VILLAGE OF LINDEN
GENERAL DESIGN STANDARDS
AND CONSTRUCTION SPECIFICATION
April 2024

STANDARDS AND REQUIREMENTS

The Developer and/or Contractor shall be governed by the latest versions of the following standards:

+ City of Calgary's Design Guidelines for Subdivision Servicing, Standard Specifications: Sewer Construction, Standard Specifications: Waterworks Construction, Standard Specifications: Roads Construction, Development Guidelines and Standard Specifications: Landscape Construction and the Stormwater Management and Design Manual.
+ Alberta Environment & Parks Standards and Guidelines for Municipal Waterworks, Wastewater and Storm Drainage Systems

Copies of these standards can be accessed per the links below:

+ https://www.calgary.ca/content/dam/www/pda/pd/documents/urban-development/publications/design-guidelines-for-subdivsion-servicing-2020-oct.pdf
+ https://www.calgary.ca/content/dam/www/uep/water/documents/water-documents/development-approvals-documents/2022/standard-specifications-sewer-construction-2022.pdf
+ https://www.calgary.ca/content/dam/www/uep/water/documents/water-documents/development-approvals-documents/2022/2022-standard-specifications-waterworks-specifications.pdf
+ https://www.calgary.ca/content/dam/www/transportation/roads/documents/contractors-and-consultants/roads-construction-2021-standard-specifications.pdf
+ https://www.calgary.ca/content/dam/www/pda/pd/documents/urban-development/publications/landscape-construction.pdf
+ https://www.calgary.ca/content/dam/www/pda/pd/documents/urban-development/bulletins/2011-stormwater-management-and-design.pdf
+ https://open.alberta.ca/publications/5668185

Exceptions to the City of Calgary Specifications are outlined within this document and the following special clauses shall have precedence.

1. GENERAL

1.1 Recommendations made in the latest version of the Village of Linden Infrastructure Master Plan shall be followed. The Infrastructure Master Plan is available on the Village of Linden (Village) website https://linden.ca/info-forms/master-infrastructure-plan/. Other guiding statutory and technical documents such as the Municipal Development Plan (MDP), Intermunicipal Development Plan (IDP), Land Use Bylaw, ASP and TIA are also available on the Village website https://linden.ca/info-forms/development/.

1.2 Good engineering practices should be adhered to at all times. The Village reserves the right to ask for higher alternative standards or approve exceptions where necessary.

1.3 The Developer shall notify the Village of award of construction contracts for the various municipal improvements and shall state the name of the Contractor, address, phone number and contact. The Developer shall ensure that the Contractor(s) are properly bonded for the performance of the work and that the Contractor carries Liability, Course of Construction and Equipment Insurance as required by the Village and names the Village and the Village Engineers as insured parties. Written permission to commence work must first be obtained from the Village by submitting the form found in Appendix C – Construction Commencement Notification.

2. SPECIAL CONSIDERATIONS

2.1. Sanitary Sewer

2.1.1. Gravity sewer mains shall be polyvinyl chloride (PVC) and shall meet CSA designations. For pressure pipes – the use of continuous pipe is preferred.

2.1.2. Alberta Environment and Parks – Wastewater Systems Standards for Performance and Design shall apply to minimum pipe grades but also ensuring that the average flow will achieve a minimum velocity of 0.60m/s for self-cleansing while the velocity at peak flow shall not exceed 3.0 m/s to minimize turbulence and erosion. Sanitary sewers shall be designed so that the sewer is flowing at no more than 80% of the depth when conveying the peak design flow. The minimum slope for 200mm sewer mains on dead end sections shall be 0.80% and for all other segments, the minimum slope shall be 0.60%.

2.1.3. Separation of water and sewer lines shall conform to Alberta Environment and Parks – Standards for Municipal Waterworks, Wastewater and Storm Drainage Systems.

2.1.4. Design flows and peaking factors for new developments are as follows:

+ Residential developments = 220 Liters/capita/day
+ Industrial/Institutional/Commercial = 6.4m³/ha/day
+ Residential Peaking Factor shall utilize the Harmon's Equation:

  $PF = 1 + 14/(4+P^{½})$ where P is the contributing population in thousands. PF should have a minimum value of 2.50 and a maximum of 4.0.

+ Industrial/Institutional/Commercial Peaking Factor shall follow the Alberta Environment and Parks – Wastewater System Standards:

  $PF = 6.659(Q_{AVG})^{-0.168}$. where Q_{AVG} is the average flow rate in L/s and a maximum PF of 5.

+ Infiltration and Inflow rates shall be 0.28 L/s/ha of development.

2.1.5. Manhole covers shall not have the name of any other municipality and must label “Sanitary Sewer” in the cover.

2.1.6. Connection of foundation weeping tile and sump pumps to the sanitary sewers is not permitted.

2.2. Storm Sewer

2.2.1. Sewer mains shall be polyvinyl chloride (PVC) meeting CSA designations or concrete meeting A.S.T.M. designations.

2.2.2. Alberta Environment and Parks – Stormwater Management Guidelines shall apply to minimum pipe grades.

2.2.3. Separation of water and sewer lines shall conform to Alberta Environment and Parks – Standards for Municipal Waterworks.

2.2.4. Surface water should not be permitted to run a distance greater than 150m in streets and 200m in lanes or swales without interception by a catch basin.

2.2.5. Manhole covers shall not have the name of any other municipality and must label “Storm Sewer” in the cover.

2.2.6. If there is no community stormwater management facility, stormwater must be managed on property in compliance with the overall stormwater management plan.

2.2.7. Foundation weeping tile drains (as per the National Plumbing code of Canada) require a point of discharge. Backflow prevention devices are required on all weeping tile drainage systems to minimize backup of stormwater and should be installed in accordance with the National Plumbing Code of Canada. The point of discharge should be one of the following methods:

2.2.7.1. Directly connected to the storm sewer system by gravity provided that the hydraulic grade line (HGL) at the storm sewer main will not cause surcharging at the property line.

2.2.7.2. If a gravity connection is not feasible (e.g. shallow storm sewer mains, high HGL), the foundation weeping tile should drain into a sump with pumped discharge to the storm service at the

foundation wall.

2.2.7.3. If underground connection is not available, sump pumps must discharge to the yard surface with a concrete splash pad.

2.2.8. Surface drainage from any public area shall not flow over any sidewalk.

2.2.9. Culverts shall be 450mm minimum diameter where open ditches are used.

2.3. Water Mains

2.3.1. Water Consumption Rates for new developments are as follows:

+ Residential developments
  - Average Day Demand (ADD) = 270 Liters/capita/day
+ Industrial/Institutional/Commercial developments
  - ADD = 8.0 m^3/ha/day
+ Peaking Factors for both residential and non-residential developments shall be as follows:
  - Maximum Day Demand = 2 x ADD
  - Peak Hourly Demand (PHD) = 4 x ADD

2.3.2. Water mains shall be PVC in accordance with the latest AWWA and CSA Standards.

2.3.3. Hydrants shall be compression type as manufactured by Clow, Brigadier M67 with triangular operating units. Hydrants shall be red with black caps and top in color and shall have 2.5” thread side ports and 5” STORZ quick connect pumper port.

2.3.4. Hydrant spacing in residential areas to be a maximum of 180m with one hydrant being within 90m of the front of any building. For industrial, commercial or institutional areas, maximum hydrant spacing will be 90m. Hydrant spacing to be measured along the centerline of the right of way.

2.3.5. Water valves shall open counterclockwise and come with rods and dust covers installed in all valve boxes.

2.3.6. The level of service criteria for the operating pressures of the water distribution system shall be in accordance with the Alberta` Environment and Parks – Guidelines for Municipal Waterworks and summarized as follows:

+ Minimum System Pressure = 350 kPa (50 psi)
+ Minimum System Pressure During Fire Flow = 150 kPa (22 psi)

+ Maximum System Pressure = 550 kPa (80 psi)
+ Maximum Allowable Velocity in Distribution System = 3.0 m/s

2.3.7 Due to current system limitation, all new Industrial, Commercial, Institutional developments will be responsible for their own on-site fire protection to achieve the required fire flow as calculated in accordance with the Fire Underwriters Survey (FUS) - Water Supply for Public Fire Protection (current edition).

2.3.8 Concrete curbs and gutters or sidewalk should be stamped with a 'CC' stamp at valve location for residential and commercial.

2.4 Service Connections

2.4.1 Water service lines shall be series Pex Pipe (Crosslinked Polyethylene Pipe), minimum 25mm in size.

2.4.2 Lots for semi-detached and multiple units shall have one separate service for each unit.

2.4.3 Curb stands shall be marked with a wooden 2X4 extended 1m above finished grade.

2.4.4 Services shall generally be installed in the center of the lot avoiding installation under any driveways. The services shall be terminated at minimum 5.0m inside the property line subject to the presence of shallow utilities easement.

2.4.5 Pre-servicing for industrial lots, if required, shall be a minimum of 150mm for sanitary and 50mm of water but subject to end-user requirements. The services shall be terminated at minimum 5.0m inside the property line subject to the presence of shallow utilities easement. Service valves shall remain closed and uncharged until the property is developed.

2.4.6 A sanitary service inspection chamber is recommended to be installed in all residential sanitary services as per the following requirements:

+ The inspection chamber shall be installed in the road right-of-way, adjacent to the curb stop at a distance to the property line as noted in the Typical Road Cross Sections under Appendix A.
+ The top of the chamber lid shall be flushed with the finished grade.
+ The chambers shall be supplied complete with plugs and 'Add-a-Flaps'. They should be installed pre-plugged, and all 'Add-a-Flaps' must be delivered to the Village prior to CCC.

+ Plugs are to remain in place until the Village has approved the activation request submitted by the Developer for each residence. Following approval, the Village shall remove the plug and install the 'Add-a-Flap' to prevent backwater flow.

+ The inspection chamber shall be manufactured/supplied by Westlake Pipe & Fittings or equal as approved by the Village.

+ Chamber riser lids to be red PVC locking lids in non-traffic areas or lockable cast iron driveway lids in driveways, sidewalks or paved areas. Lids must be in place at the time of the CCC inspection.

2.5 Roadway

2.5.1 Roadway and right-of-way widths shall follow the guidelines set out in Appendix A:

2.5.2 Roadway widths shall be measured from lip of gutter.

2.5.3 Structural sections of roadway shall meet or exceed the following:

Material	Pavement Structure
Residential Roadways	
80mm Pit Run Gravel Sub-base	200mm
25mm Crushed Gravel Base	100mm
Asphalt Concrete	80mm (50mm + 30mm)[1]
Collector Roadways	
80mm Pit Run Gravel Sub-base	200mm
25mm Crushed Gravel Base	100mm
Asphalt Concrete	140mm (100mm + 40mm)[1]
Major Collector Roadways and Industrial Roadways	
80mm Pit Run Gravel Sub-base	300mm
25mm Crushed Gravel Base	100mm
Asphalt Concrete	160mm (120mm + 40mm)[1]

1. First and second lifts respectively

The proposed pavement structure shall be supported by a structural pavement design prepared by a qualified Geotechnical Engineer and approved by the Village.

2.6 Sidewalks, Curb and Gutter

2.6.1 In residential areas curb and gutter shall be low profile rolled section except adjacent to reserves where standard faced curbs shall be constructed. For commercial, industrial or major collector roadways with no driveway accesses, standard faced curb shall be constructed.

2.6.2 Sidewalks on residential areas shall be low profile rolled monolithic curb and gutter with a sidewalk width of 1.10m. Where standard faced curbs are required, the width shall increase to 1.21m. For collector roads and adjacent to school sites or commercial areas, the sidewalk width shall be increased by 0.4m to 1.5m and 1.61m for rolled and standard faced monolithic sidewalk respectively.

2.6.3 Sidewalks are recommended on both sides of all public roads. The minimum standard is sidewalks on one side of all public roads.

2.6.4 Surface drainage from any public area shall not flow over any sidewalk.

2.6.5 Wheelchair ramps are required at all intersections and designated crosswalks. Wheelchair ramps are not allowed to be located within driveways.

2.6.6 Gutter widths shall be 0.25m except for major collector roadways which shall be 0.5m.

2.6.7 The structural gravel pit run section shall be placed beneath all concrete sidewalks, curb and gutter with a top layer of 20mm crushed road gravel to a minimum distance of 150mm behind the concrete structure.

2.6.8 Streetlight installation should only be started after completion of surface works.

2.6.9 Minimum radii for curb returns shall be 9m for residential local roadways, 10m for collector roadways and 15m for major collectors and industrial roadways.

2.7 Landscaping

2.7.1 Each residential lot shall have a minimum of one 35mm caliper tree in the front yard but outside of the utility right of way.

2.7.2 For all MR, walkways, major collector boulevards and PUL's, the Developer shall prepare a detailed landscaping plan for approval by the Village.

2.7.3 Major collector roadways shall require one 35 mm caliper deciduous tree for every lot but placed outside of the utility right of way.

2.7.4 For MR's and walkways as a minimum, the Developer shall install one 35mm caliper tree and 10 shrubs for every 100 square meters of area and as a minimum, no less than 10 per parcel. Trees and shrubs shall be planted in bed clusters with mulch and edging for ease of grass cutting. For PUL's shrubs will be required but large

caliper trees will not be permitted.

2.7.5 Ratio of deciduous to coniferous trees shall be 3 to 1. Poplar trees will not be permitted. The type of trees and shrubs selected shall be Village approved trees. The full listing is attached – Appendix B. Any trees or shrubs not on the listing shall require approval through the Village and listed in the Developer's agreement.

2.8 Pathways

2.8.1 All pathways where required shall be asphalt paved 1.83m in width with 1m buffer strip on each side to a maximum slope of 5:1.

2.9 Traffic Control, Signage, Line Painting and Road Markings

2.9.1 All traffic control, signage, line painting and road markings shall conform to the Transportation Association of Canada's Manual of Uniform Traffic Control Devices of Canada. For subdivision development projects, the Developer shall include signage and pavement marking plans in their engineering drawing submissions for Village of Linden's review.

2.9.2 Upon approval by the Village and following construction of the roadways, the Developer will install all signage and pavement markings.

2.9.3 All signs to be high intensity retro reflective sheeting with 3M finish.

2.9.4 All pedestrian crossing signs to have "No Parking within 5 meters of Crosswalk" at the bottom of the sign in black letters.

2.9.5 Painted markings for pedestrian crossings must align to wheelchair ramps on both sides of the crossing.

2.9.6 Pedestrian crosswalks in schools shall be Zebra Bar style painted markings.

2.10 Shallow Utility Servicing

2.10.1 The Developer is responsible for coordinating with shallow utility companies to determine servicing requirements for the development.

2.10.2 The Developer shall submit the shallow utilities design to the Village for review and approval as part of the detailed design submission for municipal improvements. A letter from each shallow utility company shall be submitted by the Developer to the Village agreeing to the requirements and/or conditions resulting from the Village review of shallow utilities drawings.

2.10.3 Upon approval of the design drawings, the Developer shall arrange

for design and installation of shallow utility servicing either with the shallow utility provider or their approved private sector contractors according to current provincial or federal codes for the utility.

2.10.4 Testing, inspections and construction monitoring shall be provided by the shallow utility company or the consulting engineer and upon completion, shall verify the installation was completed to the proper code or standard. Energizing the lines shall be done by the shallow utility companies.

2.10.5 As built drawings for each shallow utility service shall be submitted to the Village following completion of the work.

2.10.6 Engineering Society of North America (IESNA) Street and walkway lighting shall be in accordance with the Illuminating guidelines.

2.10.7 Street lighting shall be “dark sky compliant” in accordance with the model lighting ordinance developed by IESNA and the International Dark-Sky Association (IDA).

2.10.8 Light-emitting diode (LED) shall be used in all new lighting installations unless otherwise approved by the Village.

2.11 Park and Recreation Facilities

2.11.1 Requirements for park and recreation facilities such as playgrounds, playing fields and other facilities shall be identified during the conceptual planning stage of a proposed development.

2.11.2 Park areas shall be graded, loamed, grassed and landscaped according to the approved design drawings.

2.11.3 For park areas or Public Utility Lots (PUL), a fencing plan shall be submitted to the Village for review and upon approval shall be installed to prevent vehicle access to the area other than maintenance equipment and pedestrians.

2.11.4 If the fencing plan submitted includes fencing for lots backing onto park areas, the fencing must be uniform as per approval by the Village.

2.11.5 The Developer shall prepare a detailed drawing outlining the recreational facilities for approval by the Village. The recreational facilities shall be in accordance with the latest version of the City of Calgary’s Development Guidelines and Standard Specifications: Landscape Construction.

2.11.6 The Developer shall install the recreational park, playground, playing field or any other facilities according to the approved plan and

specifications once Building Permits have been issued to 50% of the lots within the development area. The Developer shall maintain the facilities for a period of two (2) years or upon FAC sign-off.

2.11.7 Public benches will require approval from the Village and must be placed on a 2” concrete slab base.

2.11.8 Park areas shall be provided with Village approved dog stations, garbage receptacles, and benches.

2.12 Fencing

2.12.1 Uniform fencing may be required for screening, perimeter fencing or along backs of lots adjacent to park areas. The Developer shall submit a detailed fencing plan together with the landscape plan as per the latest version of the City of Calgary’s Development Guidelines and Standard Specifications: Landscape Construction for approval by the Village.

2.12.2 The selection of fencing material shall take into account the yearly maintenance and life cycle replacement which are important considerations by the Village when reviewing the fencing plan. The fencing shall be located on private property where practical.

2.12.3 The Developer shall construct the fencing according to the approved design drawings and specifications and maintain the fencing for a period of two (2) years or upon FAC sign-off.

2.13 Erosion and Sediment Control

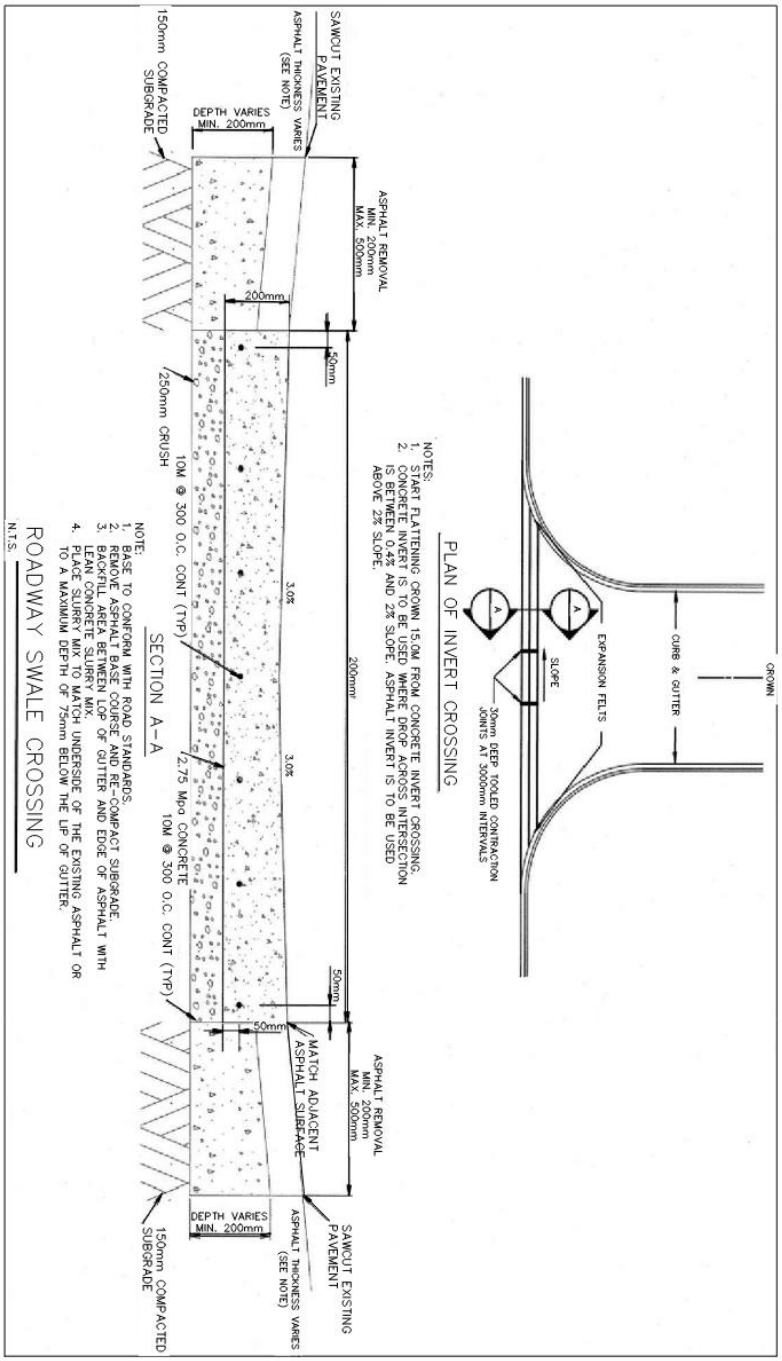
2.13.1 An Erosion and sediment Control (ESC) plan based on good housekeeping practices must be submitted for all new developments together with the engineering detailed design drawings for Village review.

2.13.2 The Developer or its designated representative such as the Engineering Consultant shall ensure proper construction, implementation and maintenance of all ESC measures as per the approved ESC plan. The Village reserves the right to require additional ESC devices to be installed as it sees fit based on the site condition.

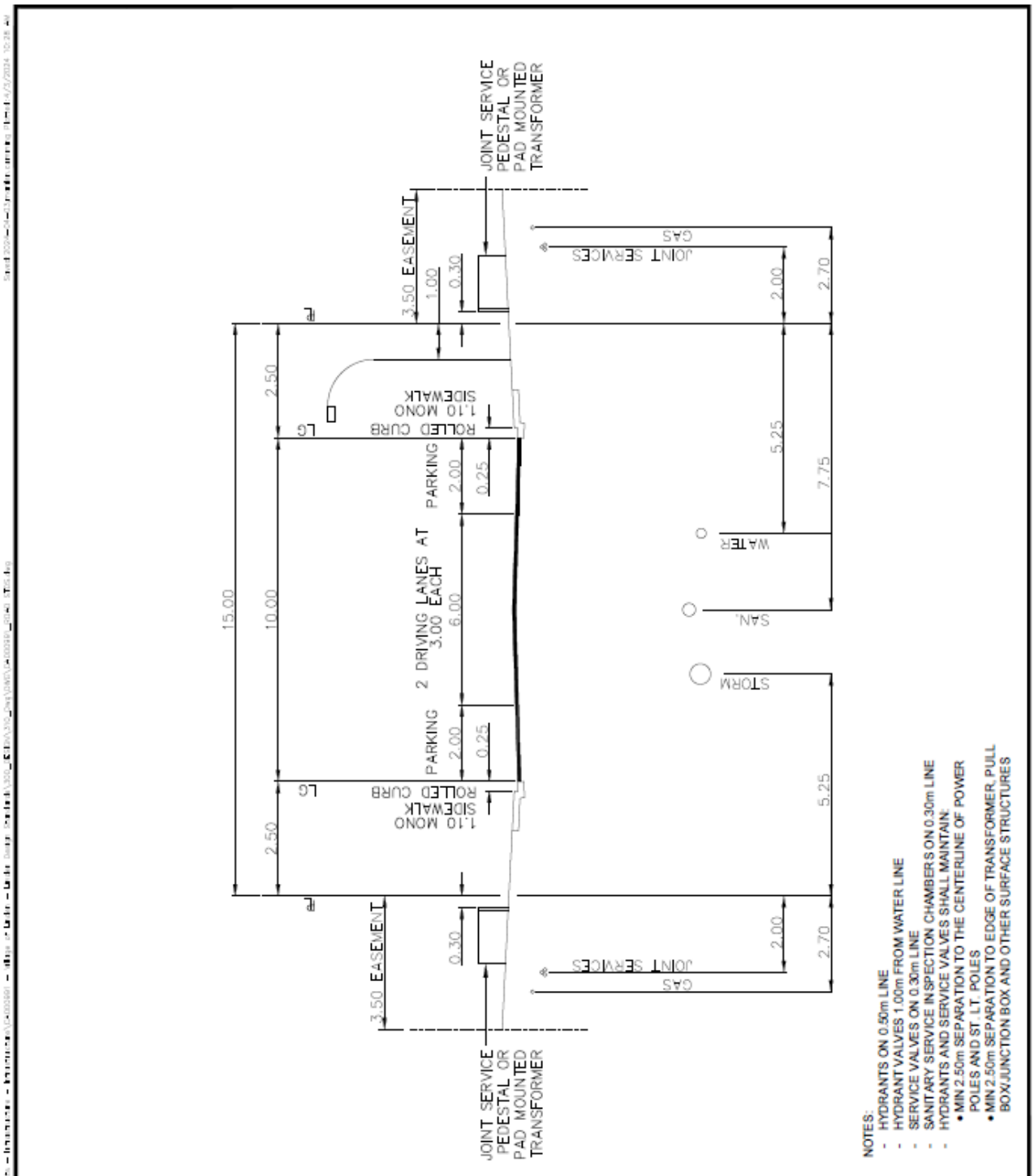
2.13.3 As-built drawings must indicate the location of curb stops by GPS UTM grid coordinates. Shapefiles shall be submitted for all utilities.

Appendix A
Village of Linden

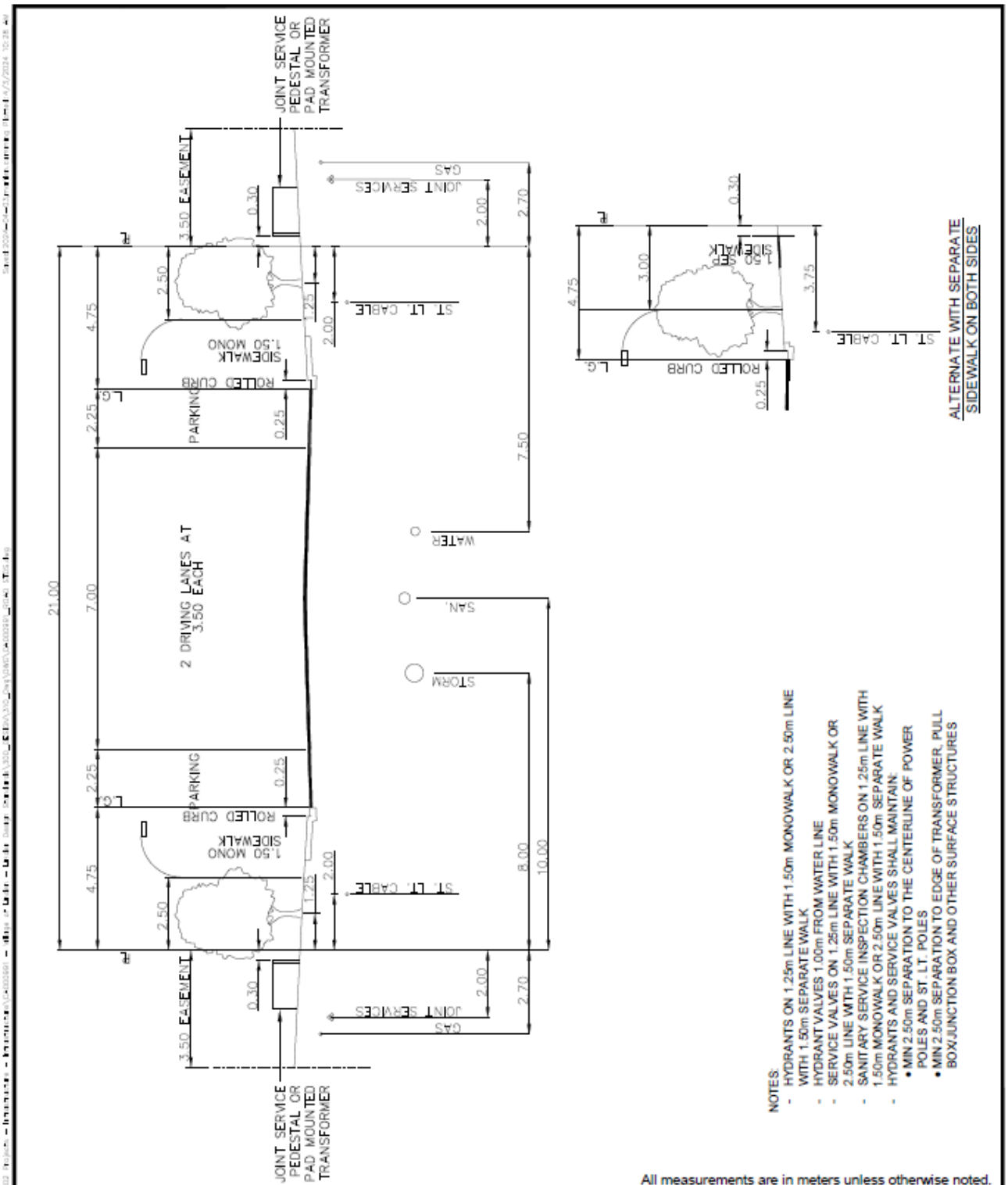
Construction and Infrastructure Design Standards

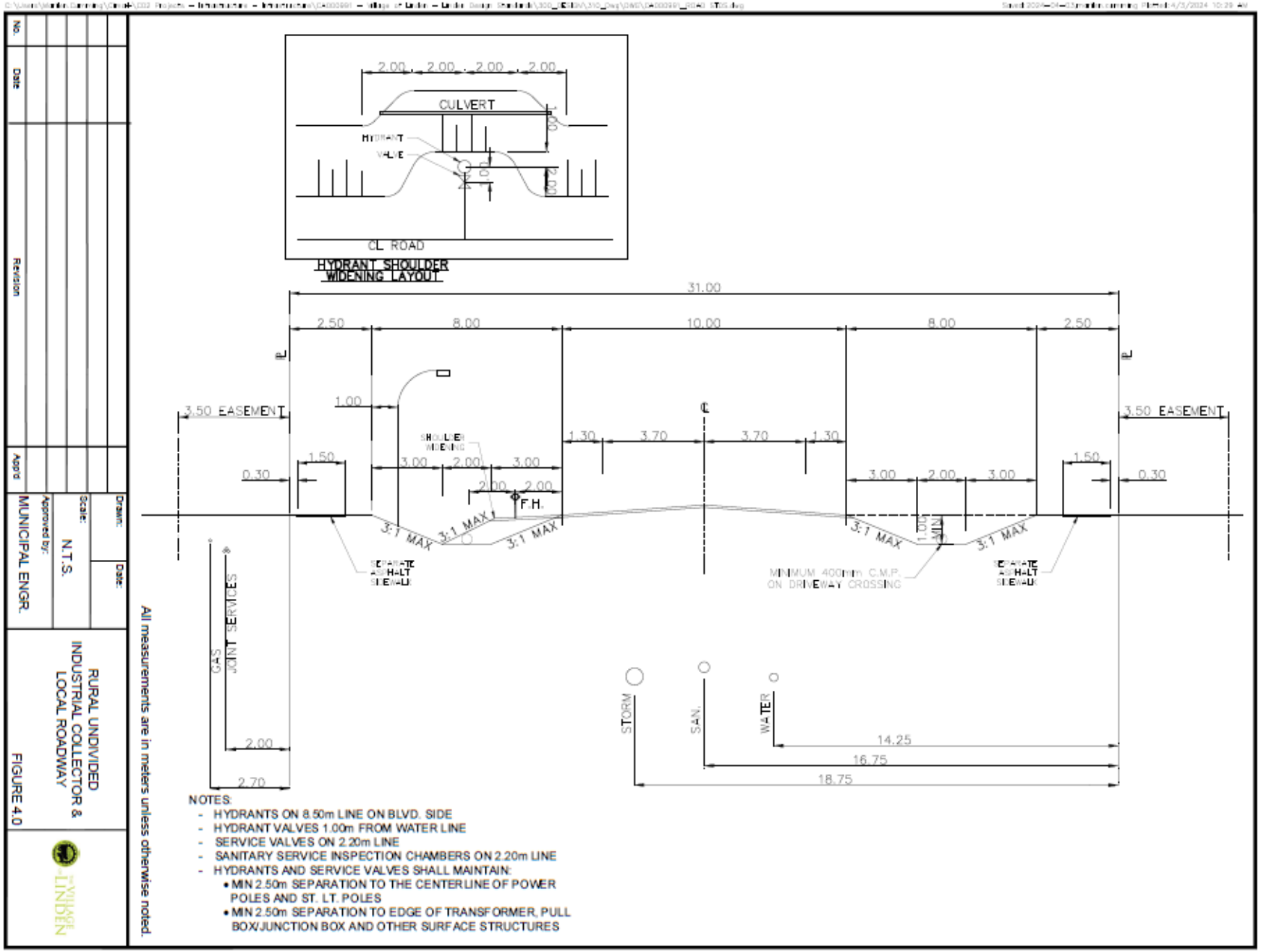

CROWN
CURB & GUTTER
EXPANSION FELTS
SLOPE
30mm DEEP TOOLED CONTRACTION JOINTS AT 3000mm INTERVALS
PLAN OF INVERT CROSSING
NOTES:
1. START FLATTENING CROWN 15.0M FROM CONCRETE INVERT CROSSING.
2. CONCRETE INVERT IS TO BE USED WHERE DROP ACROSS INTERSECTION IS BETWEEN 0.4% AND 2% SLOPE. ASPHALT INVERT IS TO BE USED ABOVE 2% SLOPE.
SAWCUT EXISTING PAVEMENT
ASPHALT THICKNESS VARIES (SEE NOTE)
DEPTH VARIES MIN. 200mm
150mm COMPACTED SUBGRADE
ASPHALT REMOVAL MIN. 200mm MAX. 500mm
200mm
50mm
250mm CRUSH
10M @ 300 O.C. CONT (TYP)
3.0%
3.0%
200mm
SECTION A-A
2.75 Mpa CONCRETE
10M @ 300 O.C. CONT (TYP)
50mm
50mm
MATCH ADJACENT ASPHALT SURFACE
ASPHALT REMOVAL MIN. 200mm MAX. 500mm
SAWCUT EXISTING PAVEMENT
ASPHALT THICKNESS VARIES (SEE NOTE)
DEPTH VARIES MIN. 200mm
150mm COMPACTED SUBGRADE
NOTE:
1. BASE TO CONFORM WITH ROAD STANDARDS.
2. REMOVE ASPHALT BASE COURSE AND RE-COMPACT SUBGRADE.
3. BACKFILL AREA BETWEEN LOP OF GUTTER AND EDGE OF ASPHALT WITH LEAN CONCRETE SLURRY MIX.
4. PLACE SLURRY MIX TO MATCH UNDERSIDE OF THE EXISTING ASPHALT OR TO A MAXIMUM DEPTH OF 75mm BELOW THE LIP OF GUTTER.
ROADWAY SWALE CROSSING
N.T.S.

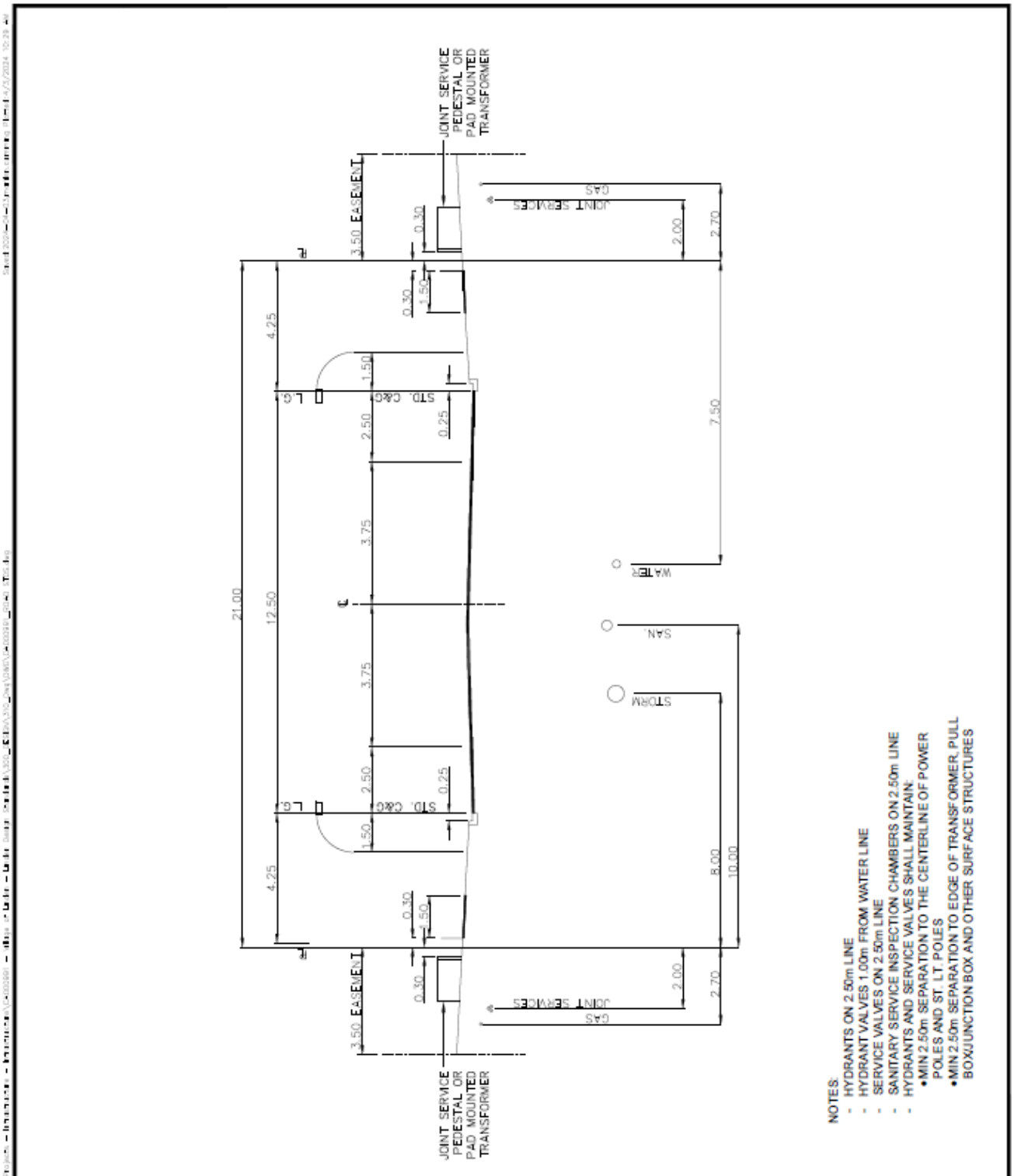
TYPICAL ROAD CROSS SECTIONS

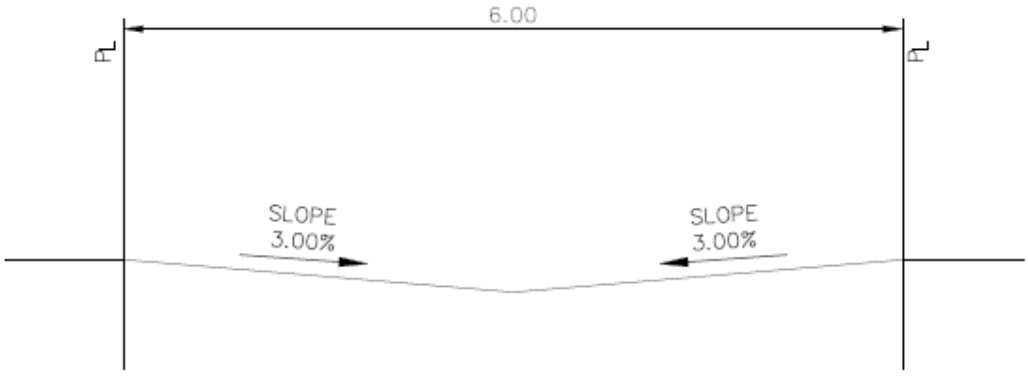

JOINT SERVICE PEDESTAL OR PAD MOUNTED TRANSFORMER
3.50 EASEMENT
1.00
0.30
JOINT SERVICES
GAS
2.00
2.70
2.50
SIDEWALK 1.10 MONO
ROLLED CURB
LG
PARKING
2.00
0.25
2 DRIVING LANES AT 3.00 EACH
6.00
5.25
7.75
WATER
SAN.
STORM
15.00
10.00
2.50
SIDEWALK 1.10 MONO
ROLLED CURB
LG
PARKING
2.00
0.25
5.25
2.50
3.50 EASEMENT
0.30
JOINT SERVICES
GAS
2.00
2.70
JOINT SERVICE PEDESTAL OR PAD MOUNTED TRANSFORMER
NOTES:
- HYDRANTS ON 0.50m LINE
- HYDRANT VALVES 1.00m FROM WATER LINE
- SERVICE VALVES ON 0.30m LINE
- SANITARY SERVICE INSPECTION CHAMBERS ON 0.30m LINE
- HYDRANTS AND SERVICE VALVES SHALL MAINTAIN:
• MIN 2.50m SEPARATION TO THE CENTERLINE OF POWER POLES AND ST. LT. POLES
• MIN 2.50m SEPARATION TO EDGE OF TRANSFORMER, PULL BOX/JUNCTION BOX AND OTHER SURFACE STRUCTURES
All measurements are in meters unless otherwise noted.
No.
Date
Revision
App'd
Drawn:
Date:
Scale:
N.T.S.
Approved by:
MUNICIPAL ENGR.
RESIDENTIAL LOCAL - PARKING BOTH SIDES
15.00m R.O.W. - 9.00m ROAD
FIGURE 1.0
THE VILLAGE OF LINDEN

JOINT SERVICE PEDESTAL OR PAD MOUNTED TRANSFORMER
EASEMENT
3.50
0.30
SIDEWALK
2.50
3.00
4.75
ROLLED C&G
L.G.
DRIVING OR PARKING LANE 3.50
DRIVING LANE 3.50
DRIVING LANE 3.50
DRIVING OR PARKING LANE 3.50
0.25
2.00%
7.00
MEDIAN
3.50
1.75
17.50
27.00
JOINT SERVICES
GAS
ALT. ST. LT. CABLE
WATER
STORM
SAN.
2.00
2.70
3.50
8.00
10.00
NOTES:
- HYDRANTS ON 2.50m LINE
- HYDRANT VALVES 1.00m FROM WATER LINE
- SERVICE VALVES ON 2.50m LINE
- SANITARY SERVICE INSPECTION CHAMBERS ON 2.50m LINE
- HYDRANTS AND SERVICE VALVES SHALL MAINTAIN:
• MIN 2.50m SEPARATION TO THE CENTERLINE OF POWER POLES AND ST. LT. POLES
• MIN 2.50m SEPARATION TO EDGE OF TRANSFORMER, PULL BOX/JUNCTION BOX AND OTHER SURFACE STRUCTURES
All measurements are in meters unless otherwise noted.
No.
Date
Revision
App'd
Drawn:
Date:
Scale:
N.T.S.
Approved by:
MUNICIPAL ENGR.
PRIMARY COLLECTOR
DIVIDED
FIGURE 2.0
THE VILLAGE OF LINDEN

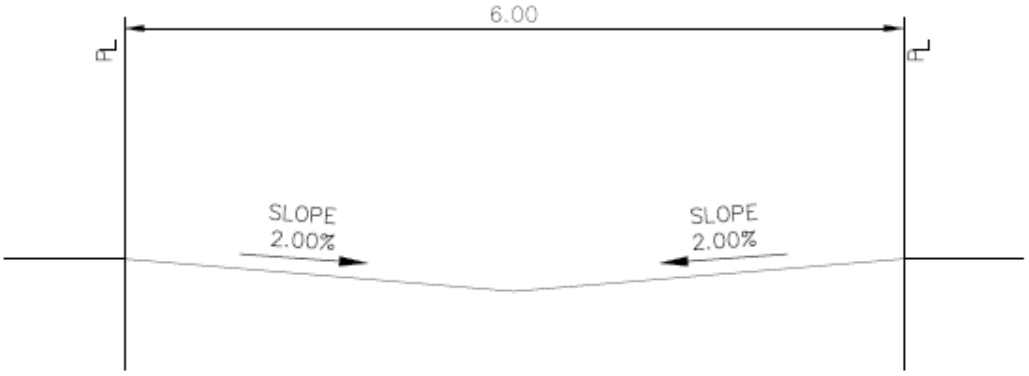

JOINT SERVICE PEDESTAL OR PAD MOUNTED TRANSFORMER
3.50 EASEMENT
0.30
GAS
JOINT SERVICES
2.00
2.70
2.50
1.25
ST. LT. CABLE
1.50 MONO SIDEWALK
ROLLED CURB
L.G.
PARKING
2.25
0.25
4.75
21.00
7.00
2 DRIVING LANES AT 3.50 EACH
7.50
WATER
SAN.
STORM
8.00
10.00
ALTERNATE WITH SEPARATE SIDEWALK ON BOTH SIDES
3.00
3.75
NOTES:
- HYDRANTS ON 1.25m LINE WITH 1.50m MONOWALK OR 2.50m LINE WITH 1.50m SEPARATE WALK
- HYDRANT VALVES 1.00m FROM WATER LINE
- SERVICE VALVES ON 1.25m LINE WITH 1.50m MONOWALK OR 2.50m LINE WITH 1.50m SEPARATE WALK
- SANITARY SERVICE INSPECTION CHAMBERS ON 1.25m LINE WITH 1.50m MONOWALK OR 2.50m LINE WITH 1.50m SEPARATE WALK
- HYDRANTS AND SERVICE VALVES SHALL MAINTAIN:
  - MIN 2.50m SEPARATION TO THE CENTERLINE OF POWER POLES AND ST. LT. POLES
  - MIN 2.50m SEPARATION TO EDGE OF TRANSFORMER, PULL BOX/JUNCTION BOX AND OTHER SURFACE STRUCTURES
All measurements are in meters unless otherwise noted.
No. | Date | Revision | App'd
Drawn: | Date:
Scale: N.T.S.
Approved by: MUNICIPAL ENGR.
RESIDENTIAL COLLECTOR UNDIVIDED - PARKING BOTH SIDES 21m R.O.W. - 12.00m ROAD
FIGURE 3.0
THE VILLAGE OF LINDEN


No.
Date
Revision
Appd
Drawn:
Scale:
N.T.S.
Date:
Approved by:
MUNICIPAL ENGR.
RURAL UNDIVIDED
INDUSTRIAL COLLECTOR &
LOCAL ROADWAY
FIGURE 4.0
All measurements are in meters unless otherwise noted.
2.00 2.00 2.00 2.00
CULVERT
HYDRANT
VALVE
1.00
2.00
CL ROAD
HYDRANT SHOULDER
WIDENING LAYOUT
31.00
2.50
8.00
10.00
8.00
2.50
3.50 EASEMENT
1.00
1.50
0.30
3.00
2.00
3.00
2.00
2.00
F.H.
1.30
3.70
3.70
1.30
3:1 MAX
3:1 MAX
3:1 MAX
3:1 MAX
1.00 MIN
SEPARATE
ASPHALT
SIDEWALK
MINIMUM 400mm C.M.P.
ON DRIVEWAY CROSSING
GAS
JOINT SERVICES
2.00
2.70
STORM
SAN.
WATER
14.25
16.75
18.75
NOTES:
- HYDRANTS ON 8.50m LINE ON BLVD. SIDE
- HYDRANT VALVES 1.00m FROM WATER LINE
- SERVICE VALVES ON 2.20m LINE
- SANITARY SERVICE INSPECTION CHAMBERS ON 2.20m LINE
- HYDRANTS AND SERVICE VALVES SHALL MAINTAIN:
• MIN 2.50m SEPARATION TO THE CENTERLINE OF POWER POLES AND ST. LT. POLES
• MIN 2.50m SEPARATION TO EDGE OF TRANSFORMER, PULL BOX/JUNCTION BOX AND OTHER SURFACE STRUCTURES


JOINT SERVICE PEDESTAL OR PAD MOUNTED TRANSFORMER
3.50 EASEMENT
0.30
JOINT SERVICES
GAS
2.00
2.70
1.50
4.25
L.G.
STD. C&G
2.50
0.25
7.50
3.75
21.00
12.50
WATER
SAN.
STORM
8.00
10.00
NOTES:
- HYDRANTS ON 2.50m LINE
- HYDRANT VALVES 1.00m FROM WATER LINE
- SERVICE VALVES ON 2.50m LINE
- SANITARY SERVICE INSPECTION CHAMBERS ON 2.50m LINE
- HYDRANTS AND SERVICE VALVES SHALL MAINTAIN:
•MIN 2.50m SEPARATION TO THE CENTERLINE OF POWER POLES AND ST. LT. POLES
•MIN 2.50m SEPARATION TO EDGE OF TRANSFORMER, PULL BOX/JUNCTION BOX AND OTHER SURFACE STRUCTURES
All measurements are in meters unless otherwise noted.
No.
Date
Revision
App'd
Drawn:
Date:
Scale:
N.T.S.
Approved by:
MUNICIPAL ENGR.
UNDIVIDED URBAN INDUSTRIAL COLLECTOR & LOCAL ROADWAY
FIGURE 5.0
THE VILLAGE OF LINDEN



GRAVEL LANES



PAVED LANES

All measurements are in meters unless otherwise noted.

No.	Date	Revision	App'd

Drawn: Date:

Scale: N.T.S.

Approved by: MUNICIPAL ENGR.

LANE STRUCTURES
6.0m WIDTHS

FIGURE 6.0

THE VILLAGE OF LINDEN

Appendix B
Village of Linden
Construction and Infrastructure Design Standards
Approved Tree List

Bur Oak

Amur Cherry

Siberian Larch – in groups

Linden

Douglas Fir

Cut Leaf Weeping Birch – moist areas

Clump Paper Birch – moist naturalized areas

Toba Hawthorn

Paper Birch – large sites and moist areas

Dakota Pinnacle Birch – moist areas

Ohio Buckeye

Lodgepole Pine

Ponderosa Pine

Ivory Silk Tree Lilac

Trembling Aspen

Swedish Columnar Aspen

Makamik Flowering Crab

Prairie Spire Green Ash

Mountain Ash

Snowbird Harthorn

Sutherland Caragana – in groups

Colorado Blue Spruce

White Spruce

Scotch Pine

Appendix C

Village of Linden

Construction and Infrastructure Design Standards

Form – Construction Commencement Notification

Construction Commencement Notification

Development Agreement #:_____

Developer _____ **Subdivision/Phase** _____

Consultant _____ **Consultant's Representative** _____

Contractor _____ **Contractor's Representative** _____

Phone Number _____

Construction on the above noted subdivision will commence on:

_____/_____/_____ at_____am/pm
(time)

Inspection will be required:

From The Village of Linden **For** _____
(Utility)

_____

_____

_____ **Date** _____
(Consultant/Contractor signature)

The Village of Linden gives _____ **permission to commence construction.**
(Name)

_____ **Date** _____
Village of Linden