

LEGEND

- STANDARD CONCRETE - SEE ARCHITECTURAL
- 28mm WASHED ROCK MAINTENANCE PLINTH 100mm DEPTH OVER FILTER FABRIC (OR APPROVED EQUAL)
- 28mm WASHED ROCK 100mm DEPTH OVER FILTER FABRIC (OR APPROVED EQUAL) AND PERENNIAL PLANTING SYSTEM @ 450mm DEPTH
- 28mm WASHED ROCK 100mm DEPTH OVER FILTER FABRIC (OR APPROVED EQUAL) AND SHRUB PLANTING SYSTEM @ 600mm DEPTH
- 28mm WASHED ROCK 100mm DEPTH OVER FILTER FABRIC (OR APPROVED EQUAL) AND TREE PLANTING SYSTEM @ 1200mm DEPTH
- PROPERTY LINE
- SETBACK LINE
- UTILITY RIGHT OF WAY
- ALUMINUM EDGER

NOTE:
 1. BED AREA AND EDGER LAYOUT TO BE SURVEYED IN THE FIELD AND REVIEWED BY OWNER REPRESENTATIVE. CONSULTANT CAN PROVIDE CAD FILE AT CONTRACTOR REQUEST.
 2. REFER TO ARCHITECTURAL DWGS FOR FENCING.



- GENERAL NOTES:
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 - DO NOT SCALE DRAWINGS.
 - ALL BEDS TO HAVE A MINIMUM OF 100MM DEPTH 28MM SIZE WASHED ROCK.
 - SEE L400 FOR IRRIGATION PLAN.
 - ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED.
 - REFER TO CIVIL DRAWINGS FOR SITE GRADING.

ALBERTA ONE-CALL
 1-800-242-3447
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McElhanney
 McElhanney Consulting Services Ltd.
 100, 402 - 11 Avenue SE PH (403) 262-5042
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No.	Description	Date	By
1	ISSUED FOR DP	19 JAN 2018	DH
2	REISSUED FOR DP	22 FEB 2018	DH
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6	ISSUED FOR 99% CD REVIEW	01 OCT 2018	DH
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8	REVISED IFT	09 JAN 2019	DH

Client

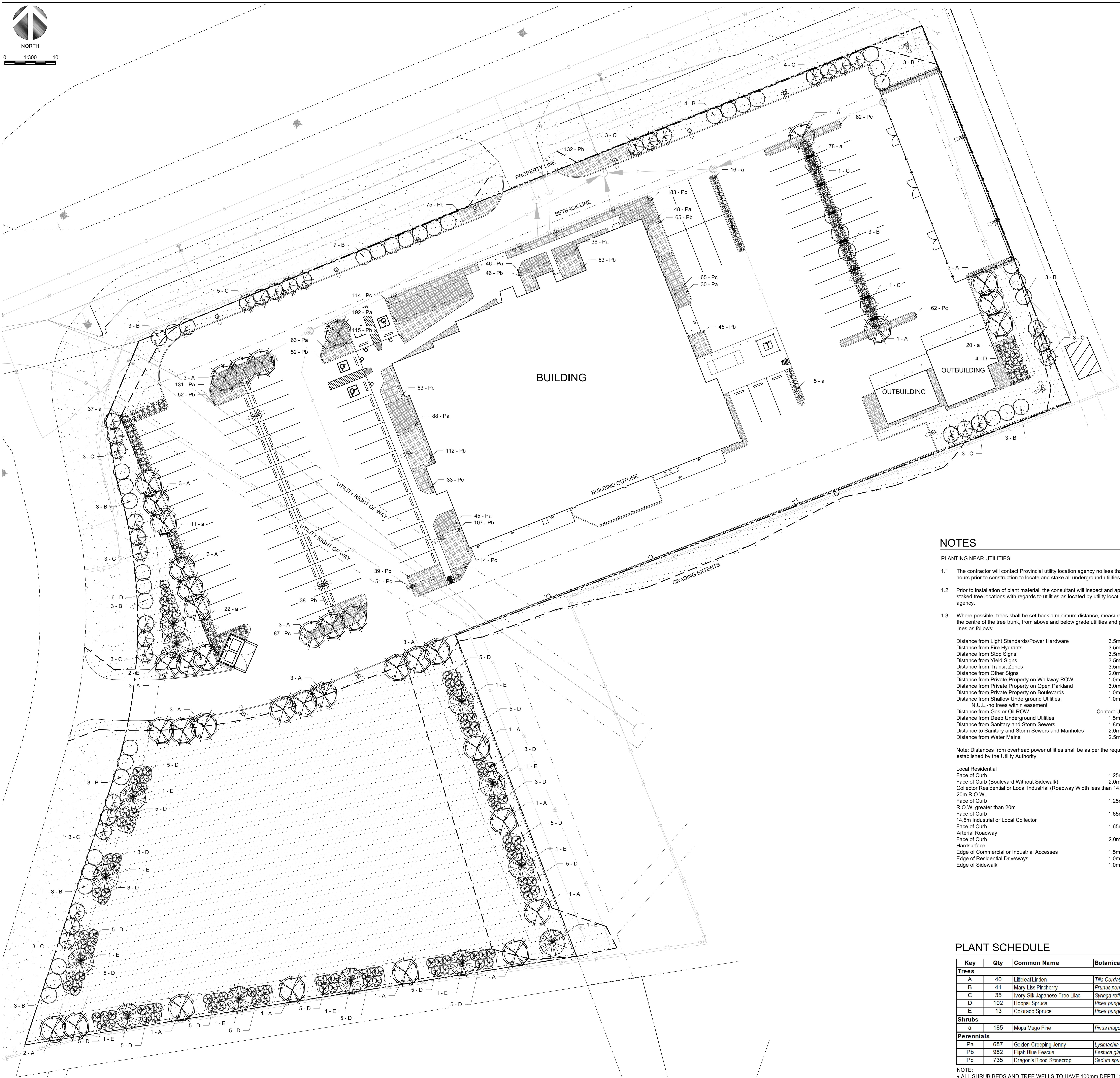
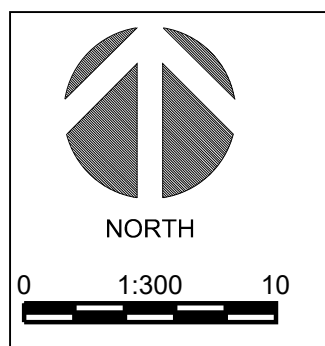
Project
 COALDALE PROTECTIVE SERVICES BUILDING

Scale	A5 NOTED	Designed By	DH
Project No.	2511-00689-00	Drawn By	LJ/RG
Date	01/19/2018	Checked By	SS

Drawing Title
LAYOUT PLAN

Drawing No.
L100

1 LAYOUT PLAN
 SCALE 1:300



LEGEND

- DECIDUOUS TREE PLANTINGS
- CONIFEROUS TREE PLANTINGS
- SHRUB PLANTINGS
- PERENNIAL PLANTINGS
- EXISTING GRASS AREAS TO REMAIN
- SOD ON 150mm DEPTH IMPORTED TOPSOIL
- NOTE: (AS ABOVE) KENTUCKY BLUEGRASS BLEND
- 28mm WASHED ROCK MAINTENANCE PLINTH
- PROPERTY LINE
- SETBACK LINE
- UTILITY RIGHT OF WAY
- ALUMINUM EDGER

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NOTES

- PLANTING NEAR UTILITIES**
- The contractor will contact Provincial utility location agency no less than 48 hours prior to construction to locate and stake all underground utilities.
 - Prior to installation of plant material, the consultant will inspect and approve all staked tree locations with regards to utilities as located by utility location agency.
 - Where possible, trees shall be set back a minimum distance, measured from the centre of the tree trunk, from above and below grade utilities and property lines as follows:

Distance from Light Standards/Power Hardware	3.5m
Distance from Fire Hydrants	3.5m
Distance from Stop Signs	3.5m
Distance from Yield Signs	3.5m
Distance from Transit Zones	3.5m*
Distance from Other Signs	2.0m
Distance from Private Property on Walkway ROW	1.0m
Distance from Private Property on Open Parkland	3.0m
Distance from Private Property on Boulevards	1.0m
Distance from Shallow Underground Utilities:	1.0m
N.U. - no trees within easement	Contact Utility
Distance from Deep Underground Utilities	1.5m
Distance from Sanitary and Storm Sewers	1.8m
Distance to Sanitary and Storm Sewers and Manholes	2.0m
Distance from Water Mains	2.5m
- Note: Distances from overhead power utilities shall be as per the requirements established by the Utility Authority.
- Local Residential**
- | | |
|---|-------------|
| Face of Curb | 1.25m |
| Face of Curb (Boulevard Without Sidewalk) | 2.0m |
| Collector Residential or Local Industrial (Roadway Width less than 14.5m) | 2.0m R.O.W. |
| Face of Curb | 1.25m |
| R.O.W. greater than 20m | 1.25m |
| Face of Curb | 1.65m |
| Face of Curb | 1.65m |
| Arterial Roadway | 1.65m |
| Face of Curb | 2.0m* |
| Hardsurface | 1.5m |
| Edge of Commercial or Industrial Accesses | 1.0m |
| Edge of Residential Driveways | 1.0m |
| Edge of Sidewalk | 1.0m |
- * Distances less than indicated above, are at the discretion of the Director/Parks in consultation with Transportation Services.
Note: Setback distances apply to both Boulevards and Medians.
- Maintain the minimum defined setbacks from utilities for all excavations.
 - All tree / shrub excavation closer than the minimum distance to underground utilities shall be hand-dug. The contractor will be responsible for notifying the consultant and affected utility representatives to review and approve all hand-dug excavations. Affected utility representatives must be present to supervise all hand-dug excavations.
 - Prevent damage to fencing, plant materials, natural features, benchmarks, buildings, pavement, curbs, culverts, and utilities, and make good any changes.
 - No metal tree stakes to be used within one (1) meter of a power trench.
- RECOMMENDED LANDSCAPE ARCHITECT REVIEWS:**
- Subgrade inspection
 - Finished grade before shrub planting.
 - Plant material at source.
 - Bed and planting layout.
 - Substantial Performance Pre - Inspection
 - Substantial Performance Inspection with the Town of Coaldale Inspectors
 - Substantial Performance Deficiency Inspection.
 - Spring warranty inspection-first year.
 - Spring warranty inspection-second year.
 - Final Acceptance Pre - Inspection.
 - Final Acceptance Inspection with
 - Final Acceptance Deficiency Inspection
- APPROVAL AND REJECTION:**
- Acceptability of work by client representative.

ALL UTILITY LOCATIONS ARE TO BE VERIFIED PRIOR TO PROCEEDING WITH CONSTRUCTION. ALL UTILITY LOCATIONS ARE TO BE FLAGGED, REVIEWED AND APPROVED IN CONJUNCTION WITH PROPOSED TREE LOCATIONS.

PLANT SCHEDULE

Key	Qty	Common Name	Botanical Name	Size	Remarks
Trees					
A	40	Lilac Linden	<i>Tilia Cordata</i>	50mm cal.	W.B. single leader
B	41	Mary Lisa Princherry	<i>Prunus pennsylvanica 'Mary Lisa'</i>	50mm cal.	W.B. single leader
C	35	Ivory Silk Japanese Tree Lilac	<i>Syringa reticulata 'Ivory Silk'</i>	50mm cal.	W.B. single leader
D	102	Hoopai Spruce	<i>Picea pungens 'Hoopai'</i>	1500mm ht.	W.B. single leader/ specimen
E	13	Colorado Spruce	<i>Picea pungens</i>	1500mm ht.	W.B. single leader/ specimen
Shrubs					
a	185	Mops Mugo Pine	<i>Pinus mugo 'Mops'</i>	#5 Cont.	min 600mm H.L.
Perennials					
Pa	687	Golden Creeping Jenny	<i>Lysimachia nummularia 'Aurea'</i>	10 cm Pot	500mm O.C.
Pb	982	Elijah Blue Fescue	<i>Festuca glauca 'Elijah Blue'</i>	#1 Pot	500mm O.C.
Pc	735	Dragon's Blood Stonerop	<i>Sedum spurium</i>	10 cm Pot	500mm O.C.

NOTE:
 • ALL SHRUB BEDS AND TREE WELLS TO HAVE 100mm DEPTH 28MM WASHED ROCK MULCH TO BE PLACED LEVEL WITH ADJACENT SURFACES AND CROWN IN CENTRE.
 • IT IS UNDERSTOOD THAT NO NATIVE TOPSOIL WILL BE USED ON SITE.

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Client

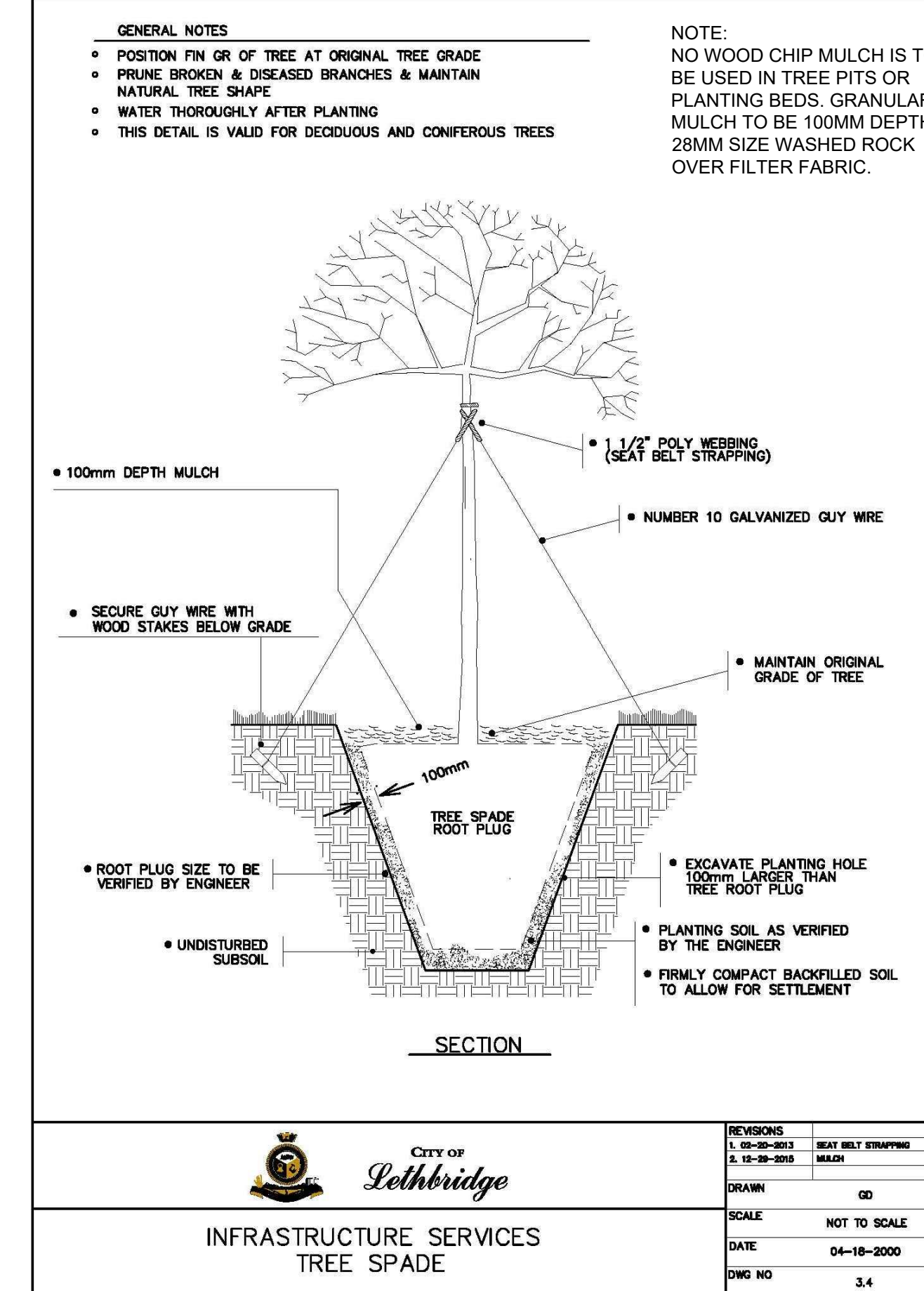
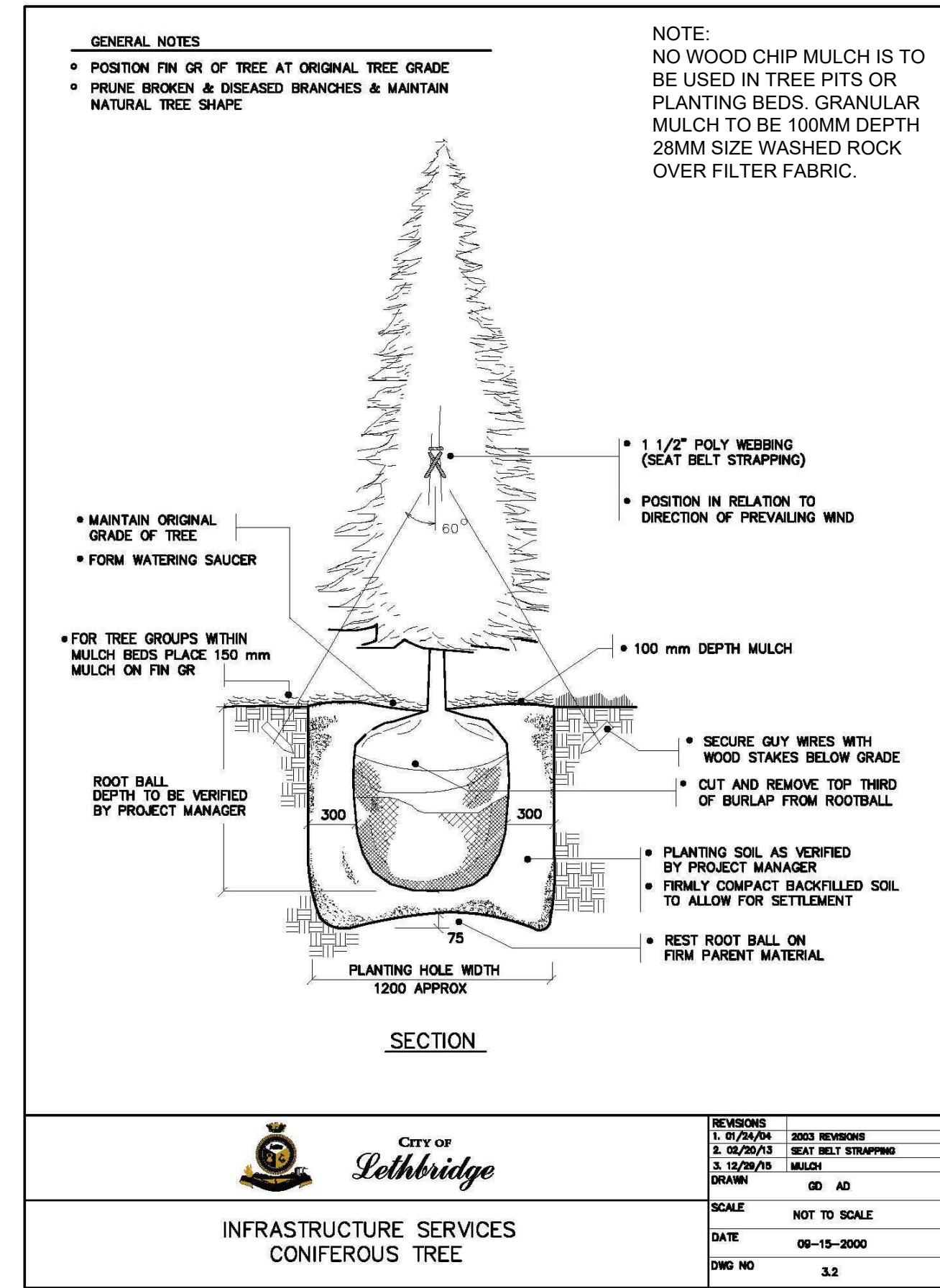
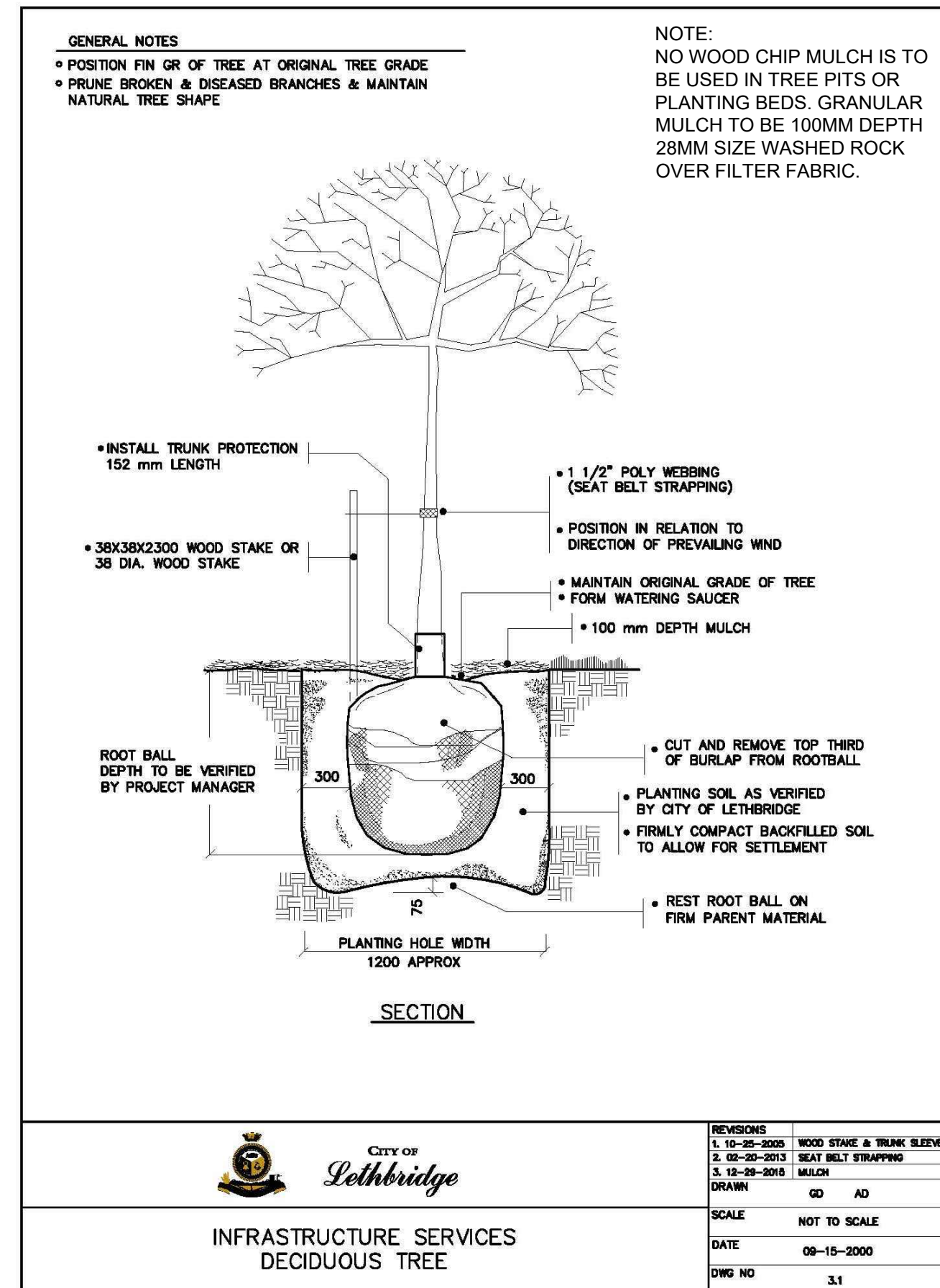
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PLANTING PLAN

Drawing No. **L200**

NOTE:
CONTRACTOR TO WRAP AND TIE ALL DECIDUOUS TREE TRUNKS WITH 2 FULL WRAPS OF "CHICKEN WIRE" 1.0m MINIMUM HEIGHT TO PROTECT AGAINST RABBIT DAMAGE



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1 DECIDUOUS TREE INSTALLATION
L300 SCALE: N.T.S

2 CONIFEROUS TREE INSTALLATION
L300 SCALE: N.T.S

3 TREE INSTALLATION
L300 SCALE: N.T.S

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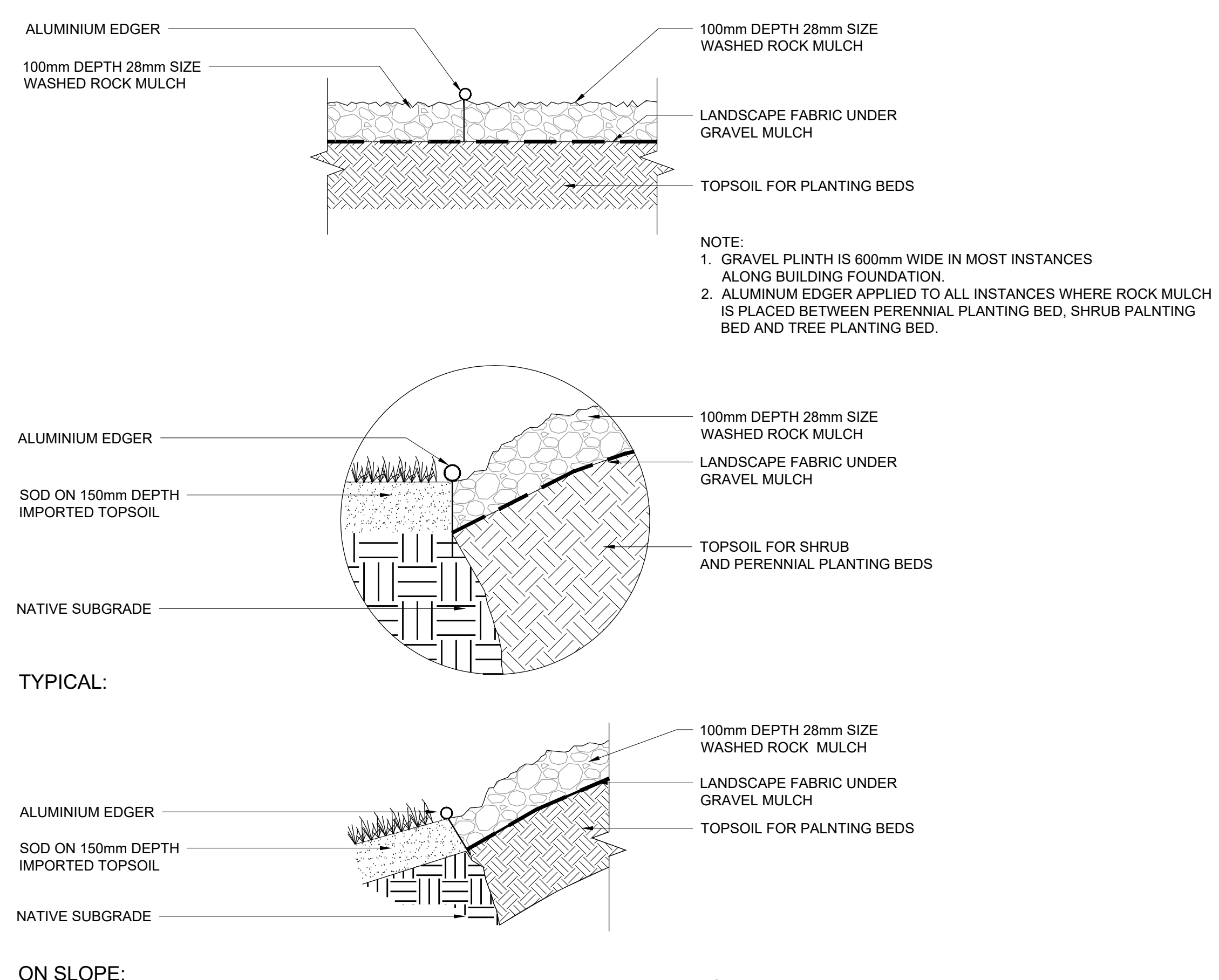
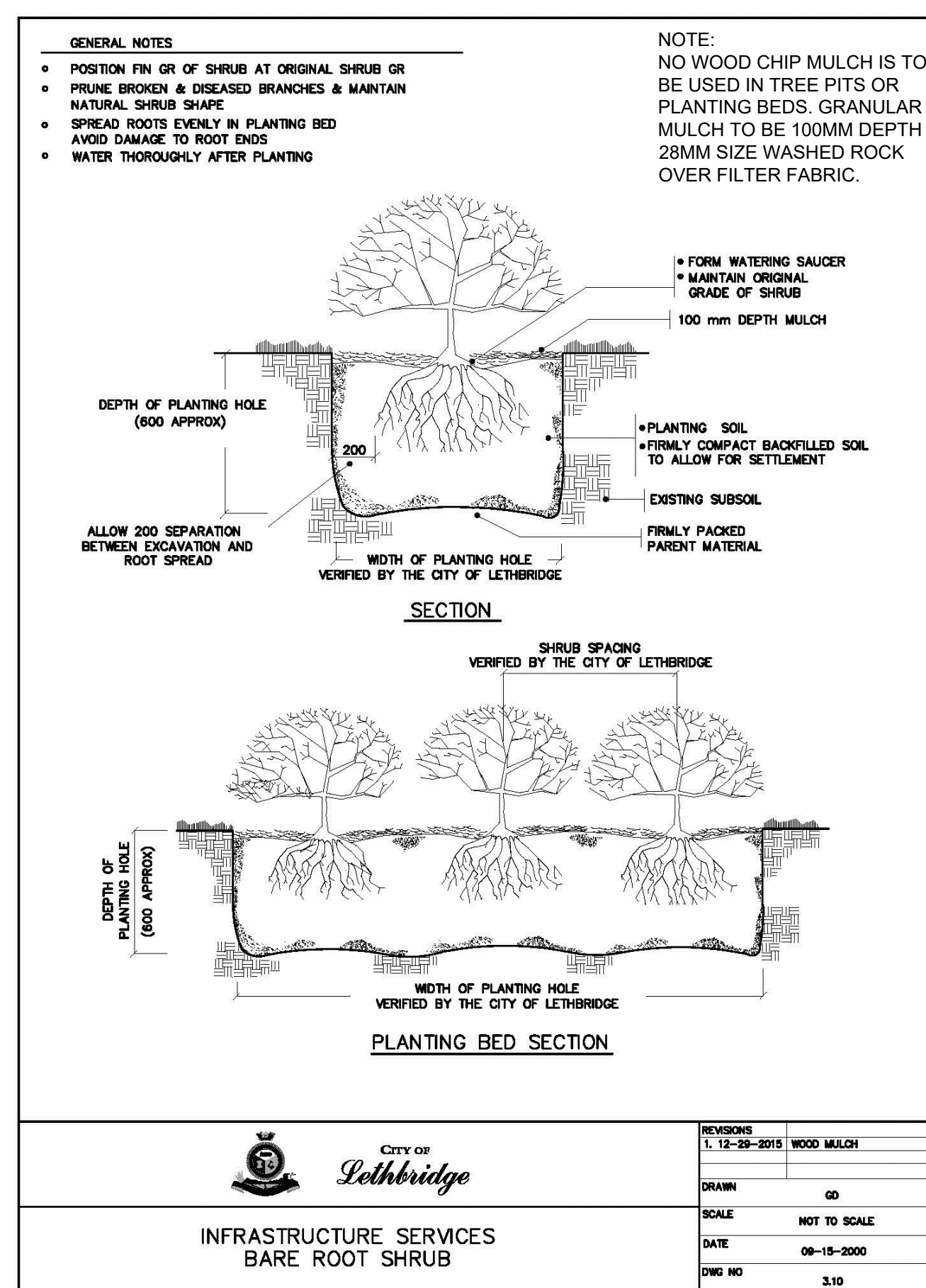
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SERVICES BUILDING**

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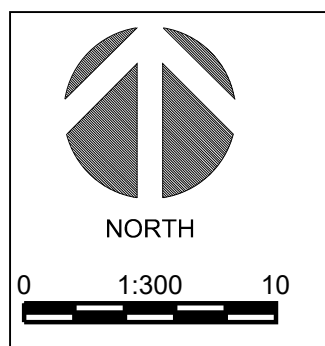
Drawing Title
DETAILS

Drawing No.
L300



4 SHRUB PLANTING INSTALLATION
L300 SCALE: N.T.S

5 ALUMINUM EDGER
L300 SCALE: N.T.S



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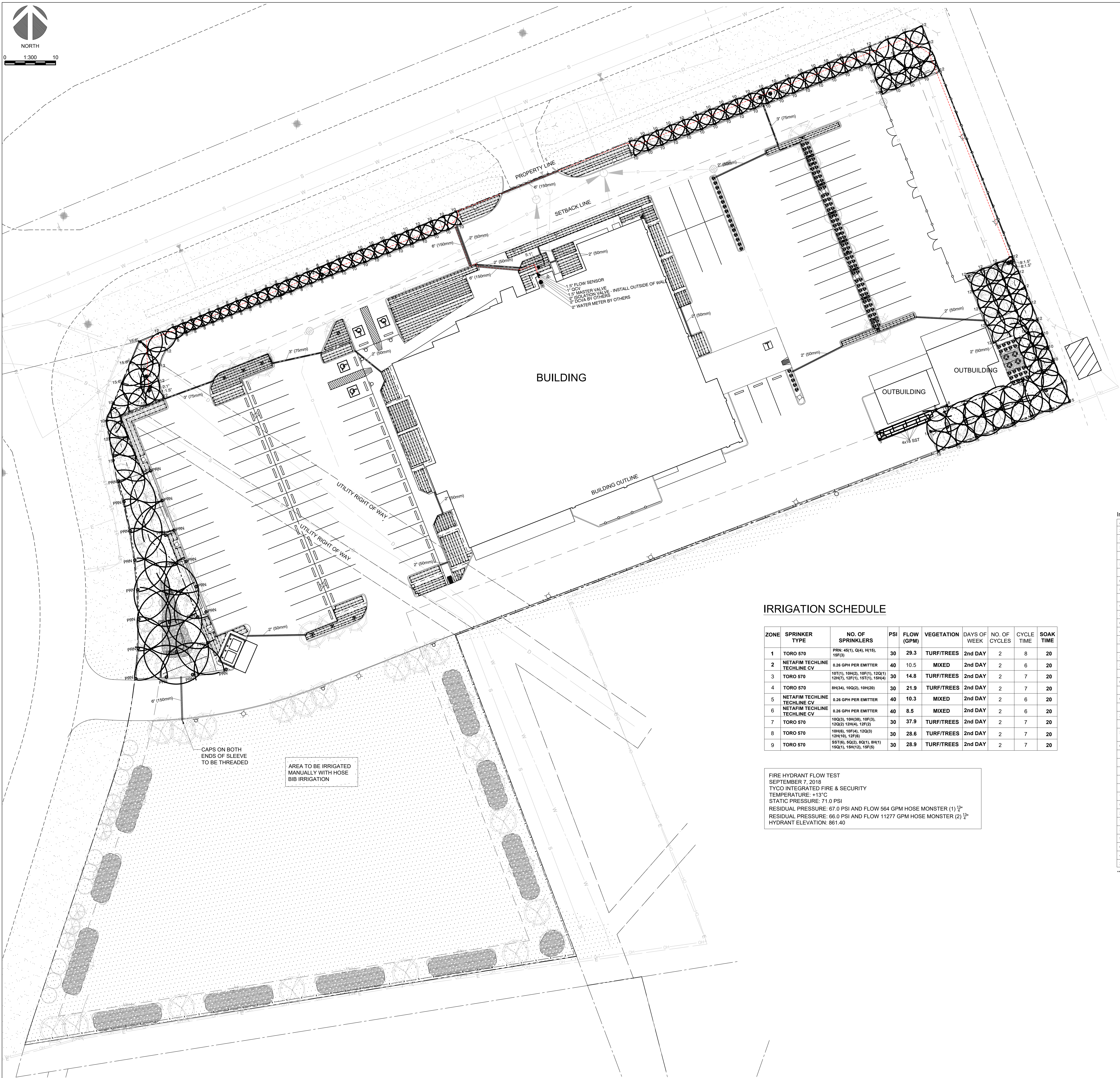
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BUILDING

OUTBUILDING

BUILDING OUTLINE

UTILITY RIGHT OF WAY

PROPERTY LINE

SETBACK LINE

CAPS ON BOTH ENDS OF SLEEVE TO BE THREADED

AREA TO BE IRRIGATED MANUALLY WITH HOSE BIB IRRIGATION

IRRIGATION SCHEDULE

ZONE	SPRINKLER TYPE	NO. OF SPRINKLERS	PSI	FLOW (GPM)	VEGETATION	DAYS OF WEEK	NO. OF CYCLES	CYCLE TIME	SOAK TIME
1	TORO 570	PRN: 46(1), Q4, H(15), 18F(2)	30	29.3	TURF/TREES	2nd DAY	2	8	20
2	NETAFIM TECHLINE TECHLINE CV	0.26 GPH PER EMITTER	40	10.5	MIXED	2nd DAY	2	6	20
3	TORO 570	18T(1), 18H(2), 18F(1), 12Q(1), 12H(7), 12F(1), 18T(1), 18H(4)	30	14.8	TURF/TREES	2nd DAY	2	7	20
4	TORO 570	8H(4), 19Q(2), 19H(2)	30	21.9	TURF/TREES	2nd DAY	2	7	20
5	NETAFIM TECHLINE TECHLINE CV	0.26 GPH PER EMITTER	40	10.3	MIXED	2nd DAY	2	6	20
6	NETAFIM TECHLINE TECHLINE CV	0.26 GPH PER EMITTER	40	8.5	MIXED	2nd DAY	2	6	20
7	TORO 570	12Q(3), 12H(3), 18F(3), 12Q(2), 12H(4), 12F(2)	30	37.9	TURF/TREES	2nd DAY	2	7	20
8	TORO 570	18H(6), 18F(4), 12Q(3), 12H(5), 12F(8)	30	28.6	TURF/TREES	2nd DAY	2	7	20
9	TORO 570	58T(8), 52Q(2), 8Q(1), 8H(1), 15Q(1), 19H(2), 15F(5)	30	28.9	TURF/TREES	2nd DAY	2	7	20

FIRE HYDRANT FLOW TEST
SEPTEMBER 7, 2018
TYCO INTEGRATED FIRE & SECURITY
TEMPERATURE: +13°C
STATIC PRESSURE: 71.0 PSI
RESIDUAL PRESSURE: 67.0 PSI AND FLOW 564 GPM HOSE MONSTER (1) 1/2"
RESIDUAL PRESSURE: 66.0 PSI AND FLOW 11277 GPM HOSE MONSTER (2) 3/4"
HYDRANT ELEVATION: 861.40

Irrigation Legend

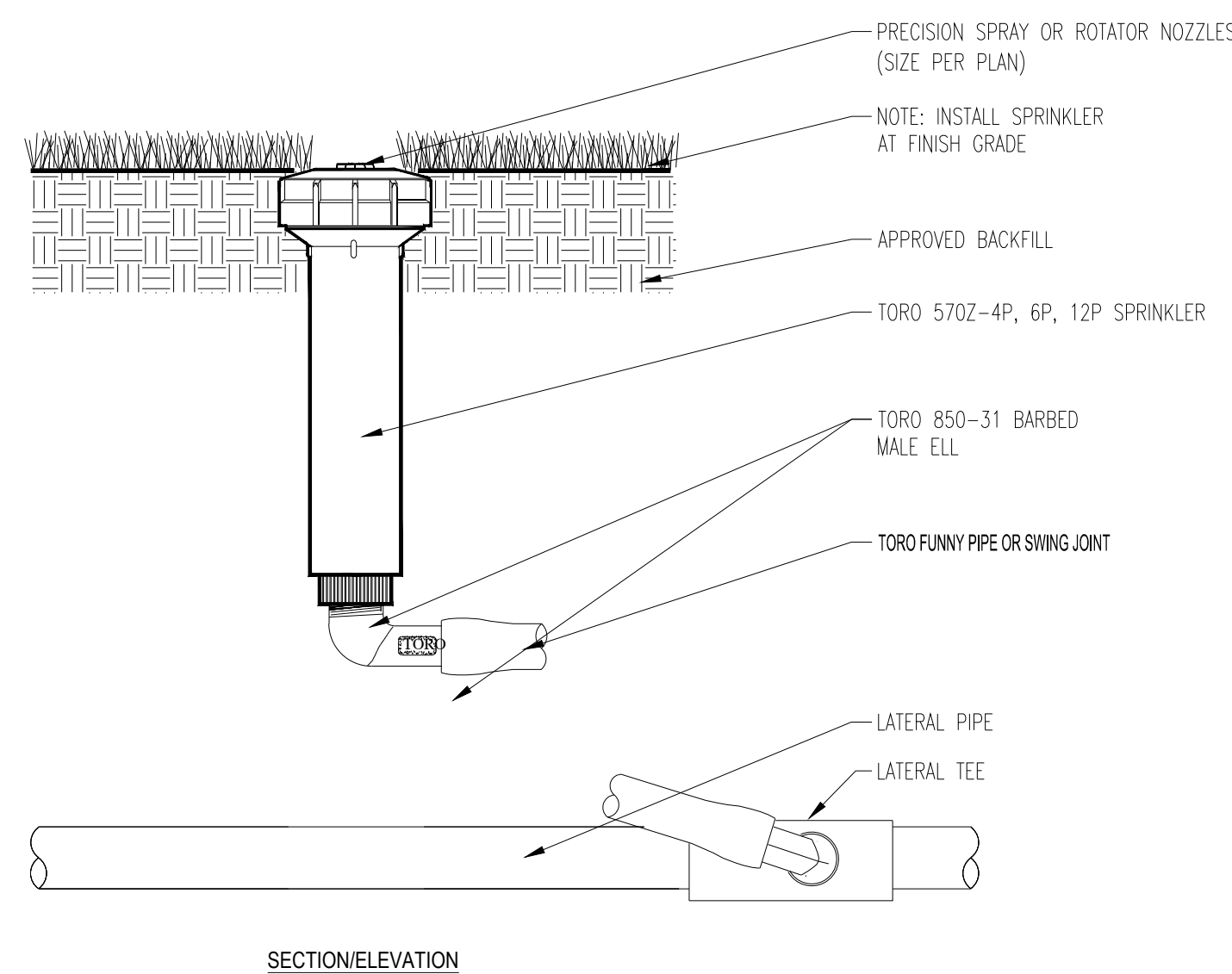
Qty. **	Symbol	Description
2	●	Toro O-TSQ - 570Z-4P
3	■	Toro O-TB-150 - 570Z-6P
38	●	Toro O-TB - 570Z-4P
1	●	Toro O-T80 - 570Z-4P
3	●	Toro O-T8TQ - 570Z-4P
11	●	Toro O-T10P - 570Z-4P
67	●	Toro O-T10H - 570Z-4P
8	●	Toro O-T10Q - 570Z-4P
1	●	Toro O-T10T - 570Z-4P
9	●	Toro O-T15P - 570Z-4P
22	●	Toro O-T15H - 570Z-4P
6	●	Toro O-T15Q - 570Z-4P
4	●	Toro O-T15P - 570Z-12P
2	●	Toro O-T15P - 570Z-4P
16	●	Toro O-T15H - 570Z-4P
2	●	Toro O-T15H - 570Z-6P
2	●	Toro O-T15Q - 570Z-4P
1	●	Toro O-T15T - 570Z-6P
6	●	Toro O-TSST 4x18 - 570Z-4P
16	●	Toro PRN-TA-180 - 570Z-4P
6	●	Toro PRN-TA-90 - 570Z-4P
1	●	Toro PRN-TF - 570Z-12P
2	●	Toro PRN-TF - 570Z-4P
3	●	Hunter ICV-101G c/w ACCU-SYNC Pressure Regulator
1	●	Hunter ICV-101G c/w ACCU-SYNC Pressure Regulator & 1/2" O.D. Filter
6	●	Hunter ICV-151G c/w ACCU-SYNC Pressure Regulator
1	●	Hunter ICV-1200-PL
1	●	Hunter HQ-44LR
1	●	Brass 2" Isolation Valve
1	●	Hunter FCT-150
1	●	Hunter Wireless Solar Sync Sensor Only
719 (m)	---	Lateral - 19mm L.D.
95 (m)	---	Lateral - 25mm L.D.
205 (m)	---	Lateral - Class 160 1 1/2"
75 (m)	---	Lateral - Class 160 2"
303.8 (m)	---	Mainline - Class 160 2"
96 (m)	---	Sleeve - Schedule 40 2"
60 (m)	---	Sleeve - Schedule 40 3"
48 (m)	---	Sleeve - Schedule 40 6"
2320 (m)	---	Netafim T.LCV28-12

** - Quantities are approximate. Contractor to confirm quantities.

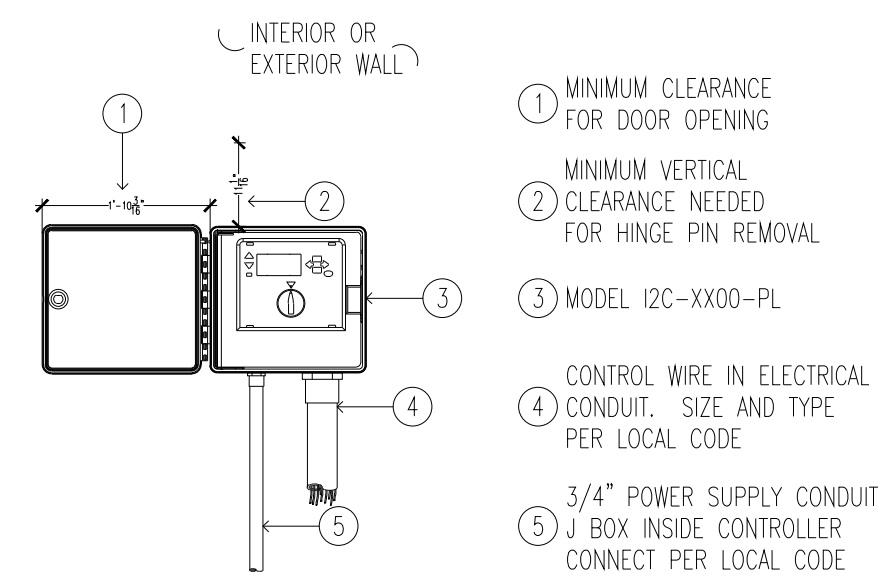
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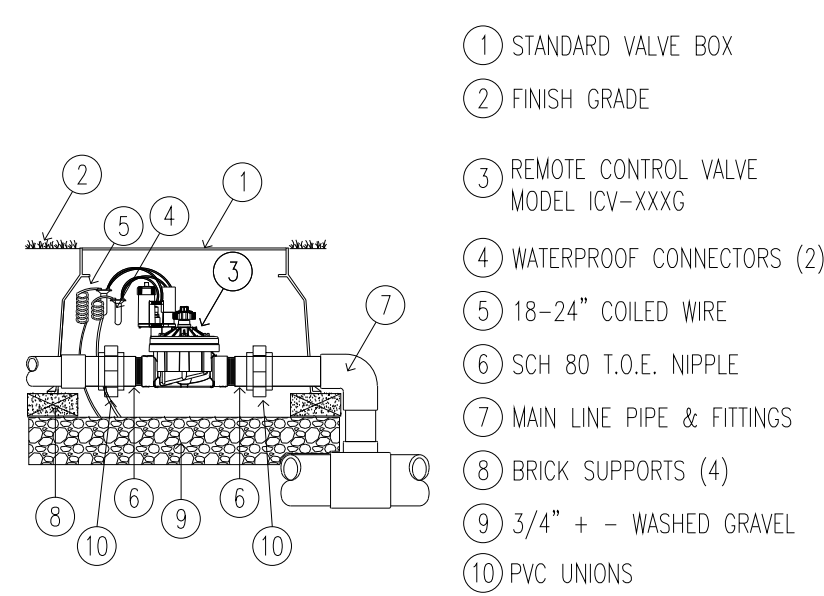
Drawing Title
IRRIGATION PLAN



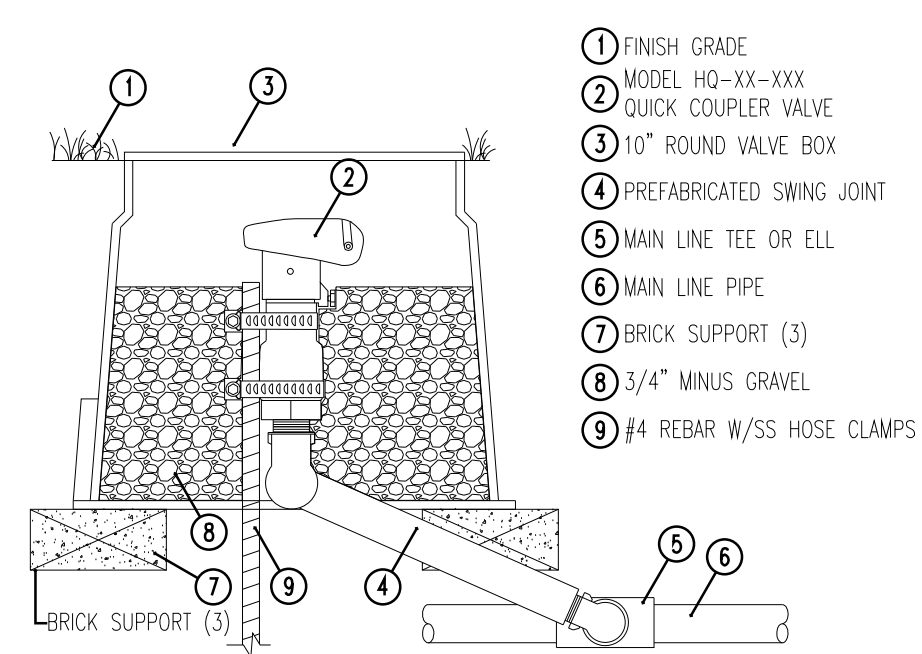
1 **SPRAYS** 570Z SERIES POP-UP (FUNNY PIPE OR SWING JOINT)
SCALE: N.T.S.



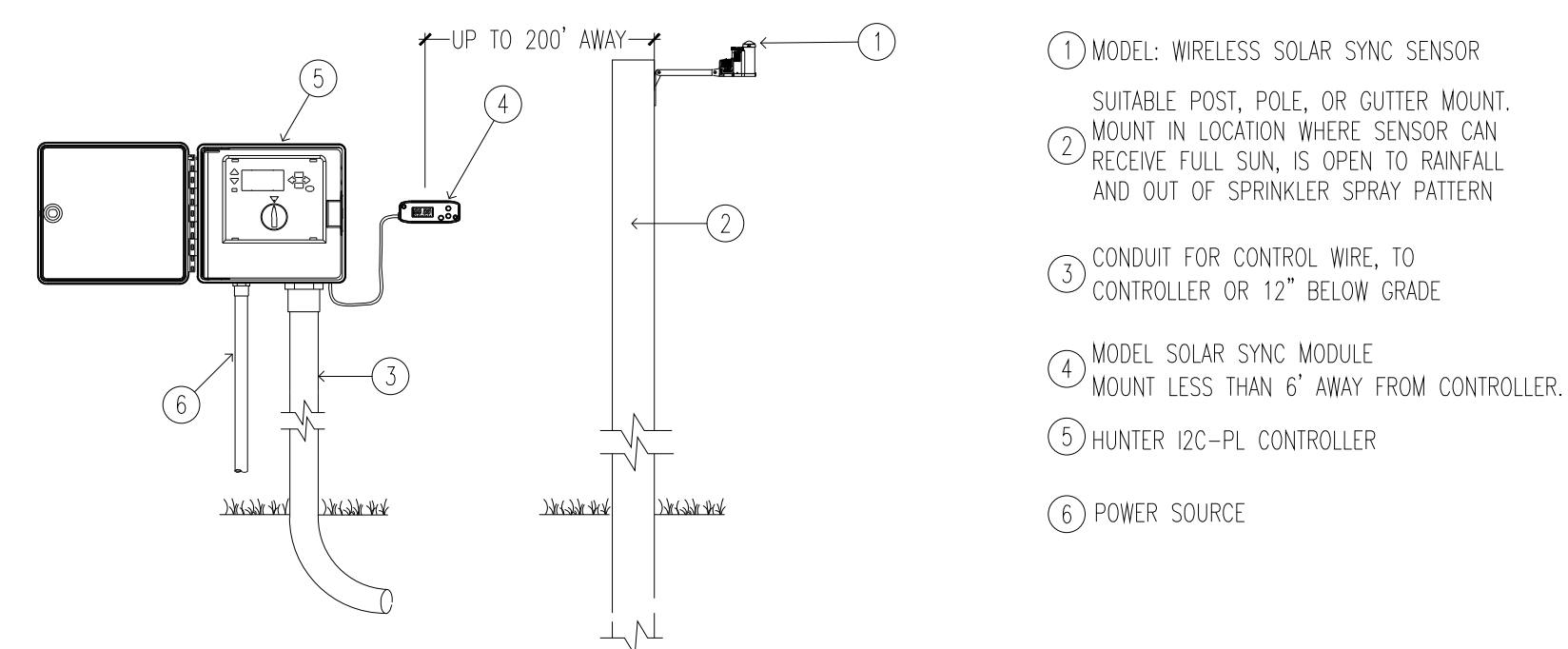
3 **I2C-PL CONTROLLER**
SCALE: N.T.S.



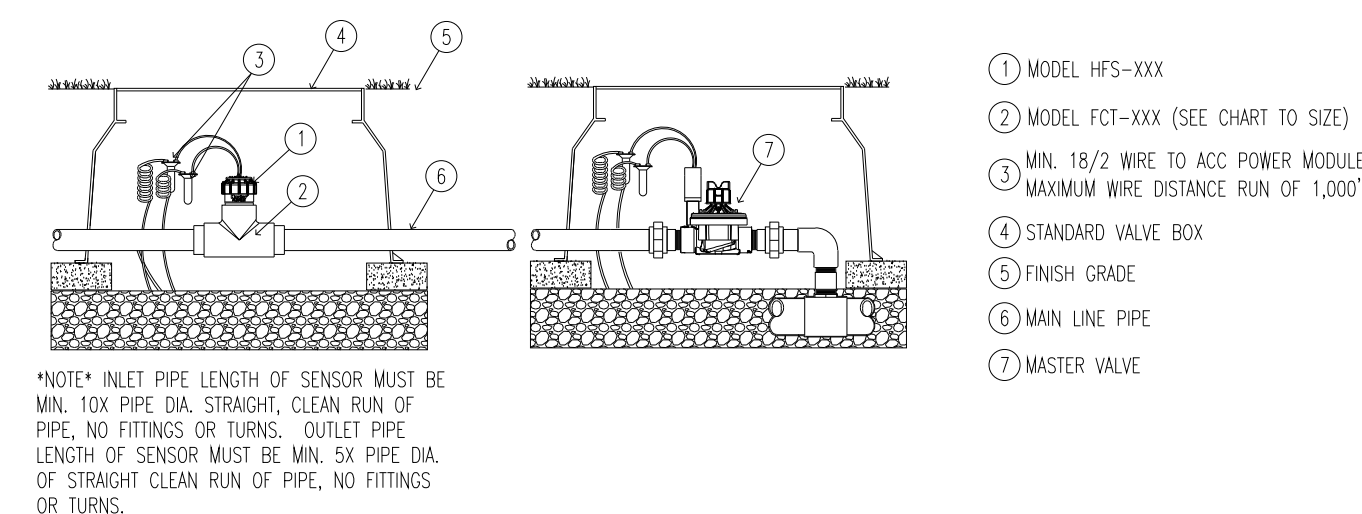
2 **ICV GLOBE VALVE**
SCALE: N.T.S.



XX **QUICK COUPLER VALVE**
SCALE: N.T.S.



4 **SOLAR SYNC SYSTEM**
SCALE: N.T.S.



XX **HFS FLOW SENSOR**
SCALE: N.T.S.

INSTALLATION NOTES

The irrigation system is designed based on the following:
- Water service is sized at least 2"(50mm)
- Minimum water service static pressure is 65 PSI

Irrigation system drawing is schematic. Contractor is to adjust component locations as dictated by site conditions.

The irrigation system product and installation requirements will be as outlined in these notes.

Backflow Device

1 - The backflow device shall be tested prior to the commissioning of the irrigation system. If the device fails the test it will immediately be replaced with a new device which will be tested. Once the backflow device has passed the testing a copy of the test results will be provided to the client.

Valve Boxes/Reach Wells

- 1 - All valve boxes shall be constructed of HDPE, structural foam polyethylene or polymer concrete and fitted with lockable lids.
- 2 - Each valve box shall be sized to allow the device(s) that it encloses to be removed through the valve box lid opening without disassembling the device(s).
- 3 - The valve boxes shall be mounted on bricks or concrete blocks so the top of the valve boxes shall be flush with the turf or mulch. The bricks or concrete blocks will rest on a bed of drain rock having a minimum depth of 3" (75mm).
- 4 - There shall be a space between the bottom of the device(s) and the top of the drain rock of at least 4" (100mm)
- 5 - No part of any valve box will rest directly on any device(s) that are enclosed by the valve box nor will any part of a valve box rest on any pipe, wire or cables
- 6 - All openings in or under the valve box through which any pipe, wire or cables shall enter or exit the valve box will be secured to prevent dirt or debris from entering the valve box

Flow Sensor

- 1 - The flow sensor shall be installed at the location specified in the drawing and shall be installed in a properly sized, lockable valve box
- 2 - To ensure proper flow through the flow sensor, the pipe shall be straight for a minimum distance of 10 times the diameter of the pipe upstream of the flow sensor and shall be straight for a minimum distance of 5 times the diameter of the pipe downstream of the flow sensor. The pipe size for these sections of pipe shall be the same size as the flow sensor
- 3 - Signal cable shall be shielded twisted pair

Flush Valves

- 1 - Flush valves are not shown on the drawings
- 2 - The contractor shall install a minimum of 1 valve at end of each emitter pipe zone. More flush valves shall be installed in each emitter pipe zone, determined by site conditions, to ensure the emitter pipe will be properly winterized

Sleeves

- 1 - Sleeves shall be installed so the top of the sleeves shall be at least 6" (150mm) below the road bed material and will project at least 12" (300mm) into the soft landscape. The ends of the sleeves will be capped and the locations marked with flags. Construction marking tape will be tied to the sleeve end and will be routed to the surface in a loose zig-zag pattern as the excavation is backfilled.
- 2 - The sleeve locations shall be noted on the as-built drawing
- 3 - Sleeves shall be of the sizes and types shown on the drawing

Pipe

- 1 - All pipe sizes, types and locations shall be as marked on the drawing unless site conditions require alterations. All changes shall be noted on the as-built drawing.
- 2 - All pipe that is installed in the parkade shall be supported using approved pipe hangers and the hangers shall be spaced and installed according to code
- 3 - All PVC pipe connections shall be solvent welded
- 4 - All low density poly pipe connections shall use properly sized insert fittings and stainless steel clamps
- 5 - Emitter pipe connections shall use properly sized barbed fittings. Stainless steel clamps will be used where the water pressure exceeds 45 PSI
- 6 - Pipe depths shall be:
Mainline pipe - trench depth shall be deep enough to ensure a minimum coverage of 15" (375mm) on top of the pipe
Lateral pipe - trench depth shall be deep enough to ensure a minimum coverage of 12" (300mm) on top of the pipe
Emitter pipe - trench depth shall be deep enough to ensure a minimum coverage of 4" (100mm) on top of the pipe

- 7 - Mainline pipes shall be flushed prior to installing control valves
- 8 - Lateral pipes shall be flushed prior to connecting emitter pipe

Emitter Pipe

- 1 - Emitter pipe will be installed on the finished grade or on the rootball of the trees or shrubs below the landscape fabric and/or mulch
- 2 - Emitter pipe will be secured in position using staples placed at 3 ft intervals
- 3 - Where emitter pipe is positioned "in-line" in the island shrub beds, the pipe will be installed so that the emitter are placed in an equilateral triangle pattern
- 5 - Where emitter pipe is positioned as a ring around a shrub, the pipe will be placed on the outer edge of the root ball of each plant. If there are 2 emitter pipe rings then the smaller ring shall be installed midway between the plant stem and the outer edge of the root ball.

Control Wires

- 1 - All control wires shall be 14 gage TWU direct burial type
- 2 - The common wires shall be 12 gage TWU direct burial type
- 3 - All wire connection will be made in approved valve boxes using waterproof connectors such as DBY/DBR or equivalent. No wire connection is permitted to be buried.
- 4 - Where the wire and piping are placed in the same trench, the wire will be placed at the bottom of the trench so the pipe will provide protection for the wire. Where the wire is trenched or plowed in, the wire will have at least 12" (300mm) of cover.

Irrigation System Controller

- 1 - Irrigation controller shall be installed at the location shown in the drawings.
- 2 - The contractor is responsible to develop and maintain watering schedules until the plants are established.

Control Valves

- 1 - Control valves will be installed in properly sized valve boxes that will permit the control valve to be removed through the valve box lid opening without disassembling the control valve
- 2 - A union shall be installed immediately before and after each control valve.
- 3 - An isolation valve, sized to match the control valve, will be installed immediately before the union upstream of each control valve
- 4 - At all emitter pipe zones a 150 mesh filter shall be installed on the downstream outlet of the control valves

Master Valve

- 1 - Installation shall be the same as for the control valves except an isolation valve will also be installed immediately after the downstream union

Weather Sensor

- 1 - The weather sensor shall be installed in a location where it will be exposed to the elements but will not be effected by spray from the sprinklers and safe from vandalism

Maintenance Notes:

Irrigation system components shall be maintained according to the manufacturer's recommendations and/or as stated below.

- 1 - When an irrigation system component is removed for maintenance the fittings/pipe end(s) shall be securely capped or plugged to prevent debris, insects or animals from entering the irrigation system

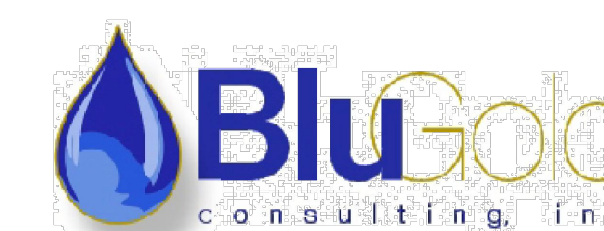
2 - Winterizing:

- Use a compressor with a minimum capacity of 150 CFM
- The compressor output pressure shall be set no higher than 50 PSI

3 - Spring Startup:

- Test each zone and make any necessary adjustments or repairs
- Review controller program and adjust as necessary
- Inspect Solar Sync, replace batteries
- The backflow device will be tested annually and any necessary repairs completed immediately

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Issues/Revisions

No.	Description	Date	By
1	ISSUED FOR DP	19 JAN 2018	BMcG
2	REISSUED FOR DP	22 FEB 2018	BMcG
3	ISSUED FOR 50% CD REVIEW	19 MAR 2018	BMcG
4	ISSUED FOR 75% CD REVIEW	13 JUNE 2018	BMcG
5	ISSUED FOR PRE 99% CD REVIEW	07 SEP 2018	BMcG
6	ISSUED FOR 99% CD REVIEW	01 OCT 2018	BMcG
7	ISSUED FOR TENDER	30 NOV 2018	BMcG
8	REVISED IFT	09 JAN 2019	BMcG

Seal
Client

Project
**COALDALE PROTECTIVE
SERVICES BUILDING**

Scale	A5 NOTED	Designed By	BMcG
Project No.	2511-00689-00	Drawn By	LJ/RG
Date	01/19/2018	Checked By	SS

Drawing Title
IRRIGATION DETAILS

Drawing No.

L500