HORIZONTAL CURVES AND ENSURE ADEQUATE SITE LINES ON CORNERS ~~FOR CYCLIST. REFER TO BICYCLE FACILITY DESIGN GUIDELINES (2.3 - 2.4).~~
4. RESIDENTIAL BUFFER ~~SHALL BE~~ IS A MINIMUM OF 2.0m ~~TO A MAXIMUM 5.0m.~~
5. ~~REFER TO CITY OF NANAIMO - TRAIL PLAN - DESIGN GUIDELINES (MAY 2007) FOR ADDITIONAL DESIGN INFORMATION.~~
6. ~~ALL TWSIs TO BE DESIGNED AND INSTALLED AS PER SECTION 8.0.~~
7. LIGHTING AS PER SECTION 10.0. LIGHTING REQUIREMENTS ARE TO BE DETERMINED BY A PROFESSIONAL OF RECORD.
8. HANDRAILS OR FENCING MAY BE NEEDED AS PER SECTION 8.0.
9. STORMWATER REVIEW MAYBE REQUESTED TO VERIFY CONVEYANCE AND COLLECTION OF RUNOFF. DESIGN AS PER SECTION 7.0.

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PROVIDE 150 ~~400~~mm MIN. THICKNESS OF TOPSOIL TO EDGE OF RIGHT-OF-WAY AND SEED OR SOD GRADED FOR DRAINAGE CONVEYANCE AND MAINTENANCE. GRADE SHALL BE EVEN AND SLOPE TO BE APPROVED BY CITY ENGINEER.



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NOTES:

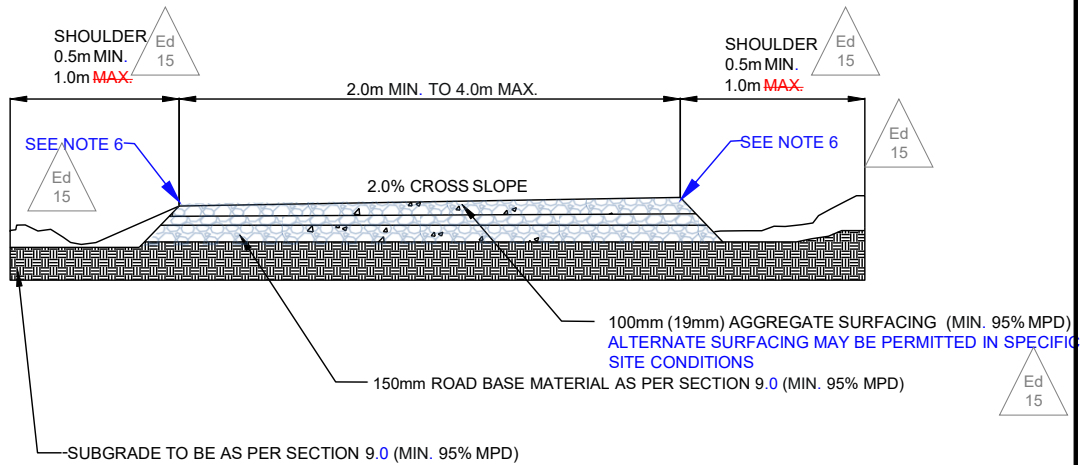
1. WALKWAY SURFACE TREATMENT – TO MATCH PARK AND NEARBY TRAILS, TYPICALLY ASPHALT PAVED SURFACE.
2. WALKWAY SURFACE WIDTH ~~TO BE 2.0 IS~~ 3.0m ON AVERAGE IN 6.0m ~~ROW~~ RIGHT-OF-WAY.
3. WALKWAY SURFACE CROSS SLOPE ~~SHALL BE OF~~ 2%.
4. BARRIER CURB IS PREFERRED. THE OPTION FOR 2H:1V CUT/FILL SLOPE FOR GRAVEL SHOULDERS AND SWALE, IS TO BE APPROVED BY CITY ENGINEER.
5. SHOULDERS/CLEAR ZONES ~~SHALL BE IS~~ A MINIMUM 0.5m WIDE TO A MAXIMUM 0.75m WIDE WITH LANDSCAPE OR BUFFER ZONE OF 1.25m
6. VEGETATION CLEARANCE ~~SHALL BE IS~~ A MINIMUM VERTICAL CLEARANCE OF 2.5m AND A MINIMUM 0.5m HORIZONTAL CLEARANCE.
7. MAXIMUM ~~TRAIL~~ LONGITUDINAL GRADES:
 - 3% SUSTAINED GRADE
 - 5% GRADE FOR DISTANCES 30m OR LESS
 - 10% GRADE FOR DISTANCES 15m OR LESS
 - ~~PREFERRED MAXIMUM 10%~~
 - ~~MAXIMUM 30%~~
8. ~~MINIMIZE HORIZONTAL CURVES AND~~ ENSURE ADEQUATE SITE LINES ON CORNERS.
9. RESIDENTIAL BUFFER IS THE 1.25m LANDSCAPE/BUFFER ZONE.
10. CONCRETE AS PER SECTION 11.0.
11. LANDSCAPING AS PER SECTION 14.0.
12. ASPHALTIC CONCRETE PAVEMENT AS PER SECTION 12.0.
13. BARRIER CURB AND GUTTER AS PER STANDARD DRAWING CS-1.
14. HANDRAILS OR FENCING MAY BE NEEDED AS PER SECTION 8.0.
15. STORMWATER REVIEW MAYBE REQUESTED TO VERIFY CONVEYANCE AND COLLECTION OF RUNOFF. CATCH BASIN MAY BE REQUIRED.

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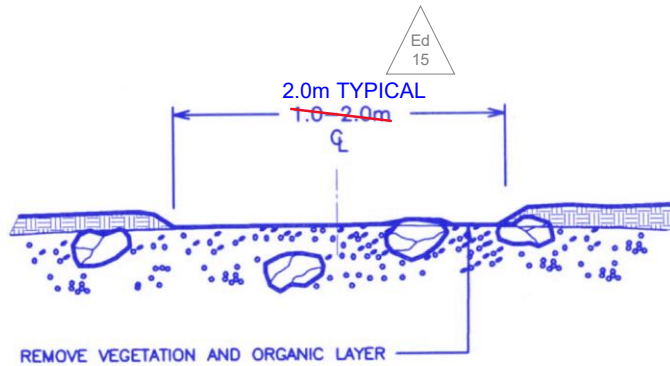
NOTES:

1. VEGETATION CLEARANCE SHALL BE A MINIMUM VERTICAL CLEARANCE OF ~~2.5m~~ 3.0m AND A MINIMUM 0.5m HORIZONTAL CLEARANCE.
2. MAXIMUM ~~TRAIL~~ LONGITUDINAL GRADES:
 - 3% SUSTAINED GRADE
 - 5% GRADE FOR DISTANCES 30m OR LESS
 - 10% GRADE FOR DISTANCES 15m OR LESS
 - SOME STAIRS ALLOWED
3. ENSURE ADEQUATE SITE LINES ON CORNERS ~~FOR CYCLIST. REFER TO BICYCLE FACILITY DESIGN GUIDELINES (2.3-2.4).~~
4. RESIDENTIAL BUFFER ~~SHALL BE~~ IS A MINIMUM OF 2.0m ~~TO A MAXIMUM 5.0m.~~
5. ~~REFER TO CITY OF NANAIMO TRAIL PLAN DESIGN GUIDELINES (MAY 2007) FOR ADDITIONAL DESIGN INFORMATION.~~
6. LIGHTING AS PER SECTION 10.0. LIGHTING REQUIREMENTS ARE TO BE DETERMINED BY A PROFESSIONAL OF RECORD.
7. HANDRAILS OR FENCING MAY BE NEEDED AS PER SECTION 8.0. ~~8-16.1(a).~~
7. STORMWATER REVIEW MAYBE REQUESTED TO VERIFY CONVEYANCE AND COLLECTION OF RUNOFF. DESIGN AS PER SECTION 7.0.

CITY OF NANAIMO
THE HARBOUR CITY

TRAILS AND MULTI-USE PATHS
(SOFT SURFACE)

Scale: NTS
Created: JUN 2012
Rev Date: MAY 2020
Dwg No: CS-22

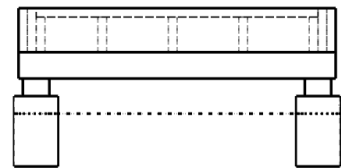
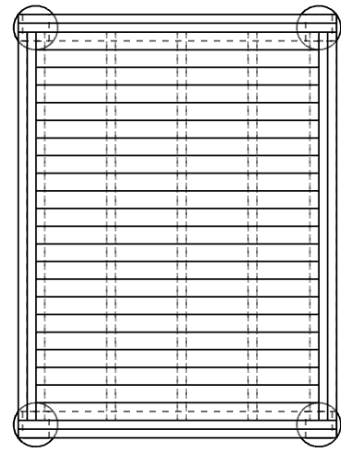
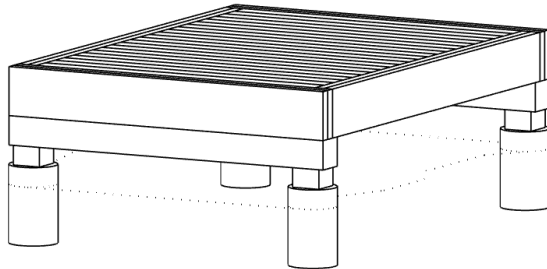


NOTES:

1. USE OF THE STANDARD IS SITE SPECIFIC AND REQUIRES APPROVAL BY THE CITY. IT IS A LOW IMPACT STANDARD FOR SPECIFIC LOCATIONS WHERE DIFFICULT TERRAIN AND/OR SENSITIVE FEATURES ARE PRESENT.
2. SURFACE IS NATIVE SOIL MIXED WITH CRUSH. MIX IS SITE SPECIFIC AND DESIGN MAY BE REQUESTED BY CITY ENGINEER.
3. VEGETATION CLEARANCE SHALL BE A MINIMUM VERTICAL CLEARANCE OF ~~2.0m~~ 2.5m AND A MINIMUM 0.5m HORIZONTAL CLEARANCE.
4. TRAIL LONGITUDINAL GRADES TO SUIT TERRAIN UPTO MAXIMUM 30% SLOPE. SOME STAIRS ALLOWED. BOARDWALK MAY BE REQUIRED IN SELECT AREAS.
5. ENSURE ADEQUATE SITE LINES ON CORNERS.
6. RESIDENTIAL BUFFER IS A MINIMUM OF 10.0m.
7. LIGHTING AS PER SECTION 10.0. LIGHTING REQUIREMENTS ARE TO BE DETERMINED BY A PROFESSIONAL OF RECORD.
8. HANDRAILS OR FENCING MAY BE NEEDED AS PER SECTION 8.0. ~~8-16-1(a)~~.
9. STORMWATER REVIEW MAYBE REQUESTED TO VERIFY CONVEYANCE AND COLLECTION OF RUNOFF. DESIGN AS PER SECTION 7.0.

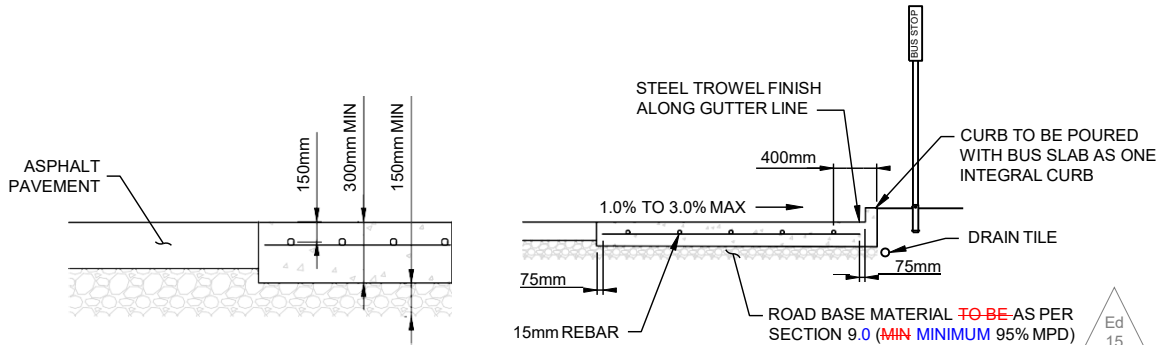
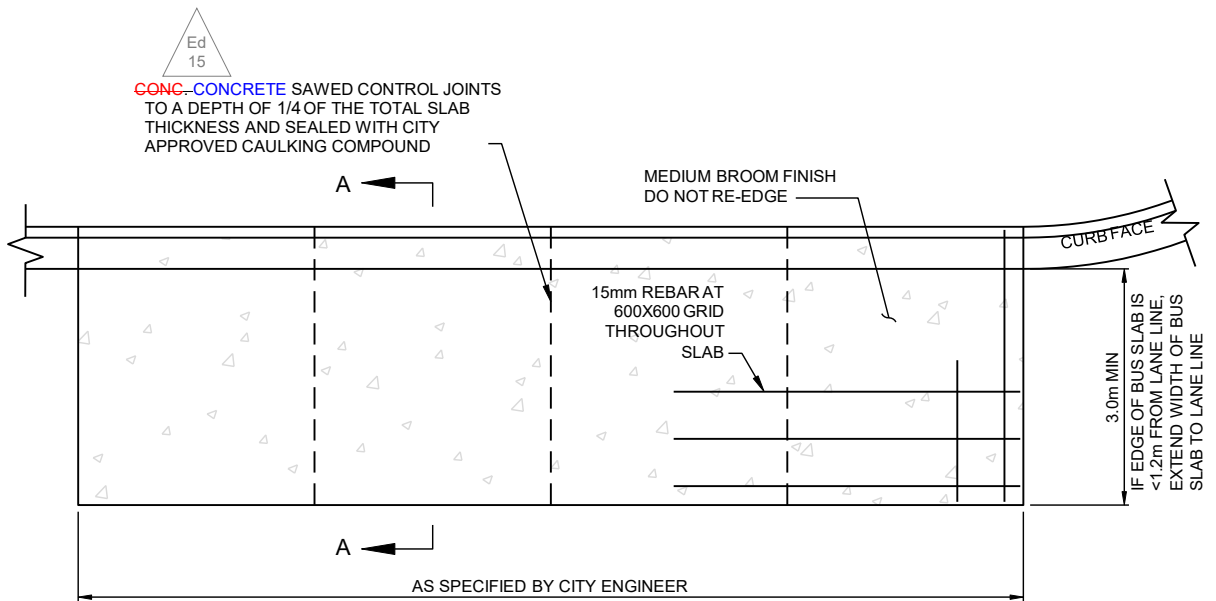


Proposed New Drawing



NOTES:

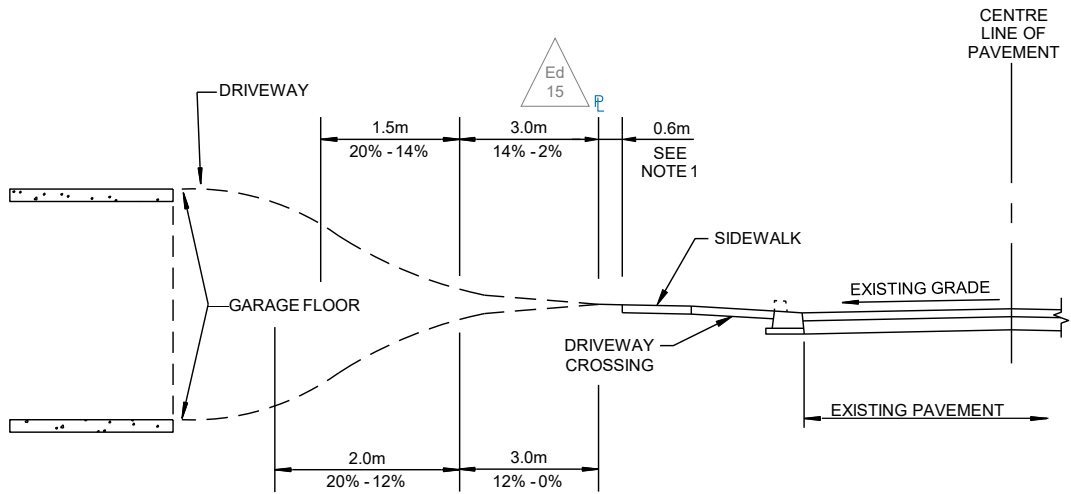
1. USE OF THE STANDARD IS SITE SPECIFIC AND REQUIRES APPROVAL BY THE CITY PARKS RECREATION AND CULTURE. IT IS A LOW IMPACT STANDARD FOR SPECIFIC LOCATIONS WHERE DIFFICULT TERRAIN AND/OR SENSITIVE FEATURES ARE PRESENT. STRUCTURE TO BE KEPT AS LOW TO THE GROUND AS POSSIBLE.
2. CONCRETE COLUMNS ARE 250 mm (10 in) DIAMETER EXTENDING 300 mm (12 in) INTO NATIVE GROUND, OR LEVELED AND SECURED PIER BLOCKS. GALVANIZED SADDLE EMBEDDED INTO CONCRETE AT BASE OF EACH POST OR SET INTO CONCRETE PIER BLOCKS.
3. POSTS ARE 150 x 150 mm (6 x 6 in) PRESSURE TREATED YELLOW CEDAR
4. BEAMS ARE MINIMUM 150 x 150 mm (6 x 6 in) PRESSURE TREATED DIMENSION LUMBER. TYPICAL LENGTH IS 1800 mm (6 ft). LONGER SPANS MAY REQUIRE LARGER DIMENSIONAL LUMBER.
5. JOISTS ARE MINIMUM 50 x 200 mm (2 x 8 in) PRESSURE TREATED DIMENSION LUMBER. SPACED AT MINIMUM 400 mm (16 in) ON CENTER. TYPICAL LENGTH IS 2435 mm (8 ft). LONGER SPANS MAY REQUIRE DIMENSIONAL LUMBER. CROSS BRACING MAYBE REQUIRED.
6. HEADERS ARE DOUBLE 50 mm X 250 mm (2 x 10 in) PRESSURE TREATED DIMENSION LUMBER.
7. DECKING IS PRESSURE TREATED DIMENSION LUMBER.
8. NO NAILS. USE 75 mm (3 in) EXTERIOR SCREWS.
9. RAILINGS ARE REQUIRED WHEN ELEVATION DIFFERENCE FROM GROUND TO DECK HEIGHT ABOVE 0.6 m (2 ft).
10. FIBERGLASS OR METAL MATERIALS MAY BE CONSIDERED AS SUBSTITUTIONS IN CERTAIN LOCATIONS AND CONDITIONS.



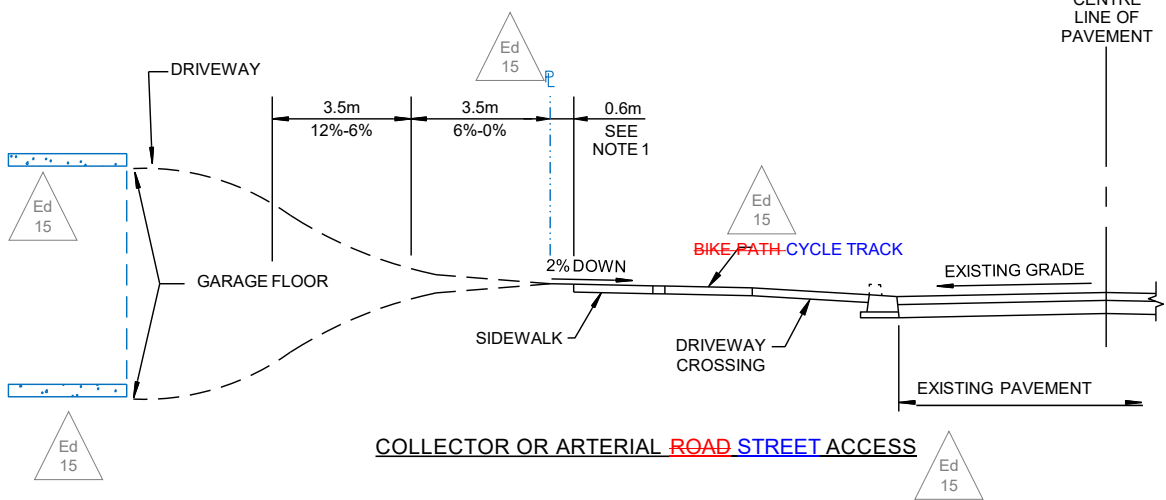
SECTION A-A

NOTES:

1. THE BUS SLAB SHOULD BE INSTALLED AS A CONTINUOUS POUR. IF THE BUS SLAB IS INSTALLED IN ~~MORE THAN ONE POUR~~ ~~NO MORE THAN TWO SEPARATE POURS~~, THEN THE EDGE OF THE POUR MUST BE KEYED OR REBAR INSERTS USED TO TIE BOTH PADS TOGETHER.
2. USE 15mm REBAR WITH MINIMUM 75mm COVER.
3. PLACE REBAR MAT AT 150mm BELOW TOP OF CONCRETE.
4. MILL AND RE-CONTOUR ~~ASPHALT~~ ~~AG~~ TO MATCH CONCRETE BUS SLAB CROSS FALL.



LOCAL ROAD STREET ACCESS



COLLECTOR OR ARTERIAL ROAD STREET ACCESS

NOTES:

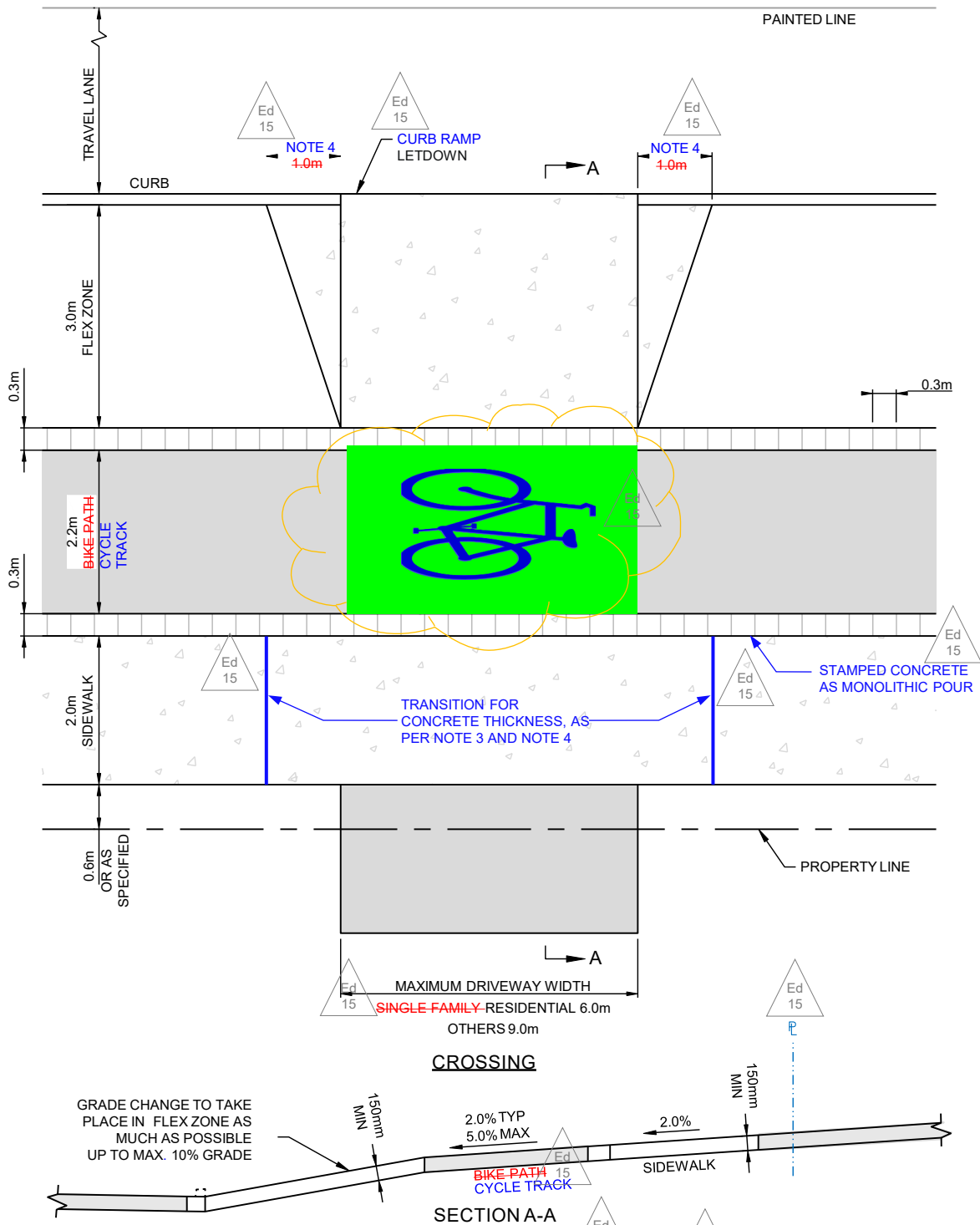
1. THE RISE OR FALL OF THE DRIVEWAY SHALL BEGIN BEHIND THE SIDEWALK TOWARDS THE PROPERTY.
2. **SEE SECTION 8.04.4A FOR** MAXIMUM SLOPES FOR DRIVEWAY EDGES **AS PER SECTION 8.04.4A.**
3. IN THE CASE OF SUBDIVISION WHERE A DRIVEWAY WILL PROVIDE ACCESS TO THREE OR MORE PARCELS, THE DRIVEWAY SHALL BE DESIGNED BY A **PROFESSIONAL ENGINEER PROFESSIONAL OF RECORD** AS PER CITY OF NANAIMO GUIDELINES FOR THE APPROVAL, THE DESIGN AND THE CONSTRUCTION OF PRIVATELY OWNED COMMON ACCESS DRIVEWAYS.
4. **PROPERTIES FRONTING ON COLLECTOR OR ARTERIAL STREETS SHOULD PROVIDE ACCESS ON THE LOWEST CLASSIFICATION OF STREET AVAILABLE.**

CITY OF NANAIMO
THE HARBOUR CITY

DRIVEWAYS AND CROSSINGS GRADES

Engineering Standards & Specifications
May-2020 Edition 15

Scale: NTS
Created: MAY 2013
Rev Date: MAY-2020
Dwg No: CS-24

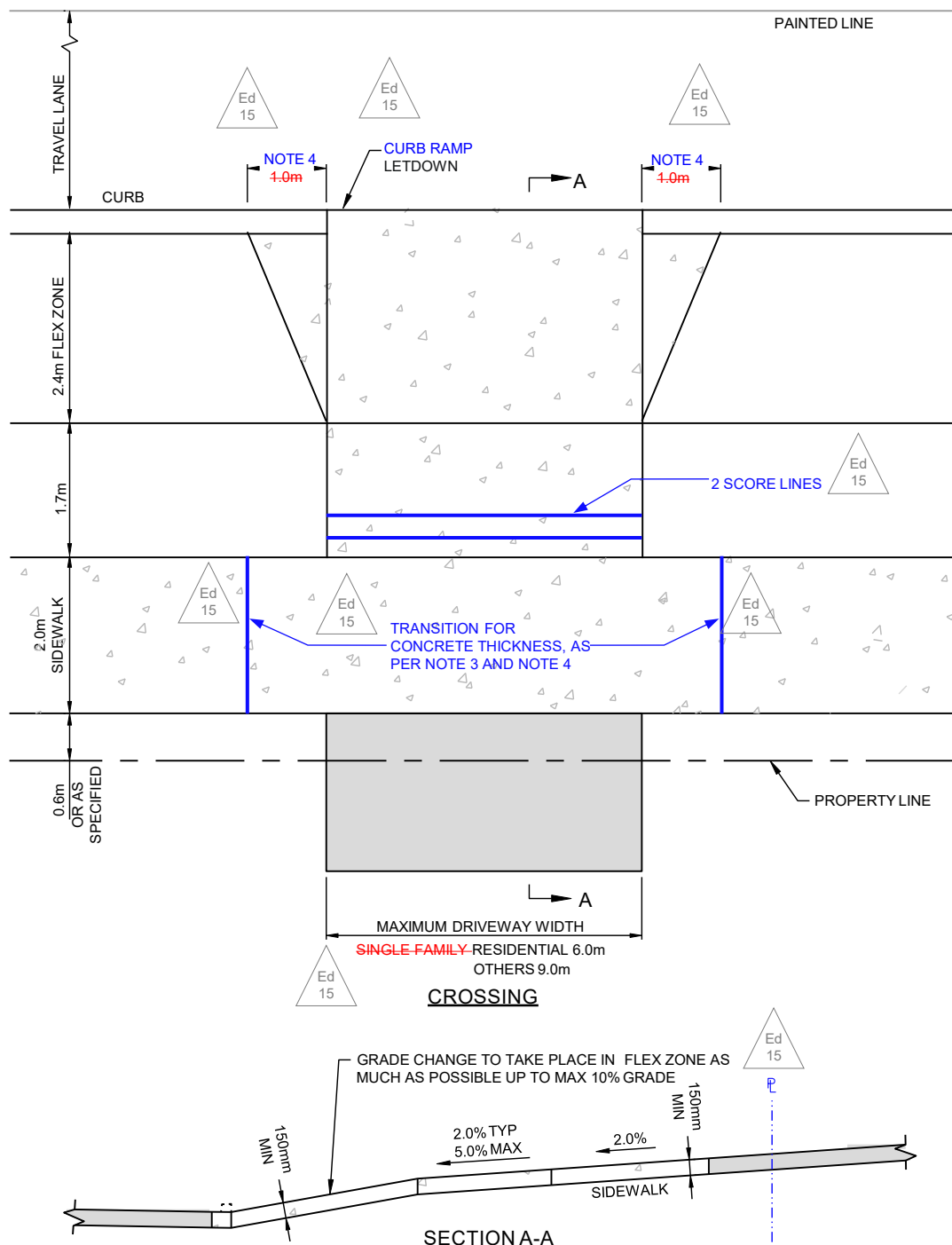


CROSSING

GRADE CHANGE TO TAKE
PLACE IN FLEX ZONE AS
MUCH AS POSSIBLE
UP TO MAX. 10% GRADE

NOTES:

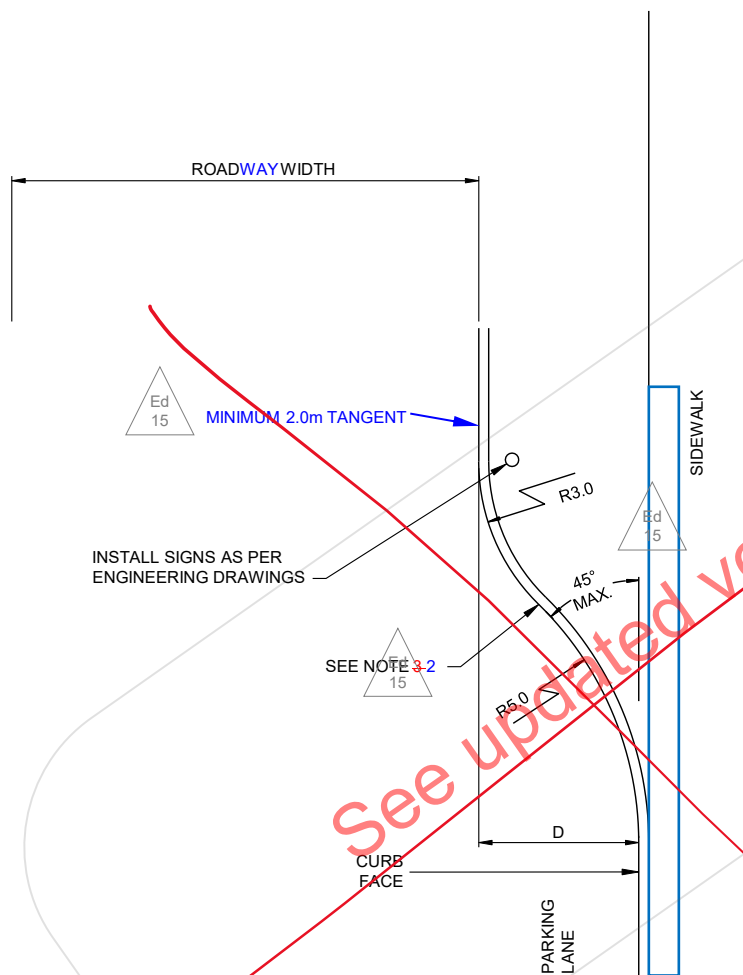
1. USE OF TWSI's TO BE DETERMINED BY **ENGINEER PROFESSIONAL OF RECORD**.
2. **FOR** CONCRETE FINISHING DETAILS **SEE AS PER STANDARD DRAWING CS-8 DWG-CS-7**.
3. CONCRETE SURFACES TO BE A MINIMUM THICKNESS OF 100mm AND 150mm WHERE VEHICLE TRAFFIC IS ANTICIPATED.
4. **FLARE WIDTH IS TYPICALLY 1m AND INCREASED TO 2m WHEN FLEX ZONE IS LESS THAN 1m.**



SECTION A-A

NOTES:

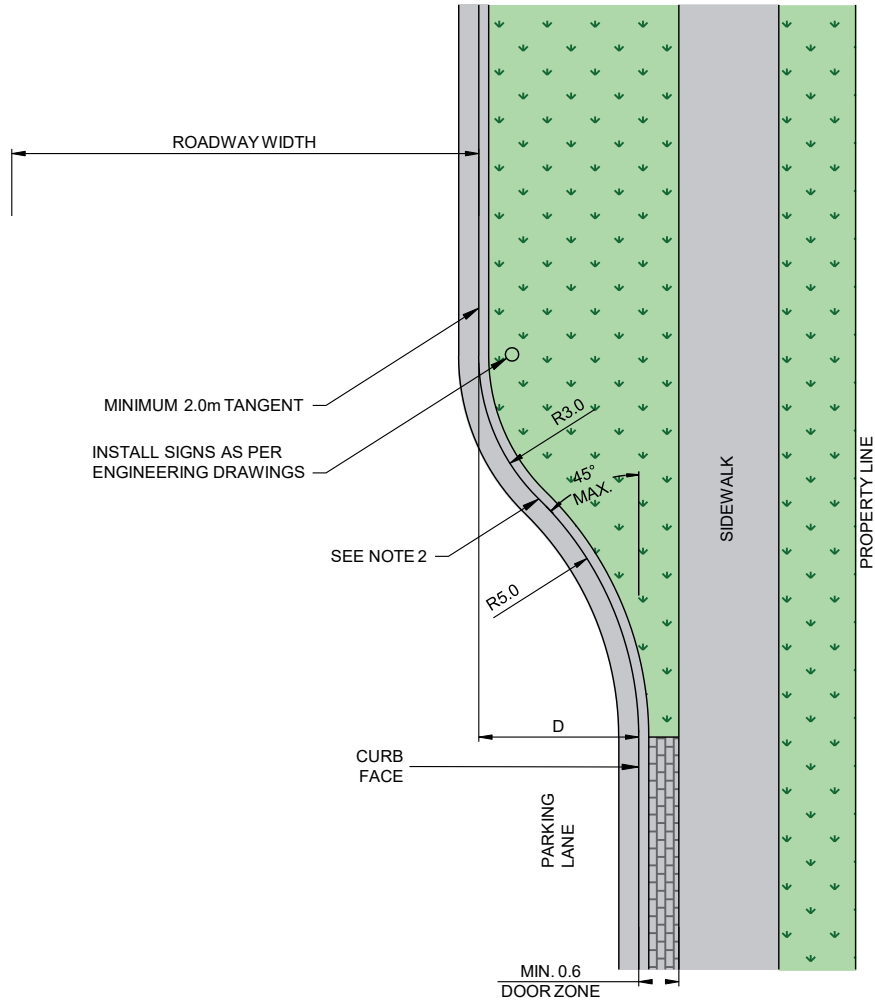
1. USE OF TWSI's TO BE DETERMINED BY **ENGINEER PROFESSIONAL OF RECORD**. 
2. **FOR** CONCRETE FINISHING DETAILS **SEE AS PER STANDARD DRAWING CS-8 SEE DWG. CS-7.**
3. CONCRETE SURFACES TO BE A MINIMUM THICKNESS OF 100mm AND 150mm WHERE VEHICLE TRAFFIC IS ANTICIPATED.
4. **FLARE WIDTH IS TYPICALLY 1m AND INCREASED TO 2m WHEN FLEX ZONE IS LESS THAN 1m.**



NOTES:

1. "D"=DEPTH OF CURB EXTENSION SHOULD BE SIMILAR TO THE WIDTH OF THE PARKING LANE (TYPICALLY, 2.4m RESIDENTIAL OR 3.0m INDUSTRIAL)
2. INCLUDE A TANGENT AT 45° TO THE CURB FACE BETWEEN RADII WHERE "D" IS GREATER THAN 2.4m.
3. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
4. **BANDING/BUFFER OF WIDTH 0.45m STAMPED CONCRETE AS PER SECTION 13.0.**





NOTES:

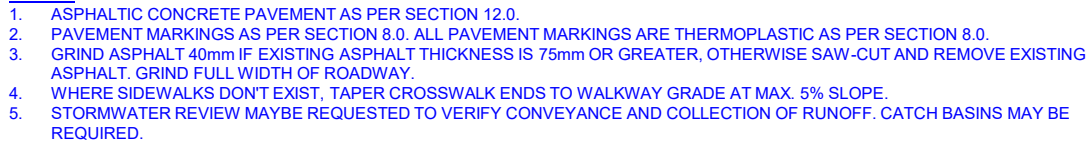
1. "D"=DEPTH OF CURB EXTENSION SHOULD BE SIMILAR TO THE WIDTH OF THE PARKING LANE (TYPICALLY 2.4m RESIDENTIAL OR 3.0m INDUSTRIAL)
2. INCLUDE A TANGENT AT 45° TO THE CURB FACE BETWEEN RADII WHERE "D" IS GREATER THAN 2.4m.
3. BANDING, BUFFERS, OR POCKET PARKING DOOR ZONES TO USE COLOURED AND/OR STAMPED CONCRETE PER SECTION 13.0
4. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.

12.6.2023

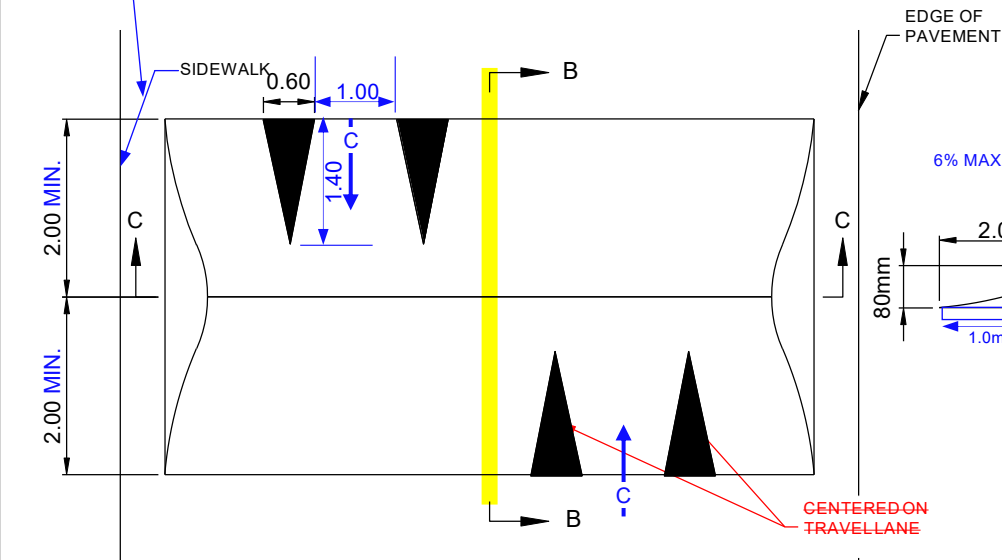


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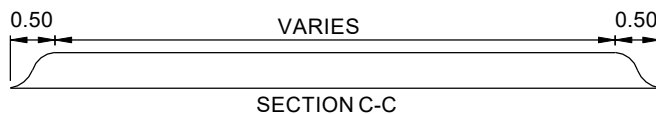
12.6.2023



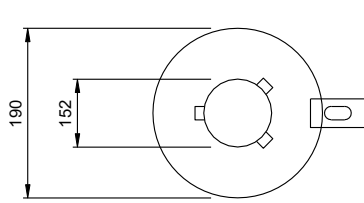
SECTION A-A



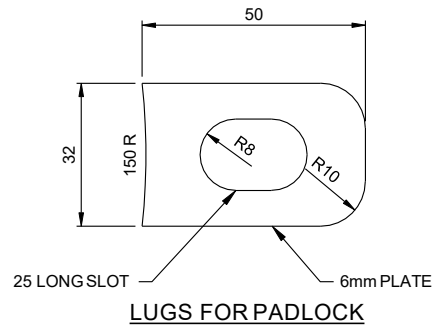
SECTION B-B



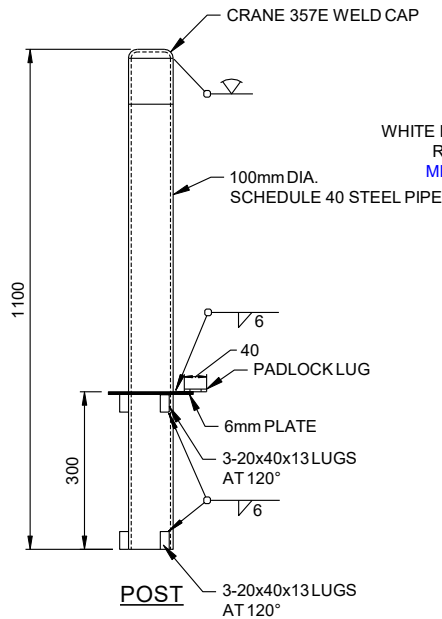
1. ASPHALTIC CONCRETE PAVEMENT AS PER SECTION 12.0.
2. PAVEMENT MARKINGS AS PER SECTION 8.0. ALL PAVEMENT MARKINGS ARE THERMOPLASTIC AS PER SECTION 8.0.
3. GRIND ASPHALT 40mm IF EXISTING ASPHALT THICKNESS IS 75mm OR GREATER, OTHERWISE SAW-CUT AND REMOVE EXISTING ASPHALT. GRIND FULL WIDTH OF ROADWAY.



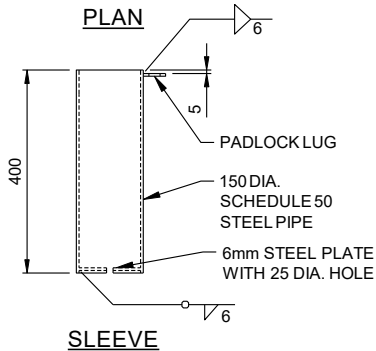
PLAN



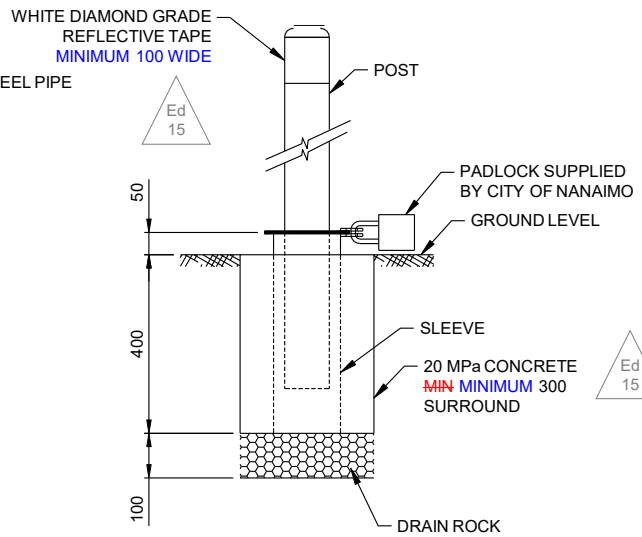
LUGS FOR PADLOCK



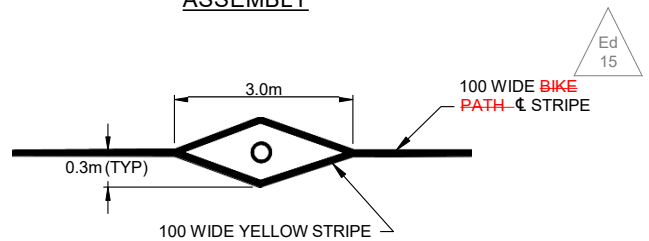
PLAN



SLEEVE



ASSEMBLY



**CENTRE BARRIER POST
PAVEMENT MARKING**

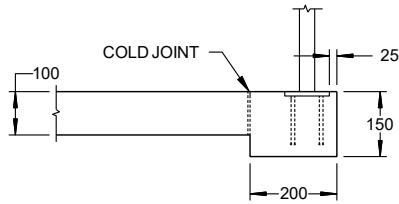
NOTES:

1. FOR USE ON MULTI-USE PATHWAYS, AND MULTI-USE TRAILS OR WHEN NECESSARY TO PREVENT VEHICLE ACCESS.
2. ALL STEEL TO BE BLACK POWDER COATED TO ASTM D7803.
3. PADLOCK TO BE INSTALLED IN THE DIRECTION OF THE TRAIL TRAVEL AND NOT ON THE SIDE BLOCKING THE THROUGH ZONE
4. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED.

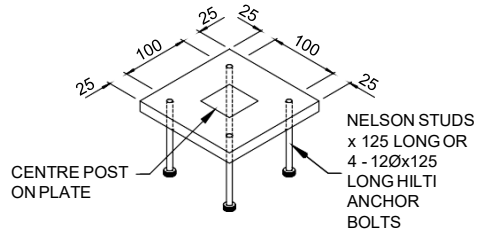
CITY OF NANAIMO
THE HARBOUR CITY

**BOLLARDS
REMOVABLE BARRIER POST**

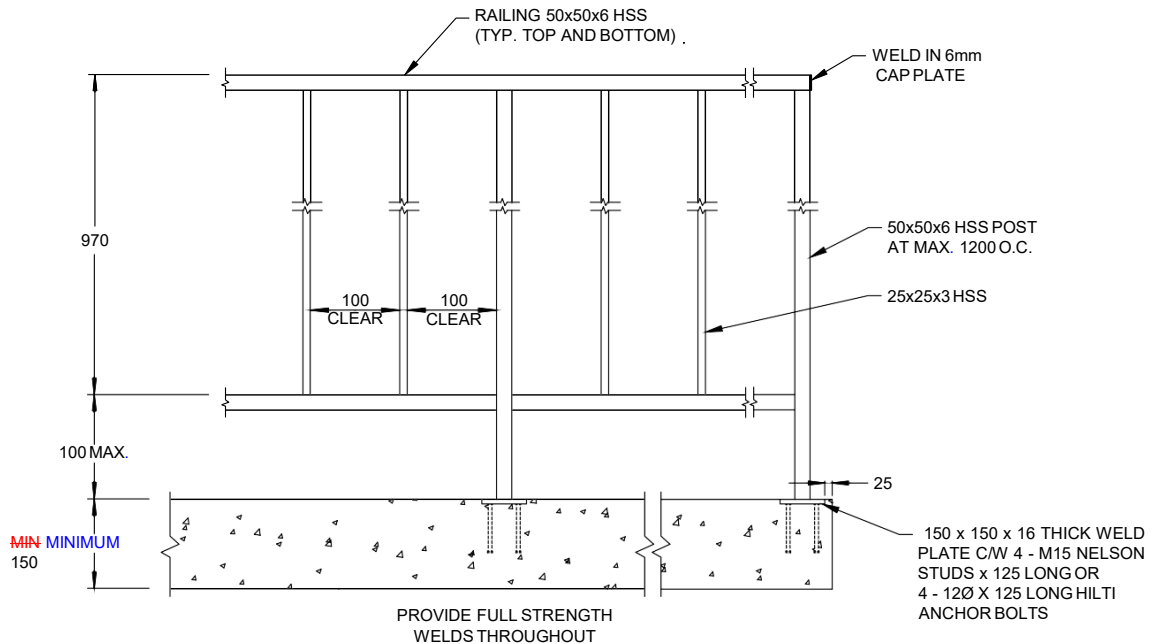
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Created: MAY 2001
Rev Date: MAY-2020
Dwg No: CS-30



DETAIL FOR LOCATIONS WITH 100mm THICK CONCRETE SIDEWALK ADJACENT



DETAIL - WELD PLATE FOR RAILING POST



ELEVATION OF RAILING

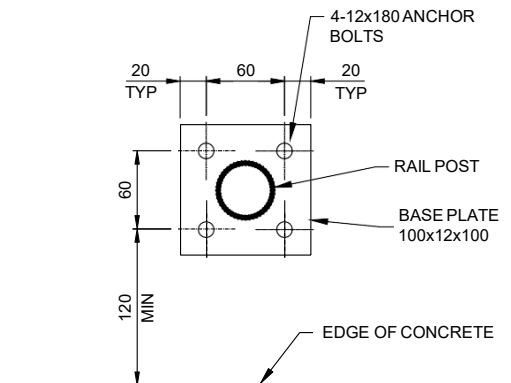
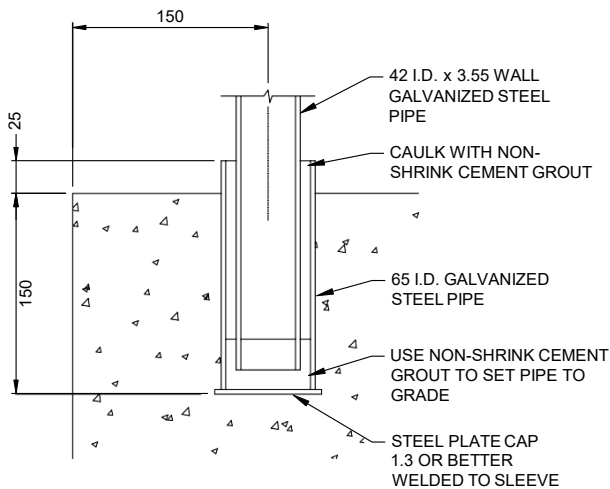
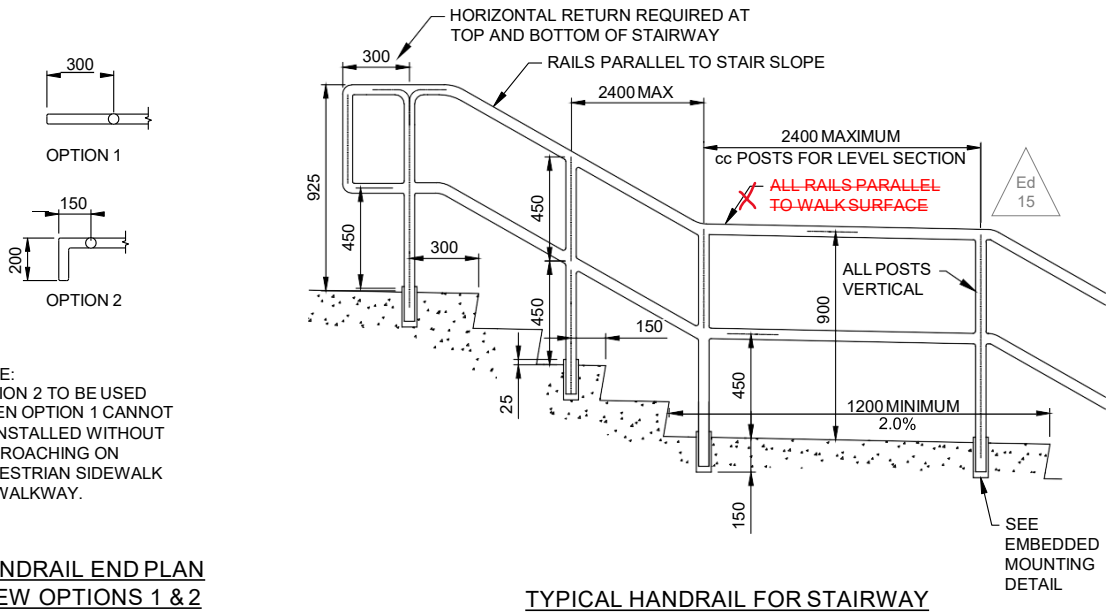
NOTES:

1. SUPPLY, FABRICATION, ERECTION, STRUCTURAL DESIGN AND DETAILING OF ALL MISCELLANEOUS STEEL ARE TO BE IN ACCORDANCE WITH CSA S16.
2. ALL WELDING IS TO CONFORM TO CSA W59 AND TO BE PERFORMED ONLY BY FABRICATION SHOPS APPROVED BY THE CANADIAN WELDING BUREAU TO CSA W47.1 FOR DIVISION 1 OR 2 REQUIREMENTS. PROVIDE FULL STRENGTH WELDS AND ALL WELDS ARE TO BE CONTINUOUS FOR THE LENGTH OF EACH JOINT. GRIND AND FILE WELDS SMOOTH AND FLUSH.
3. ALL STEEL IS TO CONFORM TO THE REQUIREMENTS OF THE FOLLOWING STANDARDS:
 - a) ROLLED SECTIONS AND PLATE: CAN/CSA-G40.21, GRADE 300W.
 - b) HSS SECTIONS: CAN/CSA-G40.21, GRADE 350W, CLASS C OR CLASS H.
 - c) WELDING ELECTRODES: CSA W48 SERIES AND APPLICABLE AWS-A5 SERIES.
4. ALL STEEL TO BE BLACK POWDER COATED TO ASTM D7803.
5. DAMAGED SURFACES SHALL BE THOROUGHLY CLEANED AND PAINTED WITH 2 COATS OF ORGANIC ZINC RICH PAINT.
6. ALUMINUM MAY BE SUBSTITUTED IN PLACE OF STEEL AS AN ALTERNATE.
7. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED.
8. SHOP DRAWINGS TO BE APPROVED BY THE PROFESSIONAL OF RECORD.



**HANDRAILS AND STAIRWAYS
SIDEWALK HANDRAIL**

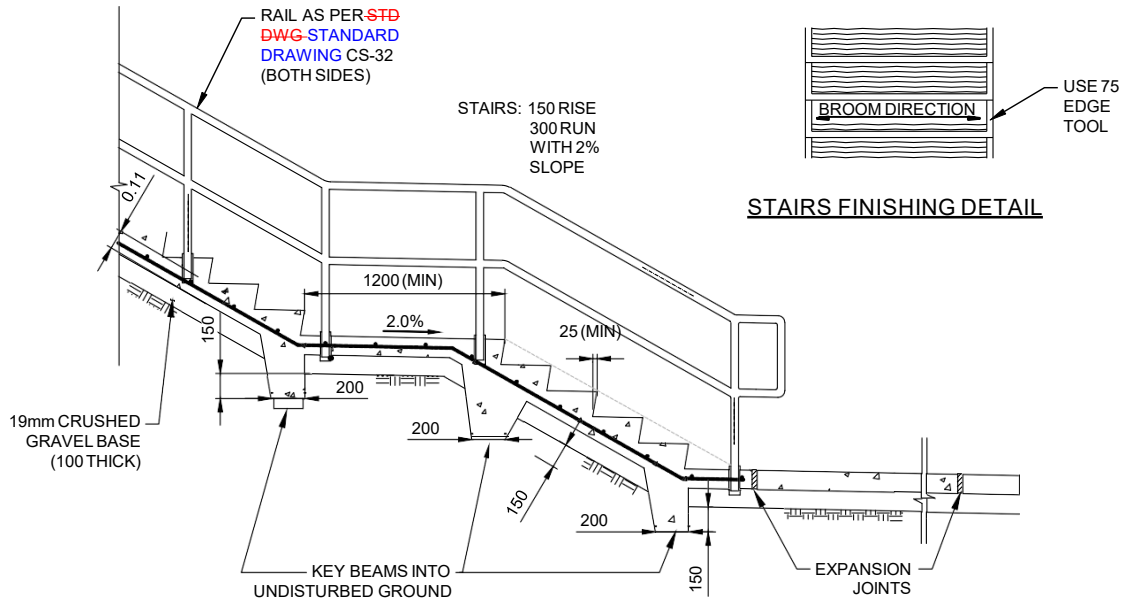
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Created: SEP 2012
Rev Date: MAY-2020
Dwg No: CS-31



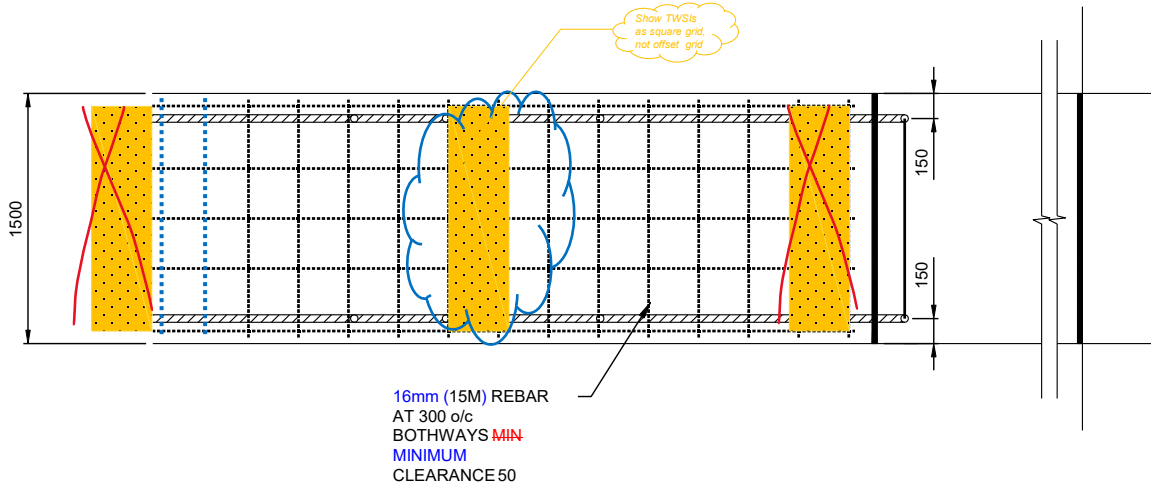
NOTES:



1. ALL HANDRAILS SHALL BE FABRICATED FROM 42 I.D. x 3.55 WALL STEEL PIPE.
2. ALL JOINTS SHALL BE MITRED, WELDED ALL AROUND AND FILED SMOOTH.
3. ALL BENDS SHALL BE SMOOTH CIRCULAR CURVES.
4. ALL COMPONENTS SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION TO CSA - 6164.
[ALL STEEL TO BE BLACK POWER COATED TO ASTM D7803.](#)
5. HANDRAILS REQUIRED ON BOTH SIDES OF STAIRWAY.
6. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED.
7. [SHOP DRAWINGS TO BE APPROVED BY THE PROFESSIONAL OF RECORD.](#)



CONCRETE STAIRWAY ELEVATION



CONCRETE STAIRWAY PLAN

NOTES:

1. DESIGN CRITERIA AS PER SECTION 8.16. ~~MAXIMUM OF 12 RISERS PER FLIGHT~~
~~BETWEEN LANDINGS.~~
2. ~~MAXIMUM WALKWAY GRADIENT IS 12%.~~
3. ~~FOR CONCRETE MIX DESIGN CRITERIA, REFER TO AS PER SECTION 8.11.0.~~
4. ~~REINFORCING BARS TO CSA G30.18 GRADE 400.~~
5. ~~HANDRAIL DETAILS, AS PER STANDARD DRAWING SEE STD. DWG CS-32.~~
6. ~~ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SHOWN.~~
7. ~~TWSs TO BE INSTALLED AT EVERY STAIR LANDING AS PER SECTION 8.0.~~
8. ~~LIGHTING LEVELS TO BE IN ACCORDANCE WITH AS PER SECTION 10.0.~~
8. DESIGN DRAWINGS TO SUIT SITE CONDITIONS ARE BY PROFESSIONAL OF RECORD.

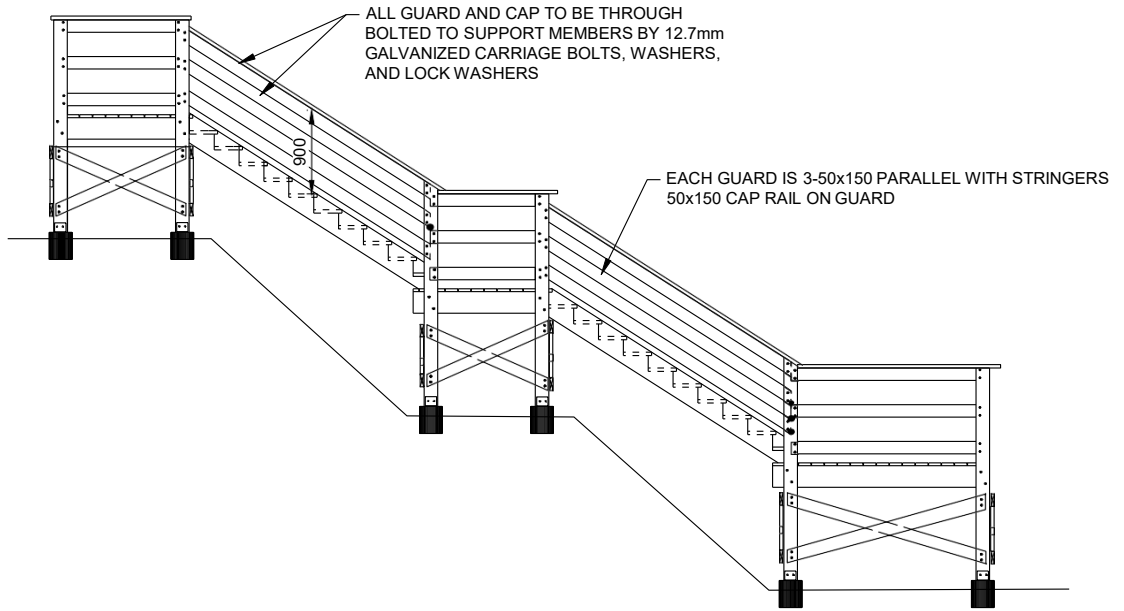


Scale: 1:40
Created: NOV 2016
Rev Date: MAY 2020
Dwg No: CS-33

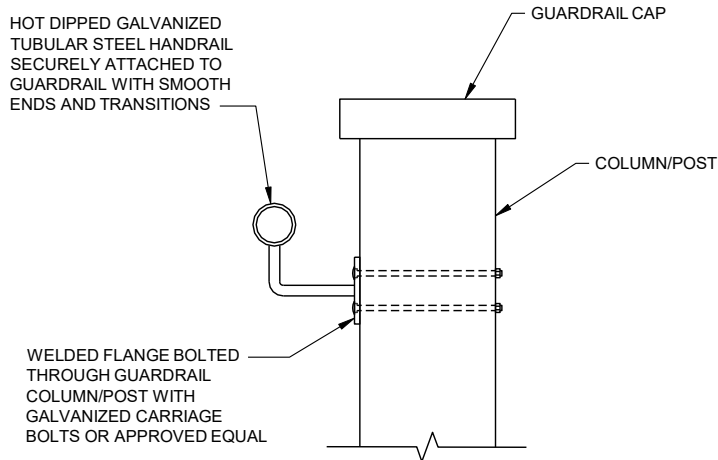
CITY OF NANAIMO
THE HARBOUR CITY

HANDRAILS AND STAIRWAYS
CONCRETE STAIRWAY AND LANDING





WOODEN STAIRWAY ELEVATION



TYPICAL HANDRAIL SECTION

NOTES:

1. ALL TIMBER TO BE PRESSURE TREATED OR APPROVED EQUAL.
2. ALL GUARDRAILS TO BE CONSTRUCTED AS SHOWN.
3. GUARDRAILS REQUIRED ON BOTH SIDES OF STAIRWAY.
4. NO NAILS ON EXTERIOR DECK. SCREWS ONLY FOR ATTACHING CAP RAIL AND POSTS.
5. HANDRAILS TO BE INSTALLED ON STAIRS WITH MORE THAN THREE RISERS.
6. HANDRAILS MUST BE GRASPABLE 864mm (34" in) MIN - 1067mm (42" in) MAX. MEASURED VERTICALLY FROM STAIR NOSING LINE.
7. HANDRAILS **TO BE HOT DIPPED** GALVANIZED STEEL TUBULAR SECTION 48mm DIA x 3.55mm WALL OR APPROVED EQUAL.
8. **FOR** STAIRWAY DETAILS **REFER TO STD. DWG. AS PER STANDARD DRAWING CS-35.**
9. **ALL DIMENSIONS ARE** IN MILLIMETERS UNLESS OTHERWISE NOTED.
10. **DESIGN DRAWINGS FOR SITE CONDITIONS ARE BY PROFESSIONAL OF RECORD.**

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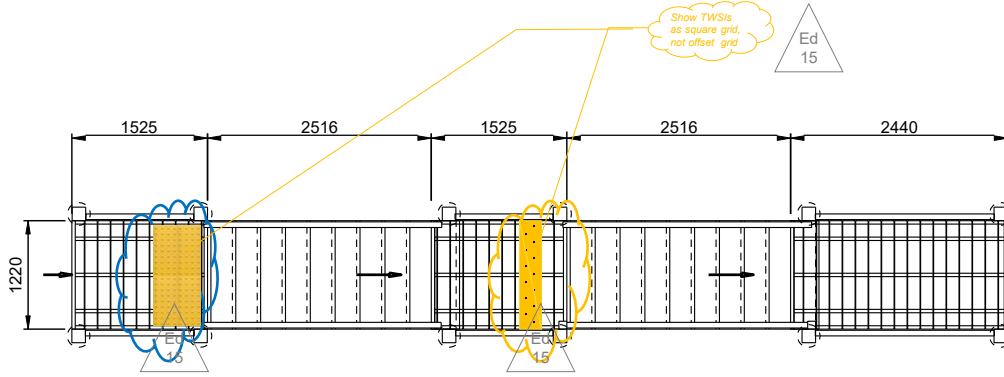
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HANDRAILS AND STAIRWAYS
GUARDRAIL FOR WOODEN STAIRWAY

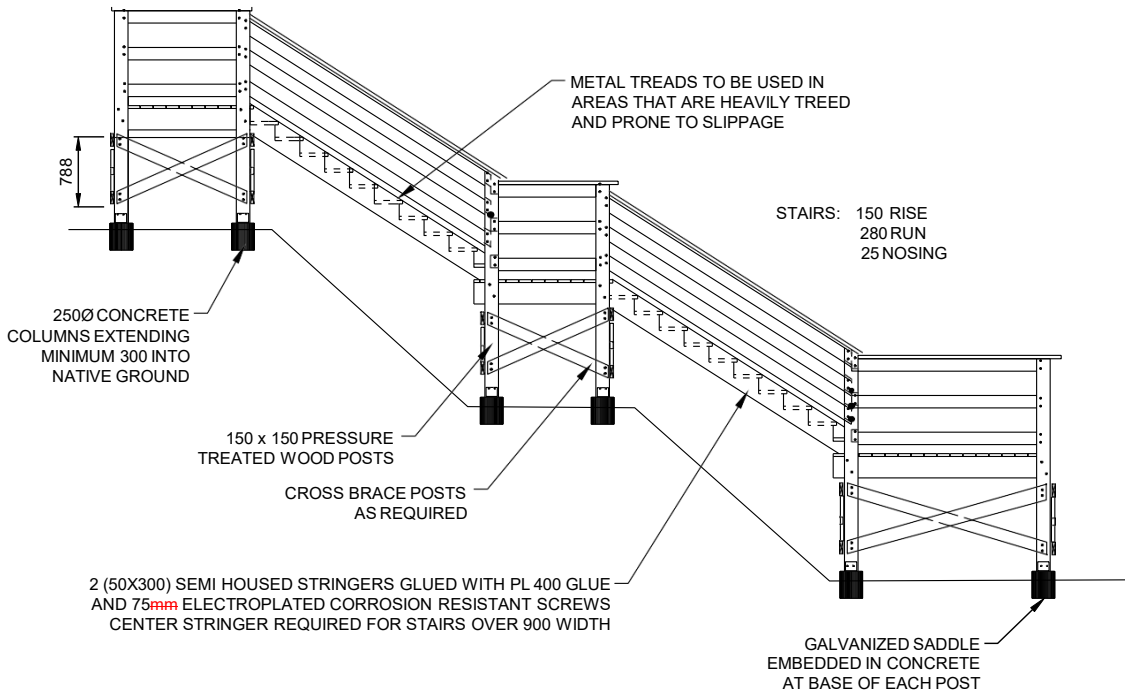
Scale: NTS
Created: NOV 2016
Rev Date: ~~MAY 2020~~
Dwg No: CS-34

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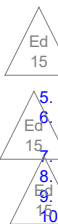
WOODEN STAIRWAY PLAN



WOODEN STAIRWAY ELEVATION

NOTES:

1. ALL TIMBER TO BE PRESSURE TREATED OR APPROVED EQUAL.
2. VEGETATION CLEARANCE TO BE 0.5m MINIMUM HORIZONTAL AND 2.0m VERTICAL.
3. ENSURE ADEQUATE SIGHTLINES ON CORNERS.
4. RESIDENTIAL BUFFER TO BE 5.0m.
5. ~~REFER TO CITY OF NANAIMO - TRAIL PLAN - DESIGN GUIDELINES (MAY 2007) FOR ADDITIONAL DESIGN INFORMATION.~~
6. ~~FOR GUARDRAIL AND HANDRAIL DETAILS REFER TO STD. DWG. AS PER STANDARD DRAWING CS-34.~~
7. ~~STRUCTURAL CERTIFICATION REQUIRED WITH STAIR DESIGN SUBMISSION AUTHENTICATED BY PROFESSIONAL OF RECORD SEALED BY A PROFESSIONAL ENGINEER.~~
8. ~~TWSs TO BE INSTALLED AT EVERY STAIR LANDING AS PER SECTION 8.0.~~
9. ~~ENGINEERED ALTERNATIVES FOR STAIR FOOTINGS MAY BE APPROVED.~~
10. ~~ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.~~
11. ~~DESIGN DRAWINGS FOR SITE CONDITIONS ARE BY PROFESSIONAL OF RECORD.~~



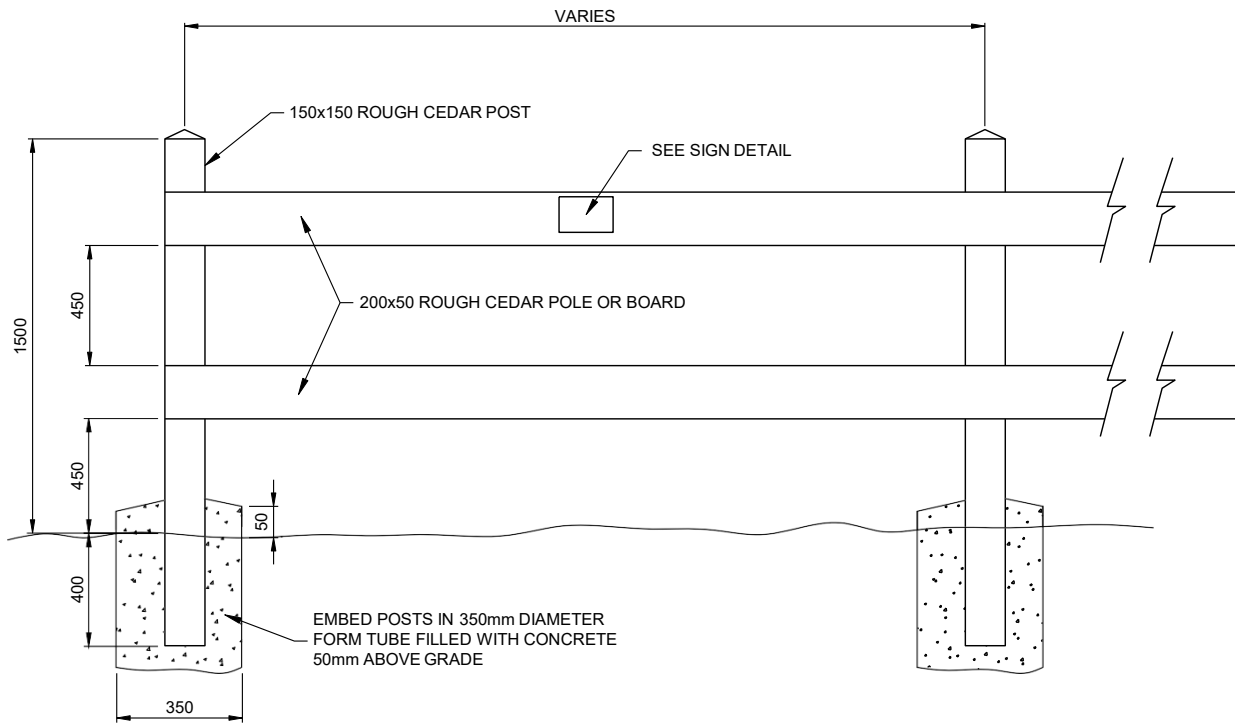
HANDRAILS AND STAIRWAYS
WOODEN STAIRWAY AND LANDING
(BEACH ACCESS)

Engineering Standards & Specifications
May 2020 Edition 15

Scale: NTS
Created: NOV 2016
Rev Date: MAY 2020
Dwg No: CS-35

Ed 15

Ed 15



NOTES:

1. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. TO BE INSTALLED AT EDGE OF SLOPE, **OFFSET** 0.5m FROM EDGE OF PATHWAY
3. WHEN INSTALLED AS AN AQUATIC SETBACK FENCE, THE FOLLOWING MUST BE COMPLETED:
 - a) TO BE INSTALLED AT THE EDGE OF ALL AQUATIC SETBACK BOUNDARIES TO ENSURE THE SETBACK IS DELINEATED.
 - b) SIGN TO BE MOUNTED TO FENCE TO ENSURE THE SETBACK AREA IS PROTECTED.
 - c) SIGN TO BE INSTALL AT THE REAR OF EVERY LOT BACKING ONTO THE SETBACK AREA OR AT A 30m SPACING.

Environmentally
Protected Area



ENVIRONMENTALLY PROTECTED AREA SIGN

CITY OF NANAIMO
THE HARBOUR CITY

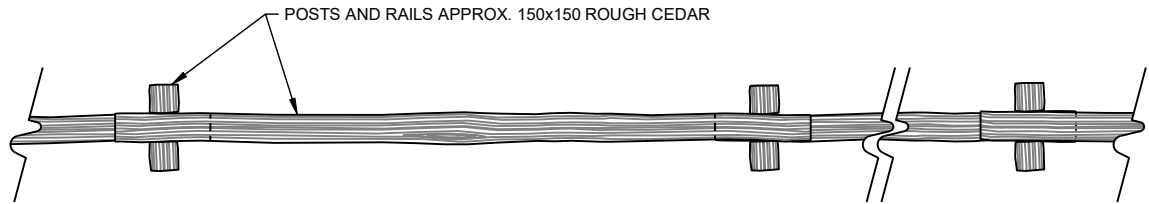
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FENCES AND GATES
WOOD RAIL

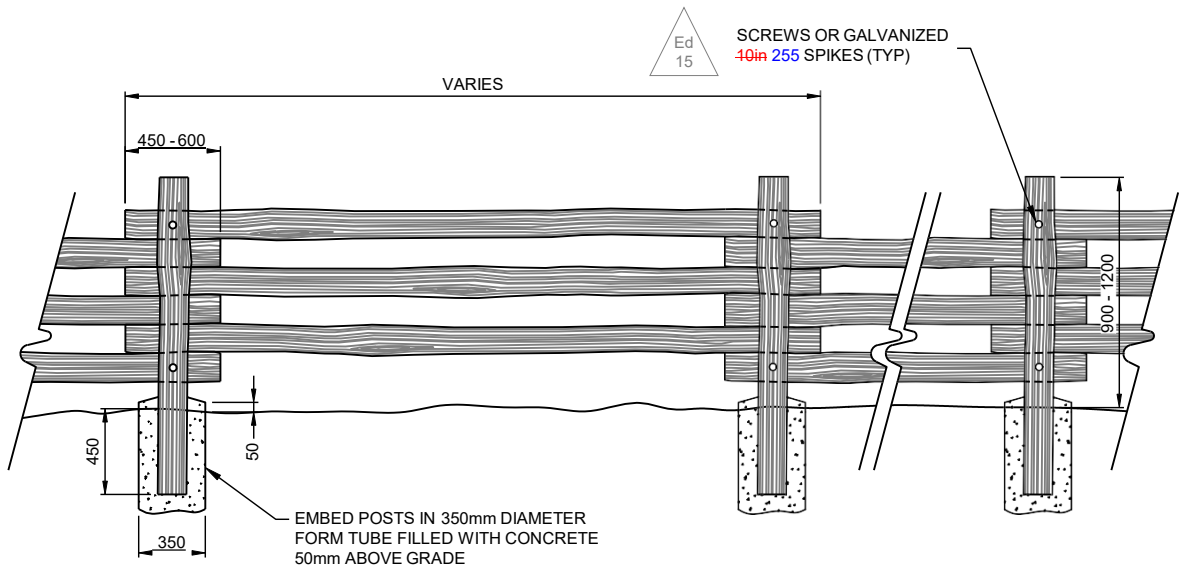
Scale: NTS
Created: NOV 2012
Rev Date: MAY 2020
Dwg No: CS-36

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SPLIT RAIL FENCE PLAN



SPLIT RAIL FENCE ELEVATION

NOTES:

1. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE NOTED.
2. TOP OF POSTS TO BE SECURED TOGETHER WITH WIRE.
3. CONCRETE AS PER SECTION 11.0.



NTS

8-15M VERTS

600 Ø CONCPER

10M @ 300 CLOSED TIES

1 SECTION
- NTS



4-15M
VERTS

300 Ø
CONC PIER

50

CLR

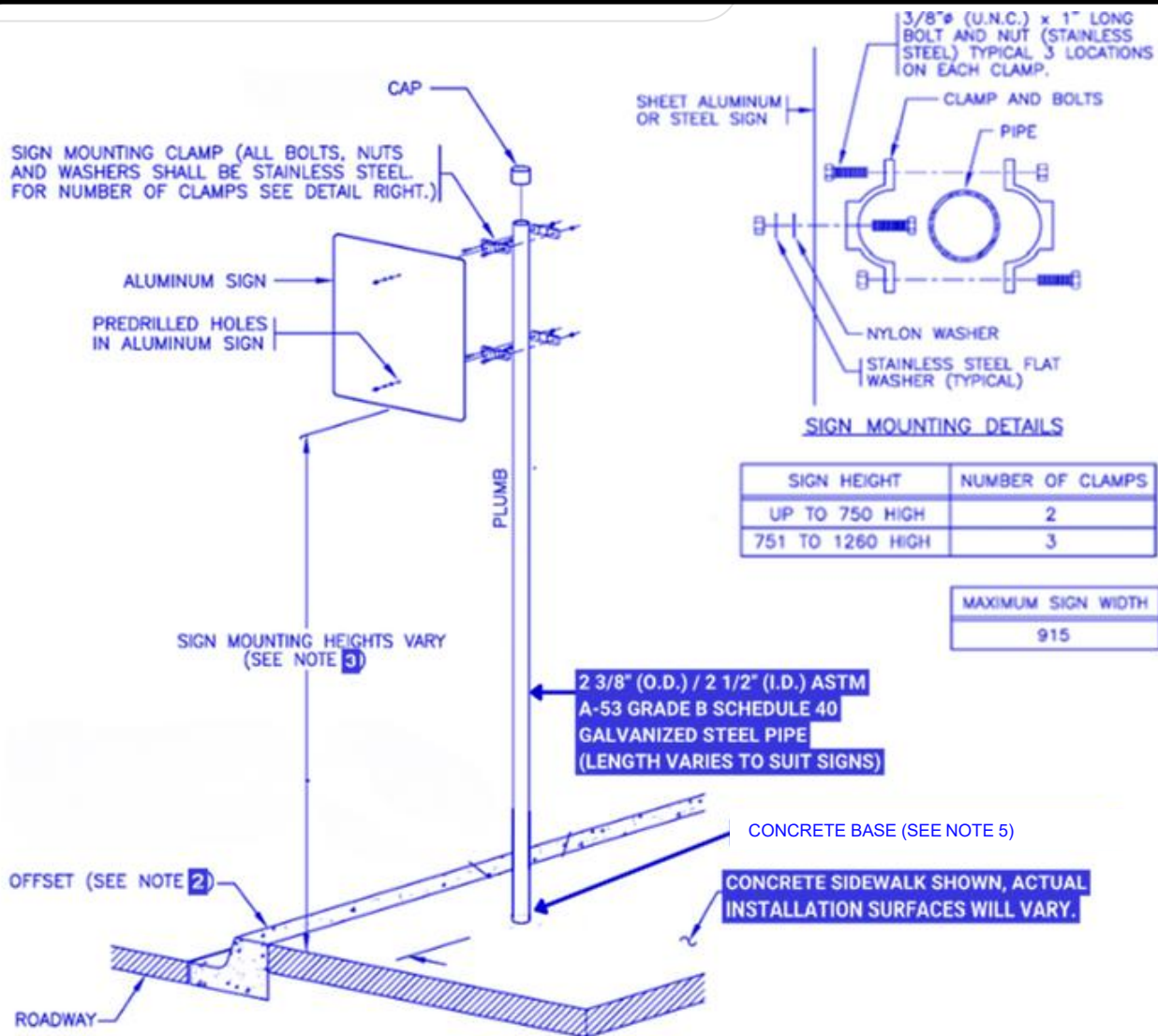
10M @ 300
CLOSED TIES

4 SECTION
- NTS

1. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE NOTED.
2. DESIGN AND REVIEW BY A PROFESSIONAL OF RECORD.
3. CONCRETE PIER IS CLASS F-1, PER SECTION 11.0.
4. STEEL PIPE TO ASTM-A53, GRADE B, STANDARD WEIGHT, SEAMLESS, BLACK.
5. STEEL PLATE TO CAN/CSA-G40.21 GRADE 300W.
6. STEEL SURFACES SHALL BE BLAST CLEANED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS PRIOR TO PAINTING.
7. EXPOSED STEEL SURFACES SHALL BE PAINTED WITH A BASE COAT OF ENAMEL RUST PAINT AND A TOP COAT OF BRIGHT YELLOW ENAMEL RUST PAINT.
8. GATE IS SHOWN WITH MAXIMUM SPAN. ADJUST DIMENSIONS TO SUIT SITE CONDITIONS BUT DO NOT EXCEED MAXIMUM MEMBER SPACING INDICATED ON THE ELEVATION.

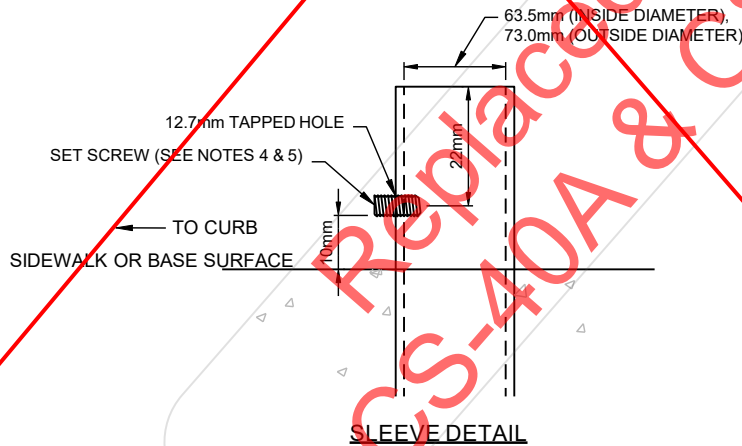
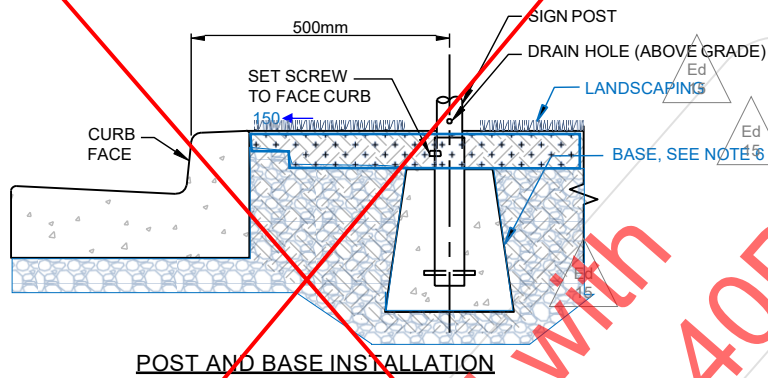
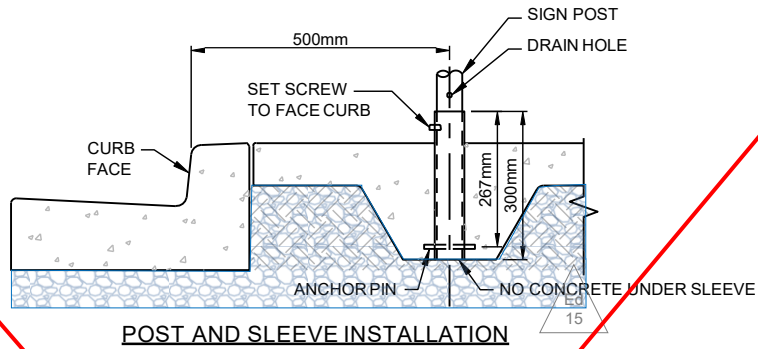


Proposed New Drawing



NOTES:

- SIGN POSTS ARE TO BE ABSOLUTELY PLUMB.
- SIGNS TO BE INSTALLED SO THAT A MINIMUM OF 300mm CLEARANCE IS PROVIDED BETWEEN THE SIGN EDGE AND THE FACE OF CURB.
- THE BOTTOM OF SIGN HEIGHT OF THE LOWEST SIGN SHALL BE AS FOLLOWS:
 - 2.0m ABOVE THE FINISHED SURFACE, OR
 - 2.1m ABOVE THE SIDEWALK OR WALKING SURFACE WHERE PEDESTRIAN TRAFFIC IS LIKELY, OR
 - 2.5m ABOVE THE CYCLE PATH OR WALKING SURFACE WHERE CYCLING TRAFFIC IS LIKELY.
 - EXCEPT FOR OBJECT MARKER SIGNS WHICH SHALL BE INSTALLED WITH THE BOTTOM OF SIGN 0.45m ABOVE THE FINISHED SURFACE.
- ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED.
- REFER TO STANDARD DRAWING CS-40B FOR CONCRETE BASE DETAILS. THE SPECIFICATIONS WILL DEPEND ON THE APPLICATION.



NOTES:

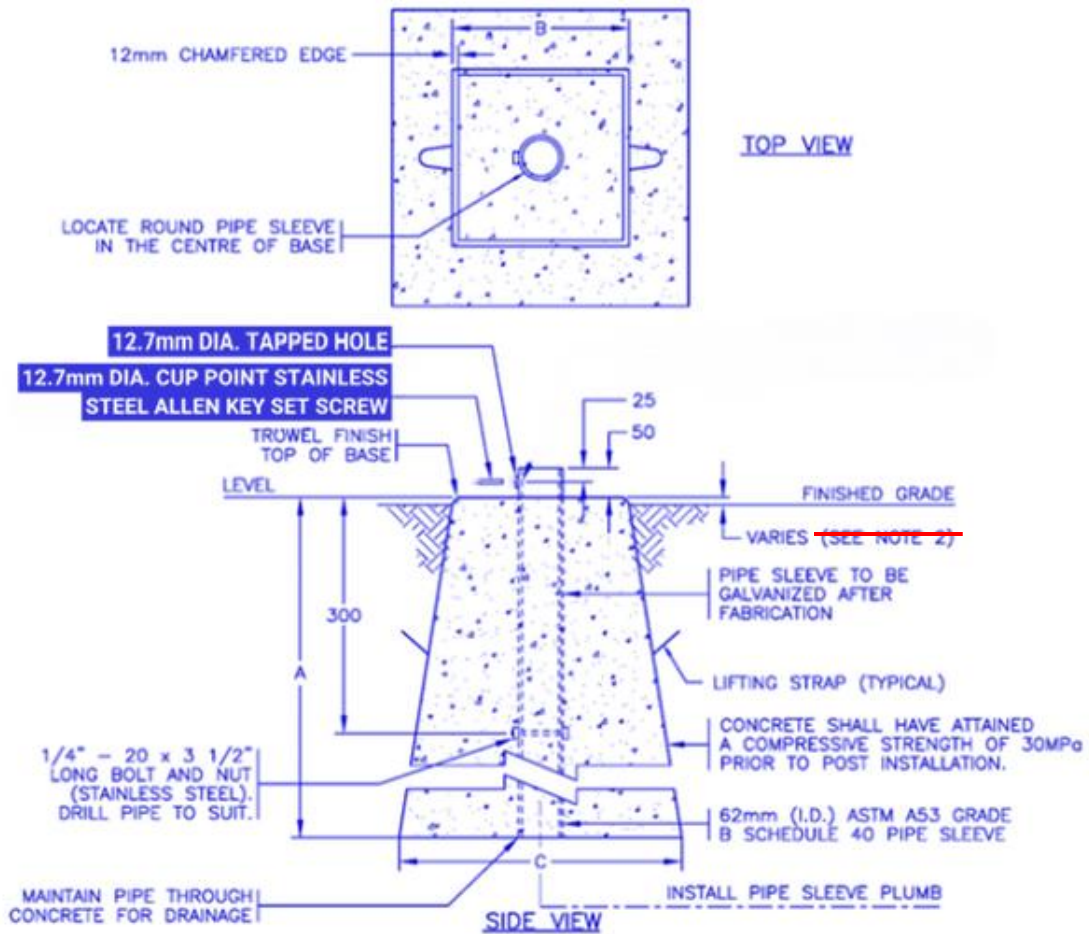
1. CAUTION MUST BE TAKEN TO ENSURE THAT NO CONCRETE OR DEBRIS GET INSIDE THE SLEEVE.
2. THE SLEEVE IS TO BE ABSOLUTELY PLUMB.
3. ENSURE SLEEVES AND BASES MAINTAIN UTILITY CLEARANCES AND REVIEW AND REVIEW SIGN LOCATIONS WHERE CLEARANCE IS NOT POSSIBLE. ALTERNATIVE SIGN LOCATIONS MAY BE NECESSARY IN INSTANCES OF CONFLICT WITH UNDERGROUND UTILITIES.
4. POST AND SLEEVE: 12.7mm DIAMETER x 12.7mm LENGTH CUP POINT STAINLESS STEEL ALLEN KEY SET SCREW.
5. POST AND BASE: 12.7mm DIAMETER x 19.1mm LENGTH CUP POINT STAINLESS STEEL ALLEN KEY SET SCREW.
6. BASE TO CONFORM TO DIMENSIONS, VOLUME AND MASS, SEE MOTT SPECIFICATION SP635-1.1.46 APPROPRIATE FOR LOCATION.
7. LANDSCAPING AS PER SECTION 14.0.
8. SIGN PLACEMENT HEIGHT AS PER HEIGHTS ON STANDARD DRAWING CS-41 OR BC MANUAL OF STANDARD TRAFFIC SIGNS & PAVEMENT MARKINGS. BOTTOM OF HAZARD OBJECT MARKERS IN MEDIANS TO BE MOUNTED 500 mm TO 1000 mm ABOVE TRAVELED ROADWAY, DEPENDING ON SIGHT DISTANCE.

CITY OF NANAIMO
THE HARBOUR CITY

TRAFFIC SIGNAGE
ROUND STOCK SIGN

Scale: NTS
Created: OCT 2019
Rev Date: MAY 2020
Dwg No: CS-40

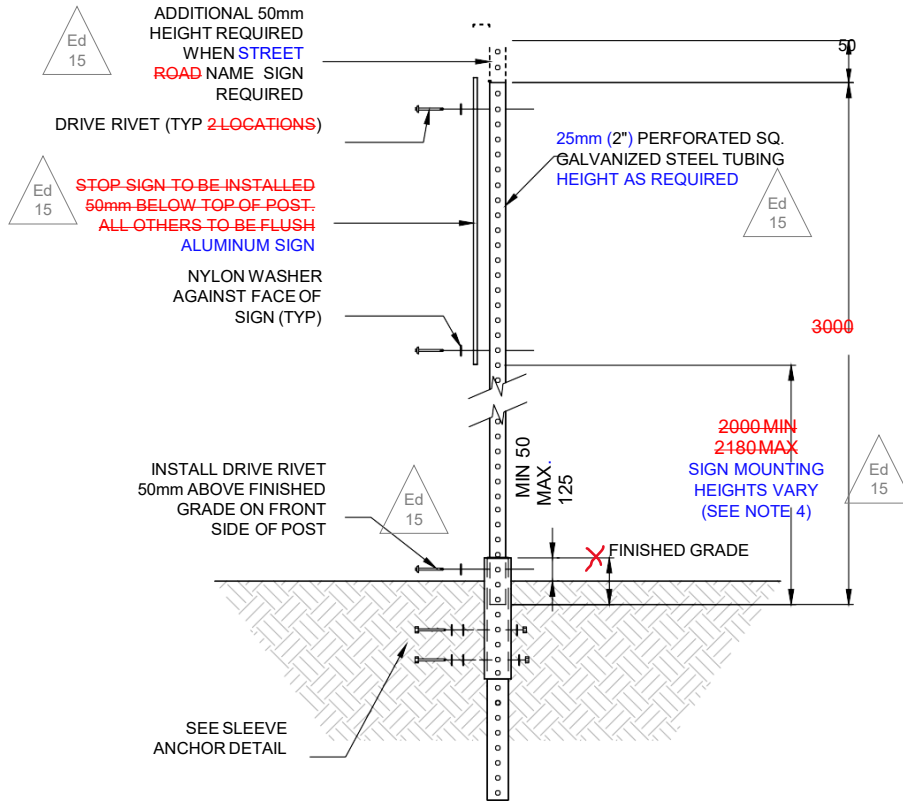
Replacement Drawing



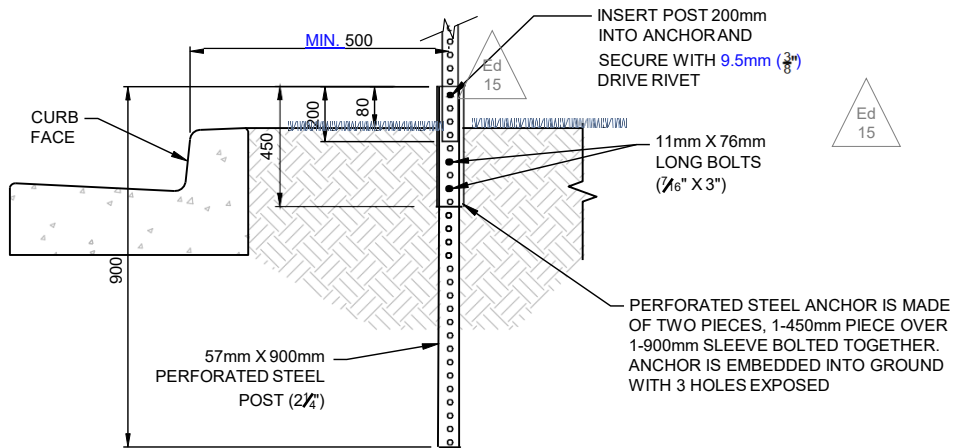
| APPLICATION | APPROXIMATE MASS | VOLUME OF CONCRETE | A | B | C |
|---|------------------|----------------------|-----|-----|-----|
| SINGLE POST SIGNS IN PAVED ISLANDS OR CONCRETE SIDEWALKS | 34 kg | 0.015 m ³ | 400 | 160 | 230 |
| SINGLE OR TWO POST SIGNS (UP TO 1.0m x 1.2m) IN GRAVEL SHOULDER OR LANDSCAPE BLVD | 166 kg | 0.068 m ³ | 470 | 300 | 460 |
| SINGLE OR TWO POST SIGNS (1.0m x 1.2m UP TO 1.2m x 2.4m) IN GRAVEL SHOULDER OR LANDSCAPE BLVD | 390 kg | 0.16 m ³ | 750 | 330 | 600 |

NOTES:

- CAUTION MUST BE TAKEN TO ENSURE THAT NO CONCRETE OR DEBRIS GET INSIDE THE SLEEVE.
- THE SLEEVE IS TO BE ABSOLUTELY PLUMB.
- CYLINDRICAL BASES MAY BE USED WITH PRIOR WRITTEN PERMISSION FROM THE CITY AND MUST MEET MASS AND VOLUME REQUIREMENTS SHOWN ABOVE.
- FOR CAST IN PLACE CONCRETE AS PER SECTION 11.0.
- REFER TO STANDARD DRAWING CS-40A FOR MINIMUM OFFSETS.
- BASE SHALL BE INSTALLED 25mm ABOVE FINISHED GRADE EXCEPT WHEN INSTALLED IN SIDEWALK IT SHALL BE FLUSH WITH TOP OF SIDEWALK WITH NO CHAMFERED EDGE.
- LANDSCAPING AS PER SECTION 14.0.



PERFORATED STEEL SIGN POST



SLEEVE ANCHOR DETAIL

NOTES:

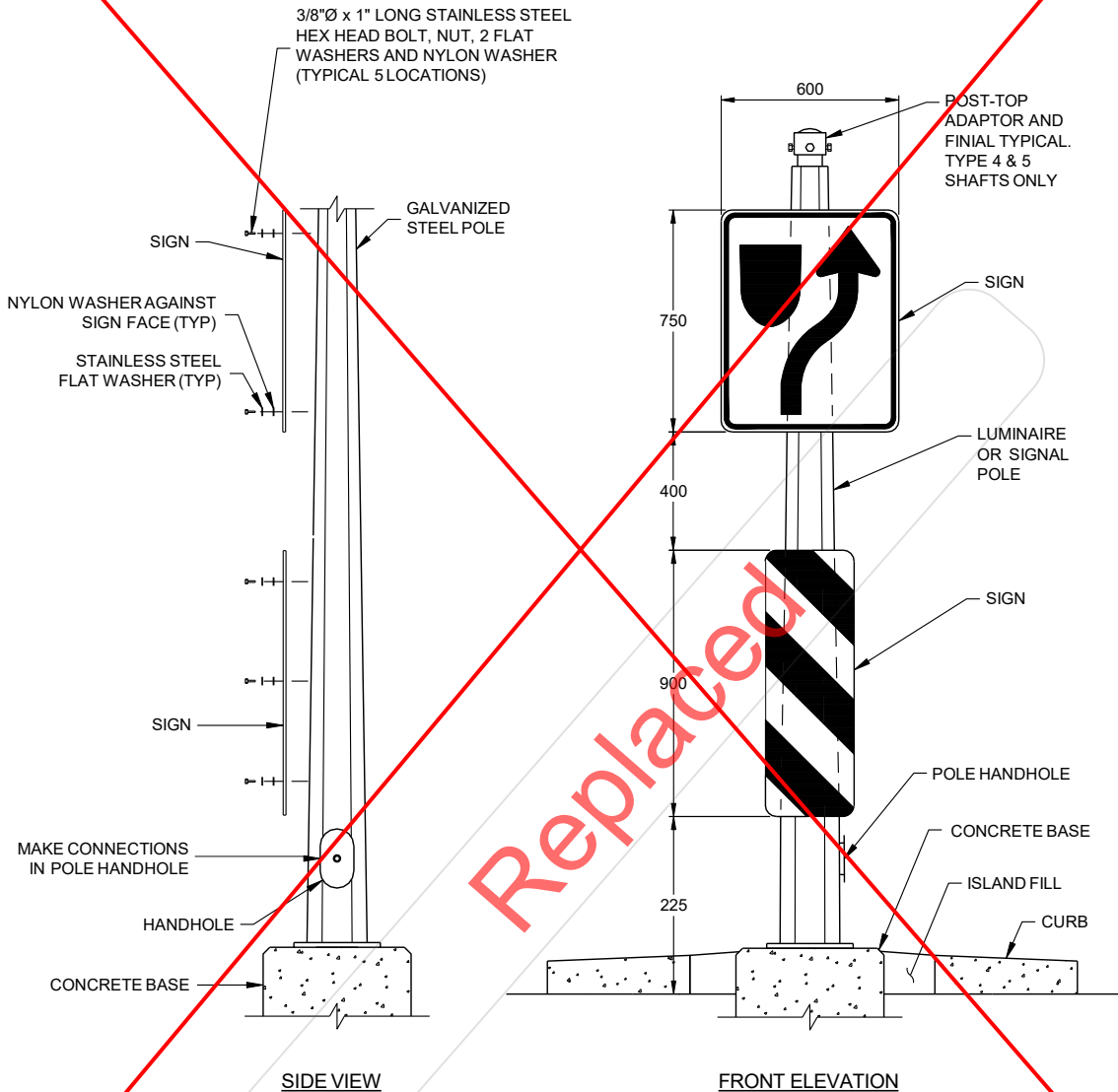
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS SHOWN OTHERWISE NOTED.
2. SIGN POSTS ARE TO BE ABSOLUTELY PLUMB.
3. SIGN POSTS TO BE INSTALLED MINIMUM 500mm FROM FACE OF CURB.
4. FOR TRAFFIC SIGN REQUIREMENTS, REFER TO CS-40A.
5. USE OF PERFORATED STEEL SIGN POST REQUIRES APPROVAL BY THE CITY ENGINEER.

CITY OF NANAIMO
THE HARBOUR CITY

TRAFFIC SIGNAGE
PERFORATED STEEL SIGN

Scale: NTS
Created: APR 2013
Rev Date: MAY 2020
Dwg No: CS-41

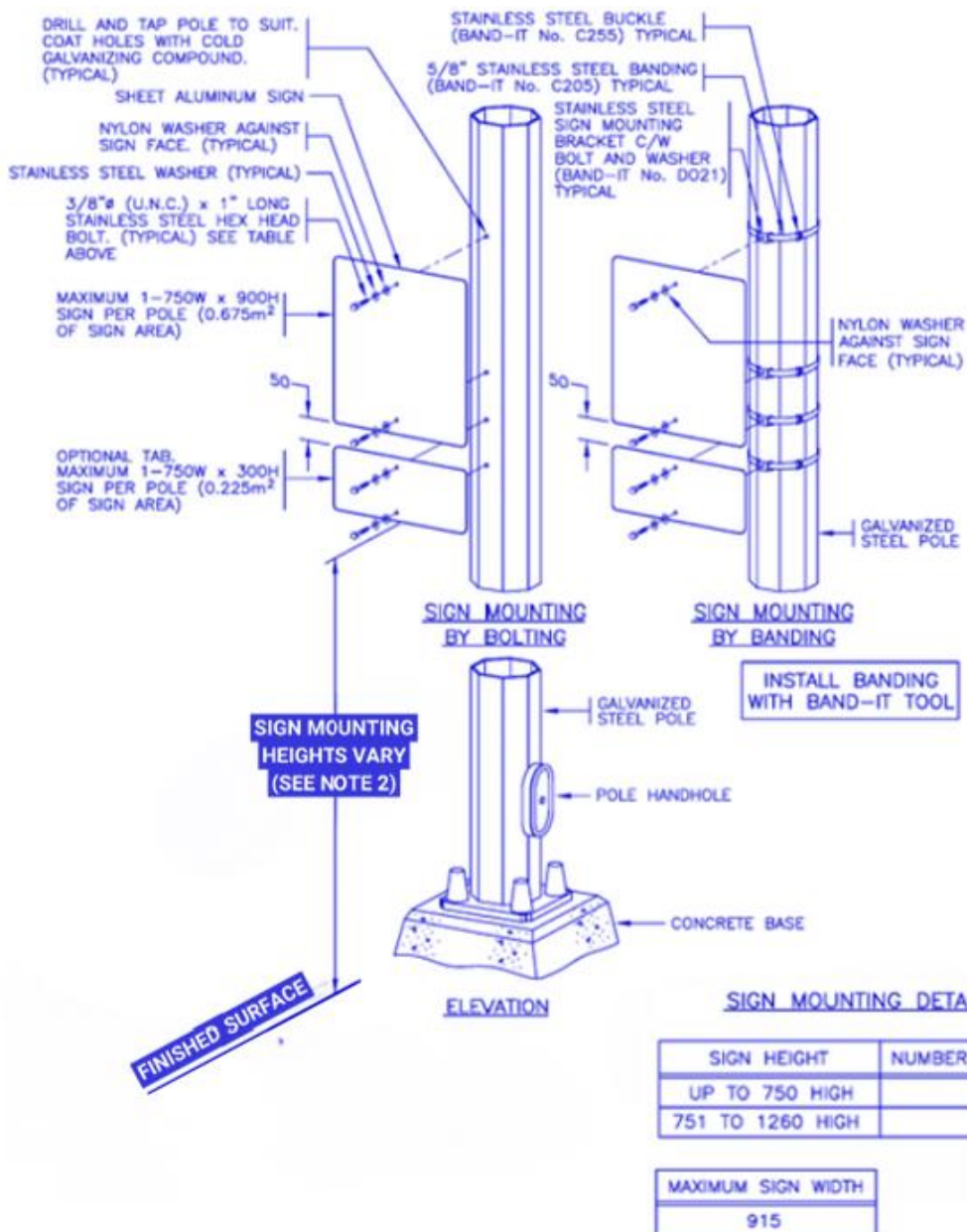
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NOTES:

1. REFER TO **CONTRACT CONSTRUCTION** DRAWINGS AND SECTION 10.0 FOR DETAILED SPECIFICATIONS.
2. ALL DIMENSION IN MILLIMETERS UNLESS OTHERWISE NOTED.

Replacement Drawing



NOTES:

- SEE STANDARD DRAWINGS IN SECTION 10.0 FOR SIGNAL POLE OR LUMINAIRE POLE DETAILS.
- THE BOTTOM OF SIGN HEIGHT OF THE LOWEST SIGN SHALL BE AS FOLLOWS:
 - 2.0m ABOVE THE FINISHED SURFACE, OR
 - 2.1m ABOVE THE SIDEWALK OR WALKING SURFACE WHERE PEDESTRIAN TRAFFIC IS LIKELY, OR
 - 2.5m ABOVE THE CYCLE PATH OR WALKING SURFACE WHERE CYCLING TRAFFIC IS LIKELY.
 - EXCEPT FOR OBJECT MARKER SIGNS WHICH SHALL BE INSTALLED WITH THE BOTTOM OF SIGN 0.45m ABOVE THE FINISHED SURFACE.
- ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED