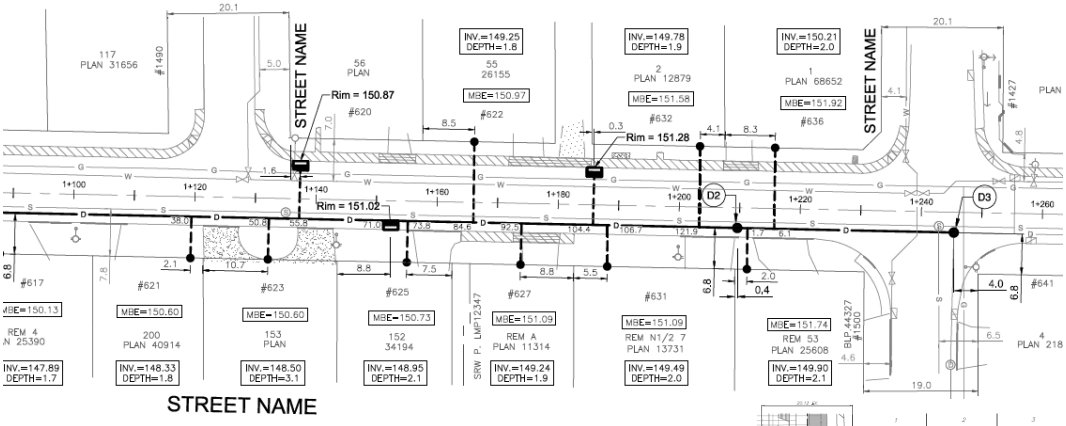
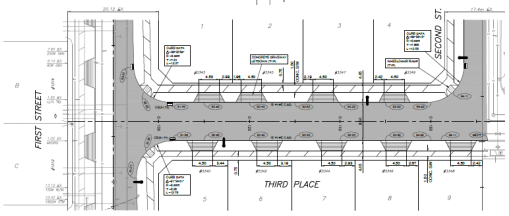
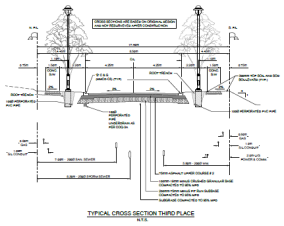
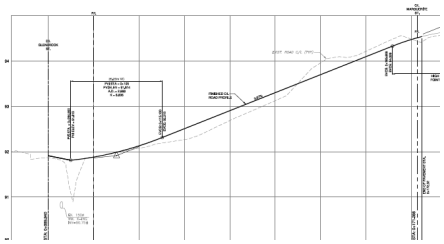
Coquitlam CAD Standards & Drawing Requirements Version 4.0

March 2022









City of Coquitlam, Engineering & Public Works
3000 Guildford Way, Coquitlam, British Columbia V3B 7N2

Coquitlam

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1.0 INTRODUCTION

The City of Coquitlam has created this CAD STANDARDS & DRAWING REQUIREMENTS manual to support the standards and procedures required for the completion of infrastructure and private land development projects in the CAD environment. This manual must be read and understood prior to undertaking any subdivision design, capital infrastructure, or other civil engineering project in the City of Coquitlam.

These standards adhere to MMCD (Master Municipal Construction Documents Association) templates for AutoCad Civil 3D published in February of 2022 hereafter referred to version 4.0.

These files may be updated from time to time by MMCD, however, the documentation contained herein refers to the February 2022 version. A link to the files for this version of the template and associated files has been provided on this web page.

MMCD commissioned APW Engineering to carry out user liaison and development on behalf of MMCD. Any noted errors in these files should be directed to Andrew Walther at APW Engineering.

This manual will be revised periodically. This edition is deemed "Version 4.0". Any suggestions or recommended changes to this manual are welcomed and appreciated and should be directed to:

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1.1 Subdivision and Development Servicing Bylaw No. 3558, 2003

City of Coquitlam Subdivision and Development Servicing Bylaw No. 3558, 2003 and any subsequent amendments contains the regulations for the subdivision of land, and must be read and understood prior to undertaking any land development projects within the City. This manual is intended to enhance the drawing standards outlined within the bylaw to provide the City with a standard and quality drawing submissions. Contact the Planning & Development Department for the most up to date copy of this Bylaw.

2.0 GENERAL STANDARDS

2.1 Drawing Standards

The City of Coquitlam requires CAD files for the final record drawing submission that have been created using the above mentioned MMCD template. The City requires consultants to make use of the MMCD template at the preliminary and design stages of the project. The use of a consistent standard is required to maintain consistency in appearance and internal drawing structure to facilitate post construction as-built submissions. The MMCD template can be used with both AutoCad Civil 3D and AutoCad. Record drawings that are not in compliance will be returned for correction.

The current version of the MMCD template now contains the MMCD Asset Data Exchange Standard as part of the MMCD CAD Standards. The drawing template file for the MMCD Asset Data Exchange Standard is:

MMCD C3D2022 R1.0 (for Existing Recorded Assets).dwg.

MMCD Asset Data Exchange Standard is in development for the City of Coquitlam and will involve the use of AutoCAD object data and Civil 3D data to provide attribute rich record drawing submission in the future. Until development of the MMCD Asset Data Exchange Standard is completed, adherence to this standard will not be enforced. Instead the production drawing template shall be used for record submission. The drawing template file for the MMCD production drawing template is:

MMCD C3D2022 R1.0 (DesignandProduce).dwt

2.2 Digital Submission of Record Drawings

The consultant has two options for providing the digital submission of record drawings:

- AutoCad format up to and including the latest release of the software. Downward conversion by the City will be facilitated by Autodesk's DWG Trueview software. For AutoCad submissions, any references to Civil 3D point descriptions and styles in the manual can be ignored. However, adherence to the templates layer, symbol and other standards outlined later in this manual is required.

- Autodesk Civil 3D file 2013 or newer.

An Acrobat PDF of the submitted record is also required. Submitted PDF files should be readable by Adobe Acrobat X with no activation of security settings or password protection. For best results, drawings in Acrobat PDF file should be created directly from the CAD file at original intended scale that is being certified correct.

The City requires separate Water, Drainage, Sanitary, Road, Communication, Streetlight and Traffic record drawings. For instance drainage and sanitary records cannot be combined nor can roads and water be combined.

All files associated with the CAD file such as external references must be included in a ZIP archive for submission. A utility such as Autodesk's "ETransmit" utility should be used to check that all files are included.

The City encourages the use of email delivery for the final submission.
Email: asbuilts@coquitlam.ca

Or upload via City Web Site: http://qfile.coquitlam.ca/asbuilt

3.0 DRAWING PREPARATION – GENERAL

The as-constructed submission shall include a drawing index that lists all drawing sheets that are contained in the project, group linear assets and facilities such as pump station and pressure reducing valve station. Partial submissions are not accepted. The Developer/ Developer's

consultant is responsible for compiling drawings from primary contractor and subcontractors for presentation as a complete set.

A letter of certification or Professional Engineer's electronic seal and digital signature applied to the submitted PDF drawing file(s) confirming the accuracy of the as-constructed drawings must be provided.

Each plan sheet should be considered in itself a stand-alone record. All notes that refer to the sheet should be made on that sheet. A separate plan sheet containing notes that refer to various sheets within the project are not acceptable. Exceptions to this rule could be references to standard details or key plans.

3.1 General Notes

a) "Design" denotes those improvements to be installed on the project submitted. In the submitted record drawing, these improvements will be placed on the layers prefixed by the letter "C".

b) "Existing" denotes utility information and improvements that were at design stage, existing already built infrastructure. Existing infrastructure will have a previously created drawing record. In the submitted record drawing, this existing infrastructure will be placed on the layers prefixed by the letter "V".

c) Name, address, and phone number of the consultant are to be on all record drawings.

d) In the existing road rights of way and easement, the plan view will show all existing infrastructure such as:

- water mains, fittings, service connections, appurtenances
- hydrants
- valves (gate, butterfly, air, gas)
- blow off, air inlet
- sanitary sewers and service connections
- clean-outs
    - manholes: show rim elevation, barrel size (drainage, sanitary, Telus, B.C. Hydro)
    - inspection chambers (sanitary, storm)
- storm sewers and service connections
- catch basins and lawn drains
- ditches and natural watercourses
- driveway culverts (and sizes)
- utility poles
- traffic signals
- service/junction boxes
- underground cables (e.g. electrical and telephone)
- gas lines
- curbs and gutters
- boulevards
- sidewalks
- traffic islands
- edges of pavement

- trees
- covenant areas

e) All construction or alterations are to be shown on drawings distinguished from the existing items by different line weights by using the appropriate layers in the template.

f) Notes pertaining to the construction or alteration are to be shown on that drawing.

g) All elevations, coordinates are to be in metres and indicated to the nearest 0.001 metres. The dimensions and offsets for service connections, wyes etc are to be shown to the nearest 0.1 metres (See sample plans). Those dimensions and offsets are for the convenience of Coquitlam maintenance workers for location purposes only.

h) A key plan is required to indicate the location and the scope of the works where the street locations are not obvious.

i) All designs should conform to City of Coquitlam's Subdivision and Development Servicing Bylaw #3558, 2003 and amendments.

j) In the CAD model space, all features are to be drawn at a 1:1 metric scale. For example, a feature 1 metre length will be drawn as 1 unit long. Model space features should never be re-scaled for plotting purposes.

k) All information will be audited to ensure accuracy, completeness and compliance with these specifications.

l) All spot elevations and contour lines to be removed.

m) For service connections, all offsets from the nearest property line must be indicated. In addition, the invert elevation and depth at property line from existing ground level are also to be shown. Typical offsets or statements claiming that all connections are in the centre of the lot are not acceptable. Show service connection diameter and material.

n) Drawing must be to scale - i.e. if length or location are changed during construction, than drawing (not just dimensions) should be changed.

3.2 Control and Baselines

a) All drawings shall be based on a ground coordinate system that is related to the Universal Transverse Mercator (U.T.M.) Projection that is tied to Coquitlam's integrated survey monument network. To convert the published NAD83 (zone 10) grid coordinates of City monuments to the required ground coordinate system suitable for topographic ground surveys, and eventual record drawing, grid coordinates are multiplied by the city wide calculated combined scale factor of 1.000411469. All record plans submitted to the City shall use this common ground coordinate system within the borders of Coquitlam.

If the consultant obtains property and other digital files from the City's GIS, these will be provided in NAD83 (zone 10) grid coordinates. To shift to the above mentioned required ground coordinate system in CAD, all horizontal features should be scaled by 1.000411469 about coordinate base (0,0).

b) The vertical datum is the Canadian Vertical Datum of 1928 CGVD28(GVRD 2018). The integrated survey monument and published elevation used plus the approximate location of the monument (i.e. street intersection or address location) is to be indicated on each drawing record sheet.

c) Offsets are to be shown to both sides of the road allowance or to one side with the road right of way width annotated.

3.3 Plan View

a) The plan view is to be drawn at scale 1:500 and the profile is to be drawn at scale 1:50 for water, sewer and drainage. Road drawings which may be drawn at scales 1:500 or 1:250, with corresponding profiles scales of 1:50 or 1:25 respectively. All symbols to be used on the drawings to be as per Appendix B.

b) All offsets of mains, existing and design will be referenced to and along property lines.

c) Integrated survey monuments location and elevation to be shown on plan or noted.

d) The plan view will show the legal layout of roads and properties, with all legal descriptions (lots and plan numbers) and dimensions. The plan view will also show existing civic addresses and all registered statutory rights of way, covenants and easements.

e) The names of streets are to be indicated outside of the road boundaries. Road widths are to be annotated. Temporary road names (e.g. A, B, C) will not be accepted.

f) An offset from property corners must be shown for all service connections. If the connection is not perpendicular to the main, the location of each bend is to be shown. The invert elevation and depth at property line from existing ground level are to be shown.

g) Two dimensions from property corners are required to show the location for all manholes, valves, tees, hydrants, stubs, catch basins, lawn drains, clean-outs, inspection chambers, fittings, bends in pipes, etc. Locations of all features (roads, curbs and gutters, test holes, boreholes, etc.) must be coordinated on the U.T.M. projection.

3.4 Profile

a) The profile view will show:
- elevations of design and existing works
- design and existing service connections
- mains being crossed by the design works (and their elevations)
- all data pertaining to the design of the works
- all data will be based on U.T.M. grid coordinates

b) All grade changes are to show ties to lot corners.

c) Profiles should line up with the plan view.

d) The material types class and size (PVC C900, Concrete CL III, etc.) must be shown on the profile for all pipes.

e) All manhole and clean-out sizes are to be noted.

f) Profiles must be shown for all sanitary (for pipes greater than 100 mm diameter) and storm services (for pipes greater than 150 mm diameter) except where the installation of connections from an existing main is the only work performed.

g) Note additional requirements pertaining to specific drawings in Section 4.

4.0 DRAWING PREPARATION – SPECIFIC PLAN TYPES

The City requires separate Water, Drainage, Sanitary, Road, Streetlight and Traffic record drawings. Drainage and Sanitary or Water and Roads cannot be combined. Samples of Water, Drainage, Sanitary, Road and Streetlight drawings are contained at the end of this document. These should be used as a guide to City of Coquitlam's drawing presentation requirements, however, should not be consulted for design standards.

4.1 Storm and Sanitary Sewers

a) Connections 100 mm diameter and greater shall be shown and noted on the plan with locations from lot corners.

b) Main size and material and manhole size, class of pipe and material are to be shown as well as all elevations.

c) Where a main ties to an existing stub, the balance of the distance to the existing manhole (from the design main) is to be shown.

d) All lawn drains are to be dimensioned from the lot corners and the size, material and rim elevation shown with the size, material and elevation of the lead.

e) The 100 year hydraulic grade line (HGL) for storm is to be shown.

f) Detention pond information required:
- all pipes with size, inverts and location
- capacity, high water elevation, base elevation
- control device(s) particulars
- location, size, and elevation of all manholes, catch basins, etc.

g) Catch basins shall show rim elevation, offsets from property lines, and catch basin lead length

h) Basement elevations are required.

i) Particular attention is drawn to the requirement that location of service connections be shown both at the main "wye" and at the property line with the depth, size and invert.

j) All subdrains shall be shown with offsets from property lines, length, material type, size and lawn drain rim elevations.

4.2 Water

a) All fittings used are to be shown.

b) Water connections to show dimensions from the nearest property line. Size of typical connections will be indicated on the drawing notes. Any exceptions from the typical size will be indicated on the plan. Water connections 100 mm diameter and greater shall show size with elevation at property line on plan view. Service box type shall be indicated on the plan.

c) The location of all bend points along horizontal or vertical curves to be dimensioned related to the property line.

d) Between each grade change, show the length and grade of that segment of main. List materials with manufacturers name and model number for all fittings is to be provided. Consultant to verify connections, whether hub, flanged or mechanical.

e) Details shall be provided in areas such as tee and cross intersections where dimensioning and other information cannot be adequately conveyed at the main drawing scale.

f) Watermains smaller than 100mm diameter do not require a profile unless directed by the Engineering and Public Works Department.

g) All lengths of pipe are labeled with the length, size and material and class of pipe.

h) Special fittings, coating, cathodic protection systems, etc. must be detailed on the drawings. All appurtenances shall show manufacturers name and/or material type.

4.3 Street lighting

a) The drawings will only include plan views. No profiles are required. All improvements (e.g. service boxes, poles, etc.) are to be related to property lines.

b) Drawings to include illumination design data such as street name, land use, road classification, illumination type, illumination level, and uniformity ratio.

c) Pertinent information (eg. notes on existing lighting and service locations) must be retained - but all other underground services and non-essential information should be removed from the plan.

d) Wire material (i.e. copper, aluminum) must be indicated.

4.4 Traffic Signals

Consultants approved for the design of traffic signalization drawings within the City may use their current digital CAD standards for record submission. However, as much as possible the City requests the consultants use the MMCD template layers and symbols for the civil base detailed in Appendix ‘A’.

4.5 Roads

a) A table showing horizontal curve and curve return data is to be shown on the road drawing.

b) Pavement tapers are to be dimensioned to legal with length of taper and the offset to existing pavement.

c) The as-constructed is to indicate the width of sidewalk, type of materials used and surface elevations. The offset of the sidewalk to the property line is to be shown.

d) Show all street furniture and features such as trees, traffic devices/signals, lamp standards, concrete barriers, guard rails, hand rails, integrated survey control monuments, etc. not shown on the water, sanitary, and water record drawings.

e) The drawing will show the road geometrics and road markings.

4.6 Methane Extraction System

a) Show plan view, with minimum and maximum depths noted.

b) Show type of pipes and offsets.

4.7 Bridges

Consultants approved for the design of bridges drawings within the City may use their current digital CAD standards for record submission.

5.0 CAD CREATION GUIDELINES

5.1 Sheet Layouts

- Drawing page size will be ISO A1 sized. Titleblocks of this size are provided in the MMCD template.
- All drawings must show north arrow, representative dates and engineering stamps where applicable.
- Plan view is to be set up parallel to the projects major alignment or right of way and set up from left to right, using West to East and South to North orientation.
- Plan and profile views are to be labeled and include the scale of the view.
- Scale bars are to be incorporated for every view on a sheet layout.
- A minimum of one survey benchmark is to be shown on every sheet.

5.2 Existing Base Plan

- Pre-engineering base plans and existing ground surfaced models are to be created from data collected by total station survey, GPS, or both.
- A BC one call is to be used for existing service locations, along with relevant as-constructed data for the project area.
- Existing services shall be labeled with relevant and known information.

5.3 Symbols

Note: For Civil 3D based drawings, symbols are replaced by points defined by styles setup in the standard template and the following section will not apply.

- All symbols must be represented by a block as defined in Appendix ‘D’ in this guide.
- No blocks shall be exploded.
- Blocks shall not be scaled unequally in the x,y and z directions.
- AutoCAD symbols (blocks) must be defined as "BYLAYER" and "BYBLOCK"
- blocks must not be nested within other blocks.
- Necessary blocks not contained within the template and needed to convey the intent of the design can be created by the consultant. The naming and creation of these blocks should be consistent with the blocks in the template.

5.4 Colour and Line weight

The City uses a colour-dependent based system for translating line weight to the plotted page. This colour – line weight relationship is defined by MMCD BLACK AND GREY.CTB included in the template files.

5.5 Text

There shall be no use of non-resident and proprietary fonts. Appendix ‘C’ details the resident text styles contained in the template.

- Existing notes are AutoCad annotative and reference the Romans font.
- New and proposed works reference the Sans Serif font.
- Text is to be oriented to best suit layout of sheets (ie: parallel to the projects major alignment or right of way centerline).
- Use of Mtext background masking is acceptable to maintain drawing readability.
- Existing features and text are 50% screened and proposed features and text are 100% screened (MMCD.ctb file is set for this purpose)

5.6 Line Scale

The Global Scale Factor value controls the LTSCALE system variable, which changes the line type scale globally for both new and existing objects. The CELTSCALE system variable, which sets the line type scale for new objects. For consistency across all objects in the drawing, line scale should be set by the global variable LTSCALE, not CELTSCALE. CELTSCALE should always set to 1.0.

5.7 Dimensions

Dimensions and Multileader styles are AutoCad annotative and associative. Appendix ‘C’ details the resident dimension and Multileader styles contained in the template. Existing dimensions are AutoCad annotative and reference the Romans font. New and proposed works dimensions reference the Sans Serif font. Refer to the template and standard drawings for more information about dimensioning requirements.

5.8 User Coordinate System (UCS)

The user coordinate system (UCS) changes the location of the 0,0,0 origin point and the orientation of the XY plane and Z axis. It can be useful to set UCS for circumstances such as

profiles and road stationing. However, for consistency across drawings, the UCS should be returned to World Coordinate System (WCS) in model space and all viewports upon the final saving of the drawing.

5.9 Views

For consistency across drawings, views should be returned to PLAN view upon the final saving of the drawing. DVIEW Defines parallel projection or perspective views.

5.10 Layers and Linetypes

Appendix 'A' details the specifics concerning layers, colours, and linetypes. References to Civil 3D point descriptions and styles can be ignored by AutoCad users. Necessary layers or linetypes not contained within the template and needed to convey the intent of the design can be created by the consultant. The naming and creation of these layers or linetypes shall be consistent with the names in the template. Layers are divided among broad category sections generally according to the utility to which the layer pertain and other broad categories as indicated below.

The layer series preceded by the letter "R" refer to EXISTING Recorded Features which are part of the MMCD Asset Data Exchange Standard. Until this standard is developed by the City of Coquitlam, these layers can be ignored.

EXISTING MISC. SPOT AND LINEAR FEATURES
A general layer category to include existing miscellaneous points and linear features not in the road and utility layer categories.

EXISTING ROADS, WALKS AND DRIVEWAYS
All layers related to existing roads, sidewalks, driveways and road markings, including related profiles and sections.

EXISTING TOPOGRAPHY
Layers related to existing contours and general existing topographic features not associated with utilities, roads or traffic/streetlight.

EXISTING SANITARY SEWER
All layers related to the existing sanitary utility including sanitary pipes, manholes etc. and related profiles and sections.

EXISTING STORM SEWER
All layers related to the existing storm utility including storm pipes, manholes, etc. and related profiles and sections.

EXISTING WATERMAIN
All layers related to the existing watermain utility including water pipes, valves etc. and related profiles and sections.

EXISTING SURVEY
All layers related to survey control, monumentation and legal survey evidence found.

EXISTING UTILITY – HYDRO

All layers related to the hydro electric utility such as poles, conduits etc., not including streetlight electrical.

EXISTING UTILITY - LIGHTING, SIGNALS
All layers related to streetlighting and traffic signals including signs, controllers, and ducting.

EXISTING UTILITY - NATURAL GAS
All layers related to the existing gas utility including gas pipes, valves etc.

EXISTING UTILITY - TELEPHONE, CABLE TV
All layers related to the telephone and cable utilities including telephone and cable conduit, manholes, junction boxes etc..

EXISTING VEGETATION
All layers related to vegetation such as trees, hedges, garden edges etc.

EXISTING WALLS, FENCES, BARRIERS
All layers related to walls, posts, barriers etc.

EXISTING PROPERTY
All layers related to property lots, ROW's and boundaries.

Proposed Layers for all proposed and new features are similarly categorized under GENERAL, STORM, PIPES GENERAL, PROPERTY, ROADS, SANITARY, TOPO, UTILITIES, VEGETATION and WATERMAIN.

The GENERAL ANNOTATION layer category are all layers related to title blocks, legends, notes, details, typical sections etc.

5.11 External References

External references (XREFs) may be used during the design process to manage to work. Typically individual sheets reference a base plan. However, when submitted as a record, XREF's shall be nested only one level from the base drawing. More complex XREF schemes where XREF's reference other XREF's will not be accepted as a digital record.

6.0 AUTOCAD CIVIL 3D

AutoCAD Civil 3D is the model based design tool adopted by the City of Coquitlam and is the standard software application for designing civil infrastructure projects, and for the production of engineering design and construction drawings.

In the object based design environment, design components such as points, surfaces, alignments, profiles, corridors, pipe networks and sections are drawing objects with "intelligence". With software such as FME, these objects can be converted with attributes intact and imported to the City G.I.S. Civil 3D files to take advantage of the attribute rich environment of Civil 3D and automate the CAD to G.I.S. conversion.

6.1 Point Descriptions and Styles

As well as layers and linetypes, Appendix 'A' provides details about all the civil 3D point descriptions and styles provided in the template. The pages describe two general types of point styles in the template:

- point styles that will display a symbol in the final record drawing.
- point styles that will not display in the final record drawing.

Points not displaying in the final record drawing will generally be points that describe a line, would cause over-crowding, or not necessary to convey the intent of the design or record on the printed copy.

In the first column, for points displayed in the final design drawing, the point style symbol is displayed, followed by the FULL DESCRIPTION, and the RAW DESCRIPTION (description code). For points not displayed in the final design drawing, a default style of "_(x) Cross" is shown in this column followed by the FULL DESCRIPTION, and the RAW DESCRIPTION (description code). The second and third columns indicate the POINT STYLE NAME and LABEL STYLE NAME respectively.

6.2 Civil 3D Styles

Appendix 'B' details the specifics concerning the other civil 3D styles contained in the template. The styles included contain a wide variety of survey and design components, from feature lines to pipe structure styles.

No template will be able to cover all aspects of municipal design requirements. Necessary styles not contained within the template and needed to convey the intent of the design can be created by the consultant. The naming and creation of these layers shall be consistent with the styles in the template.

6.3 Civil 3D Data Shortcuts

Data Shortcuts may be used during the design process to manage to work. However, consultants shall promote data shortcuts permanently with the current drawing when the project is complete and ready to be submitted as a record.

Appendix A

Layers, Civil 3D Point Descriptions & Styles

EXISTING MISC. SPOT AND LINEAR FEATURES

Layers

LAYER	COLOUR	LINETYPE	DESCRIPTION
V-ASPH	42	Continuous	Misc. Asphalt
V-BLDG	8	Continuous	Building Outline
V-BLDG-BSMNT	8		Under Sidewalk Basements
V-CONC	45	Continuous	Misc. Concrete
V-CREK	8	Continuous	Misc: Creek
V-GRAV	42	EX-GRAV (BCMoT)	Existing Gravel Edges
V-MISC	8	Continuous	Existing Misc Features
V-NODE	8	Continuous	Points
V-NODE-TEXT	8	Continuous	Point Text
V-PATH	42	EX-DIRT (BCMoT)	Existing Paths
V-STRC	8	Continuous	Misc. Structures
V-TEXT	8	Continuous	Misc. Text

EXISTING MISC. SPOT AND LINEAR FEATURES

Point Descriptions and Styles

POINT STYLE, FULL DESC, (RAW DESC)	POINT STYLE NAME	LABEL STYLE NAME
ANT **Antenna Base** (ANT)	Misc Antenna	_<off> *
Asphalt (ASP)	_<off> *	_<off> *
Bench (BEN)	_<off> *	_<off> *
Building Line (BG)	_<off> *	_<off> *
Building Post (BGP)	Misc Building Post	_<off> *
Bridge (BR)	_<off> *	_<off> *
Bus Shelter (BUS)	_<off> *	_<off> *
Concrete (CC)	_<off> *	_<off> *
Direction shot Var1 Var2 (DIR Var1 Var2)	_<off> *	_<off> *
Field Edge (FD)	_<off> *	_<off> *
FP **Flag** (FP)	Misc Flagpole	_<off> *
MB **MB** (MB)	Misc Mail Box	_<off> *
Playground Edge (PG)	_<off> *	_<off> *
Post (PO)	Misc Post	_<off> *
Roofline (RFL)	_<off> *	_<off> *
Rail (RL)	_<off> *	_<off> *
CL Ballast (RRB)	_<off> *	_<off> *
Railway Signal (RRS)	Misc Rail Signal	_<off> *
Sign (SI)	Misc Sign	_<off> *
Sign Corner (SIC)	_<off> *	_<off> *
Stairs (SZ)	_<off> *	_<off> *
ZZ No Field Code (ZZ No Field Code)	_<off> *	_<off> *
* Note: Not displayed on final base plan		

FILE:MMCD 2022Legend

EXISTING ROADS, WALKS AND DRIVEWAYS

Layers 1

LAYER	COLOUR	LINETYPE	DESCRIPTION
V-LANE-BASE	42	EX-ROADEDGE(MMCD)	Lanes: Base Structure Granular
V-LANE-CNTR	8		Lanes: Centrelines and Crowns
V-LANE-EDGE	42	EX-ROADEDGE(MMCD)	Lanes: Edge Edge Any Material
V-ROAD-BARR	8	EX-BARR (BCMoT)	Barriers
V-ROAD-BLVD	116	Continous	Boulevards
V-ROAD-CNTR	8	EX-CENTRE (MMCD)	Centrelines
V-ROAD-CRWN	8	Continous	Crowns
V-ROAD-CURB-ASPH	42	Continous	Asphalt Curbs
V-ROAD-CURB-ASPH-TOP~	42	Continous	Asphalt Curb Top
V-ROAD-CURB-CONC	45	Continous	Concrete Curbs
V-ROAD-CURB-CONC-TOP	45	Continous	Concrete Curb Top
V-ROAD-DRIV-ASPH	42	Continous	Asphalt Driveways
V-ROAD-DRIV-BRIK	48	Continous	Brick Driveways
V-ROAD-DRIV-CONC	45	Continous	Concrete Driveways
V-ROAD-DRIV-DIRT	46	EX-DIRT (BCMoT)	Dirt Driveways
V-ROAD-DRIV-GRAV	46	EX-GRAV (BCMoT)	Gravel Driveways
V-ROAD-EDGE	124	EX-ROADEDGE(MMCD)	Road Edge Any Material
V-ROAD-EDGE-ASPH	124	EX-ROADEDGE(MMCD)	Road Edge Asphalt
V-ROAD-EDGE-CONC	124	EX-ROADEDGE(MMCD)	Road Edge Concrete
V-ROAD-EDGE-DIRT	124	EX-DIRT (BCMoT)	Road Edge Dirt
V-ROAD-EDGE-GRAV	124	EX-GRAV (BCMoT)	Road Edge Gravel
V-ROAD-GUTR	45	Continuous	Curb Gutter Flowlines
V-ROAD-MRKG	56	Continuous	Pavement Markings
V-ROAD-MRKG-ARRW	56	Continuous	Direction Arrow
V-ROAD-MRKG-BRKN	56	ALGN-BWL	Broken White Line, Rural
V-ROAD-MRKG-DECL	56	ALGN-DECL	Deceleration Lane

EXISTING ROADS, LANES, WALKS AND DRIVEWAYS

Layers 2

LAYER	COLOUR	LINETYPE	DESCRIPTION
V-ROAD-MRKG-URPL	56	ALGN-BWL-URB	Broken White Line, Urban
V-ROAD-MRKG-WHIT	7	Continuous	White Line
V-ROAD-MRKG-XWLK	56	Continuous	Cross Walk
V-ROAD-MRKG-YELD	56	ALGN-DYL	Double Yellow Line
V-ROAD-MRKG-YELO	56	ALGN-YL	Yellow Line
V-ROAD-MRKG-YELP	56	ALGN-BWL-URB	Passing Yellow Line
V-ROAD-PROF	8	Continuous	Centreline and Other Profiles
V-ROAD-PROF-GUTR	44	EX-PROFGUTR (MMCD)	Road Profile Gutters
V-ROAD-PROF-PAVE	42	EX-PROFPAVE (MMCD)	Road Profile Pavement Edges
V-ROAD-PROF-TEXT	8	Continuous	Profile Text
V-ROAD-SECT	42	Continuous	Ground Section Data
V-ROAD-SHLD	46	Continuous	Shoulders
V-ROAD-SIGN	8	Continuous	Signs
V-ROAD-TEXT	7	Continuous	Existing Street Names
V-ROAD-TRAL-BIKE	45	Continuous	Bike Trails
V-ROAD-TRAL-GPS	45	Continuous	GPS Trails
V-ROAD-TRAL-URBN	45	Continuous	Urban Trails
V-ROAD-WALK	45	Continuous	Sidewalks
V-ROAD-WALK-ASPH	42	Continuous	Asphalt Sidewalks
V-ROAD-WALK-BRIK	48	Continuous	Brick Sidewalks
V-ROAD-WALK-CONC	45	Continuous	Concrete Sidewalks
V-ROAD-WALK-DIRT	46	EX-DIRT (BCMoT)	Dirt Sidewalks
V-ROAD-WALK-GRAV	46	EX-GRAV (BCMoT)	Gravel Sidewalks

EXISTING ROADS, LANES, WALKS AND DRIVEWAYS

Point Descriptions and Styles

POINT STYLE, FULL DESC, (RAW DESC)	POINT STYLE NAME	LABEL STYLE NAME
×**CL Road Var1** (CL Var1)	_<off> *	_<off> *
×**Crown Var1** (CR Var1)	_<off> *	_<off> *
×**Curb Asph** (CUA)	_<off> *	_<off> *
×**Curb Drop** (CUDR)	_<off> *	_<off> *
×**Curb Face Var1 Var2** (CUF Var1 Var2)	_<off> *	_<off> *
×**Curb Gutter** (CUG)	_<off> *	_<off> *
×**Curb Top** (CUT)	_<off> *	_<off> *
×**DW Asph** (DWA)	_<off> *	_<off> *
×**DW Brick** (DWB)	_<off> *	_<off> *
×**DW Conc** (DWC)	_<off> *	_<off> *
×**DW Grav** (DWG)	_<off> *	_<off> *
×**Edge Asph** (EA)	_<off> *	_<off> *
×**Edge Dirt** (ED)	_<off> *	_<off> *
×**Edge Grav** (EG)	_<off> *	_<off> *
×**Path** (PA)	_<off> *	_<off> *
×**Paint Line Var1 Var2** (PL Var1 Var2)	_<off> *	_<off> *
×**Stop Bar Var1 Var2** (SB Var1 Var2)	_<off> *	_<off> *
×**SH Asph** (SHA)	_<off> *	_<off> *
×**SH Grav** (SHG)	_<off> *	_<off> *
×**SW Asph** (SWA)	_<off> *	_<off> *
×**SW Brick** (SWB)	_<off> *	_<off> *
×**SW Conc** (SWC)	_<off> *	_<off> *
×**SW Drop** (SWDR)	_<off> *	_<off> *
×**SW Grav** (SWG)	_<off> *	_<off> *
×**SW Ramp** (SWR)	_<off> *	_<off> *
×**Cross Walk Var1 Var2** (XW Var1 Var2)	_<off> *	_<off> *
* Note: Not displayed on final base plan		

EXISTING TOPOGRAPHY

Layers

LAYER	COLOUR	LINETYPE	DESCRIPTION
V-TOPO	8	Continuous	Surfaces (C3D)
V-TOPO-BRK~	161	Continuous	Breaklines
V-TOPO-DTCH-EDGE	95	EX-TOPODTCH (BCMoT)	Ditch Edges
V-TOPO-EMBK-BOTS	8	EX-TOPOBOTB (BCMoT)	Bank Bottoms
V-TOPO-EMBK-TOPS	8	EX-TOPOTOPB (BCMoT)	Bank Tops
V-TOPO-MAJR	8	Continuous	Major Contours
V-TOPO-MINR	9	Continuous	Minor Contours
V-TOPO-MRSH	8	EX-TOPOMRSH (BCMoT)	Marsh or Swamp Outline
V-TOPO-ROCK	8	EX-TOPOROCK (BCMoT)	Rock Outline
V-TOPO-TEXT	251	Continuous	Text and Annotation

* Reverse polyline direction to flip tick marks

Point Descriptions and Styles

POINT STYLE, FULL DESC, (RAW DESC)	POINT STYLE NAME	LABEL STYLE NAME
× **Toe of Bank** (BB)	_<off> *	_<off> *
× **Bedrock** (BRCK)	_<off> *	_<off> *
× **Breakline** (BRK)	_<off> *	_<off> *
× **Creek CL** (CRK)	_<off> *	_<off> *
× **Overhang** (OV)	_<off> *	_<off> *
× **Pond** (PD)	_<off> *	_<off> *
× **Road Cut** (RC)	_<off> *	_<off> *
× **Rock** (RCK)	_<off> *	_<off> *
× **River** (RI)	_<off> *	_<off> *
+ **Spot Elev** (SE)	_(+) Plus 1.8	Elev 1.8mm
× **Top of Bank** (TB)	_<off> *	_<off> *
* Note: Not displayed on final base plan		

EXISTING SANITARY SEWER & COMBINED SEWER

Layers

LAYER	COLOUR	LINETYPE	DESCRIPTION
V-COMB-PIPE	224	EX-COMB (MMCD)	Combined: Pipe (Plan and Profile)
V-COMB-SRVC	224	Continuous	Combined: Service (Plan and Profile)
V-COMB-STRC	224	Continuous	Combined: Structures (Plan and Profile)
V-COMB-TEXT	224	Continuous	Combined: Text (Plan and Profile)
V-SSWR-FORC	36	EX-SSWRFORC (MMCD) SFM	Forcemain (Plan and Profile)
V-SSWR-PIPE	36	EX-SSWR (MMCD) S	Pipes (Plan and Profile)
V-SSWR-SRVC	36	Continuous	Services (Plan and Profile)
V-SSWR-STRC	36	Continuous	Structures (Plan and Profile)
V-SSWR-TEXT	34	Continuous	Text (Plan and Profile)
V-SSWR-TRCE	36	EX-SSWR (MMCD) S	Traced Location
V-SSWR-VALV	36	Continuous	Valves (Plan and Profile)

Point Descriptions and Styles

POINT STYLE, FULL DESC, (RAW DESC)	POINT STYLE NAME	LABEL STYLE NAME
Ⓒ **CMH** (CMH)	Combined Manhole	_<off> *
□ **S Cleanout** (SCO)	Sanitary Cleanout Small	_<off> *
□ **S Cleanout Large** (SCOL)	Sanitary Cleanout Large	_<off> *
San Cap (SCP)	Sanitary Cap	_<off> *
× **SHC Var1 Size Var3** (SHC Var1 Size Var3)	_<off> *	_<off> *
Ⓢ **San MH** (SMH)	Sanitary Manhole	_<off> *
× **S Pump Station Edge** (SPE)	_<off> *	_<off> *
× **SP 100** (SPI 100)	_<off> *	_<off> *
SPS (SPS)	Sanitary Pump Station	_<off> *
× **SP Traced Var1 Var2** (SPT Var1 Var2)	_<off> *	_<off> *
S Vlv (SV)	Sanitary Valve	_<off> *
* Note: Not displayed on final base plan		

EXISTING STORM SEWER

Layers

LAYER	COLOUR	LINETYPE	DESCRIPTION
V-DRAN-CBAS	94	Continuous	Catch Basins (Plan and Profile)
V-DRAN-CBAS-LEAD	94	Continuous	Catch Basin Leads (Plan and Profile)
V-DRAN-CULV	94	EX-DRANCULV (MMCD)	Culverts (Plan and Profile)
V-DRAN-DTCH	94	EX-DRANDTCH (MMCD)	Ditches (Plan and Profile)
V-DRAN-FORC	94	EX-DRANPIPE (MMCD) D	Forcemain (Plan and Profile)
V-DRAN-PIPE	94	EX-DRANPIPE (MMCD) D	Pipes (Plan and Profile)
V-DRAN-SRVC	94	Continuous	Services (Plan and Profile)
V-DRAN-STRC	94	Continuous	Structures (Plan and Profile)
V-DRAN-SWLE	94	EX-DRANSWLE (MMCD)	Swales (Plan and Profile)
V-DRAN-TEXT	94	Continuous	Text (Plan and Profile)
V-DRAN-TRCE	94	EX-DRAN (MMCD) D	Traced Location
V-DRAN-WBDY	94	Continuous	Waterbody (Plan and Profile)
V-DRAN-WWAY	174	Continuous	Waterway (Plan and Profile)

EXISTING STORM SEWER

Point Descriptions and Styles

POINT STYLE, FULL DESC, (RAW DESC)	POINT STYLE NAME	LABEL STYLE NAME
CB Edge (CB)	Storm Catchbasin Top Inlet Edge	_<off> *
CB Centre (CBC)	Storm Catchbasin Top Inlet Centre	_<off> *
CB Double (CBD)	Storm Catchbasin Double	_<off> *
CBMH (CBMH)	Storm Catchbasin Manhole	_<off> *
CB Round (CBR)	Storm Catchbasin Round	_<off> *
Culvert Var1 100ø Var3 (CUL Var1 100 Var3)	Storm Culvert	Elev Culvert Invert 1.8mm
D Cleanout (DCO)	Storm Cleanout Small	_<off> *
D Cleanout Large (DCOL)	Storm Cleanout Large	_<off> *
D Cap (DCP)	Storm Cap	_<off> *
HC Var1 150ø Var3 (DHC Var1 150 Var3)	_<off> *	_<off> *
Ditch (DIT)	_<off> *	_<off> *
DMH (DMH)	Storm Manhole	_<off> *
DP Var1 150ø Var3 (DPI Var1 150 Var3)	_<off> *	_<off> *
DPS (DPS)	Storm Pump Station	_<off> *
DP Traced Var1 Var2 (DPT Var1 Var2)	_<off> *	_<off> *
Drain Tile (DT)	_<off> *	_<off> *
Conc Box (DXC)	Storm Box Concrete	_<off> *
Wood Box (DXW)	Storm Box Wood	_<off> *
Lawn Drain (LD)	Storm Lawn Drain	_<off> *
Oil Interceptor (OI)	Storm Oil Interceptor	_<off> *
Rip Rap (RR)	_<off> *	_<off> *
Silt Trap (ST)	Storm Silt Trap	_<off> *
Swale (SWL)	_<off> *	_<off> *
* Note: Not displayed on final base plan		

EXISTING WATERMAIN

Layers

LAYER	COLOUR	LINETYPE	DESCRIPTION
V-WATR-POWR	170	Continuous	POWRants (Plan and Profile)
V-WATR-POWR-LEAD	170	Continuous	POWRant Leads (Plan and Profile)
V-WATR-PIPE	170	EX-WATR (MMCD) W	Pipes (Plan and Profile)
V-WATR-SRVC	170	Continuous	Services (Plan and Profile)
V-WATR-STRC	170	Continuous	Structures (Plan and Profile)
V-WATR-TEXT	170	Continuous	Text (Plan and Profile)
V-WATR-TRCE	170	EX-WATR (MMCD) W	Traced Location (Plan and Profile)

Point Descriptions and Styles

POINT STYLE, FULL DESC, (RAW DESC)	POINT STYLE NAME	LABEL STYLE NAME
Wat Air Valve (AV)	Water Air Valve	_<off> *
Wat Blowoff (BLO)	Water Blowoff	_<off> *
Fire Hydrant (FH)	Water Fire POWRant	_<off> *
Irr Control Vlv (ICV)	Water Irr Control Valve	_<off> *
Sprinkler Head (SP)	Water Sprinkler Head	_<off> *
Wat Chamber (WCH)	_<off> *	_<off> *
Wat Cap (WCP)	Water Cap	_<off> *
Flush (WF)	Water Flush	_<off> *
Wat Meter (WM)	Water Meter	_<off> *
WMH (WMH)	Water Manhole	_<off> *
WP Var1 150ø Var3 (WPI Var1 150 Var3)	_<off> *	_<off> *
WP Traced Var1 Var2 (WPT Var1 Var2)	_<off> *	_<off> *
Wat Service (WS)	Water Service	_<off> *
Wat Valve (WV)	Water Valve	_<off> *
Water Vent (WVT)	Water Vent	_<off> *
* Note: Not displayed on final base plan		

EXISTING Survey:

Layers

LAYER	COLOUR	LINETYPE	DESCRIPTION
V-SURV-CTRL	210	Continuous	Control Monuments and Traverse Stations
V-SURV-EVDC	210	Continuous	Evidence, IP's, Wood Posts, I Pipes, etc
V-SURV-GONE	210	Continuous	Destroyed Monuments and Hubs
V-SURV-INFO	8	Continuous	Control Text - Pnt Type, Accuracy, Info etc
V-SURV-PNTS	210	Continuous	Points (C3D)
V-SURV-TEXT	210	Continuous	Text and Annotation

Point Descriptions and Styles

POINT STYLE, FULL DESC, (RAW DESC)	POINT STYLE NAME	LABEL STYLE NAME
Angle Iron (AI)	Survey Angle Iron	_<off> *
Bench Mark (BM)	Survey Benchmark	_<off> *
Check (CHK)	_<off> *	_<off> *
GPS Station Var1 (GPS Var1)	Survey GPS Station	_<off> *
Iron Pipe (IPP)	Survey Iron Pipe	_<off> *
LP (LP)	Survey Lead Plug	_<off> *
Mon Brass (MBR)	Survey Monument Brass	_<off> *
Mon Var1 Var2 (MON Var1 Var2)	Survey Monument Control	_<off> *
Mon CP Var1 Var2 (MONC Var1 Var2)	Survey Monument Post Concrete	_<off> *
Mon RP Var1 Var2 (MONR Var1 Var2)	Survey Monument Post Rock	_<off> *
Iron Pin (OIP)	Survey Old Iron Pin	_<off> *
Photo Point (PHO)	_<off> *	_<off> *
PK Nail (PK)	Survey PK Nail	_<off> *
STN Var1 Var2 (STN Var1 Var2)	Survey Traverse Hub	_<off> *
Wood Post (WP)	Survey Post Wood	_<off> *
Wit Post (WT)	Survey Post Witness	_<off> *
* Note: Not displayed on final base plan		

EXISTING UTILITY - POWR

Layers

LAYER	COLOUR	LINETYPE	DESCRIPTION
V-UTIL-ELEC-POWR	31	EX-UTILUGEL (MMCD) UE	Electricity and Lighting
V-UTIL-ELEC-POWR-STRC	31	Continuous	Electricity Structures
V-UTIL-ELEC-POWR-TRCE	31	EX-UTILUGEL (MMCD) UE	Electricity Traced
V-UTIL-TEXT	8	Continuous	Utility Annotation

Point Descriptions and Styles

POINT STYLE, FULL DESC, (RAW DESC)	POINT STYLE NAME	LABEL STYLE NAME
Hydro Anchor Pole (AP)	Utility POWRo Anchor Pole	_<off> *
Hydro Duct Traced (HDT)	_<off> *	_<off> *
Hydro Guy Wire (HGW)	Utility POWRo Guy Wire	_<off> *
Hydro Junciton Box (HJB)	Utility POWRo Junction Box	_<off> *
Hydro Kiosk (HK)	Utility POWRo Kiosk	_<off> *
Hydro MH (HMH)	Utility POWRo Manhole	_<off> *
Hydro Marker (HMRK)	_(+) Plus 1.8	_<off> *
Hydro Pole (HP)	Utility POWRo Pole	_<off> *
Hydro Pole w Dip (HPD)	Utility POWRo Pole Dip	_<off> *
H Var1 50ø Var3 (HPI Var1 50 Var3)	_<off> *	_<off> *
Hydro Pole Lum (HPL)	Utility POWRo Pole Luminaire	_<off> *
Hydro Pole Lum Dip (HPLD)	Utility POWRo Pole Luminaire Dip	_<off> *
Hydro Tower Base (HT)	_(+) Plus 1.8	_<off> *
Hydro Vault (HV)	Utility POWRo Vault	_<off> *
Hydro Tel Pole (JP)	Utility POWRo Tel Pole	_<off> *
Hydro Tel Pole Dip (JPD)	Utility POWRo Tel Pole Dip	_<off> *
Hydro Tel Lum Pole (JPL)	Utility POWRo Tel Luminaire Pole	_<off> *
Hydro Tel Lum Pole Dip (JPLD)	MMCD Utility POWRo Tel Pole Luminaire Dip Symbol	_<off> *
* Note: Not displayed on final base plan		

FILE:MMCD 2022Legend

EXISTING UTILITY - LIGHTING, SIGNALS

Layers

LAYER	COLOUR	LINETYPE	DESCRIPTION
V-ILLM-PIPE	31	EX-UTILUGEL (MMCD) UE	Municipality Electricity and Lighting
V-ILLM-STRC	31	Continuous	Municipality Lighting Signals Structures
V-UTIL-ELEC-MUNI	31	EX-UTILUGEL (MMCD) UE	Municipality Electricity and Lighting
V-UTIL-ELEC-MUNI-STRC	31	Continuous	Municipality Lighting Signals Structures
V-UTIL-ELEC-MUNI-TRCE	31	EX-UTILUGEL (MMCD) UE	Municipality Lighting Signals Traced
V-UTIL-TEXT	8	Continuous	Utility Annotation
V-UTIL-TRAF	210	Continuous	Traffic Signal Control

Point Descriptions and Styles

POINT STYLE, FULL DESC, (RAW DESC)	POINT STYLE NAME	LABEL STYLE NAME
Electrical Duct Traced (EDT)	_<off> *	_<off> *
EP Var1 50ø Var3 (EPI Var1 50 Var3)	_<off> *	_<off> *
Flasher (FL)	Utility Traffic Flasher	_<off> *
Davit Light (LDP)	Utility Lighting Davit Luminaire Pole	_<off> *
Ground Light (LGL)	Utility Lighting Ground Light	_<off> *
Post Top Light (LTL)	Utility Lighting Post Top Luminaire Pole	_<off> *
Pedestrian Button (PED)	Utility Traffic Pedestrian Pole	_<off> *
Signal Kiosk (SK)	Utility Traffic Controller Cabinet	_<off> *
Signal Pole (SN)	Utility Traffic Signal Pole	_<off> *
Overhead Sign (TOH)	Utility Traffic Overhead Sign	_<off> *
* Note: Not displayed on final base plan		

EXISTING UTILITY - NATURAL GAS

Layers

LAYER	COLOUR	LINETYPE	DESCRIPTION
V-UTIL-NGAS	133	EX-UTILNGAS (MMCD) G	Natural Gas Lines
V-UTIL-NGAS-STRC	133		Natural Gas Structures
V-UTIL-NGAS-TRCE	133	EX-UTILNGAS (MMCD) G	Natural Gas Lines Traced
V-UTIL-TEXT	8	Continuous	Utility Text

Point Descriptions and Styles

POINT STYLE, FULL DESC, (RAW DESC)	POINT STYLE NAME	LABEL STYLE NAME
Gas Cap (GCP)	Utility Gas Cap	_<off> *
Gas Meter (GM)	Utility Gas Meter	_<off> *
Gas Marker (GMRK)	_(+) Plus 1.8	_<off> *
Gas Main Traced (GMT)	_<off> *	_<off> *
GP Var1 60ø Var3 (GPI Var1 60 Var3)	_<off> *	_<off> *
Gas Pipe Traced Var1 Var2 (GPT Var1 Var2)	_<off> *	_<off> *
Gas Service Traced (GST)	_<off> *	_<off> *
Gas Tee Traced (GTT)	_<off> *	_<off> *
Gas Valve (GV)	Utility Gas Valve	_<off> *
Gas Vent (GVT)	Utility Gas Vent	_<off> *
* Note: Not displayed on final base plan		

EXISTING UTILITY - TELEPHONE, CABLE TV

Layers

LAYER	COLOUR	LINETYPE	DESCRIPTION
V-UTIL-TELE	191	EX-UTILTELE (MMCD) — T —	Utilities: Telephone
V-UTIL-TELE-STRC	191	Continuous	Utilities: Telephone Structures
V-UTIL-TELE-TRCE	191	EX-UTILTELE (MMCD) — T —	Utilities: Telephone Traced
V-UTIL-CATV	165	EX-UTILCATV (MMCD) — C —	Utilities: Cable TV
V-UTIL-CATV-STRC	165	Continuous	Utilities: Cable TV Structures
V-UTIL-CATV-TRCE	165	EX-UTILCATV (MMCD) — C —	Utilities: Cable TV Traced
V-UTIL-TEXT	8	Continuous	Utilities: Text

Point Descriptions and Styles

POINT STYLE, FULL DESC, (RAW DESC)	POINT STYLE NAME	LABEL STYLE NAME
Ⓒ **Cable MH** (CAMH)	Utility Cable Manhole	_<off> *
[C] **Cable Kiosk** (CK)	Utility Cable Kiosk	_<off> *
[SP] **Tel Sac Pad** (SAC)	Utility Telephone Sac Pad	_<off> *
× **Tel Duct Traced Var1 Var2** (TDT Var1 Var2)	_<off> *	_<off> *
[T] **Tel Booth** (TELB)	Utility Telephone Booth	_<off> *
⟶ **Tel Guy Wire** (TGW)	Utility Telephone Guy Wire	_<off> *
[T] **Tel JB** (TJB)	Utility Telephone Junction Box	_<off> *
× **Tel Kiosk** (TK)	_<off> *	_<off> *
Ⓣ **Tel MH** (TMH)	Utility Telephone Manhole	_<off> *
Tel Pole (TP)	Utility Telephone Pole	_<off> *
Tel Pole Dip (TPD)	Utility Telephone Pole Dip	_<off> *
× **TP Var1 50ø Var3** (TPI Var1 50 Var3)	_<off> *	_<off> *
Tel Pole Lum (TPL)	Utility Telephone Pole Luminaire	_<off> *
Tel Pole Lum Dip (TPLD)	Utility Telephone Pole Luminaire Dip	_<off> *
Ⓣ **Tel Service Vault** (TV)	Utility Telephone Vault	_<off> *
* Note: Not displayed on final base plan		

EXISTING VEGETATION

Layers

LAYER	COLOUR	LINETYPE	DESCRIPTION
V-VEGE	116	Continuous	Plants
V-VEGE-GARD	116	EX-VEGEGARD (BCMoT)	Gardens
V-VEGE-LINE	116	EX-VEGETREE (BCMoT)	Tree Lines

Point Descriptions and Styles

POINT STYLE, FULL DESC, (RAW DESC)	POINT STYLE NAME	LABEL STYLE NAME
× **Bush Line Var1 Var2 Var3** (BLN Var1 Var2 Var3)	_<off> *	_<off> *
× **Drip Line** (DL)	_<off> *	_<off> *
× **Garden** (GN)	_<off> *	_<off> *
× **Hedge Line Var1 Var2 Var3** (HL Var1 Var2 Var3)	_<off> *	_<off> *
× **Planter Box** (PB)	_<off> *	_<off> *
Shrub Var1 Var2 (SH Var1 Var2)	Vegetation Shrub	_<off> *
Stump (STU)	Vegetation Stump	_<off> *
Swamp (SWMP)	Vegetation Swamp	_<off> *
350ø CEDAR (TRC 350 CEDAR)	Vegetation Coniferous	Full Desc 1.8mm
300ø MAPLE (TRD 300 MAPLE)	Vegetation Deciduous	Full Desc 1.8mm
× **Tree Line** (TRL)	_<off> *	_<off> *
150ø CHERRY (TRO 150 CHERRY)	Vegetation Ornamental	Full Desc 1.8mm
* Note: Not displayed on final base plan		

EXISTING WALLS, FENCES, BARRIERS

Layers

LAYER	COLOUR	LINETYPE	DESCRIPTION
V-FNCE	8	EX-FNCE (BCMoT)	Fences
V-WALL	8	EX-WALL (BCMoT)	Walls

Point Descriptions and Styles

POINT STYLE, FULL DESC, (RAW DESC)	POINT STYLE NAME	LABEL STYLE NAME
× **No Post Barrier** (BA)	_<off> *	_<off> *
○ **Metal Bollard** (BO)	Misc Bollard	_<off> *
× **Fence Var1 Var2** (FE Var1 Var2)	_<off> *	_<off> *
○GP **Gate Post** (GP)	Misc Gate Post	_<off> *
× **Guard Rail** (GR)	_<off> *	_<off> *
× **Head Wall Var1 Var2** (HW Var1 Var2)	_<off> *	_<off> *
× **Locbloc Wall** (LOC Var1 Var2)	_<off> *	_<off> *
× **Ret Wall Var1 Var2** (RW Var1 Var2)	<off> *	<off> *
* Note: Not displayed on final base plan		

EXISTING PROPERTY

Layers

LAYER	COLOUR	LINETYPE	DESCRIPTION
V-PROP-BNDY	35	Continuous	Boundaries
V-PROP-BNDY-MUNI	35	Continuous	Municipal Boundaries
V-PROP-ESMT	35	Hidden2	Easements
V-PROP-LOTS	35	Continuous	Lots
V-PROP-ROW~	35	EX-ROW (MMCD)	ROW's
V-PROP-TEXT	25	Continuous	Address, Area, ID Text

MMCD PROPOSED LAYERS 1

General

LAYER	COLOUR	LINETYPE	DESCRIPTION
C-ANNO	11	Continuous	Annotation: General (C3D)
C-ASSEMBLY	7	Continuous	Assemblies
C-FEATLINE-CORR	4	Continuous	Feature lines, Corridors
C-FNCE	122	PR-FNCE (BCMoT)	Walls: Fences
C-NOPLOT	7	Continuous	Non Plotted Features
C-WALL	122	PR-WALL (BCMoT)	Walls: Walls

Storm

C-DRAN-AREA	100	Continuous	Catchment Area
C-DRAN-CBAS	92	Continuous	Catch Basins Plan View
C-DRAN-CBAS-LEAD	90	PR-DRANSRVC (MMCD)	Catch Basin Leads Plan View
C-DRAN-CULV	100	PR-DRANCULV (MMCD)	Culverts Plan View
C-DRAN-DTCH	90	PR-DRANCNTR (BCMoT)	Ditches Plan View
C-DRAN-FORC	100	PR-DRAN (MMCD) D	Forcemain Plan View
C-DRAN-PIPE	100	PR-DRAN (MMCD) D	Pipes Plan View
C-DRAN-PIPE-PROF	90	Continuous	Pipes Profile View
C-DRAN-SRVC	90	PR-DRANSRVC (MMCD)	Services Plan View
C-DRAN-STRC	92	Continuous	Structures Plan View
C-DRAN-STRC-PROF	92	Continuous	Structures Profile View
C-DRAN-SWLE	90	PR-DRANSWLE (MMCD)	Swale Plan View
C-DRAN-TEXT	82	Continuous	Text Plan View
C-DRAN-WBDY	90	Continuous	Waterbody Plan View
C-DRAN-WWAY	90	Continuous	Waterway Plan View

Pipes General *

C-PIPE	12	Continuous	Pipes: General Pipes Plan
C-PIPE-PROF	12	Continuous	Pipes: General Pipes Profile
C-PIPE-SECT	12	Continuous	Pipes: General Pipes Section
C-PIPE-TEXT	11	Continuous	Pipes: General Pipes Text

* Ducts and other general category pipes

FILE:MMCD 2022Legend

MMCD PROPOSED LAYERS 2

Roads

LAYER	COLOUR	LINETYPE	DESCRIPTION
C-ROAD	50	Continuous	Miscellaneous Features
C-ROAD-ASSM	40	Continuous	Assemblies and Subassemblies
C-ROAD-BARR	111	PR-BARR (BCMoT)	Barriers
C-ROAD-BASE	120	PR-ROADEDGE(MMCD)	Base Structure Granular
C-ROAD-CNTR	1	PR-CENTRE (MMCD)	Centrelines and Crowns
C-ROAD-CORR	7	Continuous	Corridor Feature Lines (C3D)
C-ROAD-CURB-ASPH	120	Continuous	Asphalt Curbs
C-ROAD-CURB-BACK	130	Continuous	Back of Curb
C-ROAD-CURB-CONC	130	Continuous	Concrete Curbs
C-ROAD-CURB-GUTR	130	Continuous	Gutter Flowline
C-ROAD-CURB-TOP~	130	Continuous	Top of Curb
C-ROAD-DRIV-ASPH	120	Continuous	Asphalt Driveways
C-ROAD-DRIV-CONC	130	Continuous	Concrete Driveways
C-ROAD-DRIV-GRAV	120	Continuous	Gravel Driveways
C-ROAD-EDGE	1	PR-ROADEDGE(MMCD)	Pavement Edge
C-ROAD-EDGE-ASPH	1	PR-ROADEDGE(MMCD)	Road Edge Asphalt
C-ROAD-EDGE-CONC	130	PR-ROADEDGE(MMCD)	Road Edge Concrete
C-ROAD-EDGE-GRAV	3	PR-ROADEDGE(MMCD)	Road Edge Gravel
C-ROAD-EMBK-BOTS	220	PR-TOPOBOTB (BCMoT)	Embankment or Slope Bottoms
C-ROAD-EMBK-TOPS	220	PR-TOPOTOPB (BCMoT)	Embankment or Slope Tops
C-ROAD-FEAT	182	Continuous	Roadways feature line
C-ROAD-FNCE	120	PR-FNCE (BCMoT)	Fences
C-ROAD-LINK	7	Continuous	Corridor Links (C3D)
C-ROAD-MARK	212	Continuous	Roadways: corridor and section marks
C-ROAD-MRKG	50	PR-MRKG (BCMoT)	Pavement Markings
C-ROAD-MRKG-ARRW	1	Continuous	Direction Arrow
C-ROAD-MRKG-BRKN	51	ALGN-BWL	Broken White Line, Rural
C-ROAD-MRKG-DECL	51	ALGN-DECL	Deceleration Lane

MMCD PROPOSED LAYERS 3

Roads

LAYER	COLOUR	LINETYPE	DESCRIPTION
C-ROAD-MRKG-IGLN	51	ALGN-IGL	Intersection / Bicycle Guiding Line
C-ROAD-MRKG-LNEG	51	Continuous	Lane Edge
C-ROAD-MRKG-MEDN	51	Continuous	Median
C-ROAD-MRKG-URPL	51	ALGN-BWL-URB	Broken White Line, Urban
C-ROAD-MRKG-WHIT	51	Continuous	White Line
C-ROAD-MRKG-YELD	51	ALGN-DECL	Yellow Line
C-ROAD-MRKG-YELO	51	Continuous	Passing Yellow Line
C-ROAD-MRKG-YELP	51	ALGN-DECL	Double Yellow Line
C-ROAD-PROF	7	Continuous	Profile View Components (C3D)
C-ROAD-PROF-CNTR	110	PR-CENTRE (MMCD)	Centreline Profiles
C-ROAD-PROF-GUTR	40	PR-PROFGUTR (MMCD)	Gutter Profiles
C-ROAD-PROF-MAJR	253	Continuous	Profile Grid Major
C-ROAD-PROF-MINR	252	Continuous	Profile Grid Minor
C-ROAD-PROF-PAVE	40	PR-PROFPAVE (MMCD)	Pavement Edge Profiles
C-ROAD-PROF-TEXT	11	Continuous	Profile Text
C-ROAD-SAMP	12	Hidden2	Sample Lines and Text (C3D)
C-ROAD-SCTN	7	Continuous	Section Data (C3D)
C-ROAD-SCTN-TEXT	11	Continuous	Section View Text (C3D)
C-ROAD-SCTN-VIEW	110	Continuous	Section Views (C3D)
C-ROAD-SCTN-VIEW-GRID	252	Continuous	Section View Grid (C3D)
C-ROAD-SHAP	7	Continuous	Shapes (C3D)
C-ROAD-SHLD	100	Continuous	Shoulder Lines
C-ROAD-SIGN	100	Continuous	Signs
C-ROAD-TEXT	11	Continuous	Text and Annotation
C-ROAD-TRAL-BIKE	120	Continuous	Bike Trail
C-ROAD-TRAL-GPS	120	Continuous	GPS Trail
C-ROAD-TRAL-URBN	120	Continuous	Urban Trail

MMCD PROPOSED LAYERS 4

Roads

LAYER	COLOUR	LINETYPE	DESCRIPTION
C-ROAD-WALK	120	Continuous	Sidewalk
C-ROAD-WALK-ASPH	120	Continuous	Sidewalk Asphalt
C-ROAD-WALK-CONC	130	Continuous	Sidewalk Concrete
C-ROAD-WALK-GRAV	120	Continuous	Sidewalk Gravel
C-ROAD-WALL	120	PR-WALL (BCMoT)	Walls and Retaining Walls

* Reverse polyline direction to flip tick marks

MMCD PROPOSED LAYERS 5

Sanitary

C-SSWR-AREA	22	Continuous	Sanitary Sewer Area
C-SSWR-FORC	22	PR-SSWRFORC (MMCD) SFM	Plan View Forcemain
C-SSWR-FORC-PROF	20	Continuous	Forcemain Profile
C-SSWR-PIPE	22	PR-SSWR (MMCD) S	Pipes Plan View
C-SSWR-PIPE-CASE	10	Continuous	Pipes Casing
C-SSWR-PIPE-PROF	20	Continuous	Pipes Profile View
C-SSWR-SRVC	20	PR-SSWRSRVC (MMCD)	Services Plan View
C-SSWR-STRC	10	Continuous	Structures Plan View
C-SSWR-STRC-PROF	10	Continuous	Structures Profile View
C-SSWR-TEXT	14	Continuous	Text and Annotation
C-SSWR-VALV	10	Continuous	Valves (Plan and Profile)

Topo

C-TOPO	7	Continuous	Surface Components (C3D)
C-TOPO-DTCH	113	PR-DRANCNTR (BCMoT)	Ditches
C-TOPO-EMBK-CUT	12	Continuous	Grading Cut Components (C3D)
C-TOPO-EMBK-FILL	91	Continuous	Grading Fill Components (C3D)
C-TOPO-FEAT	7	Continuous	Feature Line Components (C3D)
C-TOPO-GRAD	7	Continuous	Grading Object Components (C3D)
C-TOPO-MAJR	242	Continuous	Major Contours
C-TOPO-MINR	143	Continuous	Minor Contours
C-TOPO-STRC	21	Continuous	Structures
C-TOPO-SWLE	113	PR-DRANSWLE (MMCD)	Swales
C-TOPO-TEXT	11	Continuous	Text and Annotation

MMCD PROPOSED LAYERS 6

Utilities

LAYER	COLOUR	LINETYPE	DESCRIPTION
C-UTIL	230	Continuous	General and Shared Utilities
C-UTIL-CATV	30	PR-UTILCATV (MMCD) C	Cable TV (Over and Under)
C-UTIL-ELEC-POWR	230	PR-UTILUGEL (MMCD) UE	Electric (Over and Under)
C-UTIL-ELEC-MUNI	230	PR-UTILUGEL (MMCD) UE	Municipality Electricity (Over and Under)
C-UTIL-NGAS	40	PR-UTILNGAS (MMCD) G	Natural Gas (Over and Under)
C-UTIL-TELE	30	PR-UTILTELE (MMCD) T	Telephone (Over and Under)
C-UTIL-TEXT	11	Continuous	General Utilities Text
C-UTIL-TRAF	30	Continuous	Traffic Signal Controls

Vegetation

C-VEGE	80	Continuous	Plants and Trees
C-VEGE-GARD	80	PR-VEGEGARD (BCMoT)	Garden Lines
C-VEGE-LINE	80	PR-VEGETREE (BCMoT)	Tree and Bush Lines

Watermain

LAYER	COLOUR	LINETYPE	DESCRIPTION
C-WATR-AREA	160	Continuous	Pressure Area
C-WATR-BEND	162		
C-WATR-POWR	170	Continuous	POWRants Plan View
C-WATR-POWR-LEAD	170	PR-WATRSRVC (MMCD) W	POWRant Leads Plan View
C-WATR-PIPE	160	PR-WATR (MMCD)	Pipes Plan view
C-WATR-PIPE-PROF	172	Continuous	Pipes Profile View
C-WATR-SRVC	172	PR-WATRSRVC (MMCD)	Services Plan view
C-WATR-STRC	170	Continuous	Structures Plan view
C-WATR-STRC-PROF	170	Continuous	Structures Profile View
C-WATR-TEXT	180	Continuous	Text Plan View
C-WATR-VALV	170	Continuous	Valves Plan View

MMCD PROPOSED LAYERS 6

Property

C-PARCEL	4	Continuous	Parcels
C-PROP	110	Continuous	Parcels (C3D)
C-PROP-AREA TEXT	11	Continuous	Address, Area, Label
C-PROP-BNDY	110	Continuous	Boundary Parcels
C-PROP-ESMT	220	Continuous	Easement Parcels
C-PROP-LOTS	32	Continuous	Lot Parcels
C-PROP-ROW~	220	PR-ROW (MMCD)	ROW Parcels
C-PROP-SGMT-TEXT	11	Continuous	Segment Label Text

General Annotation

LAYER	COLOUR	LINETYPE	DESCRIPTION
G-ANNO	11	Continuous	General Text
G-ANNO-HTCH	250	Continuous	Hatching
G-ANNO-MTCH	110	Continuous	Matchlines
G-ANNO-MTCH-TEXT	11	Continuous	Matchline Text
G-ANNO-NPLT	170	Continuous	No Plot
G-ANNO-PNTI	11	Continuous	
G-ANNO-SHDE	8	Continuous	Shading Transparency
G-ANNO-TABL	11	Continuous	Tables (C3D)
G-ANNO-TBLK	7	Continuous	Title Blocks
G-ANNO-VFRM	7	Continuous	View Frames (C3D)
G-ANNO-VFRM-TEXT	11	Continuous	View Frame Text (C3D)
G-ANNO-VPRT	57	Continuous	Viewports
G-ANNO-XREF	7	Continuous	External References

MMCD CIVIL 3D OBJECT LAYERS

LAYER	COLOUR	LINETYPE	DESCRIPTION
C3D-ANNO	7	Continuous	Annotation
C3D-BLDG	7	Continuous	Buildings
C3D-CORR	7	Continuous	Corridors
C3D-PIPE	7	Continuous	Pipes
C3D-PIPE-PROF	7	Continuous	Pipes Profile View
C3D-PIPE-TEXT	7	Continuous	Pipes Text
C3D-PROP	7	Continuous	Property
C3D-PROP-TEXT	7	Continuous	Property Text
C3D-ROAD	7	Continuous	Roads
C3D-ROAD-MASS	7	Continuous	Road Mass Haul
C3D-ROAD-MATCH	7	Continuous	Match
C3D-ROAD-MATCH-TEXT	7	Continuous	Match Text
C3D-ROAD-PROF	7	Continuous	Roads Profile View
C3D-ROAD-PROF-TEXT	7	Continuous	Roads Profile Text
C3D-ROAD-SAMP	7	Continuous	Roads Sample Line
C3D-ROAD-SECT	7	Continuous	Road Sections
C3D-ROAD-SECT-TEXT	7	Continuous	Road Section Text
C3D-ROAD-TEXT	7	Continuous	Road Text
C3D-STRC	7	Continuous	Structures
C3D-STRC-TEXT	7	Continuous	Structures Text
C3D-SURV	7	Continuous	Survey
C3D-TOPO	7	Continuous	Topography
C3D-TOPO-EG	7	Continuous	Existing Ground Topography
C3D-TOPO-FEAT	7	Continuous	Feature Line
C3D-TOPO-FG	7	Continuous	Finished Ground Topography
C3D-TOPO-GRAD	7	Continuous	Grading
C3D-TOPO-GRAD-TEXT	7	Continuous	Grading Text
C3D-TOPO-TEXT	7	Continuous	Topography Text
C3D-TOPO-TEXT-EG	7	Continuous	Existing Ground Topography Text

Appendix B

Civil 3D Styles

GENERAL FEATURE

MARKER STYLES	DESCRIPTION
_<off>	off
_Circle 0.05	Circle
_Circle 1.8	Circle
_Circle 2.5	Circle
_Cross (x) 1.8	cross symbol
_Cross (x) 2.5	cross symbol
_Plus (+) 1.8	plus sign
_Plus (+) 2.5	plus sign
_Plus (+) Spot Elevation Existing 1.8	Use with Spot Elevation Existing
_Plus (+) Spot Elevation Proposed 2.5	Use with Spot Elevation Proposed
_Square 1.8	square symbol
_Square 2.5	square symbol
_Uncoded Point	No point code
<None>	None
NOTHING	NOTHING
Projection in Section Basic Figure	Used in Basic figure style to display projection in section
FEATURE LINE STYLES	DESCRIPTION
_<off>	off
_GRADING Feature Line	Grading
1 (Red) Centreline	Working centrelines and crowns
2 (Yellow) Gravel	Working gravel
3 (Green) Earth	Working earth
4 (Cyan) Asphalt	Working asphalt
5 (Blue) Water	Working water

GENERAL FEATURE

FEATURE LINE STYLES	DESCRIPTION
6 (Magenta) Concrete	Working concrete
7 (White)	Working
8 (Light Grey)	Working
9 (Dark Grey)	Working

* Feature line styles above and previous page are working feature lines and referenced in code set style Corridor Design - All Codes. Other corridor specific feature line styles are available if attempting to produce final drawings that display the corridor model. Colours represent materials.

Basic Feature Line	Basic Feature Line
Corridor-Barrier	Barrier
Corridor-Curb	Curb
Corridor-Daylight	Daylight
Corridor-Gutter	Gutter
Corridor-No Plot	No Plot
Corridor-Proposed	Proposed
Corridor-Sidewalk	Sidewalk
Corridor Back of Curb	Back of Curb
Corridor Centreline	Centreline
Corridor Concrete Sidewalk	Sidewalk
Corridor Daylight Cut	Working corridor daylight cut
Corridor Daylight Fill	Working corridor daylight fill
Corridor Daylight General	Working daylight general
Corridor Ditch	Ditch
Corridor Edge of Pavement	Edge of Pavement
Corridor Gutter Flow	Gutter Flow
Existing Retaining Walls	Existing Retaining Walls
Existing Asphalt Pavement Edge	Existing Asphalt Pavement Edge
Existing Concrete Curb Flowline	Existing Curb
Proposed Asphalt Pavement Edge	Proposed Asphalt Pavement Edge

GENERAL FEATURE

SLOPE PATTERN STYLES	DESCRIPTION
_<off>	Off
Cut to Surface	Cut to Surface
Fill to Surface	Fill to Surface
Grade Down	Grade Down
Grade Up	Grade Up
PROJECTION STYLES	
Projection	Projection
Sanitary Sewer Service	Sanitary Sewer Service
Storm Sewer Service	Storm Sewer Service
CODE SET STYLES	DESCRIPTION
_<off>	Off
Assembly	Basic Links, Circle Markers, No Shapes, No Feature Lines
Corridor Design - All Codes	Use for designing corridors
Corridor Section Editor	Used with the corridor section editor
Corridor Sections (1:100)	Corridor section data in section views at 1:100 scale
Corridor Sections (1:250)	Corridor section data in section views at 1:250 scale

GENERAL FEATURE

LINK STYLES	DESCRIPTION
_<off>	Off
_Daylight Cut	Working daylight cut
_Daylight Fill	Working daylight fill
_Daylight General	Working daylight
_Design Surface	Link used in design
_Uncoded Link	No link code
1 (Red)	Working
2 (Yellow) Gravel	Working gravel
3 (Green) Earth	Working earth
4 (Cyan) Ashpalt	Working asphalt
5 (Blue) Water	Working water flow
6 (Magenta) Concrete	Working concrete
7 (White)	Working
8 (Dark Grey)	Working
9 (Light Grey)	Working
SHAPE STYLES	DESCRIPTION
_<off>	Off
_Uncoded Shape	No shape code
1 (Red Dots)	Working
2 (Yellow Dots) Gravel	Working gravel
3 (Green Dots) Earth	Working earth
4 (Cyan Dots) Asphalt	Working asphalt
5 (Blue Dots) Water	Working water
6 (Magenta Dots) Concrete	Working concrete
7 (White Dots)	Working
8 (Grey Dots)	Working
Earth Cut	ANSI31 - Red
Earth Fill	ANSI31 - Green

GENERAL FEATURE

NOTE LABELS	DESCRIPTION
_GENERAL NOTE 2.5	Note Label
EX Alignment Name 1.8	EXISTING Alignment Name
EX Profile Name 1.8	EXISTING Profile Name
PR Alignment Name 2.5	PROPOSED Alignment Name (Text height 2.5mm)
PR Alignment Name 3.5	PROPOSED Alignment Name (Text height 3.5mm)
PR Alignment Name 5.0	PROPOSED Alignment Name (Text height 5.0mm)
PR Profile Name 2.5	PROPOSED Profile Name (Text height 2.5mm)
PR Profile Name 3.5	PROPOSED Profile Name (Text height 3.5mm)
PR Profile Name 5.0	PROPOSED Profile Name (Text height 5.0mm)
LINE LABEL	DESCRIPTION
_<off>	Off
_WORKING Endpoint Elevations 1.0	WORKING Endpoint Elevations 1.0
_WORKING Grade and Downslope Arrow 1.0	WORKING Grade and Downslope Arrow 1.0
_WORKING Grade Downslope Arrow Elevations 1.0	WORKING Grade Downslope Arrow Elevations 1.0
_WORKING Slope Downslope Arrow 1.0	WORKING Slope and Downslope Arrow
_WORKING Slope Downslope Arrow Elevations 1.0	WORKING Slope Downslope Arrow Elevations 1.0
EX Azimuth 1.8	EXISTING Azimuth Label
EX Azimuth over Length 1.8	EXISTING Azimuth Over Length Label
EX Bearing 1.8	EXISTING Bearing Label
EX Bearing over Length 1.8	EXISTING Bearing Over Length Label
EX Length 1.8	EXISTING Length Label
PR Azimuth 2.5	PROPOSED Azimuth Label
PR Azimuth over Length 2.5	PROPOSED Azimuth Over Length Label
PR Bearing 2.5	PROPOSED Bearing Label
PR Bearing over Length 2.5	PROPOSED Bearing Over Length Label
PR Length 2.5	PROPOSED Length Label

GENERAL FEATURE

CURVE LABEL	DESCRIPTION
_<off>	Off
_WORKING Endpoint Elevations 1.0	WORKING Endpoint Elevations 1.0
_WORKING Grade and Downslope Arrow 1.0	WORKING Grade and Slope Arrow
_WORKING Slope and Downslope Arrow 1.0	WORKING Slope and Slope Arrow
PR Length Radius Delta 2.5	PROPOSED Length, Radius, and Delta Label
PR Radius 2.5	Radius Label
MARKER	DESCRIPTION
_<off>	Off
Code Offset Elevation (1:250)	Code, Offset, and Elevation Label 1:250
Code Offset Elevation (Section Editor)	Code, Offset, and Elevation Label to be used in the Corridor Section Editor
Elevation (1:100)	Elevation 1:100 Scale
Offset Elevation (Section Editor)	Offset, and Elevation Label to be used in section editor
LINK LABELS	DESCRIPTION
_<off>	Off
Grade (1:100)	Grade (%) Label 1:100 Scale
Grade (Section Editor)	Grade (%) Label for use in Corridor Section Editor
Slope (1:100)	Slope (Run:Rise) Label 1:100 Scale
Slope (Section Editor)	Run over Rise for use with Corridor Section Editor
SHAPE	DESCRIPTION
_<off>	Off

SURFACE FEATURE

SURFACE STYLES	DESCRIPTION
_<off>	Off
_Border	Surface Border
_Grid (Magenta 1x1)	1m x 1m Grid
_Grid (Magenta 2x2)	2m x 2m Grid
_Grid (Magenta 5x5)	5m x 5m Grid
_Grid (Magenta 10x10)	10m x 10m Grid
_Triangles (Blue)	Triangles
_Triangles (Red)	Triangles
_Triangles (Yellow)	Triangles
Contours and Triangles (1:1)	Existing Contours at 0.2m Minor and 1.0m Major Intervals with Triangles (1:1 vertically exaggerated)
Contours and Triangles (2:1)	Existing Contours at 0.2m Minor and 1.0m Major Intervals with Triangles (2:1 vertically exaggerated)
Contours EX 0.1 and 0.5	Existing Contours at 0.1m Minor and 0.5m Major Intervals
Contours EX 0.2 and 1.0	Existing Contours at 0.2m Minor and 1.0m Major Intervals
Contours EX 1.0 and 5.0	Existing Contours at 1.0m Minor and 5.0m Major Intervals
Contours EX 2.0 and 10.0	Existing Contours at 2.0m Minor and 10.0m Major Intervals
Contours PR 0.1 and 0.5	Proposed Contours at 0.1m Minor and 0.5m Major Intervals
Contours PR 0.2 and 1.0	Proposed Contours at 0.2m Minor and 1.0m Major Intervals
Contours PR 1.0 and 5.0	Proposed Contours at 1.0m Minor and 5.0m Major Intervals
Contours PR 2.0 and 10.0	Proposed Contours at 2.0m Minor and 10.0m Major Intervals
Elevation Banding	Elevation Banding
CONTOUR LABELS	DESCRIPTION
EX (0 Decimal)	Existing Contour Label - 0 Decimal
EX (1 Decimal)	Existing Contour Label - 1 Decimal
PR (0 Decimal)	Proposed Contour Label - 0 Decimal
PR (1 Decimal)	Proposed Contour Label - 1 Decimal
* Civil 3D label styles annotative in MS and PS viewports	

SURFACE FEATURE

SLOPE STYLES *	DESCRIPTION
EX Percent	Existing Slope Label - Percent
EX Run:Rise	Existing Slope Label - Run:Rise
PR Percent	Proposed Slope Label - Percent
PR Run:Rise	Proposed Slope Label - Run:Rise
* Slope lines and arrows reference an expression to force arrow direction down slope/grade	
SPOT ELEVATION LABEL	DESCRIPTION
_EX (2 Decimal) and PR (3 Decimal)	Existing and Proposed Elevaitons
EX (1 Decimal)	Existing Spot Elevation Label - 1 Decimal
EX (2 Decimal)	Existing Spot Elevation Label - 2 Decimal
PR (1 Decimal)	Proposed Spot Elevation Label - 1 Decimal
PR (2 Decimal)	Proposed Spot Elevation Label - 2 Decimal
PR (3 Decimal)	Proposed Spot Elevation Label - 3 Decimal

PARCEL FEATURE

PARCEL STYLES	DESCRIPTION
Boundary Parcels	Boundary parcel
Easement Parcels	Easement parcels
Lot Parcels	Single lot parcels
Proposed	Proposed parcels
ROW Parcels	ROW Parcel
AREA LABEL	DESCRIPTION
_<off>	Off
Num	Parcel Number
Number and Area	Parcel Number and Area
LINE LABEL	DESCRIPTION
Bearing	Bearing Label
Bearing over Length	Bearing and Length Label
Length	Length Label
Tag	Tag Label for use with Tables
* Civil 3D label styles annotative in MS and PS viewports	

PARCEL FEATURE

CURVE LABEL	DESCRIPTION
Length Radius Delta	Length, Radius, and Delta Label
Tag	Tag Label for use with Tables
TABLE STYLES	DESCRIPTION
LINE - Bearing and Length	Parcel Bearing and Length Table
CURVE - Length Radius Delta	Parcel Curve Table Length Radius and Delta
SEGMENT - Line and Curve Data	Segment Table - Line/Curve Number, Length, Direction/Delta, Radius
AREA - Area	Area Table - Parcel Number, Area, Perimeter

GRADING FEATURE

GRADING STYLES	DESCRIPTION
_<off>	Off
Cut to Surface	Cut to surface (working style)
Fill to Surface	Fill to surface (working style)
General Grading	Grading general
Grade Down	Grade down
Grade Up	Grade up
GRADING CRITERIA	DESCRIPTION
Distance	Distance by slope or grade
Slope to Elevation Absolute	Slope or grade to absolute elevation
Slope to Elevation Relative	Slope or grade to absolute relative
Slope to Surface	Slope or grade to surface

* Civil 3D label styles annotative in MS and PS viewports

ALIGNMENT FEATURE

ALIGNMENT STYLES	DESCRIPTION
_<off>	MMCD: Off
_Intersection Offset (Yellow)	MMCD: Offset alignments created with intersections
_Intersection Return (Red)	MMCD: Curb return alignments created with intersections
_Layout and Design (working)	MMCD: Use for creating and editing alignments (working)
EX Centreline	MMCD: Existing Centreline
EX Ditch	MMCD: Existing Ditches
EX Edge Pavement	MMCD: Existing Edge of Pavement
EX Gutter Flowline	MMCD: Existing Gutter
PR Centreline	MMCD: Proposed Centreline
PR Ditch	MMCD: Proposed Ditches
PR Edge Pavement	MMCD: Proposed Edge of Pavement
PR Gutter Flowline	MMCD: Proposed Gutter
PR Sanitary Sewer	MMCD: Proposed Sanitary
PR Storm Drain	MMCD: Proposed Storm Drain
PR Watermain	MMCD: Proposed Watermain Pipe

ALIGNMENT FEATURE

ALIGNMENT LABEL SETS	DESCRIPTION
_<off>	Off
Major (100) Minor (20) Geometry Points - Parallel	Parallel Station Labels at 100m Intervals, Ticks at 20m Intervals, and Geometry Point
Major (100) Minor (20) Geometry Points - Perpendicular	Perpendicular Station Labels at 100m Intervals, Ticks at 20m Intervals, and Geometry Points
MAJOR STATION LABEL **	DESCRIPTION
Parallel	Parallel Station Label
Perpendicular	Perpendicular Station Label
MINOR STATION LABEL **	DESCRIPTION
Tick	Tick Label
GEOMETRY POINT LABEL **	DESCRIPTION
Tick and Line (Perp)	Perpendicular Geometry Point Label
STATION EQUATION LABEL	DESCRIPTION
Ahead and Back	Perpendicular Station Equation Label
STATION OFFSET LABEL	DESCRIPTION
Station	Station Label
Station Offset	Station and Offset Label
Station ProfileName Elevation	Station and Profile Elevation and Profile Name Use in dragged state
* Civil 3D label styles annotative in MS and PS viewports	
** Label styles referenced in Alignment Label Sets	

ALIGNMENT FEATURE

LINE LABEL	DESCRIPTION
Alignment Name	Alignment Name
Bearing	Bearing
Bearing Next to Length	Bearing Next to Length Label
Bearing Over Length	Bearing Over Length Label
Length	Length
Line Tag	Line tag label - use with alignment tables
CURVE LABEL	DESCRIPTION
Alignment Name	Alignment Name
Curve Tag	Curve tag labels - use with alignment table
Length Radius Delta	Length, Radius, and Delta Label
SPIRAL LABEL	DESCRIPTION
Length and A	Spiral Length and A value
TANGENT INTERSECTION LABEL	DESCRIPTION
_<off>	Off
Northing and Easting	Northing and Easting Label
TABLE STYLES	DESCRIPTION
LINE - Length Bearing Coordinates	Line length, bearing and start/end coordinates
LINE - Length Start and End Station	Length Start and End Station
CURVE - Radius Length Direction Delta	Radius, Length, Chord Direction, Delta Angle
SPIRAL - A Rin Rout Length	A, Rin, Rout, Length
SEGMENT - Segment Data	Segment Data
* Civil 3D label styles annotative in MS and PS viewports	

PROFILE FEATURE

PROFILE STYLES	DESCRIPTION
_<off>	Off - alternatively turn off profile in Profile View properties
_Corridor TOP	Corridor top surface (working)
_Intersection Offset (Yellow)	Offset profiles created with intersections (working)
_Intersection Return (Red)	Curb return profiles created with intersections (working)
_Layout and Design (Working)	Use for creating and editing profiles (working)
EX Ditch	EXISTING Ditch
EX Edge Pavement	Existing Edge of Pavement
EX Ground	Existing Ground
EX Gutter Flowline	Existing Gutter Flowline
PR Centreline	Proposed Centreline
PR Ditch	PROPOSED Ditch
PR Edge Pavement	Proposed Edge of Pavement
PR Gutter Flowline	Proposed Gutter Flowline
PR Gutter Flowline Left	Proposed Gutter Flowline
PR Gutter Flowline Right	Proposed Gutter Flowline
PR Sanitary Sewer	Proposed Sanitary Sewer
PR Storm Drain	Proposed Storm Drain
PR Watermain	Proposed Watermain
PROFILE LABEL SETS	DESCRIPTION
_<off>	Off
Sags and Crests	Sag and Crest Labels
Sags Crests and Tangents	Sag, Crest, and Line Grade Labels
Tangents	Line Grade Labels
GRADE BREAK LABEL	DESCRIPTION
Station and Elevation	Perpendicular Station and Elevation Label
* Civil 3D label styles annotative in MS and PS viewports	

PROFILE FEATURE

LINE LABEL	DESCRIPTION
Grade (1 Decimal)	Line Grade (%) Label
Grade (2 Decimal)	Line Grade (%) Label
Profile Name	Profile Name
CURVE LABEL	DESCRIPTION
Crest and Sag	Crest and Sag
Crest	Crest with high point data
Sag	Sag with low point data
Grade In	Grade in to a vertical curve
Grade In and Out	Grade In and Out of Vertical Curve
Grade Out	Grade Out of a vertical curve

PROFILE VIEW FEATURE

PROFILE VIEW STYLES	DESCRIPTION
5:1 (L to R)	5:1 Vertical Exaggeration
5:1 (L to R) Split View LHS	5:1 Vertical Exaggeration
5:1 (L to R) Split View Middle	5:1 Vertical Exaggeration
5:1 (L to R) Split View RHS	5:1 Vertical Exaggeration
10:1 (L to R)	10:1 Vertical Exaggeration
10:1 (L to R) Split View LHS	10:1 Vertical Exaggeration
10:1 (L to R) Split View Middle	10:1 Vertical Exaggeration
10:1 (L to R) Split View RHS	10:1 Vertical Exaggeration
STATION ELEVATION LABELS	DESCRIPTION
Alignment Profile Station Elevation	Alignment Name, Profile Name, Station, and Elevation Labels Use in dragged state
Elevation	Elevation Label Use in dragged state
Invert Elevation	Invert elevation Label Use in dragged state
Profile Name	Profile Name Label Use in dragged state
Profile Station Elevation	Profile Name, Station, and Elevation Labels Use in dragged state
Station	Station Label Use in dragged state
Station Elevation	Station and Elevation Labels Use in dragged state

PROFILE VIEW FEATURE

DEPTH LABEL	DESCRIPTION
Depth	Depth
PROJECTION LABEL	DESCRIPTION
Projection	Projection
BAND SETS	DESCRIPTION
_<off>	off
EG FG Elev - Station	Existing and Proposed Elevations + Stations - 2 Bands
Pipe Networks - EG FG Elev - Station	Pipe Networks - EG FG Elev - Station
PROFILE DATA BANDS	DESCRIPTION
1 Profile Elevation	1 Profile elevation
2 Profile Elevations	Labels elevation for 2 profiles typically EG and FG
Data Frame	Data Frame
PR Gutter L	1 Profile elevation for left gutter grades 5.0m intervals
PR Gutter R	1 Profile elevation for right gutter grades 5.0m intervals
PR Median L	1 Profile elevation for left median grades 5.0m intervals
PR Median R	1 Profile elevation for right median grades 5.0m intervals
PRCL	1 Profile elevation for centerline 5.0m intervals
Station Horizontal	Stations
Station Vertical	Stations
HORIZONTAL GEOMETRY BANDS	DESCRIPTION
Tangents and Curves	Tangent and Curves Lengths
SUPERELEVATION BAND	DESCRIPTION
Superelevation	Superelevation data
PIPE NETWORK BAND	DESCRIPTION
Pipe Data and Inverts	Pipe data and inverts

SUPERELEVATION VIEW FEATURE

SUPERELEVATION VIEW STYLES	DESCRIPTION
Superelevation	Superelevation

SAMPLE LINE FEATURE

SAMPLE LINE STYLES	DESCRIPTION
_<off>	Off
Sample Line (1:100)	Sample Line 1:100 scale
LABEL STYLES	DESCRIPTION
_<off>	off
Station	Station Label
Station (1:100)	Station Label 1:100 scale

SECTION FEATURE

SECTION STYLES	DESCRIPTION
_<off>	off
Corridor DATUM	Datum
Corridor TOP	Top
Existing Ground	Existing Ground
Stripping	Stripping
LABEL SETS	DESCRIPTION
_<off>	Off

SECTION VIEW FEATURE

SECTION VIEW STYLES	DESCRIPTION
1:1 (100 Scale)	1:1 Vertical Exaggeration
2:1 (100 Scale)	2:1 Vertical Exaggeration
10:1 (250 Scale)	10:1 Vertical Exaggeration
GROUP PLOT STYLES	DESCRIPTION
Array	Array for production or draft mode
SHEET STYLES	DESCRIPTION
Basic (A1)	Basic (A1)

* Civil 3D label styles annotative in MS and PS viewports

SECTION VIEW FEATURE

OFFSET ELEVATION LABELS	DESCRIPTION
Offset Elevation	Offset and Elevation Label
GRADE LABEL	DESCRIPTION
Grade	Grade (%)
Slope	Slope (Run:Rise)
PROJECTION LABEL	DESCRIPTION
Offset Elevation	Offset and Elevation
BAND SETS	DESCRIPTION
_<off>	off
Existing Elevations and Offset	Existing Elevations and Offset
Offset	Offset
Spacer for Plan Production	Spacer for Plan Production
SECTION DATA	DESCRIPTION
Existing Elevations	Existing Elevations
Offset	Offset
Spacer	Spacer
TABLE STYLE TOTAL VOLUME	DESCRIPTION
_<off>	off
TABLE STYLE MATERIAL	DESCRIPTION
_<off>	off

MASS HAUL LINE FEATURE

MASS HAUL LINE STYLE	DESCRIPTION
Mass Haul	Mass Haul

MASS HAUL VIEW FEATURE

MASS HAUL VIEW STYLE	DESCRIPTION
Mass Haul View	Mass Haul View

PIPE NETWORK FEATURE

PARTS LISTS	DESCRIPTION
MMCD EX Combined	Existing Combined sewer
MMCD EX Sanitary	Existing Sanitary sewer
MMCD EX Storm	Existing Storm sewer
MMCD EX Water	Existing Watermain
MMCD PR Sanitary	PROPOSED Sanitary
MMCD PR Storm	PROPOSED Storm
MMCD PR Water	PROPOSED Water
INTERFERENCE STYLES	DESCRIPTION
Interference	Interference

PIPE FEATURE

PIPE STYLES	DESCRIPTION
EX COMBINED (Plan Profile Section)	Existing COMBINED (Plan Profile Section)
EX COMBINED Crossing (Profile)	Existing COMBINED Crossing (Profile)
EX SANITARY (Plan Profile Section)	Existing SANITARY (Plan Profile Section)
EX SANITARY Crossing (Profile)	Existing SANITARY Crossing (Profile)
EX STORM (Plan Profile Section)	Existing STORM (Plan Profile Section)
EX STORM Crossing (Profile)	Existing STORM Crossing (Profile)
EX STORM Culvert (Plan Profile Section)	Existing STORM Culvert (Plan Profile Section)
EX STORM Culvert Crossing (Profile)	Existing STORM Culvert Crossing (Profile)
EX WATER (Plan Profile Section)	Existing WATER (Plan Profile Section)
EX WATER Crossing (Profile)	Existing WATER Crossing (Profile)
PR GENERAL (Plan Profile Section)	Proposed General (Plan Profile Section)
PR GENERAL Crossing (Profile)	Proposed GENERAL Crossing (Profile)
PR SANITARY (Plan Profile Section)	Proposed Sanitary Line
PR SANITARY Crossing (Profile)	Proposed Sanitary Crossing Profile
PR SANITARY Forcemain (Plan Profile Section)	Proposed Sanitary Forcemain
PR SANITARY Forcemain Crossing (Profile)	Proposed Sanitary Forcemain Crossing Profile
PR SANITARY Service (Plan)	Proposed SANITARY Service (Plan)
PR STORM (Plan Profile Section)	Proposed Storm pipe style plan and profile view
PR STORM Crossing (Profile)	Proposed Storm Crossing Profile
PR STORM Culvert (Plan Profile Section)	Proposed Storm culvert style plan and profile view
PR STORM Culvert Crossing (Profile)	Proposed Storm culvert crossing profile view
PR STORM Service (Plan)	Proposed STORM Service (Plan)
PR WATER (Plan Profile Section)	Proposed Water Line
PR WATER Crossing (Profile)	Proposed WATER Crossing (Profile)
PR WATER POWRANT Lead (Plan Profile Section)	Proposed WATER POWRANT Lead (Plan Profile Section)
PR WATER Service (Plan)	Proposed WATER Service (Plan)
* Civil 3D label styles annotative in MS and PS viewports	

PIPE FEATURE

PIPE RULE SETS	DESCRIPTION
Combined	Length, Cover and Slope
Sanitary	Length, Cover and Slope
Storm	Length, invert match, cover and slope
Water	Length, Cover and Slope
PLAN PROFILE LABEL	DESCRIPTION
_<off>	_<off>
EX COMBINED Plan (Diameter Material)	EXISTING COMBINED Plan (Diameter Material)
EX COMBINED Plan (Flow Direction Arrow)	EXISTING COMBINED Plan (Flow Direction Arrow)
EX COMBINED Profile (Diameter Material Length Grade) Pipe Aligned	EXISTING COMBINED Profile (Diameter Material Length Grade) Pipe Aligned
EX SANITARY Plan (Diameter Material)	EXISTING SANITARY Plan (Diameter Material)
EX SANITARY Plan (Flow Direction Arrow)	EXISTING SANITARY Plan (Flow Direction Arrow)
EX SANITARY Profile (Diameter Material Length Grade) Pipe Aligned	EXISTING SANITARY Profile (Diameter Material Length Grade) Pipe Aligned
EX STORM Culvert Plan (Length Diameter Material)	EXISTING STORM Culvert Plan (Length Diameter Material)
EX STORM Culvert Profile (Diameter Material) Crossing	EXISTING STORM Culvert Profile (Diameter Material) Crossing
EX STORM Plan (Diameter Material)	EXISTING STORM Plan (Diameter Material)
EX STORM Plan (Flow Direction Arrow)	EXISTING STORM Plan (Flow Direction Arrow)
EX STORM Profile (Diameter Material Length Grade) Pipe Aligned	EXISTING STORM Profile (Diameter Material Length Grade) Pipe Aligned
EX WATER Plan (Diameter Material)	EXISTING WATER Plan (Diameter Material)
EX WATER Profile (Diameter Material Length Grade) Pipe Aligned	EXISTING WATER Profile (Diameter Material Length Grade) Pipe Aligned
PR SANITARY Plan (Diameter Material)	PROPOSED SANITARY Plan (Diameter Material)
PR SANITARY Plan (Flow Direction Arrow)	PROPOSED SANITARY Plan (Flow Direction Arrow)
PR SANITARY Profile (Diameter Material Length Grade) Pipe Aligned	PROPOSED SANITARY Profile (Diameter Material Length Grade) Pipe Aligned
* Civil 3D label styles annotative in MS and PS viewports	

PIPE FEATURE

PLAN PROFILE LABEL	DESCRIPTION
PR STORM Culvert Plan (Length Diameter Material)	PROPOSED STORM Culvert Plan (Length Diameter Material)
PR STORM Culvert Profile (Diameter Material) Crossing	PROPOSED STORM Culvert Profile (Diameter Material) Crossing
PR STORM Plan (Diameter Material)	PROPOSED STORM Plan (Diameter Material)
PR STORM Plan (Flow Direction Arrow)	PROPOSED STORM Plan (Flow Direction Arrow)
PR STORM Profile (Diameter Material Length Grade) Pipe Aligned	PROPOSED STORM Profile (Diameter Material Length Grade) Pipe Aligned
PR WATER Plan (Diameter Material)	PROPOSED WATER Plan (Diameter Material)
PR WATER Profile (Diameter Material Length Grade) Pipe Aligned	PROPOSED WATER Profile (Diameter Material Length Grade) Pipe Aligned
CROSSING SECTION LABEL	DESCRIPTION
EX COMBINED (Diameter)	EXISTING COMBINED (Diameter)
EX SANITARY (Diameter)	EXISTING SANITARY (Diameter)
EX STORM (Diameter)	EXISTING STORM (Diameter)
EX WATER (Diameter)	EXISTING WATER (Diameter)
PR SANITARY (Diameter)	PROPOSED SANITARY (Diameter)
PR STORM (Diameter)	PROPOSED STORM (Diameter)
PR WATER (Diameter)	PR WATER (Diameter)
TABLE STYLES	DESCRIPTION
Pipe Data	Pipe Data (Diameter Length Grade)
* Civil 3D label styles annotative in MS and PS viewports	

STRUCTURE FEATURE

STRUCTURE STYLES	DESCRIPTION
_<off>	Off
EX COMBINED MH (Plan Profile Section)	EXISTING COMBINED MH (Plan Profile Section)
EX COMBINED MH Pipe Outline (Plan Profile Section)	EXISTING COMBINED MH Pipe Outline (Plan Profile Section)
EX SANITARY MH (Plan Profile Section)	EXISTING SANITARY MH (Plan Profile Section)
EX SANITARY MH Pipe Outline (Plan Profile Section)	EXISTING SANITARY MH Pipe Outline (Plan Profile Section)
EX STORM CB Side Inlet (Plan Profile Section)	EXISTING STORM CB Side Inlet (Plan Profile Section)
EX STORM CB Top Inlet Centre (Plan Profile Section)	EXISTING STORM CB Top Inlet Centre (Plan Profile Section)
EX STORM CB Top Inlet Edge (Plan Profile Section)	EXISTING STORM CB Top Inlet Edge (Plan Profile Section)
EX STORM MH (Plan Profile Section)	EXISTING STORM MH (Plan Profile Section)
EX STORM MH Pipe Outline (Plan Profile Section)	EXISTING STORM MH Pipe Outline (Plan Profile Section)
PR SANITARY MH (Plan Profile Section)	PROPOSED SANITARY MH (Plan Profile Section)
PR SANITARY MH Pipe Outline (Plan Profile Section)	PROPOSED SANITARY MH Pipe Outline (Plan Profile Section)
PR SANITARY Service (Plan Profile)	PROPOSED Sanitary Service (Plan Profile)
PR STORM CB Side Inlet (Plan Profile Section)	PROPOSED STORM CB Side Inlet (Plan Profile Section)
PR STORM CB Top Inlet Centre (Plan Profile Section)	PROPOSED STORM CB Top Inlet Centre (Plan Profile Section)
PR STORM CB Top Inlet Edge (Plan Profile Section)	PROPOSED STORM CB Top Inlet Edge (Plan Profile Section)
PR STORM MH (Plan Profile Section)	PROPOSED STORM MH (Plan Profile Section)
PR STORM MH Pipe Outline (Plan Profile Section)	PROPOSED STORM MH Pipe Outline (Plan Profile Section)
PR STORM Service (Plan Profile)	PROPOSED STORM Service (Plan Profile)
PR WATER Service (Plan)	PROPOSED WATER Service (Plan)
STRUCTURE RULE SET	
_<off>	No rules
Combined MH	Sump Depth
Sanitary MH	Sump depth 0., 0.1m drop across structure
Storm CB	Pipe Drop = 0.1m
Storm MH	Pipe Drop, Sump Depth
Water	Pipe drop across structure = 0

STRUCTURE FEATURE

STRUCTURE LABEL STYLES	DESCRIPTION
_<off>	Off
EX COMBINED Plan (Structure Name)	EXISTING COMBINED Plan (Structure Name)
EX COMBINED Profile (Invert Elevations BOTTOM)	EXISTING COMBINED Profile (Invert Elevations Bottom) Edit Pipe Network Feature Settings and under Default Profile Label Placeement, set Structure Label Placement to At Bottom of Structure
EX COMBINED Profile (Name Rim Elevation and Station TOP)	EX COMBINED Profile (Name Rim Elevation and Station TOP) Edit Pipe Network Feature Settings and under Default Profile Label Placement, set Structure Label Placement to At Top of Structure
EX SANITARY Plan (Structure Name)	EXISTING SANITARY Plan (Structure Name)
EX SANITARY Profile (Invert Elevations BOTTOM)	EXISTING SANITARY Profile (Invert Elevations Bottom) Edit Pipe Network Feature Settings and under Default Profile Label Placement, set Structure Label Placement to At Bottom of Structure
EX SANITARY Profile (Name Rim Elevation and Station TOP)	EXISTING SANITARY Profile (Name Rim Elevation and Station TOP) Edit Pipe Network Feature Settings and under Default Profile Label Placement, set Structure Label Placement to At Top of Structure
EX STORM Plan (Structure Name)	EXISTING STORM Plan (Structure Name)
EX STORM Profile (Invert Elevations BOTTOM)	EXISTING STORM Profile (Invert Elevations Bottom) Edit Pipe Network Feature Settings and under Default Profile Label Placement, set Structure Label Placement to At Bottom of Structure
EX STORM Profile (Name Rim Elevation and Station TOP)	EXISTING STORM Profile (Name Rim Elevation and Station TOP) Edit Pipe Network Feature Settings and under Default Profile Label Placement, set Structure Label Placement to At Top of Structure
EX WATER Profile (Horizontal)	EXISTING WATER Profile (Horizontal)
EX WATER Profile (Vertical)	EXISTING WATER Profile (Vertical)
PR SANITARY Plan (Structure Name)	PROPOSED SANITARY Plan (Structure Name)
PR SANITARY Profile (Invert Elevations BOTTOM)	PROPOSED SANITARY Profile (Invert Elevations BOTTOM) Edit Pipe Network Feature Settings and under Default Profile Label Placement, set Structure Label Placement to At Bottom of Structure
PR SANITARY Profile (Name Rim Elevation and Station TOP)	PROPOSED SANITARY Profile (Name Rim Elevation and Station TOP) Edit Pipe Network Feature Settings and under Default Profile Label Placement, set Structure Label Placement to At Top of Structure
PR STORM Plan (Structure Name)	PROPOSED STORM Plan (Structure Name)
PR STORM Profile (Invert Elevations BOTTOM)	PROPOSED STORM Profile (Invert Elevations BOTTOM) Edit Pipe Network Feature Settings and under Default Profile Label Placement, set Structure Label Placement to At Bottom of Structure
PR STORM Profile (Name Rim Elevation and Station TOP)	PROPOSED STORM Profile (Name Rim Elevation and Station TOP) Edit Pipe Network Feature Settings and under Default Profile Label Placement, set Structure Label Placement to At Top of Structure
PR WATER Profile (Horizontal)	PROPOSED WATER Profile (Horizontal)
PR WATER Profile (Vertical)	PROPOSED WATER Profile (Vertical)
TABLE STYLES	DESCRIPTION
_<off>	Off
Structure Data	Structure Data (Name Rim)

PRESSURE NETWORK FEATURE

PARTS LIST	DESCRIPTION
EX Water	EXISTING Water

PRESSURE PIPE FEATURE

PRESSURE PIPE STYLES	DESCRIPTION
EX WATER (Plan Profile)	EXISTING WATER (Plan Profile)
EX WATER Crossing (Plan Profile)	EXISTING WATER Crossing (Plan Profile)
LABEL STYLES	DESCRIPTION
EX WATER Plan (Diameter Material)	EXISTING WATER Plan (Diameter Material)
EX WATER Profile (Diameter Material)	EXISTING WATER Profile (Diameter Material)

FITTING FEATURE

FITTING STYLES	DESCRIPTION
EX Water Fitting	EXISTING WATER Fitting
LABEL STYLES	DESCRIPTION
EX WATER Plan (Diameter BendAngle FittingType)	EXISTING WATER Plan (Diameter BendAngle FittingType)
EX WATER Profile (Diameter BendAngle FittingType)	EXISTING WATER Profile (Diameter BendAngle FittingType)

APPURTENANCE FEATURE

APPURTENANCE STYLES	DESCRIPTION
EX Water Appurtenance	EXISTING Water Appurtenance
LABEL STYLES	DESCRIPTION
EX WATER Plan (Diameter Type)	EXISTING WATER Plan (Diameter Type)
EX WATER Profile (Diameter Type)	EXISTING WATER Profile (Diameter Type)

CORRIDOR FEATURE

CORRIDOR STYLES	DESCRIPTION
Corridor	Corridor

INTERSECTION FEATURE

INTERSECTION STYLES	DESCRIPTION
Intersection	Intersection
INTERSECTION LOCATION LABELS	DESCRIPTION
Street Names	MMCD: Intersecting Street Names

ASSEMBLY FEATURE

ASSEMBLY STYLES	DESCRIPTION
Assembly	Assembly
Basic	Basic

QUANTITY TAKEOFF FEATURE

QUANTITY TAKEOFF CRITERIA	DESCRIPTION
Earth Cut and Fill	Cut and Fill Volumes
Pavement Structure	Pavement Structure Volumes
TABLE STYLES TOTAL VOLUME	DESCRIPTION
Earth Cut and Fill	Cut and Fill Total Volume Table
TABLE STYLES MATERIAL	DESCRIPTION
Pavement Structure	Pavement Structure Material Table

SURVEY FEATURE

NETWORKS NETWORK STYLES	DESCRIPTION
Survey Network	Survey Network
FIGURES FIGURE STYLES	DESCRIPTION
BYLAYER	BYLAYER

VIEW FRAME FEATURE

VIEW FRAME STYLES	DESCRIPTION
View Frame	View Frame
LABEL STYLES VIEW FRAME	DESCRIPTION
_<off>	Off
View Frame Name	View Frame Name

MATCH LINE FEATURE

MATCH LINE STYLES	DESCRIPTION
Match Line	Match Line
LABEL STYLES MATCH LINE LEFT	DESCRIPTION
Match Line Left	Match Line Left
LABEL STYLES MATCH LINE RIGHT	DESCRIPTION
Match Line Right	Match Line Right

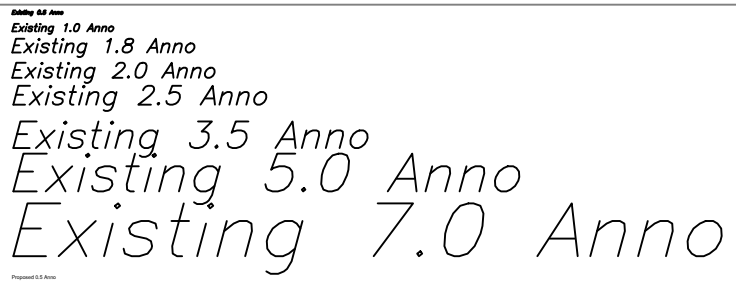
Appendix C

Text, Multileader and Dimension Styles

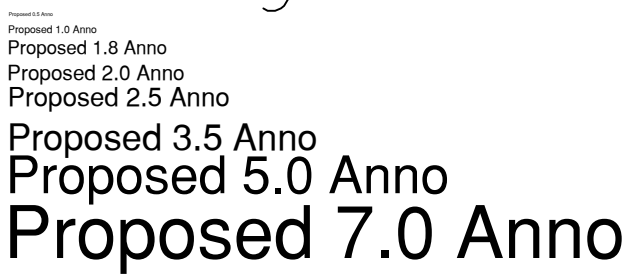
TEXT, MULTILEADER AND DIMENSION STYLES

TEXT STYLE

EXISTING

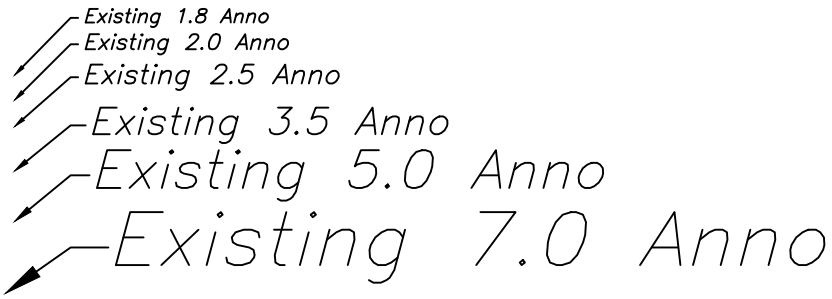


PROPOSED

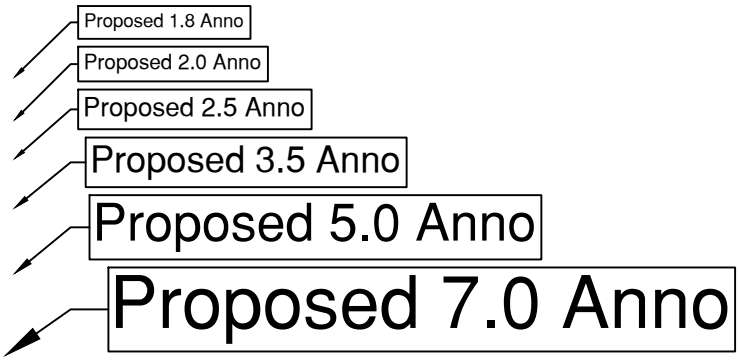


MULTILEADER STYLE

EXISTING



PROPOSED

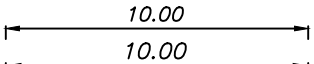


* *Note: Annotative styles, height references final plotted height on paper*

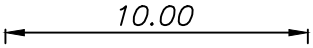
TEXT, MULTILEADER AND DIMENSION STYLES

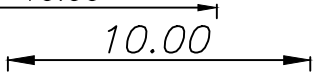
DIMENSION STYLE

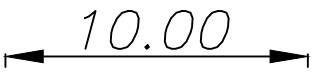
EXISTING

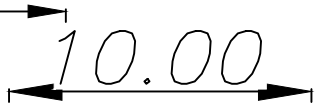
Existing 1.8 Anno 

Existing 2.0 Anno

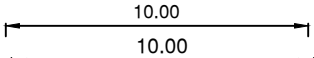
Existing 2.5 Anno 

Existing 3.5 Anno 

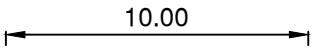
Existing 5.0 Anno 

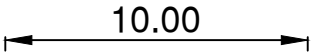
Existing 7.0 Anno 

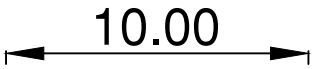
PROPOSED

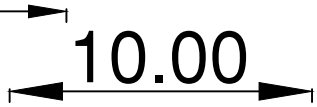
Proposed 1.8 Anno 

Proposed 2.0 Anno

Proposed 2.5 Anno 

Proposed 3.5 Anno 

Proposed 5.0 Anno 

Proposed 7.0 Anno 

* *Note: Annotative styles, height references final plotted height on paper*

Appendix D

AutoCad Blocks

EXISTING MISC. SPOT AND LINEAR FEATURES

SYMBOL	BLOCK NAME	LAYER
ANT	EX Misc Antenna	V-MISC
	EX Misc Building Post	V-BLDG
FP	EX Misc Flagpole	V-MISC
MB	EX Misc Mail Box	V-MISC
	EX Misc Post	V-MISC
RRS	EX Misc Railway Signal	V-MISC
	EX Misc Sign	V-MISC
	EX Misc Wood Post	V-MISC

EXISTING SANITARY SEWER

SYMBOL	BLOCK NAME	LAYER
	EX Combined Manhole (AutoCAD)	V-COMB-STRC
	EX Combined Manhole (Civil 3D)	V-COMB-STRC
	EX Sanitary Cap	V-SSWR-STRC
	EX Sanitary Cleanout Large	V-SSWR-STRC
	EX Sanitary Cleanout Small	V-SSWR-STRC
	EX Sanitary House Connection	V-SSWR-STRC
	EX Sanitary Inspection Chamber	V-SSWR-STRC
	EX Sanitary Manhole (AutoCAD)	V-SSWR-STRC
	EX Sanitary Manhole (Civil 3D)	V-SSWR-STRC
	EX Sanitary Pump Station	V-SSWR-STRC
	EX Sanitary Service	V-SSWR-STRC
	EX Sanitary Valve	V-SSWR-STRC
* Blocks with (Autocad) suffix are annotative, Blocks with (Civil 3D) suffix are non-annotative.		

EXISTING STORM SEWER

SYMBOL	BLOCK NAME	LAYER
	EX Storm Box Concrete	V-DRAN-STRC
	EX Storm Box Wood	V-DRAN-STRC
	EX Storm Cap	V-DRAN-STRC
	EX Storm Catchbasin Double	V-DRAN-STRC
	EX Storm Catchbasin Manhole	V-DRAN-STRC
	EX Storm Catchbasin Round	V-DRAN-STRC
	EX Storm Catchbasin Side Inlet (AutoCAD)	V-DRAN-STRC
	EX Storm Catchbasin Side Inlet (Civil 3D)	V-DRAN-STRC
	EX Storm Catchbasin Square	V-DRAN-STRC
	EX Storm Catchbasin Top Inlet (Centre - AutoCAD)	V-DRAN-STRC
	EX Storm Catchbasin Top Inlet (Centre - Civil 3D)	
	EX Storm Catchbasin Top Inlet (Edge - AutoCAD)	V-DRAN-STRC
	EX Storm Catchbasin Top Inlet (Edge - Civil 3D)	
	EX Storm Cleanout Large	V-DRAN-STRC
	EX Storm Cleanout Small	V-DRAN-STRC
	EX Storm Culvert	V-DRAN-CULV
	EX Storm Ditch	V-DRAN-DTCH
	EX Storm House Connection	V-DRAN-STRC
	EX Storm Inspection Chamber	V-DRAN-STRC
	EX Storm Lawn Drain	V-DRAN-STRC
	EX Storm Manhole (AutoCAD)	V-DRAN-STRC
	EX Storm Manhole (Civil 3D)	V-DRAN-STRC
	EX Storm Oil Interceptor	V-DRAN-STRC
	EX Storm Pump Station	V-DRAN-STRC
	EX Storm Service	V-DRAN-STRC
	EX Storm Silt Trap	V-DRAN-STRC
	EX Storm Swale	V-DRAN-SWLE
* Blocks with (Autocad) suffix are annotative, Blocks with (Civil 3D) suffix are non-annotative.		

EXISTING WATERMAIN

SYMBOL	BLOCK NAME	LAYER
	EX Water Air Valve	V-WATR-STRC
	EX Water Bend 11.25	V-WATR-STRC
	EX Water Bend 22.5	V-WATR-STRC
	EX Water Bend 45	V-WATR-STRC
	EX Water Bend 90	V-WATR-STRC
	EX Water Blowoff	V-WATR-STRC
	EX Water Cap	V-WATR-STRC
	EX Water Chamber	V-WATR-STRC
	EX Water Cross	V-WATR-STRC
	EX Water Flush	V-WATR-STRC
	EX Water POWRant	V-WATR-STRC
	EX Water Irr Control Valve	V-WATR-STRC
	EX Water Manhole	V-WATR-STRC
	EX Water Meter	V-WATR-STRC
	EX Water Reducer	V-WATR-STRC
	EX Water Robar	V-WATR-STRC
	EX Water Service	V-WATR-STRC
	EX Water Sprinkler Head	V-WATR-STRC
	EX Water Tee	V-WATR-STRC
	EX Water Valve	V-WATR-STRC
	EX Water Valve Branch	V-WATR-STRC
	EX Water Vent	V-WATR-STRC

EXISTING Survey

SYMBOL	BLOCK NAME	LAYER
	EX Surv Angle Iron	V-SURV-PNTS
	EX Surv Benchmark	V-SURV-PNTS
	EX Surv GPS Station	V-SURV-PNTS
	EX Surv Iron Pipe	V-SURV-PNTS
	EX Surv Lead Plug	V-SURV-PNTS
	EX Surv Monument Brass	V-SURV-PNTS
	EX Surv Monument Control	V-SURV-PNTS
	EX Surv Monument Post Concrete	V-SURV-PNTS
	EX Surv Monument Post Rock	V-SURV-PNTS
	EX Surv Old Iron Pin	V-SURV-PNTS
	EX Surv PK Nail	V-SURV-PNTS
	EX Surv Post Witness	V-SURV-PNTS
	EX Surv Post Wood	V-SURV-PNTS
	EX Surv Traverse Hub	V-SURV-PNTS

FILE:MMCD 2022Legend

EXISTING UTILITY - HYDRO

SYMBOL	BLOCK NAME	LAYER
	EX Utility Hydro Anchor Pole	V-UTIL-ELEC-POWR-STRC
	EX Utility Hydro Guy Wire	V-UTIL-ELEC-POWR-STRC
	EX Utility Hydro Junction Box	V-UTIL-ELEC-POWR-STRC
	EX Utility Hydro Kiosk	V-UTIL-ELEC-POWR-STRC
	EX Utility Hydro Manhole	V-UTIL-ELEC-POWR-STRC
	EX Utility Hydro Pole	V-UTIL-ELEC-POWR-STRC
	EX Utility Hydro Pole Dip	V-UTIL-ELEC-POWR-STRC
	EX Utility Hydro Pole Luminaire	V-UTIL-ELEC-POWR-STRC
	EX Utility Hydro Pole Luminaire Dip	V-UTIL-ELEC-POWR-STRC
	EX Utility Hydro Splice Box	V-UTIL-ELEC-POWR-STRC
	EX Utility Hydro Tel Pole	V-UTIL-ELEC-POWR-STRC
	EX Utility Hydro Tel Pole Dip	V-UTIL-ELEC-POWR-STRC
	EX Utility Hydro Tel Pole Luminaire	V-UTIL-ELEC-POWR-STRC
	EX Utility Hydro Tel Pole Luminaire Dip	V-UTIL-ELEC-POWR-STRC
	EX Utility Hydro Vault	V-UTIL-ELEC-POWR-STRC

EXISTING UTILITY - LIGHTING, SIGNALS

SYMBOL	BLOCK NAME	LAYER
	EX Utility Junction Box	V-UTIL-ELEC-MUNI-STRC
	EX Utility Lighting Davit Luminaire Pole 7.5m	V-UTIL-ELEC-MUNI-STRC
	EX Utility Lighting Davit Luminaire Pole 9.0m	V-UTIL-ELEC-MUNI-STRC
	EX Utility Lighting Davit Luminaire Pole with SB and PC	V-UTIL-ELEC-MUNI-STRC
	EX Utility Lighting Ground Light	V-UTIL-ELEC-MUNI-STRC
	EX Utility Lighting Post Top Luminaire Pole	V-UTIL-ELEC-MUNI-STRC
	EX Utility LightingTraffic Signal / Luminaire Combination pole	V-UTIL-ELEC-MUNI-STRC
	EX Utility Manhole	V-UTIL-ELEC-MUNI-STRC
	EX Utility Power Box	V-UTIL-ELEC-MUNI-STRC
	EX Utility Traffic Controller Cabinet	V-UTIL-ELEC-MUNI-STRC
	EX Utility Traffic Flasher	V-UTIL-ELEC-MUNI-STRC
	EX Utility Traffic Overhead Sign	V-UTIL-ELEC-MUNI-STRC
	EX Utility Traffic Pedestrian Pole	V-UTIL-ELEC-MUNI-STRC
	EX Utility Traffic Signal Pole	V-UTIL-ELEC-MUNI-STRC

EXISTING UTILITY - NATURAL GAS

SYMBOL	BLOCK NAME	LAYER
	EX Utility Gas Cap	V-UTIL-NGAS-STRC
	EX Utility Gas Meter	V-UTIL-NGAS-STRC
	EX Utility Gas Valve	V-UTIL-NGAS-STRC
	EX Utility Gas Vent	V-UTIL-NGAS-STRC

EXISTING UTILITY - MISC.

SYMBOL	BLOCK NAME	LAYER
	EX Utility Fuel Valve	V-UTIL
	EX Utility Box	V-UTIL

FILE:MMCD 2022Legend

EXISTING UTILITY - TELEPHONE, CABLE TV

SYMBOL	BLOCK NAME	LAYER
	EX Utility Cable Kiosk	V-UTIL-CATV-STRC
	EX Utility Cable Manhole	V-UTIL-CATV-STRC
	EX Utility Tel Booth	V-UTIL-TELE-STRC
	EX Utility Tel Guy Wire	V-UTIL-TELE-STRC
	EX Utility Tel Junction Box	V-UTIL-TELE-STRC
	EX Utility Tel Manhole	V-UTIL-TELE-STRC
	EX Utility Tel Pole	V-UTIL-TELE-STRC
	EX Utility Tel Pole Dip	V-UTIL-TELE-STRC
	EX Utility Tel Pole Luminaire	V-UTIL-TELE-STRC
	EX Utility Tel Pole Luminaire Dip	V-UTIL-TELE-STRC
	EX Utility Tel Sac Pad	V-UTIL-TELE-STRC
	EX Utility Tel Vault	V-UTIL-TELE-STRC

EXISTING VEGETATION

SYMBOL	BLOCK NAME	LAYER
	Ex Veg Conif	V-VEGE
	Ex Veg Decid	V-VEGE
	EX Veg Ornam	V-VEGE
	EX Veg Shrub	V-VEGE
	Ex Veg Stump	V-VEGE
	EX Veg Swamp	V-VEGE

EXISTING WALLS, FENCES, BARRIERS

SYMBOL	BLOCK NAME	LAYER
	EX Misc Bollard	V-MISC
	EX Misc Gate Post	V-FNCE

FILE:MMCD 2022Legend

PROPOSED MISC. FEATURES

SYMBOL	BLOCK NAME	LAYER
	PR Misc Bollard	C-ROAD
	PR Misc Sign	C-ROAD-SIGN

PROPOSED SANITARY SEWER

SYMBOL	BLOCK NAME	LAYER
	PR Sanitary Cap	C-SSWR-STRC
	PR Sanitary Cleanout	C-SSWR-STRC
	PR Sanitary Manhole (AutoCAD)	C-SSWR-STRC
	PR Sanitary Manhole (Civil 3D)	C-SSWR-STRC
	PR Sanitary Pump Station	C-SSWR-STRC
	PR Sanitary Service (AutoCAD)	C-SSWR-SRVC
	PR Sanitary Service (Civil 3D)	C-SSWR-SRVC
	PR Sanitary Service Profile	C-SSWR-STRC-PROF
	PR Sanitary Valve	C-SSWR-VALV
* Blocks with (Autocad) suffix are annotative, Blocks with (Civil 3D) suffix are non-annotative.		

FILE:MMCD 2022Legend

PROPOSED STORM SEWER

SYMBOL	BLOCK NAME	LAYER
	PR Storm Cap	C-DRAN-STRC
	PR Storm Catchbasin Double	C-DRAN-CBAS
	PR Storm Catchbasin Manhole	C-DRAN-CBAS
	PR Storm Catchbasin Side Inlet (AutoCAD)	C-DRAN-CBAS
	PR Storm Catchbasin Side Inlet (Civil 3D)	C-DRAN-CBAS
	PR Storm Catchbasin Top Inlet (Centre - AutoCAD)	C-DRAN-CBAS
	PR Storm Catchbasin Top Inlet (Centre - Civil 3D)	C-DRAN-CBAS
	PR Storm Catchbasin Top Inlet (Edge - AutoCAD)	C-DRAN-CBAS
	PR Storm Catchbasin Top Inlet (Edge - Civil 3D)	C-DRAN-CBAS
	PR Storm Cleanout	C-DRAN-STRC
	PR Storm Culvert	C-DRAN-CULV
	PR Storm Ditch	C-DRAN-DTCH
	PR Storm Lawn Drain	C-DRAN-STRC
	PR Storm Manhole (AutoCAD)	C-DRAN-STRC
	PR Storm Manhole (Civil 3D)	C-DRAN-STRC
	PR Storm Oil Interceptor	C-DRAN-STRC
	PR Storm Pump Station	C-DRAN-STRC
	PR Storm Service (AutoCAD)	C-DRAN-SRVC
	PR Storm Service (Civil 3D)	C-DRAN-SRVC
	PR Storm Service Profile	C-DRAN-SRVC
	PR Storm Silt Trap	C-DRAN-STRC
	PR Storm Swale	C-DRAN-SWLE
* Blocks with (Autocad) suffix are annotative, Blocks with (Civil 3D) suffix are non-annotative.		

FILE:MMCD 2022Legend

PROPOSED WATERMAIN

SYMBOL	BLOCK NAME	LAYER
	PR Water Air Valve	C-WATR-VALV
	PR Water Bend 11.25	C-WATR-STRC
	PR Water Bend 22.5	C-WATR-STRC
	PR Water Bend 45	C-WATR-STRC
	PR Water Bend 90	C-WATR-STRC
	PR Water Bends	C-WATR-STRC
	PR Water Blowoff	C-WATR-STRC
	PR Water Cap	C-WATR-STRC
	PR Water Cross	C-WATR-STRC
	PR Water Flush	C-WATR-STRC
	PR Water Hub Flange	C-WATR-STRC
	PR Water POWRant	C-WATR-POWR
	PR Water Manhole	C-WATR-STRC
	PR Water Meter	C-WATR-STRC
	PR Water Reducer	C-WATR-STRC
	PR Water Robar	C-WATR-STRC
	PR Water Service (AutoCAD)	C-WATR-SRVC
	PR Water Service (Civil 3D)	C-WATR-SRVC
	PR Water Tee	C-WATR-STRC
	PR Water Thrust Block	C-WATR-STRC
	PR Water Valve	C-WATR-VALV
	PR Water Valve Air	C-WATR-VALV
	PR Water Valve Branch	C-WATR-VALV
* Blocks with (Autocad) suffix are annotative, Blocks with (Civil 3D) suffix are non-annotative.		

PROPOSED HYDRO FEATURES

SYMBOL	BLOCK NAME	LAYER
	PR Utility Hydro Guy Wire	C-UTIL-ELEC-POWR
	PR Utility Hydro Junction Box	C-UTIL-ELEC-POWR
	PR Utility Hydro Kiosk	C-UTIL-ELEC-POWR
	PR Utility Hydro Manhole	C-UTIL-ELEC-POWR
	PR Utility Hydro Pole	C-UTIL-ELEC-POWR
	PR Utility Hydro Pole Luminaire	C-UTIL-ELEC-POWR
	PR Utility Hydro Vault	C-UTIL-ELEC-POWR

PROPOSED UTILITY - LIGHTING, SIGNALS

SYMBOL	BLOCK NAME	LAYER
	PR Utility Lighting Davit Luminaire Pole 7.5m	C-UTIL-ELEC-MUNI
	PR Utility Lighting Davit Luminaire Pole 7.5m with SB	C-UTIL-ELEC-MUNI
	PR Utility Lighting Davit Luminaire Pole 9.0m	C-UTIL-ELEC-MUNI
	PR Utility Lighting Davit Luminaire Pole 9.0m with Pedestrian Light	C-UTIL-ELEC-MUNI
	PR Utility Lighting Davit Luminaire Pole 9.0m with SB and Pedestrian Light	C-UTIL-ELEC-MUNI
	PR Utility Lighting Post Top Luminaire Pole	C-UTIL-ELEC-MUNI
	PR Utility Lighting Service Base	C-UTIL-ELEC-MUNI
	PR Utility Traffic Controller Cabinet	C-UTIL-TRAF
	PR Utility Traffic Overhead Sign	C-UTIL-TRAF
	PR Utility Traffic Pedestrian Pole	C-UTIL-TRAF
	PR Utility Traffic Signal Pole	C-UTIL-TRAF
	PR Utility Traffic Signal / Luminaire Combination Pole	C-UTIL-TRAF

PROPOSED UTILITY - NATURAL GAS

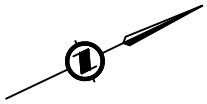
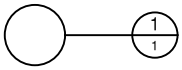
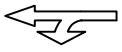
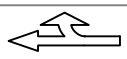
SYMBOL	BLOCK NAME	LAYER
	PR Utility Gas Capped End	C-UTIL-NGAS
	PR Utility Gas Valve	C-UTIL-NGAS

FILE:MMCD 2022Legend

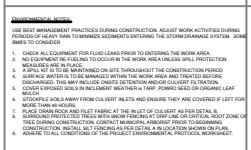
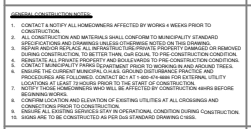
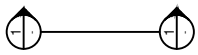
PROPOSED UTILITY - TELEPHONE, CABLE TV

SYMBOL	BLOCK NAME	LAYER
■	PR Utility Cable Box	C-UTIL-CATV
● C	PR Utility Cable Manhole	C-UTIL-CATV
■	PR Utility Tel Junction Box	C-UTIL-TELE
●	PR Utility Tel Manhole	C-UTIL-TELE
▬	PR Utility Tel Sac Pad	C-UTIL-TELE
⬣	PR Utility Tel Vault	C-UTIL-TELE

MISCELLANEOUS BLOCKS

SYMBOL	BLOCK NAME	LAYER
	__Arrow Filled	Various Layers
	__Arrow Open	Various Layers
	__Asterik	Various Layers
	__Circle Open	Various Layers
	__Circle Solid	Various Layers
	__Cross	Various Layers
	__North Arrow 1	G-ANNO
	__PL	G-ANNO
	__Plus	Various Layers
	__Section Marker	G-ANNO
	_ArchTick	Various Layers
	_CalloutBox	G-ANNO
	_CalloutTag	G-ANNO
	_CL	G-ANNO
	_ClosedBlank	Various Layers
	_Dot	Various Layers
	_Integral	G-ANNO
	_MRKG Arrow Left Turn	V-ROAD-MRKG-ARRW or C-ROAD-MRKG-ARRW
	_MRKG Arrow Right Turn	V-ROAD-MRKG-ARRW or C-ROAD-MRKG-ARRW
	_MRKG Arrow Shared Use Lane	V-ROAD-MRKG-ARRW or C-ROAD-MRKG-ARRW
	_MRKG Arrow Solid Right	V-ROAD-MRKG-ARRW or C-ROAD-MRKG-ARRW
	_MRKG Arrow Straight	V-ROAD-MRKG-ARRW or C-ROAD-MRKG-ARRW
	_MRKG Arrow Straight and Left Turn	V-ROAD-MRKG-ARRW or C-ROAD-MRKG-ARRW
	_MRKG Arrow Straight and Right Turn	V-ROAD-MRKG-ARRW or C-ROAD-MRKG-ARRW
	_MRKG Bike and Diamond	V-ROAD-MRKG or C-ROAD-MRKG
	_MRKG Handicap Stall	V-ROAD-MRKG or C-ROAD-MRKG

MISCELLANEOUS BLOCKS

SYMBOL	BLOCK NAME	LAYER
	_NOTES Detailed Construction	G-ANNO
	_NOTES Environmental	G-ANNO
	_NOTES General Construction	G-ANNO
	_Oblique	Various Layers
	_Open	Various Layers
	_Origin	Various Layers
	_PIPE Crossing 5 to 1	EXISTING or PROPOSED Pipe Layer
	_PIPE End Profile	EXISTING or PROPOSED Pipe Layer
	_PIPE End Section	EXISTING or PROPOSED Pipe Layer
	_SectionTag	G-ANNO
	_TB Drawing Status or Description	G-ANNO
	_SW Letdown	V-ROAD-DRIV-CONC OR C-ROAD-DRIV-CONC
REVISED Please destroy all previous prints	_TB Drawing Status or Description	G-ANNO
1:250 0 5 15m	_TB Scale Bar	G-ANNO
	_TREE Conifer Section	C-VEGE
	_TREE Decid Section	C-VEGE
VIEW TITLE Scale: 1:1 1 -	_ViewTitle	G-ANNO
	AeccTickCircle	Various Layers
	AeccTickLine	Various Layers

FILE:MMCD 2022Legend

Sample Plans

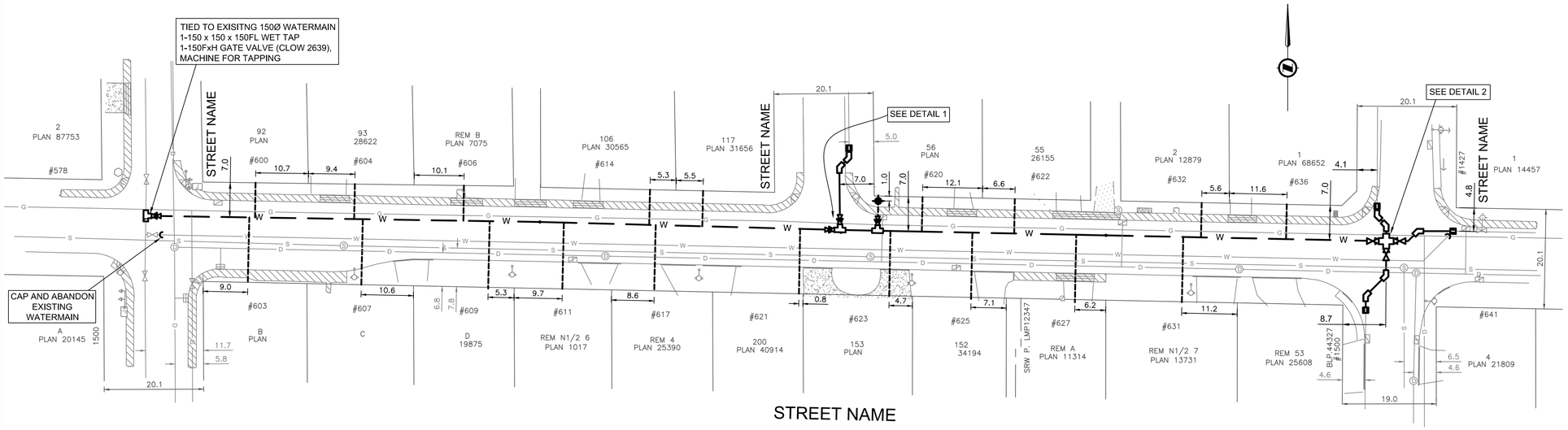
(i) WaterRecord Plan

(ii) Drainage Record Plan

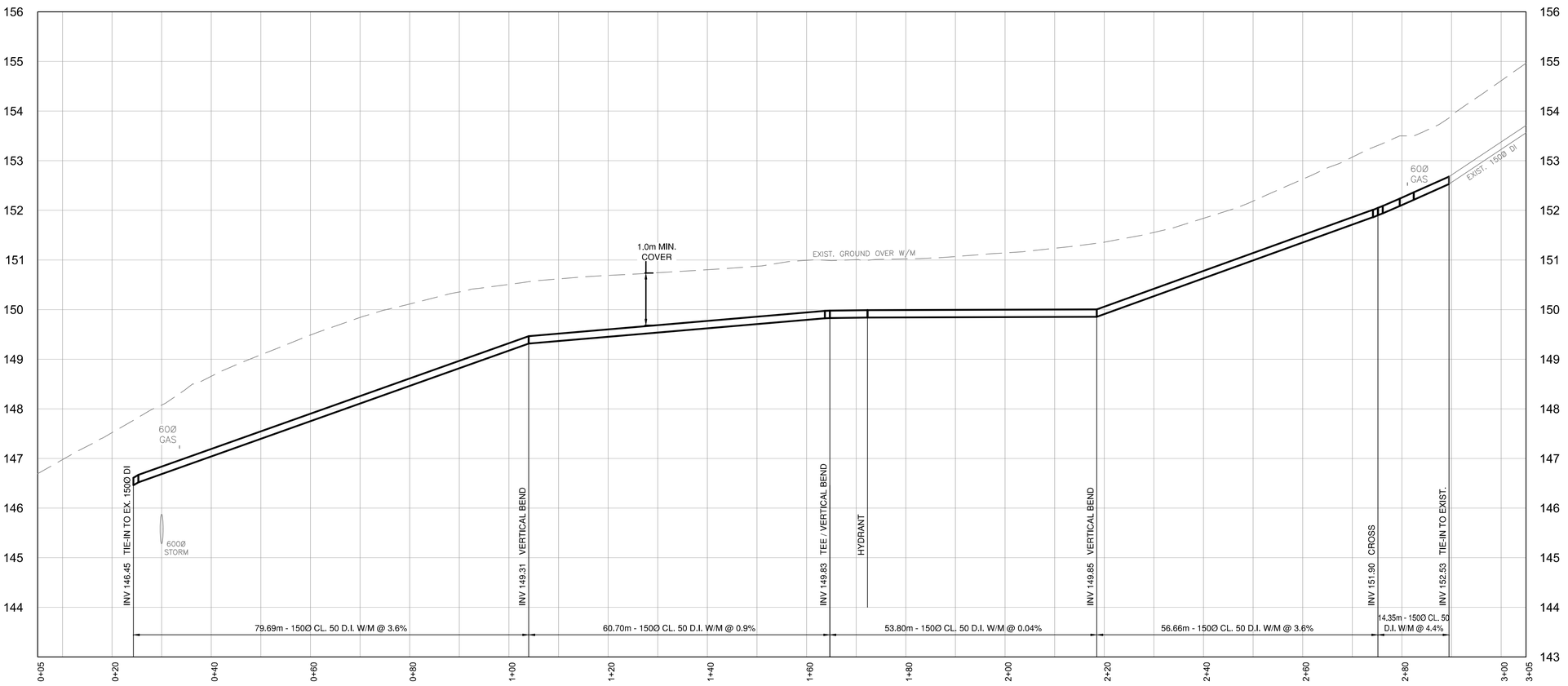
(iii) Sanitary Sewer Record Plan

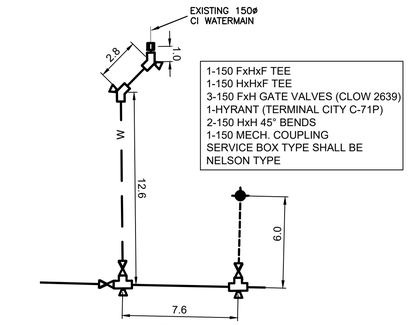
(iv) Road Record Plan

(v) Streetlight Record Plan



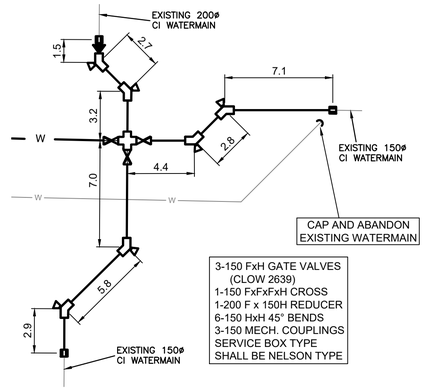
STREET NAME





1-150 FxHxF TEE
1-150 HxHxF TEE
3-150 FxH GATE VALVES (CLOW 2639)
1-HYRANT (TERMINAL CITY C-71P)
2-150 HxH 45° BENDS
1-150 MECH. COUPLING
SERVICE BOX TYPE SHALL BE NELSON TYPE

DETAIL 1
N.T.S.



3-150 FxH GATE VALVES (CLOW 2639)
1-150 FxFxFxH CROSS
1-200 F x 150H REDUCER
6-150 HxH 45° BENDS
3-150 MECH. COUPLINGS
SERVICE BOX TYPE
SHALL BE NELSON TYPE

DETAIL 2
N.T.S.

THIS DECLARATION CERTIFIES THAT WE HAVE REVIEWED AND CERTIFY THAT THESE DRAWINGS ARE AN ACCURATE REPRESENTATION OF WORK COMPLETED AS PART OF THIS PROJECT.

ENGINEER: _____ DATE:_____

WATERMAIN NOTES:

1. UNLESS OTHERWISE INDICATED WATERMAIN PIPE MATERIAL SHALL BE:
   - PVC CLASS 150 OR 200 DR 18
   - DUCTILE IRON CLASS 50, CLEMENT MORTAR LINED.
2. FIRE HYDRANT LEADS SHALL BE DUCTILE IRON CLASS 50.
3. FITTING SHALL BE GREY IRON SUITABLE FOR 1380KPA WORKING PRESSURE.
4. GATE VALVES SHALL BE CAST IRON SUITABLE FOR 1380 KPA WORKING PRESSURE.
5. CONFIRM WATERMAIN WORKING PRESSURE WITH ENGINEER PRIOR TO PRESSURE TESTING.
6. CONFIRM THRUST BLOCK END AREAS WITH ENGINEER PRIOR TO CONSTRUCTION.
7. DEFLECTION OF PIPE JOINTS SHALL NOT EXCEED ONE-HALF MAXIMUM DEFLECTION SPECIFIED IN AWWA C600 OR ONE-HALF MAXIMUM DEFLECTION RECOMMENDED BY PIPE MANUFACTURER. JOINT DEFLECTION IS NOT PERMITTED FOR PVC PIPE UNLESS HIGH DEFLECTION PVC COUPLINGS (RATED FOR 1380KPA) OPERATING PRESSURE ARE USED.
8. TESTING AND CHLORINATION OF WATERMAINS TO BE PERFORMED BY THE CONTRACTOR AND WITNESSES BY THE CITY OF COQUITLAM'S ENGINEERING AND PUBLIC WORKS INSPECTOR.
9. JOINTS SHALL BE RESTRAINED WITH UNI-FLANGE SERIES 1300 FITTINGS WHERE REQUIRED.
10. WATER SERVICE CONNECTION TO BE AS PER CITY OF COQUITLAM STANDARD DRAWINGS COQ-W2B UNLESS OTHERWISE NOTED.
11. WATER SERVICE CONNECTION TO BE 20MM COPPER, TYPE K, UNLESS OTHERWISE NOTED.
12. TRENCHING SHALL BE AS PER CITY OF COQUITLAM STANDARD DRAWING COQ-G4.

1:500 0 10 30m

BC 1 CALL — CALL BEFORE YOU DIG!
1-800-474-6886
or by CELLULAR #8888
Vancouver Area 257-9040
CALL AT LEAST TWO FULL WORKING DAYS BEFORE YOU PLAN TO DIG

COQ. ASBUILT No.
W9999

Benchmark: GEODETIC ELEVATIONS ARE DERIVED FROM TIES TO INTEGRATED SURVEY CONTROL MONUMENT 73H0401. LOCATED AT THE INTERSECTION OF STREET NAME AND STREET NAME. ELEV.=153.069m, DATUM IS [CGVD28 (MVRD 2018].

Note: Contractor to contact Telus, BC Hydro, FortisBC and BC one call prior to construction to confirm locations of utilities and appurtenances requiring adjustment.

COMPANY LOGO

No.	Date	By	Revisions
1	12 JAN/22	PD	RECORD DRAWING

ACCEPTED FOR CONSTRUCTION
Date:_____
_____
Manager of Development Servicing

Coquitlam
Engineering & Public Works
3000 Guildford Way, Coquitlam, B.C. V3B 7N2

PERMIT TO PRACTICE
Signature:_____
Date:_____
PERMIT NUMBER: _____
The Association of Professional Engineers and Geoscientists of British Columbia

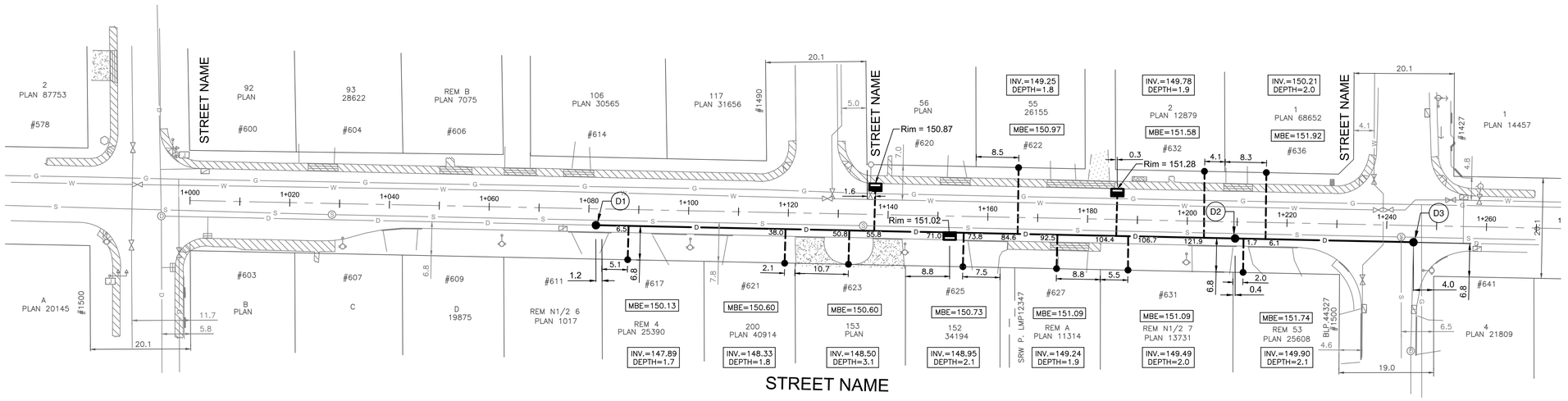
Seal:

Design by	Date	Scale	1:500 HOR. 1:50 VER.
Drawn by RD	Date	Sheet of	1 OF 1
Checked by CB	Date	Eng. Project No.	
Approved by	Date		

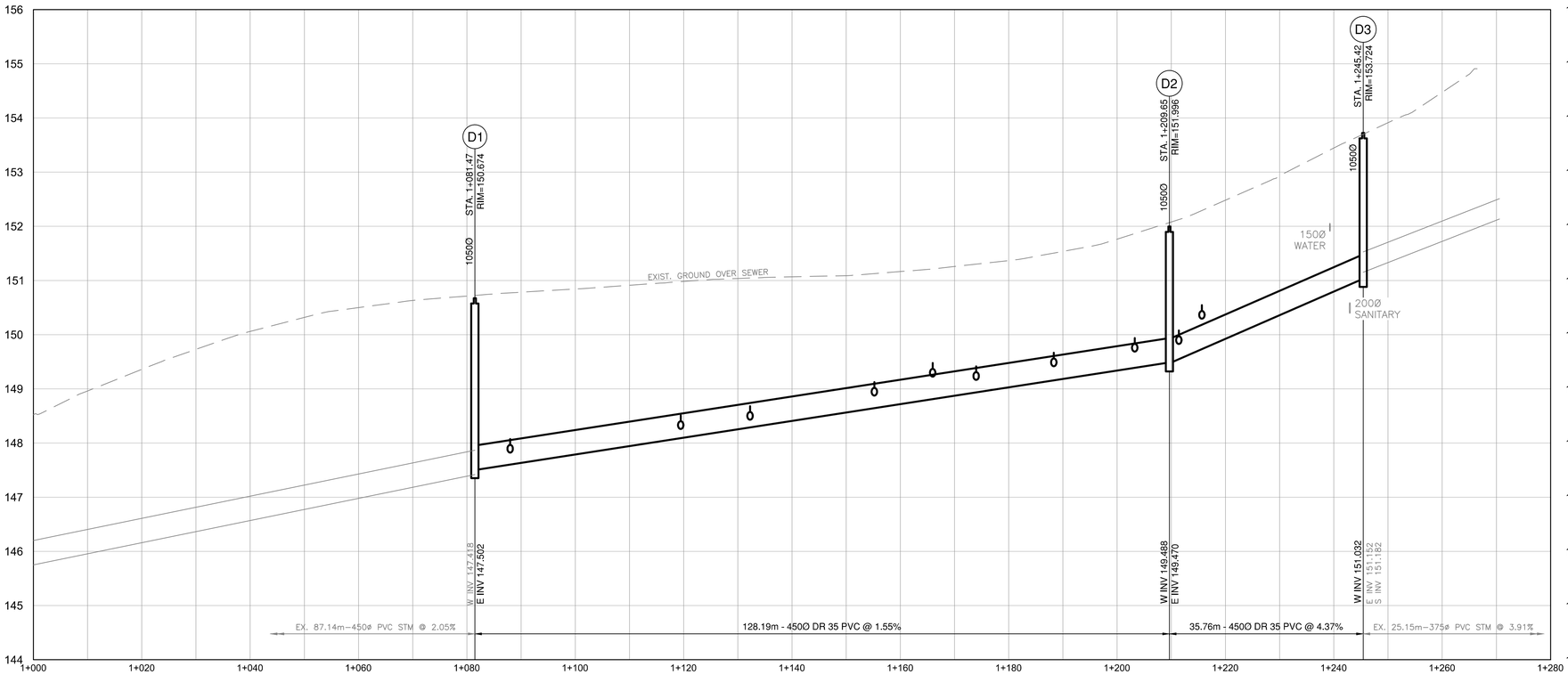
Project: THIRD PLACE
FIRST STREET TO SECOND STREET
Description: WATER MAIN

File: 18Water03222946C2

Plot Date: March 30, 2022

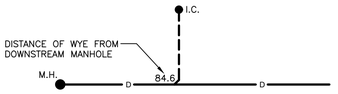


STREET NAME



SUPPLEMENTARY LEGEND:

INV.=148.86 DEPTH=2.0	INVERT OF SERVICE PIPE @ I.C. DEPTH OF SERVICE PIPE @ I.C.
MBE=150.02	MINIMUM BASEMENT ELEVATION
	SERVICE CONNECTION INVERT (PROFILE)



THIS DECLARATION CERTIFIES THAT WE HAVE REVIEWED AND CERTIFY THAT THESE DRAWINGS ARE AN ACCURATE REPRESENTATION OF WORK COMPLETED AS PART OF THIS PROJECT.

ENGINEER: _____ DATE:_____

STORM SEWER NOTES:

1. UNLESS OTHERWISE INDICATED STORM SEWER MATERIALS SHALL BE:
   MAINS - 250MM DIA - PVC DR 35
   - 300MM DIA - PVC DR 35 OR CONCRETE C14 CLASS 3
   - 375MM DIA TO 675MM DIA - CONCRETE C76 CLASS 3.

   SERVICE CONNECTIONS - 150MM DIA - PVC DR 28

   CATCH BASIN LEADS - SINGLE CB -150MM PVC DR 28
   - DOUBLE CB - 200MM DIA PVC DR 35.

   MANHOLES - PRECAST REINFORCED CONCRETE
   1050MM DIA MH MAINS UP TO 450MM DIA
   1200MM DIA MH MAINS 525MM AND 600MM IN DIA
   1350MM DIA MH MAINS 675MM AND 750MM IN DIA
   1500MM DIA MH MAINS 900MM TO 1050MM IN DIA OR RISER MH.

   CATCH BASINS - STANDARD - 600MM DIA PRECAST REINFORCED CONCRETE
   - SIDE INLET - 900MM DIA PRECAST REINFORCED CONCRETE.
2. MANHOLES SHALL BE INSTALLED AS PER MMCD STANDARD DRAWINGS S1 AND S2. BENCHING SHALL BE AS PER MMCD STANDARD DRAWING S3. MANHOLE FRAMES AND COVERS SHALL CONFORM TO CITY OF COQUITLAM STANDARD DRAWING COQ-S16.
3. STANDARD CATCH BASINS SHALL BE INSTALLED AS PER MMCD STANDARD DRAWING S11. SIDE INLET CATCH BASINS SHALL BE INSTALLED AS PER CITY OF COQUITLAM STANDARD DRAWING COQ-S11A. CATCH BASIN RIM ELEVATIONS FOR STANDARD AND SIDE INLET CATCH BASINS SHALL BE SET 30MM BELOW FINISHED GRADE.
4. INSPECTION CHAMBERS SHALL BE INSTALLED FOR ALL CONNECTIONS AS PER MMCD STANDARD DRAWING S9 FOR CONNECTIONS UP TO 200MM AND MMCD STANDARD DRAWING S10 FOR CONNECTIONS 250MM TO 375MM.
5. STORM CONNECTION TO BE 150MM DIA PVC UNLESS OTHERWISE NOTED AND INSTALLED AS PER MMCD STANDARD DRAWING S8.
6. TRENCHING SHALL BE AS PER CITY OF COQUITLAM STANDARD DRAWING COQ-G4.

1:500 0 10 30m

BC 1 CALL — CALL BEFORE YOU DIG! 1-800-474-6886 or by CELLULAR *6886 Vancouver Area 257-9340 — CALL AT LEAST TWO FULL WORKING DAYS BEFORE YOU PLAN TO DIG

COQ. ASBUILT No.
D9999

Benchmark: GEODETIC ELEVATIONS ARE DERIVED FROM TIES TO INTEGRATED SURVEY CONTROL MONUMENT 73H0401, LOCATED AT THE INTERSECTION OF STREET NAME AND STREET NAME. ELEV.=153.069m, DATUM IS [CGVD28 (MVRD 2018)].

Note: Contractor to contact Telus, BC Hydro, FortisBC and BC one call prior to construction to confirm locations of utilities and appurtenances requiring adjustment.

COMPANY LOGO

No.	Date	By	Revisions
1	12 JAN/22	PD	RECORD DRAWING

ACCEPTED FOR CONSTRUCTION
Date:_____
_____
Manager of Development Servicing

Coquitlam
Engineering & Public Works
3000 Guildford Way, Coquitlam, B.C. V3B 7N2

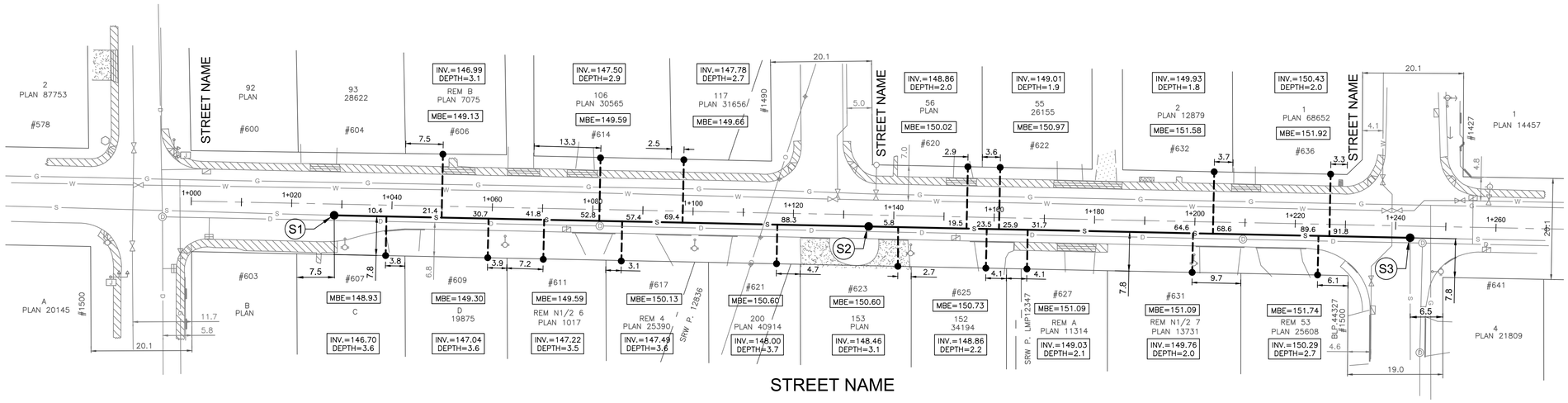
PERMIT TO PRACTICE
Signature:_____
Date:_____
PERMIT NUMBER: _____
The Association of Professional Engineers and Geoscientists of British Columbia

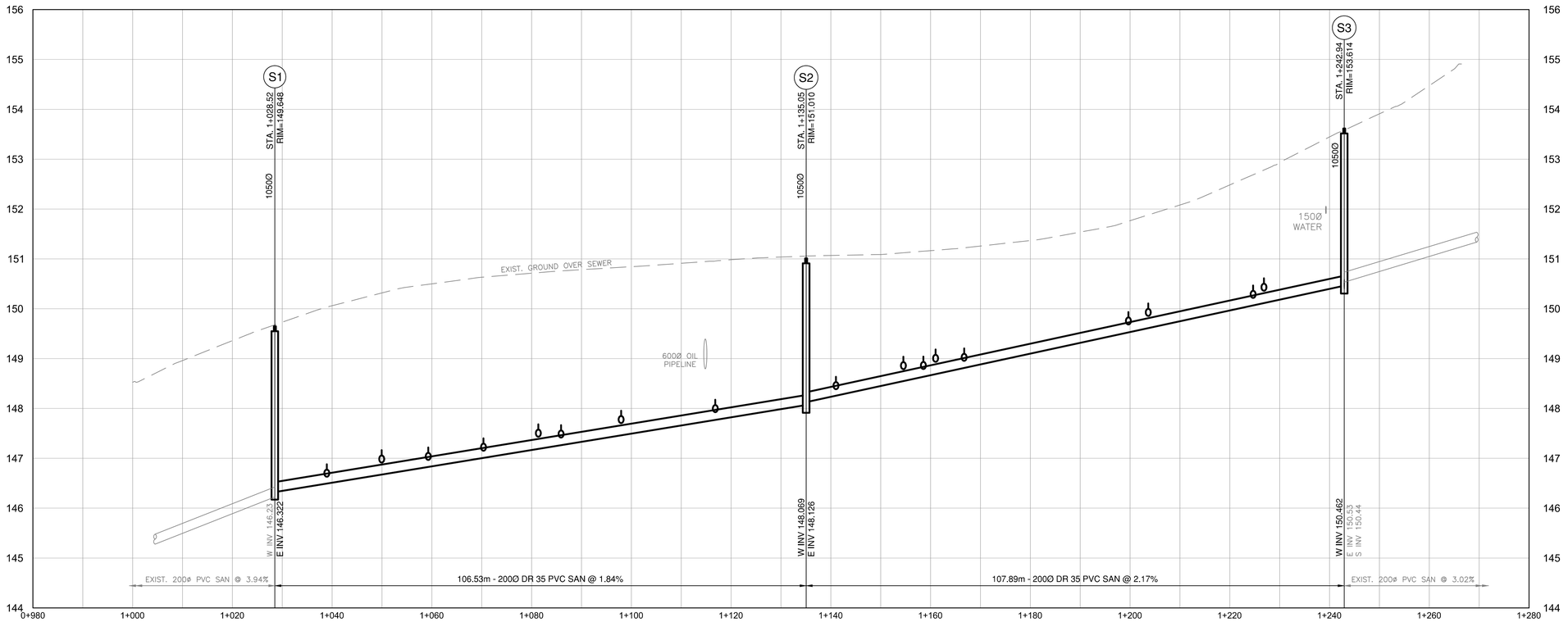
Seal:

Design by	Date	Scale	1:500 HOR. 1:50 VER.
Drawn by RD	Date	Sheet of	1 OF 1
Checked by CB	Date	Eng. Project No.	
Approved by	Date		

Project: THIRD PLACE
FIRST STREET TO SECOND STREET
Description: STORM SEWER MAIN
File: 18Storm01031538C2

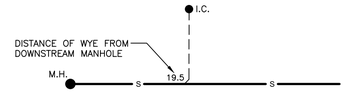
Plot Date: March 30, 2022





SUPPLEMENTARY LEGEND:

- INV.=148.86 DEPTH=2.0 ..... INVERT OF SERVICE PIPE @ I.C. / DEPTH OF SERVICE PIPE @ I.C.
- MBE=150.02 ..... MINIMUM BASEMENT ELEVATION
- ..... SERVICE CONNECTION INVERT (PROFILE)



THIS DECLARATION CERTIFIES THAT WE HAVE REVIEWED AND CERTIFY THAT THESE DRAWINGS ARE AN ACCURATE REPRESENTATION OF WORK COMPLETED AS PART OF THIS PROJECT.

ENGINEER: _____ DATE:_____

SANITARY SEWER NOTES:

1. UNLESS OTHERWISE INDICATED SANITARY SEWER MATERIALS SHALL BE:
   MAINS - PVC DR 35
   SERVICE CONNECTIONS - 100MM AND 150MM DIA PVC DR 28
   - 200MM DIA AND GREATER, DR 35
   MANHOLES - 1050MM DIA PRECAST REINFORCED CONCRETE
2. MANHOLES SHALL BE INSTALLED AS PER MMCD STANDARD DRAWINGS S1 AND S2. BENCHING SHALL BE AS PER MMCD STANDARD DRAWING S3. MANHOLE FRAMES AND COVERS SHALL CONFORM TO CITY OF COQUITLAM STANDARD DRAWING COQ-S16.
3. INSPECTION CHAMBERS SHALL BE INSTALLED FOR ALL CONNECTIONS AND PER MMCD STANDARD DRAWING S9.
4. SANITARY CONNECTION TO BE 100MM DIA PVC UNLESS OTHERWISE NOTED AND INSTALLED AS PER MMCD STANDARD DRAWING S7.
5. TRENCHING SHALL BE AS PER CITY OF COQUITLAM STANDARD DRAWING COQ-G4.

1:500 0 10 30m

BC 1 CALL — CALL BEFORE YOU DIG!
1-800-474-6886
or by CELLULAR #8888
Vancouver Area 257-9140
CALL AT LEAST TWO FULL WORKING DAYS BEFORE YOU PLAN TO DIG

COQ. ASBUILT No.
S9999

Benchmark: GEODETIC ELEVATIONS ARE DERIVED FROM TIES TO INTEGRATED SURVEY CONTROL MONUMENT 73H0401, LOCATED AT THE INTERSECTION OF STREET NAME AND STREET NAME.
ELEV.=153.069m, DATUM IS [CGVD28 (MVRD 2018].

Note:
Contractor to contact Telus, BC Hydro, FortisBC and BC one call prior to construction to confirm locations of utilities and appurtenances requiring adjustment.

COMPANY LOGO

No.	Date	By	Revisions
1	12 JAN/22	PD	RECORD DRAWING

ACCEPTED FOR CONSTRUCTION
Date:_____
Manager of Development Servicing

Coquitlam
Engineering & Public Works
3000 Guildford Way, Coquitlam, B.C. V3B 7N2

PERMIT TO PRACTICE
Signature:_____
Date:_____
PERMIT NUMBER: _____
The Association of Professional Engineers and Geoscientists of British Columbia

Seal:

Design by	Date	Scale	1:500 HOR. 1:50 VER.
Drawn by RD	Date	Sheet of	1 OF 1
Checked by CB	Date	Eng. Project No.	
Approved by	Date		

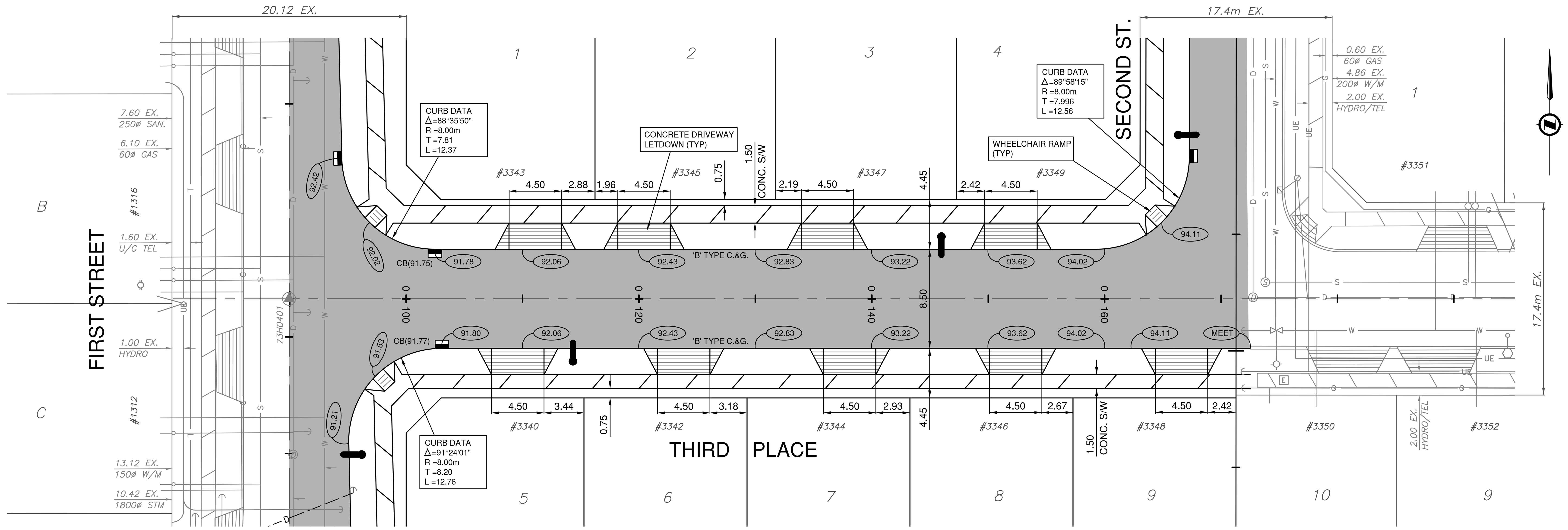
Project: THIRD PLACE
FIRST STREET TO SECOND STREET
Description: SANITARY SEWER MAIN

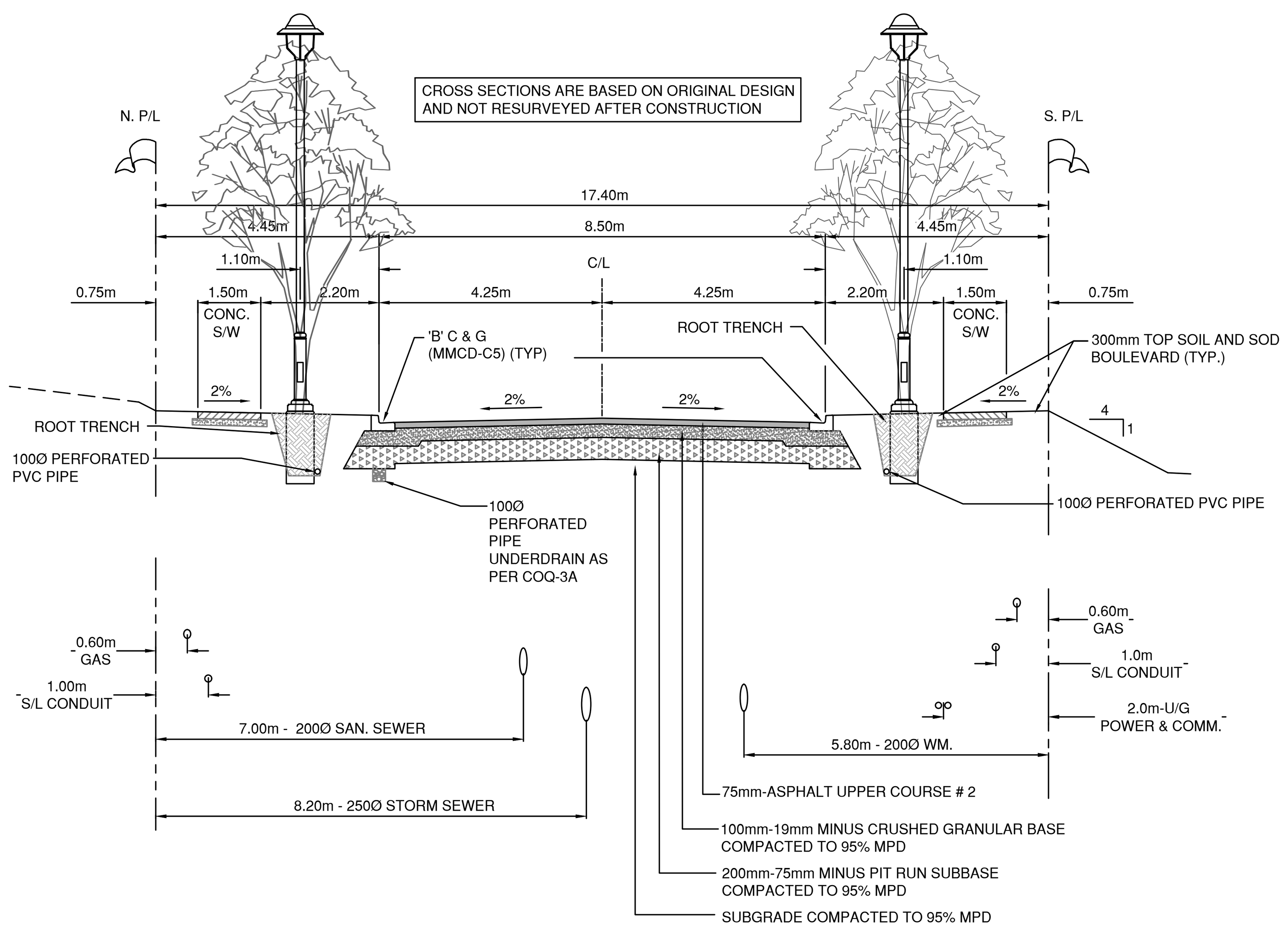
File: 18Sanita03191856C2

Plot Date: March 30, 2022

ROADWORKS NOTES:

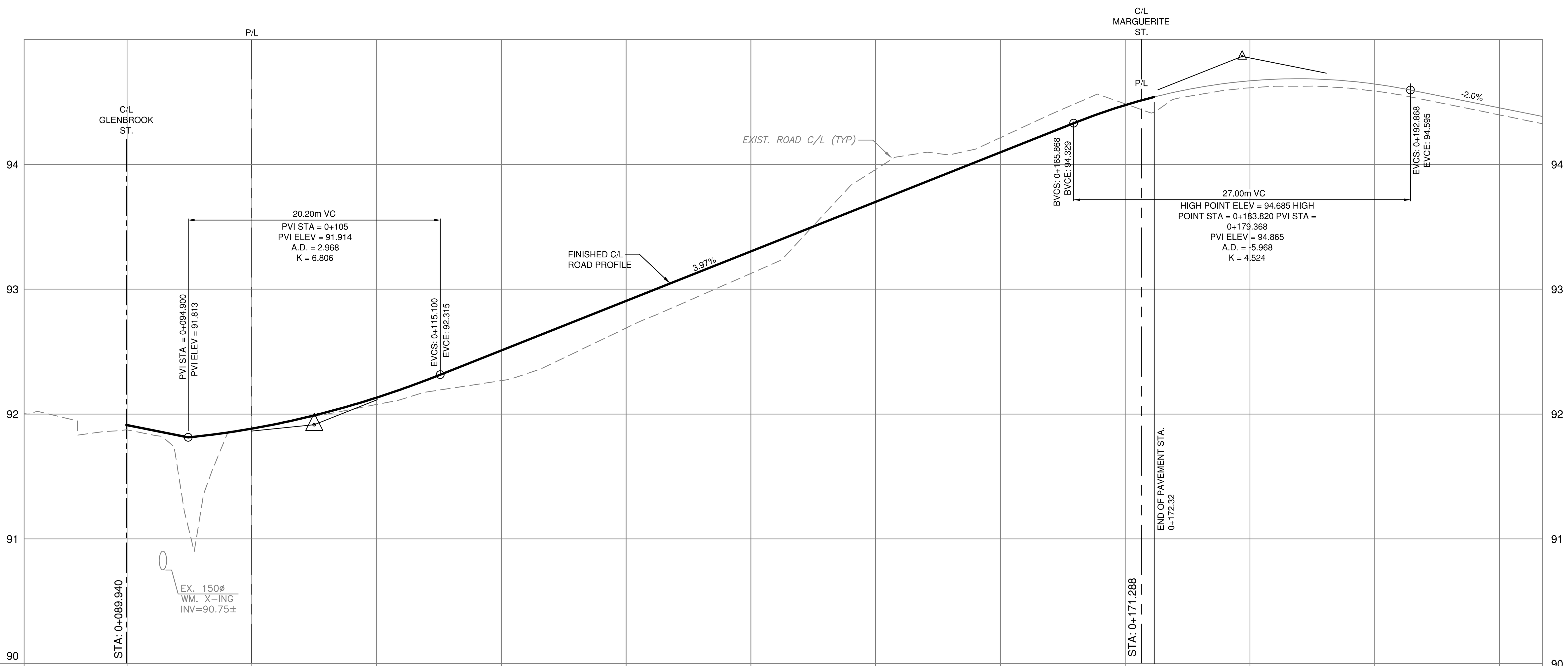
1. SUBGRADE AND GRANULAR BASE MATERIALS SHALL BE COMPACTED TO 95% MPD UNLESS OTHERWISE INDICATED. GEOTECHNICAL CONSULTANT TO REVIEW AND APPROVE THE SUBGRADE PRIOR TO PLACING ROAD GRANULARS.
2. ALL VALVE BOXES, MANHOLES, ETC., SHALL BE ADJUSTED TO FINISHED GRADE IN PAVED AREAS. A PROTECTIVE ASPHALT RAMP SHALL BE PLACED AROUND EACH STRUCTURE TO COMPENSATE FOR FUTURE FINAL LIFT OF PAVEMENT.
3. LOCATION OF DRIVEWAYS, WHEELCHAIR RAMP, ETC., SHALL BE CONFIRMED IN THE FIELD PRIOR TO CONSTRUCTION OF CURB, GUTTER AND SIDEWALK.
4. TRENCHING SHALL BE AS PER CITY OF COQUITLAM STANDARD DRAWING COQ-G4.





TYPICAL CROSS SECTION THIRD PLACE

N.T.S.



CENTERLINE ROAD ELEVATIONS									
EXISTING	92.00	91.89	92.27	93.13	94.21	94.55	94.40	94.33
FINISHED		91.88	92.51	93.30	94.10	94.67	94.45	94.38
CHAINAGE		0+100	0+120	0+140	0+160	0+180	0+200	

1:250 0 5 15m

THIS DECLARATION CERTIFIES THAT WE HAVE REVIEWED AND CERTIFY THAT THESE DRAWINGS ARE AN ACCURATE REPRESENTATION OF WORK COMPLETED AS PART OF THIS PROJECT.

ENGINEER: ____________________ DATE: ______________

BC 1 CALL CALL BEFORE YOU DIG! 1-800-474-6886 or by CELLULAR *6886 Vancouver Area 257-1940

CALL AT LEAST TWO FULL WORKING DAYS BEFORE YOU PLAN TO DIG

COQ. ASBUILT No.

R9999-01

Benchmark: GEODETIC ELEVATIONS ARE DERIVED FROM TIES TO INTEGRATED SURVEY CONTROL MONUMENT 73H0401. LOCATED AT THE INTERSECTION OF FIRST STREET AND THIRD PLACE. ELEVATION=91.762m, DATUM IS [CGVD28 (MVRD 2018)].

Note: Contractor to contact Telus, BC Hydro, FortisBC and BC one call prior to construction to confirm locations of utilities and appurtenances requiring adjustment.

COMPANY LOGO

No.	Date	By	Revisions
1	12 JAN/22	PD	RECORD DRAWING

ACCEPTED FOR CONSTRUCTION
Date:__________

Manager of Development Servicing

Coquitlam
Engineering & Public Works
3000 Guildford Way, Coquitlam, B.C. V3B 7N2

PERMIT TO PRACTICE
Signature:______________
Date:______________
PERMIT NUMBER: __________
The Association of Professional Engineers and Geoscientists of British Columbia

Seal:

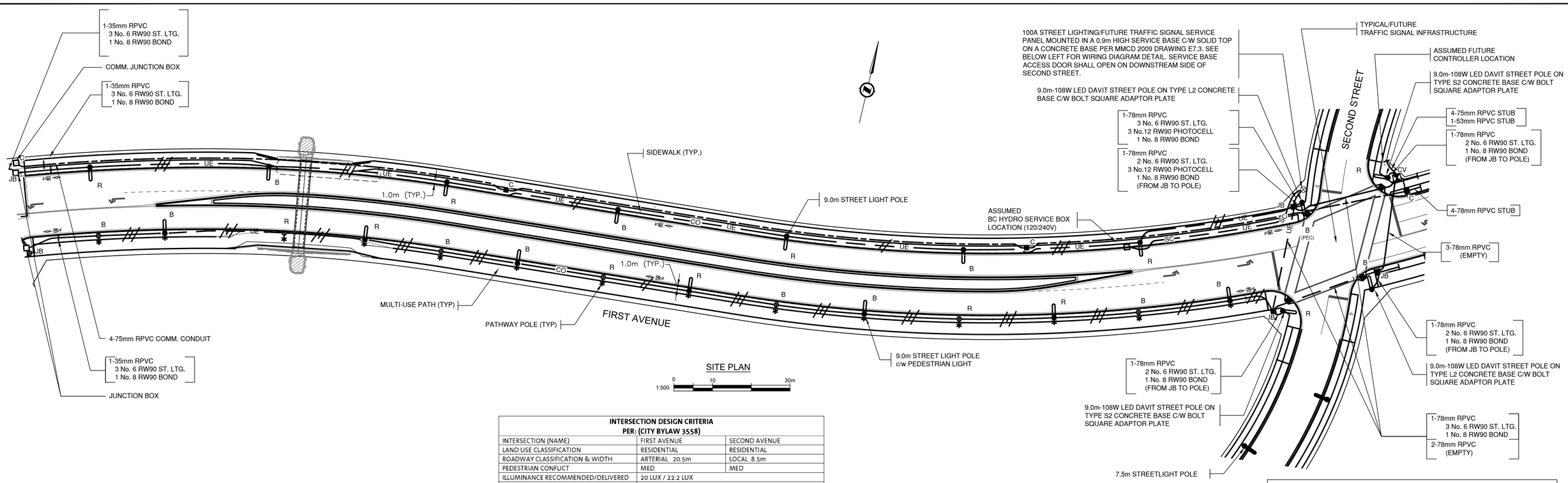
Design by — Date
Drawn by RD — Date
Checked by CB — Date
Approved by — Date
Scale 1:250 HOR. 1:25 VER.
Sheet of 1 OF 2
Eng. Project No.

Project: THIRD PLACE
FIRST STREET TO SECOND STREET

Description: ROADWORKS PLAN AND PROFILE

File: 18Road03222946C2

Plot Date: March 30, 2022



SITE PLAN

1:500 0 10 30m

LEGEND

- DAVIT STREETLIGHT POLE (7.5m - 42W LED TYPE 2ES DISTRIBUTION, FLAT GLASS) ON A TYPE C CONCRETE BASE UNLESS OTHERWISE NOTED
- DAVIT STREETLIGHT POLE WITH SERVICE BASE (7.5m - 42W LED TYPE 2ES DISTRIBUTION, FLAT GLASS) ON A TYPE C CONCRETE BASE UNLESS OTHERWISE NOTED
- DAVIT STREETLIGHT POLE (9.0m - 42W LED TYPE 2ES DISTRIBUTION, FLAT GLASS) ON A TYPE C CONCRETE BASE UNLESS OTHERWISE NOTED
- DAVIT STREETLIGHT POLE WITH PEDESTRIAN LIGHT (9.0m - 42W LED TYPE 2ES DISTRIBUTION, FLAT GLASS) ON A TYPE C CONCRETE BASE UNLESS OTHERWISE NOTED
- DAVIT STREETLIGHT POLE WITH SERVICE BASE AND PEDESTRIAN LIGHT (9.0m - 42W LED TYPE 2ES DISTRIBUTION, FLAT GLASS) ON A TYPE C CONCRETE BASE UNLESS OTHERWISE NOTED
- PATHWAY POLE (5.0m - 25W 20 LEDS C/W TYPE 2 MEDIUM DISTRIBUTION) ON A TYPE B CONCRETE BASE
- SERVICE BASE
- CV — SMALL CONCRETE VAULT C/W BONDED DOUBLE DOOR GALVANIZED STEEL LID LABELED "ELEC"
- JB — POLYMER JUNCTION BOX (SYNERTECH 24 x 36 x 36, OPEN BOTTOM) 2 SECTIONS DEEP C/W LID LABELED "ELEC"
- C — POLYMER JUNCTION BOX (SYNERTECH 24 x 36 x 36, OPEN BOTTOM), C/W LID LABELED "COMM" (REFER TO NOTE 32)
- R — LUMINAIRE ON RED PHASE CONDUCTOR
- B — LUMINAIRE ON BLACK PHASE CONDUCTOR
- UE — 3 No.6 RW90 ST. LTG. & 1 No.8 RW90 BOND IN 35mm RPVC
- UE — 2 No.6 RW90 ST. LTG. & 1 No.8 RW90 BOND IN 35mm RPVC
- 4-78mm RPVC COMMUNICATIONS CONDUITS
- 4-78mm RPVC COMMUNICATIONS CONDUITS
- UE — CO — 35mm RPVC CONDUIT ONLY
- UE — CO — 35mm RPVC CONDUIT ONLY
- UE — SC — 53mm RPVC SERVICE CONDUIT C/W 3 No. 'X' RW90 FEEDERS
- 35mm RPVC STUB OUT FOR FUTURE EXTENSION (CAP & MARK LOCATION)

INTERSECTION DESIGN CRITERIA PER: (CITY BYLAW 3558)				
INTERSECTION (NAME)		FIRST AVENUE	SECOND AVENUE	
LAND USE CLASSIFICATION		RESIDENTIAL	RESIDENTIAL	
ROADWAY CLASSIFICATION & WIDTH		ARTERIAL 20.5m	LOCAL 8.5m	
PEDESTRIAN CONFLICT		MED	MED	
ILLUMINANCE RECOMMENDED/DELIVERED		20 LUX / 22.2 LUX		
UNIFORMITY RECOMMENDED/DELIVERED		3.0:1 / 2.0:1		
LIGHT LOSS FACTOR		0.84		
SPACING		AS SHOWN		
EQUIPMENT				
FIXTURE TYPE: LED	WATTAGE: 158W	MTG. HEIGHT: 9M	DIST TYPE: II	
IES FILE:	NXT-72M-700mA-2ES-4000K	MODEL: NXT-72M- SERIES		
FIXTURE TYPE: LED	WATTAGE: 158W	MTG. HEIGHT: 9.0M	DIST TYPE: II	
IES FILE:	NXT-72M-700mA-2ES-4000K	MODEL: NXT-72M- SERIES		

ROADWAY LIGHTING DESIGN CRITERIA PER: (CITY BYLAW 3558)			
ROADWAY (NAME)		FIRST AVENUE	
LAND USE CLASSIFICATION		RESIDENTIAL	
ROAD CLASSIFICATION & WIDTH		ARTERIAL 20m	
PEDESTRIAN CONFLICT		MED	
LUMINANCE RECOMMENDED/DELIVERED		0.9 (Cd/m²) / 1.2 (Cd/m²)	
UNIFORMITY RECOMMENDED/DELIVERED (AVG:MIN)		3.0:1 / 2.1:1	
UNIFORMITY RECOMMENDED/DELIVERED (MAX:MIN)		5.0 / 4.0	
LV RATIO RECOMMENDED/ DELIVERED (VLMAX:AVG)		0.3 / 0.26	
LIGHT LOSS FACTOR		0.84	
SPACING:		40M (MAX SAME SIDE)	
EQUIPMENT			
FIXTURE TYPE: LED	WATTAGE: 92W	MTG. HEIGHT: 9.0M	DIST TYPE: II
IES FILE:	NXT-72M-450mA-2ES-4000K	MODEL: NXT-72M- SERIES	

ROADWAY LIGHTING DESIGN CRITERIA PER: (CITY BYLAW 3558)			
ROADWAY (NAME)		SECOND STREET	
LAND USE CLASSIFICATION		RESIDENTIAL	
ROAD CLASSIFICATION & WIDTH		LOCAL 8.5m	
PEDESTRIAN CONFLICT		LOW	
LUMINANCE RECOMMENDED/DELIVERED		0.3 (Cd/m²) / 0.55 (Cd/m²)	
UNIFORMITY RECOMMENDED/DELIVERED (AVG:MIN)		6.0:1 / 3.0:1	
UNIFORMITY RECOMMENDED/DELIVERED (MAX:MIN)		10.0 / 8.0	
LV RATIO RECOMMENDED/ DELIVERED (VLMAX:AVG)		0.4 / 0.38	
LIGHT LOSS FACTOR		0.84	
SPACING (STAGGERED)		85M (MAX SAME SIDE)	
EQUIPMENT			
FIXTURE TYPE: LED	WATTAGE: 42W	MTG. HEIGHT: 7.5M	DIST TYPE: II
IES FILE:	NXT-36S-350mA-2ES-3000K	MODEL: NXT-36S- SERIES	

WALKWAY LIGHTING DESIGN CRITERIA PER: (CITY BYLAW 3558)			
WALKWAY (NAME)		MULTI-USE PATHWAY	
WALKWAY CLASSIFICATION		MEDIUM	
ILLUMINANCE RECOMMENDED/DELIVERED		5.0 LUX / 9.0 LUX	
UNIFORMITY RECOMMENDED/DELIVERED		4.0:1 / 1.9:1	
LIGHT LOSS FACTOR		0.84	
SPACING (SINGLE SIDED)		25M (MAX)	
EQUIPMENT			
FIXTURE TYPE: LED	WATTAGE: 20W	MTG. HEIGHT: 5.0M	DIST TYPE: II
IES FILE:	NXT-12S-525mA-2ES-4000K	MODEL: NXT-S SERIES	

120V SERVICE LOAD AT SECOND STREET AND FIRST AVENUE INTERSECTION

(100A - 120/240V SERVICE PANEL)

WATTAGE (W)	CCT. PHASE	EXISTING	REMOVED	NEW	TOTAL No. OF LIGHTS	CURRENT (A)
150W (HPS)						
92W (LED)						
45W (LED)						
25W (LED)						
CALCULATED XX.X% VOLTAGE DROP						

REFER TO SHEET 2 FOR SUPPLEMENTAL DETAIL DRAWINGS AND SHEET 3 FOR NOTES

CAUTION

EXCAVATION NEAR OVERHEAD UTILITY POLE

ANY UNDERGROUND EXCAVATION WITHIN SOIL FOUNDATION INTERACTION AREA REQUIRES TEMPORARY UTILITY POLE SUPPORT. REFER TO ESS5 E3-04 GUIDE FOR CIVIL EXCAVATION NEAR DISTRIBUTION POLES FOR DETAILS. REFER TO BC HYDRO WORK ON WOOD POLES MANUAL (ON SAFEHUB) AND BC HYDRO 2017-1-F POLE HOLDING REQUIREMENTS FOR APPROVED TEMPORARY POLE SUPPORT METHODS. FOR MORE INFORMATION CONTACT workmethods@bchydro.com

LOCATION EQUIPMENT

FOR CLARITY CONDUITS, JUNCTION BOXES AND STREETLIGHT POLES MAY NOT BE SHOWN AT DESIGN OFFSETS. CONTRACTOR SHALL LOCATE ALL EQUIPMENT BASED ON STATIONS AND/OR OFFSETS AS NOTED AND SHALL NOT RELY ON COORDINATES OBTAINED FROM DMD DIGITAL DRAWINGS. CONTRACTOR TO REPORT ANY CONFLICTS OR DISCREPANCIES TO DMD & ASSOCIATES LTD. PRIOR TO ORDERING EQUIPMENT

CHECK BEFORE YOU DIG

CONTRACTOR SHALL REFER TO MUNICIPAL RECORD / CIVIL DESIGN DRAWINGS FOR ALL OTHER UTILITIES, SERVICE LOCATIONS, AND DETAILS. THE EXACT LOCATION OF THESE UTILITIES SHALL BE DETERMINED ON SITE BY THE CONTRACTOR. CONTRACTOR TO REPORT ANY CONFLICTS OR DISCREPANCIES TO DMD & ASSOCIATES LTD. PRIOR TO ORDERING BASES.

OVERHEAD POWER LINE CONFLICTS

CONTRACTOR SHALL CONFIRM ON SITE PRIOR TO CONSTRUCTION THAT POLES & EQUIPMENT WILL MEET WorkSafeBC CLEARANCE REQUIREMENTS FOR OVERHEAD PRIMARY AND SECONDARY LINES. CONTRACTOR TO REPORT ANY CONFLICTS OR DISCREPANCIES TO DMD & ASSOCIATES LTD. PRIOR TO ORDERING POLES AND INSTALLING CONCRETE BASES.

BC 1 CALL — CALL BEFORE YOU DIG! 1-800-474-6886 or by CELLULAR #6886 Vancouver Area 257-7940 — CALL AT LEAST TWO FULL WORKING DAYS BEFORE YOU PLAN TO DIG

COQUITLAM ASBUILT No.

EXXXX-01

Benchmark: GEODETIC ELEVATIONS ARE DERIVED FROM TIES TO INTEGRATED SURVEY CONTROL MONUMENT 95H2022, LOCATED AT THE INTERSECTION OF FIRST AVENUE AND SECOND STREET. ELEV.=125.015m, DATUM IS [CGVD28 (MVRD 2018].

Note: Contractor to contact Telus, BC Hydro, FortisBC and BC one call prior to construction to confirm locations of utilities and appurtenances requiring adjustment.

COMPANY LOGO

No.	Date	By	Revisions
1	12 JAN/22	PD	RECORD DRAWING

ACCEPTED FOR CONSTRUCTION
Date:_____
Manager of Development Servicing

Coquitlam
Engineering & Public Works
3000 Guildford Way, Coquitlam, B.C. V3B 7N2

PERMIT TO PRACTICE
Signature:_____
Date:_____
PERMIT NUMBER: _____
The Association of Professional Engineers and Geoscientists of British Columbia

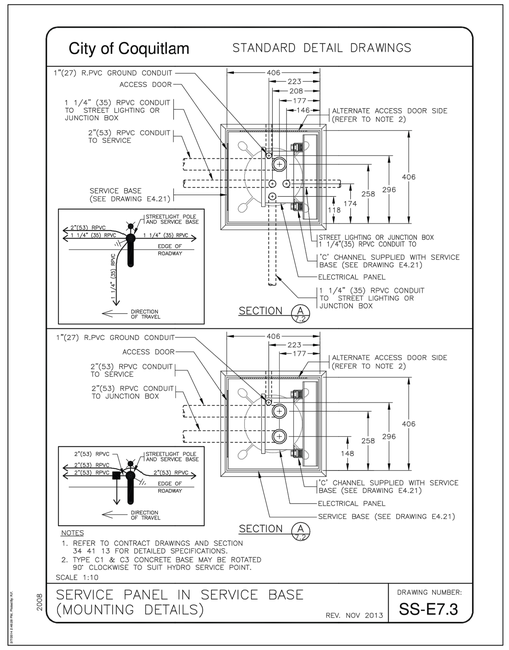
Seal:

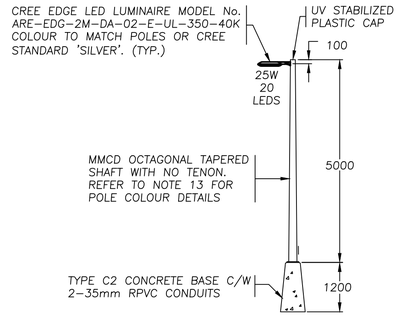
Design by	Date	Scale	
Drawn by RD	Date	Sheet of 1 OF 3	
Checked by JM	Date	Eng. Project No.	
Approved by	Date		

Project: STREET NAME
Street Name to Street Name
Description: STREET LIGHTING PLAN

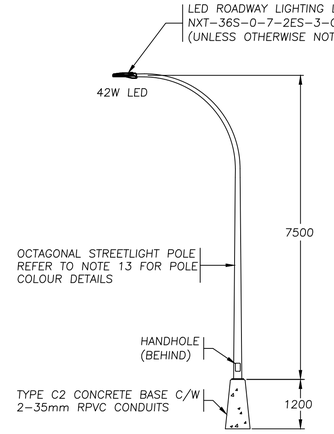
File: 22StreetL03191856C2

Plot Date: March 30, 2022

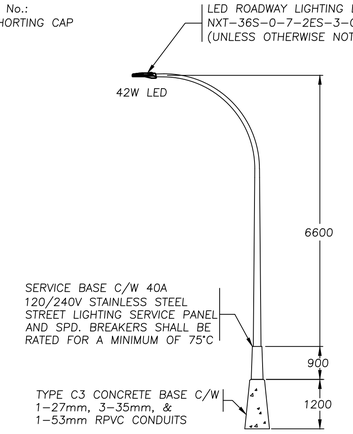




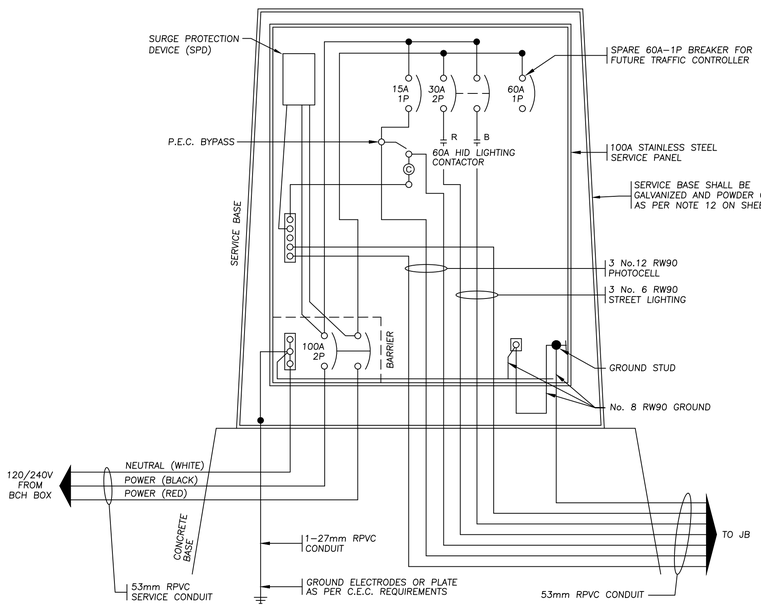
TYPICAL PATHWAY POLE



TYPICAL 7.5m STREETLIGHT POLE

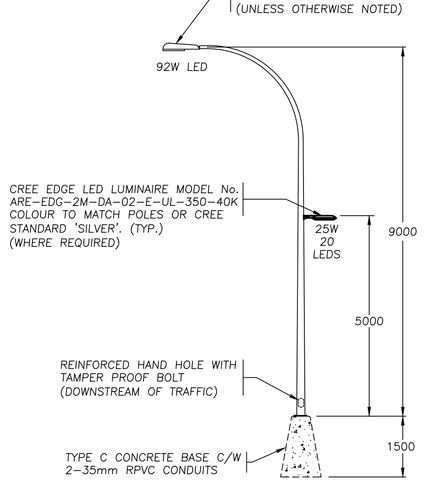


7.5m STREETLIGHT POLE C/W SERVICE BASE

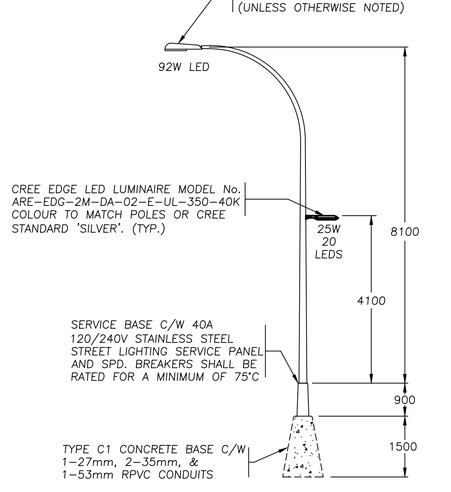


100A 120/240 SERVICE BASE DETAILS

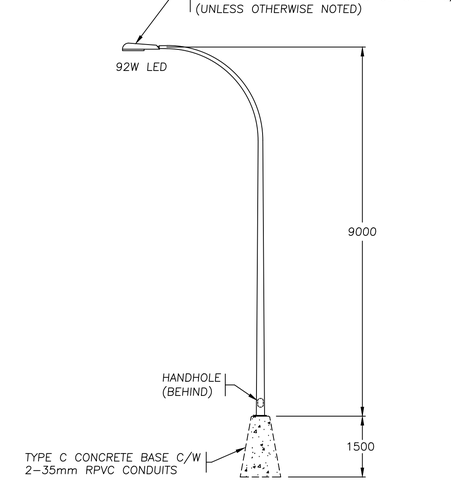
N.T.S.



TYPICAL 9.0m STREETLIGHT POLE C/W PEDESTRIAN LIGHT



9.0m STREETLIGHT POLE C/W SERVICE BASE C/W PEDESTRIAN LIGHT



TYPICAL 9.0m STREETLIGHT POLE

ALL SERVICES BASES AND ELECTRICAL PANELS SHALL BE EQUIPPED WITH SURGE PROTECTION DEVICE (SPD). CONTRACTOR SHALL PROVIDE SHOP DRAWINGS, INCLUDING INSTALLATION AND MOUNTING METHODS, PRIOR TO CONSTRUCTION

BC 1 CALL — CALL BEFORE YOU DIG! 1-800-474-6886 or by CELLULAR #6886 Vancouver Area 257-5940 — CALL AT LEAST TWO FULL WORKING DAYS BEFORE YOU PLAN TO DIG

COQUITLAM ASBUILT No.
EXXXX-02

Benchmark: GEODETIC ELEVATIONS ARE DERIVED FROM TIES TO INTEGRATED SURVEY CONTROL MONUMENT 95H2022. LOCATED AT THE INTERSECTION OF FIRST AVENUE AND SECOND STREET. ELEV.=125.015m, DATUM IS [CGVD28 (MVRD 2018].

Note: Contractor to contact Telus, BC Hydro, FortisBC and BC one call prior to construction to confirm locations of utilities and appurtenances requiring adjustment.

COMPANY LOGO

No.	Date	By	Revisions
1	12 JAN/22	PD	RECORD DRAWING

ACCEPTED FOR CONSTRUCTION
Date:_____
Manager of Development Servicing

Coquitlam
Engineering & Public Works
3000 Guildford Way, Coquitlam, B.C. V3B 7N2

PERMIT TO PRACTICE
Signature:_____
Date:_____
PERMIT NUMBER: _____
The Association of Professional Engineers and Geoscientists of British Columbia

Seal:

Design by	Date	Scale	
Drawn by RD	Date	Sheet of 2 OF 3	
Checked by JM	Date	Eng. Project No.	
Approved by	Date		

Project: STREET NAME
Street Name to Street Name
Description: STREET LIGHTING DETAILS
File: 22StreetL03191856C2

Plot Date: March 30, 2022

STREET LIGHTING NOTES:

1. Unless otherwise indicated, all work shall be done in accordance with the City of Coquitlam current subdivision control bylaws, City of Coquitlam Supplementary Specifications and Detailed Drawings, City of Coquitlam Approved Materials and Products Listings, and 2009 MMCD Platinum edition (or newer version).
2. The City of Coquitlam has distinct areas. Such as Austin Heights Streetscapes Standards, Burquitlam-Lougheed Neighbourhood Plan, Maillardville, etc. These designs may have area design requirements which may exceed note 1 above.
3. The design engineers and contractors shall refer to Coquitlam record drawings, for all City of Coquitlam utilities and infrastructure, service locations and details. The exact location of these utilities shall be confirmed on site by the design engineers, civil or electrical contractors, and with City of Coquitlam inspectors. These utilities do not include FORTIS, BC HYDRO, SHAW or TELUS infrastructures.
4. **BCOneCall** Call before you dig. The locations of existing underground utilities (FORTIS, BC HYDRO, SHAW and TELUS) are shown in an approximations only, and have not been independently verified by the owners or its representatives. The contractor shall determine the exact location of all existing utilities, INCLUDING City of Coquitlam infrastructure prior to commencing work. The contractor shall agree to be fully responsible for any and all damages which may occur due to the contractor's failure to exactly locate and preserve all underground utilities.
5. Prior to street light base installations, the contractor shall ensure that all street light poles, fixtures and related equipment meets or exceed BC Hydro Clearance Standards for above and below ground infrastructures, TELUS or SHAW, and WorkSafeBC clearance requirements for all overhead primary and secondary (120/240V) conductors. Contractor is responsible to report any conflicts or discrepancies to the design engineers and City of Coquitlam
6. The contractor shall notify Provincial and City of Coquitlam inspectors 24 hours prior to commencement of underground electrical work.
7. The civil/electrical contractor shall obtain permits from the City of Coquitlam, and from Technical Safety BC (was BC Safety Authority).
8. The Technical Safety BC (was BC Safety Authority) shall be made aware of the (possible) use of an irrigation system within the street light poles. Irrigation power shall be powered from metered circuits.
9. All street light wiring shall be designed and built in accordance with CSA, Canadian Electrical Code, Province of British Columbia amendments and all bulletins issued by Technical Safety BC (was BC Safety Authority), including the Provincial Electrical Inspection amendments.
10. Hydro service dip connections shall be per BC Hydro standards or per MMCD 2009. NOTE: Hydro dip services must use a steel guard over RPVC conduits. The use of rigid conduit and/or RPVC to rigid conduit fittings is no longer permitted.
11. Minimum depth for underground conduit ducting shall be 600-mm (minimum) below boulevard and sidewalks, and 900-mm (minimum) beneath asphalt. Per City of Coquitlam subdivision and development servicing bylaws.
12. Concrete street light / service bases with more than 2 conduits shall be noted on the plans. As an example, **"THIS BASE HAS (x) CONDUITS"**
13. Unless otherwise indicated, all conductors shall be type RW90 (minimum), stranded copper, insulated, and colour coded per drawings.
14. Unless otherwise indicated, all hardware shall be stainless steel.
15. New street lighting designs shall only be 120/240V.
16. Unless otherwise indicated: all poles, arms, service bases, hand access covers, security covers, and re-enforced steel backing bars, shall be galvanized, primed and powder-coated.
    a. City of Coquitlam has multiple colours: RAL6028 green, RAL7024 graphite grey, RAL8014 brown, RAL9005 black, etc. Consult the plans for specific colours.
17. All street light hand-hole covers shall be provided with robust reinforced security covers, reinforced U-shaped reinforced backer bars and reverse threaded security bolts (flower head preferred). Two manufacturers offer typical security devices:
    a. Nova Pole and West Coast Engineering offer a reinforced cover, reverse threaded security bolt (flower head #2), and robust reverse threaded backer bar.
    b. The above items do not apply to specialty poles, such as PHILLIPS, LUMEC, QUATTRO, etc. Consult those companies for their security measures.
    c. The ROUND BULLDOG LOCKS and WIRE SENTRY products are no longer approved for use in City of Coquitlam
18. All threaded bolts, not used for electrical connections, shall have anti-seize compound applied. This also applies to security bolts noted above.
19. Unless otherwise indicated, all conductors shall be type RW90, stranded copper, insulated, and colours per street light plans.
20. Photo Electric Control (PEC) shall only be solid-state design, with electromechanical contacts.
21. PEC conductors shall be #12 RW90, colours: red, black and white. The PEC conductors shall be a complete run, without splices, from the PEC socket, in to the electrical panel. Bundled separate of the street lighting conductors.
22. Luminaires shall have 7 pin receptacles and adjustable / selectable drivers.
23. Luminaires shall be wired with #12 RW90 conductors. Black and White for 120V service. Black and Red for 240V service. Wiring bundled separate of the PEC conductors.
24. Luminaries on BLACK conductor are identified with a "B" designation next to the luminaries
25. Luminaries on RED conductor are identified with an "R" designation next to the luminaries
26. Street lighting and PEC conductors shall not be spliced with wire nuts in the pole (hand hole and luminaire acceptable).
27. Each luminaire shall be provided with a TRON HEB-AA fuse-holder c/w 2 L-type insulating boots, or pre-approved equivalent. The fuse-holder shall be accessible in the hand-hole cover.
28. Each fuse holder shall be provided with one 10-Ampere BUSS KTK or MERSEN ATM type fuse (600V), wired in the live conductor(s). The fuse holder shall be accessible from the hand-hole access, or junction box.
29. All luminaire fixtures shall be bonded with a number 12 RW90 green conductor. This conductor shall terminate into the bonding conductor run at the base of the pole.
30. The bond stud opening shall be at the rear of the pole and shall not be on the flange of the access hole opening.
31. The interior colour-finished surface surrounding the bond stud shall be ground off to the galvanizing or bare steel for the electrical bond adherence. To ensure a proper bond and reduce corrosion or rusting, the bonding stud shall be installed immediately after the grinding.
32. The bonding stud in each pole shall comprise of one 3/8-16 bolt 1.5-inches long, one split lock washer, and two hex nuts. The split lock-washer shall be slid onto the bolt on the inside of the pole, and held tightly in place with the first nut. This nut shall be tightened to specification. The ring terminal shall be sandwiched between the two hex nuts. The last nut holds the ring terminal in place. All hardware shall be tightened to specifications.
33. All poles shall be bonded with a No 8 RW90 green bonding conductor. The contractor shall supply a 4-way pigtail splice to the pole bond, and with a ring lug terminal beneath the bonding hardware.
34. All large gauge conductors (#8 or larger) using multiple conductor splices, which may exceed the larger wire nut sizes, shall utilize split bolt hardware, duct sealant, and with weather-resistant / water-proof connection means. To ensure water will run off the connections, all connections shall be orientated upwards within each pole or junction box. The standard house-hold "wire nut" is not water-proof.
35. All large gauge (# 8 or larger) conductors, splices and connections, within junction boxes or hand access openings, shall be sealed with tape consisting of Bishop bi-seal Phillips Rotrunda or 3M self holding tape, covered with PVC tape and dipped in 3M Scotchcoat. Or pre-approved equivalent.
36. Where possible, junction boxes shall be avoided. Junction boxes provide an easy access for wire theft. However, if junction boxes are required for 3 or more conduits/connections, City of Coquitlam has standardized on duo-mold junction boxes. Preferred size is 11x18x24, 2 sections deep (minimum), with PENTA bolts. Other sizes may be required per the design plans.
37. Junction boxes in Soft Boulevard (grass, soil, etc.), requires a 200-mm wide by 150mm deep concrete support ring, with rebar. To help support and protect the junction box from lawn mowers, etc.
38. Junction boxes shall be provided with RPVC support bars to support the electrical connections and fuse holders (if used). The RPVC bars shall be attached into the junction box sidewalls. The electrical connections and fuse-holders all connections shall be orientated upwards, and to be held in place by tie-wraps
39. Junction boxes with metallic lids (new or existing) shall be bonded with a No 8 RW90 bonding conductor with a suitably sized ring lug, and with stainless steel hardware. The contractor shall supply a pigtail splice from the internal bonding conductors to the metallic lid bond
40. Fuse holders in hand-hole access and junction boxes shall utilize an IDEAL Industries or BUCHANAN Construction Products 65 kit water-proof fuse holder, or approved equivalent. Each fuse-holder shall be provided with one 10-A BUSS KTK or MERSEN ATM -type fuse, wired in the live conductor(s). For 240V services, one fuse shall be in each live conductor.
41. Wiring and fuse-holders in pole hand access and/or junction boxes shall be marked with yellow water-proof wire marker tags, and attached using tie-wraps. Labelling shall be with a waterproof SHARPIE ink pen.
42. Wiring connections, splices and fuse-holders in junction boxes shall be kept out of water
43. All conduits shall be provided with a nylon pull line. Caps shall hold the nylon cord in place.
44. Empty conduits / Conduit Only (CO) shall be provided with nylon pull cords, kept in place with capped ends (not glued).
45. Water or other obstructions are not permitted in conduits. Conduits with water or other obstructions shall be blown clear.
46. Street light base flanges shall be level on two horizontal axis
47. Street light bolts shall have colour-coded nut caps, to match the poles
48. Per Coquitlam subdivision bylaws, minimum spacing between street lights and:
    a. Trees shall be 6-meters (to the canopy)
    b. Kiosks shall be 3m
    c. Driveways shall be 2-meters (excluding the flare)
49. It shall be the contractors / developers responsibility to submit the electrical permits to the assigned Coquitlam civil/field inspector.
50. Coquitlam Traffic Operations staff (or assigned) may inspect the installations and provide a deficiency list (as necessary). The electrical company shall provide their electrical permit to City of Coquitlam, Traffic Operations staff, to issue an electrical connection request to BC Hydro.
51. Developers are required to pay a flat-rate charge to City of Coquitlam for new BC Hydro connection fees. This does not apply where new street lights are connected into existing services.

CONCRETE BASE NOTES:

1. The concrete bases shall be per MMCD2009 standards and plans. Provided with appropriate conduits per engineering requirements
2. The concrete base shall not be formed onsite, and shall not be formed by the electrical contractor. The concrete base shall be provided from a precast company, such as AE precast, ARMTEC, Langley Concrete, etc.
3. Concrete base tops shall be 7-cm (~2.5-inches) above final grade
4. Concrete bases and junction boxes (if used) tops shall be level on two horizontal axis
5. Street light bolts shall have colour-coded nut caps.
6. Concrete bases for a Service Base:
    a. Street lighting: 40 and 60-ampere panels, concrete base with 5 or more RPVC conduits, per City of Coquitlam Supplemental Plan SS-E7.3 - UPPER DETAIL
    b. Traffic Signal: 100-ampere panels, concrete base with one 35mm and two 53mm RPVC conduits, per City of Coquitlam Supplemental Plan SS-E7.3 - LOWER DETAIL
    a. Prior to service base installations, the contractor shall ensure the concrete base is properly orientated such that the Service Conduit (SC) is aligned to the protected area within the electrical panel within the service base. Refer to Coquitlam Supplemental Drawings SS-E7.3 and E7.4
    b. The concrete base shall be installed to ensure the concrete base is properly aligned for the service base access door. Per City of Coquitlam supplemental plan SS-E7.3, the service base access door shall be on the downward side of traffic.
    c. When the concrete base is to be installed, our City of Coquitlam civil inspector shall be contacted, with 24 hours advance notification to attend, to confirm compliance to City of Coquitlam requirements.
7. The civil and/or electrical contractor shall ensure street light poles, fixtures and related equipment meets or exceeds BC Hydro and WorkSafeBC clearance requirements, for all overhead primary and secondary lines. Contractor is responsible to report any conflicts or discrepancies to the City of Coquitlam, and to the design engineers.
8. Concrete bases with more than 2 conduits shall be noted on the plans. As an example, "**THIS BASE HAS (x) CONDUITS**"
9. Concrete bases shall be provided with a V-groove to disperse standing water. If the V-groove is not available, then round flat stainless steel washers shall be mounted between the concrete base and the bottom of the service base. U-shaped shims are not acceptable.

Service Base / Electrical Panel / Earthing Electrode

1. Unless otherwise indicated, all work shall be done in accordance with the City of Coquitlam current subdivision control bylaws, City of Coquitlam Supplementary Specifications and Detailed Drawings and City of Coquitlam Approved Materials and Products Listings. MMCD 2009 may apply.
2. Unless otherwise indicated, the service base and access covers are to be galvanized, primed and powder-coated in colour per the design plans.
    a. City of Coquitlam has several colours: RAL6028 green, RAL9005 black, RAL8014 brown, etc. Consult the plans for specific colours.
3. The service base access door shall be downstream of traffic.
4. The service base shall be mounted on a preformed concrete base:
    a. The concrete base shall not be formed onsite or cast-in-place, and shall not be formed by the electrical contractor. The concrete base shall be provided from a precast company, such as AE precast, ARMTEC, Langley Concrete, etc.
    b. The concrete base shall meet or exceed MMCD2009 specifications, Section 34-41-13, subsection 3.3 CONCRETE BASES, page 11 of 16. Prior to the concrete base installation, a Certificate of Compliance to subsection 3.3.5 shall be provided to the civil inspector
    c. Street lighting concrete bases: 40 or 60-ampere panel (size dependant on loading requirements), concrete base with 5 or more RPVC conduits, per City of Coquitlam Supplemental Plan SS-E7.3, UPPER DETAIL
    d. Traffic Signal concrete bases: 100-ampere panel, concrete base with one 35mm and two 53mm RPVC conduits, per City of Coquitlam Supplemental Plan SS-E7.3, LOWER DETAIL
5. The locking tab on the service base pedestal, shall be of a robust design and manufacture, and shall accept a standard city padlock. A WCE Bulldog product shall not be installed.
6. The service base pedestal shall be provided with two 3/8-16 threaded holes in the upper flange and with mating clearance holes on the cover. These holes shall be at the top, one hole on either side of the locking tab. The contractor shall provide 2 each 3/8-16 stainless steel bolts, flat washers and anti-seizing compound. The city may install security bolts.
7. All threaded bolts, not used for electrical connections, shall be stainless steel and have anti-seize compound applied.
8. The service base cover shall not be a snug fit into the service base opening. Some leeway shall be provided to fit the locking tab and bolts through the clearance openings.
9. The service base shall be provided with a bonding tab. The colour-finished surface surrounding the bond tab shall be ground off to galvanizing or to bare steel for the electrical bond adherence. To ensure a proper bond and reduce corrosion or rusting, the bonding stud shall be installed immediately after the grinding.
10. Unless otherwise indicated, all conductors shall be type RW90 (minimum), stranded copper, insulated, sized and colour coded per drawings.
11. The electrician shall provide a No 8 gauge RW90 bond with a ring lug from this tab into the electrical panel onto the bonding buss. The 3/8-16 bolt shall consist of one 3/8-16 bolt, split lock washer and 2 hex nuts. The ring terminal is sandwiched between the 2 nuts. Tighten to specifications
12. ELECTRICAL PANEL within the service base shall be:
    a. Fabricated from stainless steel or aluminum. The panel shall be set straight, and parallel to internal service base surfaces. All four mounting tabs shall be bolted on to the unistrut rails within the service base pedestal.
    b. Provided with a main disconnect, 2P-40A, 2P-60A, or 2P-100A, 120/240V per the design plans. Branch breakers are generally required for the 100-ampere panels.
    c. The Photo-Electric Control (PEC) circuit fusing shall per MMCD, use a KTK10 (10-ampere) fuse (600V), and suitable front panel mounted fuse-holder. Push-button circuit breakers are not acceptable.
    d. The PEC fuse-holder and fuse shall be mounted on the front panel, near the H-O-A or O-H-A 3-position rotary switch. This applies to 40A, 60A and 100A electrical panels
    e. The PEC bypass switch shall be a heavy-duty, 3-position maintained, H-O-A or O-H-A rotary switch. Two position rotary switch or toggle switch, are not acceptable.
    f. The front panel PEC fuse-holder and the PEC bypass switch shall be provided with labels, details per MMCD drawings
    g. Provided with an SPD (Surge Protection Device), mounted within the electrical panel, and with fault protection (circuit breakers, fusing, etc.). Detailed Surge Protection Device specifications follow.
    h. Panel shall bear electrically approved labels for use in Canada. Such as CSA, ETL, cULus, special inspections, etc.
    i. For the 40A and 60A electrical panel, refer to City of Coquitlam supplemental drawing SS-E7.5
13. Surge Protection Device specifications:
    a. Electrical accreditations: CSA, ETL, cULus, etc.
    b. System Voltage and frequency: 120/240V, 50/60 Hertz
    c. Minimum discharge rating: 20kA
    d. Provided with LED status indicators, visible when the Service Base or electrical panel is removed. Without the use of tools.
    e. Preferred manufacturers: MERSEN and SQUARE-D. All others shall be pre-approved.
14. The PEC conductors shall be #12 RW90, colours: red, black and white. The PEC conductors shall be a complete run, without splices, from the PEC socket to the electrical panel. Bundled separate of the street lighting conductors.
15. The contractor shall ensure the service base is properly orientated such that the Service Conduit (SC) is aligned to the protected area within the electrical panel.
16. Street lights mounted on a Service Base shall be wired per MMCD drawings. Luminaire conductors shall be grouped together, and separate of the PEC wiring. Grouping shall be done with electricians tape.
17. Gaps or openings between the street light pole base flanges, the openings for the nuts and bolts, to the top of the service base, shall be sealed with RTV sealant.
18. Street light mounting nuts shall have colour-coded nut caps, to match the pole colour.
19. Hydro service (dip) connections shall be per BC Hydro standards or per MMCD (current edition). NOTE: Hydro dip services shall use a 3-meter steel guard over RPVC conduits, lag bolted to the wood pole. The use of rigid conduit and/or RPVC to rigid conduit fittings is not permitted.
20. The electrical contractor shall pre-test the operation of the electrical panel within the service base. This includes testing the O-H-A/H-O-A switch and PEC for daytime / nighttime simulation. The electrical contractor shall provide an email to Traffic Operations staff to advise the service base has been duly tested and ready for connection.
21. The earthing electrode shall be supplied (typically a plate) and installed per MMCD drawing E7.10:
    a. The plate should be in natural soil, no rocks, no sand
    b. Wired with a bare #6 earthing conductor. From the electrical panel protected area, to the plate electrode tab, with an ILSCO #BGC-1DB clamp, suitable for direct burial in earth.
    c. The plate minimum depth of 900mm below grade and 200mm from concrete base(s).
    d. Electrical / civil contactor to provide pictures showing dimensions per MMCD drawing E7.10. Pictures to be supplied or emailed to City of Coquitlam civil inspectors, and/or to Traffic Operations section staff.

Luminaire Fixtures

City of Coquitlam uses multiple LED luminaire styles. Several luminaires are noted below.

1. Luminaire fixtures shall bear electrically approved labels for use in Canada. Such as CSA, CEC, ULc, special inspections, etc.
2. Unless otherwise noted, local/residential streets shall be LED 3,000-degrees Kelvin, and 4,000-degrees Kelvin for all others.
3. Per design requirements, LED luminaires may be:
    a. American Electric LED luminaire ATB-series.
    b. LRL, NXT-series
    c. LUMEC CAND1 or CAND2 with LED fixtures
    d. LUMEC Capella or Domus series luminaires
    e. LUMEC TR20 LED style luminaires
    f. CREE, LITHONIA, LUMCA, etc.
    g. Luminaires to have shatter-proof polycarbonate refractors
    h. Other manufacturers per specifications or as noted on the plans.
    i. LED fixture colours and wattages determined by the engineer.
4. All luminaires shall be LED.
5. Multi-use Pathway (MUP), sidewalks and walkway lighting shall be LED, 4000-degrees Kelvin, per City of Coquitlam Approved Products list. LED wattages, pole style and height, pole colour and concrete base per design plans.
6. Each roadway & multiuse pedestrian/MUP lighting shall be provided with a 7-contact PEC socket, pre-installed by the luminaire manufacturer (future smart lighting provisions). Each luminaire shall be provided with a 3-pin twist lock shorting cap (except where a PEC is required).
7. PEC conductors shall be #12 RW90. Colours: red, black and white. The PEC conductors shall be a continuous run, without splices, to the electrical panel. Bundled separate from the luminaire conductors.
8. Photo Electric Control (PEC) shall only be solid-state design, with electromechanical contacts. PEC aimed in a northern direction.
9. LED luminaire fixtures shall be provided with an LED wattage/LUMEN label (black lettering on white background). Label shall be visible from the ground.

Ground mounted or pole-mounted receptacles

1. Unless otherwise indicated, all conductors shall be type RW90, stranded copper, insulated, sized and colour coded per drawings.
2. Decorative / seasonal receptacles shall be:
    a. Ground Fault Circuit Interrupter (GFCI) duplex receptacle. LEVITON outdoor grade Weather-Resistant / Tamper Resistant, 15A @ 125V, with LED indicator. Beige, white or black. Or pre-approved equivalent.
    b. Mounted within a non-metallic FS-type box (if within 8-feet of grade)
    c. Provided with spring loaded cover plates.
    d. Application is dependent upon design plans.
3. ***<u>Receptacles attached to trees shall be avoided</u>***
4. However, if tree receptacles are mandatory, they shall be provided with 50-mm RPVC conduits from the junction box or service box up to the final grade at the base of the tree. The 50mm RPVC conduit shall be loosely attached to a mounting point (steel post, small bollard, wood post, etc.). Refer to City of Coquitlam supplemental drawing SS-E7.20. The standard of providing surplus cable around the root ball is not longer acceptable.
5. Each tree receptacle box and protective cover shall be metallic. Each receptacle shall use flexible and robust TECK cables, pulled through the above noted RPVC conduit. Each TECK cable ends shall be terminated with TECK connectors in the receptacle FS boxes and junction boxes. Conductors within TECK cables shall be number 12 RW90, stranded copper, insulated, and colour coded per drawings.
6. Each decorative / seasonal receptacle shall be provided with an IDEAL Industries or BUCHANAN Construction Products "65 Kit" water-proof fuse-holder. Or approved equivalent. Each fuse-holder shall be provided with one 5-Ampere BUSS KTK or MERSEN ATM type fuse, wired in the live conductor.
7. All fuse-holder(s) shall be accessible from the pole hand-hole access or in nearby junction boxes. All fuse-holders shall be marked with yellow wire marker tags, attached using tie-wraps. Labelling shall be with a waterproof ink pen.
8. Pole mounted receptacles shall be provided with an eye bolt above the receptacle, for attachment of span support cabling. Refer to City of Coquitlam Supplemental drawing #SS-E7.19
9. If above ground extension cords are required, each cable shall be SOOW CABTIRE, suitable for outdoor use, UV-protected and for wet locations. Each end shall be robust UV-stabilized male and female connectors
10. Above ground spans shall be stainless steel aircraft cable and clamps, to support the extension cords. The extension cords shall be attached to the span cable with UV-stabilized tie-wraps.
11. Receptacles on BLACK phase conductor are identified with a "B" designation next to the receptacle
12. Receptacles on RED phase conductor are identified with an "R" designation next to the receptacle

BC 1 CALL — CALL BEFORE YOU DIG! 1-800-474-6886 or by CELLULAR #6886 Vancouver Area 257-5940
CALL AT LEAST TWO FULL WORKING DAYS BEFORE YOU PLAN TO DIG

COQUITLAM ASBUILT No.
EXXXX-03

Benchmark: GEODETIC ELEVATIONS ARE DERIVED FROM TIES TO INTEGRATED SURVEY CONTROL MONUMENT 95H2022. LOCATED AT THE INTERSECTION OF FIRST AVENUE AND SECOND STREET. ELEV.=125.015m, DATUM IS [CGVD28 (MVRD 2018].

Note: Contractor to contact Telus, BC Hydro, FortisBC and BC one call prior to construction to confirm locations of utilities and appurtenances requiring adjustment.

COMPANY LOGO

No.	Date	By	Revisions
1	12 JAN/22	PD	RECORD DRAWING

ACCEPTED FOR CONSTRUCTION
Date:_____
Manager of Development Servicing

Coquitlam
Engineering & Public Works
3000 Guildford Way, Coquitlam, B.C. V3B 7N2

PERMIT TO PRACTICE
Signature:_____
Date:_____
PERMIT NUMBER: _____
The Association of Professional Engineers and Geoscientists of British Columbia

Seal:

Design by	Date	Scale	
Drawn by RD	Date	Sheet of 3 OF 3	
Checked by JM	Date	Eng. Project No.	
Approved by	Date		

Project: STREET NAME
Street Name to Street Name
Description: STREET LIGHTING NOTES
File: 22StreetL03191856C2

Plot Date: March 30, 2022