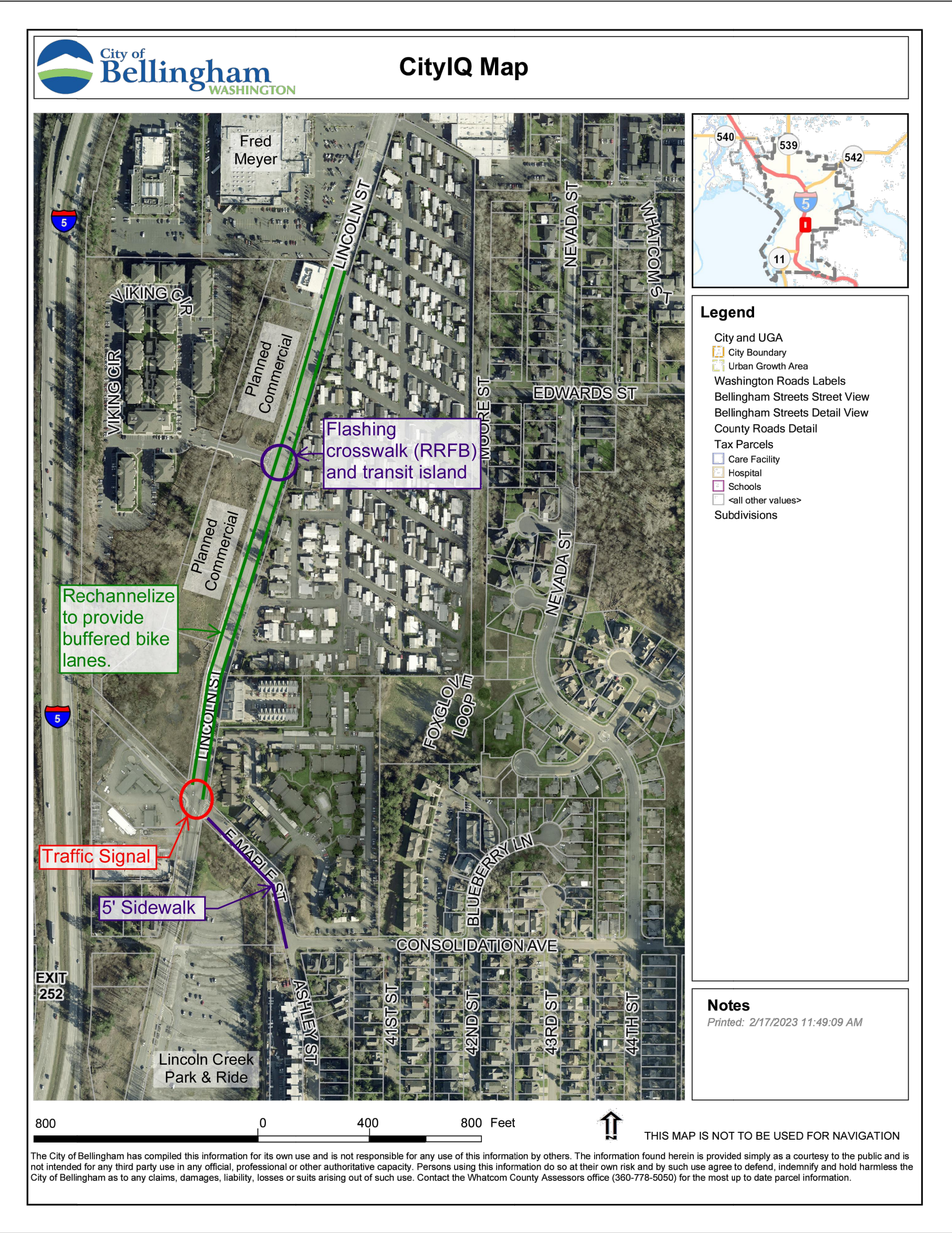


ET034 LINCOLN ST./E MAPLE ST. SIGNAL & NON-MOTORIZED IMPROVEMENTS
CITY OF BELLINGHAM, WASHINGTON

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60% REVIEW

PRELIMINARY

	4			PROJECT ENGINEER	JB	DIRECTOR	PUBLIC WORKS E.C.J.	CITY OF BELLINGHAM, WASHINGTON PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION	SCALE	DATUM	Job. No.	LINCOLN / E. MAPLE SIGNAL & N.M.I. COVER	SHEET 1 OF 19	
	3			DESIGNED/DRAWN	JB/JAM	CITY ENGINEER	C.M.A.S.		Horiz.	NAD 83/98	Date			xx
	2			INSPECTOR	TBD	ASSISTANT DIRECTOR	M.A.O.		Vert.	NAVD 88	Field Bk.			xx
Date	1	Revision	By											

CONTACT PERSON: , PROJECT ENGINEER AT 778-7900

LEGEND

	EXISTING	PROPOSED		EXISTING	PROPOSED
RIGHT OF WAY LINE	----	----	UNDERGROUND POWER	—P—	—P—
PROPERTY LINE	----	----	UTILITY POLE	—○—	—●—
CENTER LINE	----	----	SIDEWALK	----	----
WATER MAIN	—W—	—W—	CURB & GUTTER	====	====
WATER SERVICE	---W---	---W---	EDGE OF PAVEMENT	----	----
WATER VALVE	—○—	—●—	EDGE OF GRAVEL/DIRT	----	----
FIRE HYDRANT	—○—	—●—	WHEELCHAIR RAMP	----	----
SANITARY SEWER MAIN	—S—	—S—	BUILDING LINE	----	----
SANITARY SEWER SERVICE	---SS---	---SS---	TREE LINE	----	----
STORM SEWER MAIN	—D—	—D—	FENCE LINE	----	----
STORM SEWER SERVICE	---D---	---D---	WALL LINE (ROCK)	----	----
SEWER MANHOLE	○	●	WALL LINE	----	----
STORM MANHOLE	⊗	⊙	SHRUBS	----	----
CATCH BASIN	□	■	TREES	----	----
CULVERT	=====	=====	RIP RAP	----	----
DRAINAGE DITCH	----	----	STREET LIGHT JUNCTION BOX	----	----
CREEK	----	----	TRAFFIC JUNCTION BOX	----	----
GAS MAIN	—G—	—G—	LUMINAIRE (STREET LIGHT)	----	----
GAS SERVICE	---G---	---G---	SIGNAL POLE	----	----
UNDERGROUND TELEPHONE	---T---	---T---	PEDESTRIAN SIGNAL	----	----
FIBER OPTIC LINE	—FO—	—FO—			
MONUMENT	—●—	—●—			

ASBUILT
SANITARY SEWER MAIN —S—
SANITARY SEWER MANHOLE ●
(0+50) INDICATES STATION FROM LAST MANHOLE

EROSION CONTROL LEGEND

VG	WSECY BMP C101 PRESERVE NATURAL VEGETATION	CD	WSECY BMP C207, C208, OR C208 = (GEOTEXTILE CHECK DAM)
IP	WSECY BMP C220 STORM DRAIN INLET PROTECTION	SF	WSECY BMP C233 SILT FENCE AT CLEARING LIMITS
TP	TREE PROTECTION FENCE PARKS STANDARD DETAIL		DRAINAGE FLOW DIRECTION ARROWS (SHEET FLOW OR SHALLOW CHANNEL FLOW)

DEMOLITION LEGEND

—	SAWCUT LINE
----	REMOVE CURB AND GUTTER
▨	ASPHALT REMOVAL
▩	CONCRETE REMOVAL
▤	REMOVE SOD AND NATIVE SOIL

GENERAL NOTES

ALL WORK SHALL CONFORM TO THE LATEST EDITION OF "STANDARD SPECIFICATIONS FOR ROAD BRIDGE AND MUNICIPAL CONSTRUCTION" CURRENT EDITION (WSDOT) AND THE "CITY OF BELLINGHAM DEVELOPMENT GUIDELINES AND IMPROVEMENT STANDARDS" UNLESS INDICATED OTHERWISE BY THE CONTRACT DOCUMENTS. IN CASE OF A CONFLICT BETWEEN THE REGULATORY SPECIFICATIONS OR STANDARDS, THE MORE STRINGENT REQUIREMENT WILL PREVAIL. ALL REFERENCES TO "SPECIFICATION SECTIONS" REFER TO THE "STANDARD SPECIFICATIONS FOR ROAD BRIDGE AND MUNICIPAL CONSTRUCTION" UNLESS OTHERWISE NOTED.

THE BEDDING FOR PVC PIPE SHALL BE PEA GRAVEL, ACCORDING TO CITY OF BELLINGHAM STANDARD PLAN No. SS-750.

ALL TRENCH BACKFILL UNDER EXISTING OR FUTURE PAVING SHALL BE BANK RUN GRAVEL FOR TRENCH BACKFILL AND SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY (MODIFIED PROCTOR).

PLUG ALL CULVERTS, SEWERS, AND CONDUITS PRIOR TO ABANDONMENT. AS PER STANDARD SPECIFICATIONS SECTION 7-08.3(4)

ALL LAWN AND VEGETATED AREAS OUTSIDE THE PROJECT LIMITS DISTURBED BY CONSTRUCTION EQUIPMENT, VEHICLES OR PERSONNEL SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER, AT THE CONTRACTORS EXPENSE.

THIS PROJECT MAY REQUIRE VARIOUS PERMITS AS OUTLINED IN THE PROJECT SPECIFICATION'S GENERAL PROVISIONS. ALL WORK SHALL BE PERFORMED IN A MANNER WHICH ENSURES CONFORMANCE WITH ANY PERMIT REQUIREMENTS.

THE CONTRACTOR SHALL ATTEND PRE-CONSTRUCTION CONFERENCE WITH THE CITY OF BELLINGHAM ENGINEERING DIVISION PRIOR TO BEGINNING CONSTRUCTION.

UNDERGROUND UTILITIES ARE KNOWN TO EXIST IN THE AREA OF CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE UTILITY OWNERS FOR LOCATIONS AND TO NOTIFY THE ENGINEER PROMPTLY OF ANY CONFLICT. THE ONE-CALL NUMBER FOR UNDERGROUND UTILITIES IS: 1-800-424-5555.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF ADJACENT UTILITIES WHICH MAY INCLUDE, BUT ARE NOT LIMITED TO, WATER, SEWER, STORM SEWER, POWER, TELEPHONE, CABLE TV, GAS, IRRIGATION, AND STREET LIGHTING.

THE CONTRACTOR SHALL NOTIFY RESIDENTS AND BUSINESSES 48 HOURS IN ADVANCE OF ANY WORK AFFECTING ACCESS OR SERVICE AND SHALL MINIMIZE INTERRUPTIONS TO DRIVEWAYS FOR RESIDENTS AND BUSINESSES ADJACENT TO THE PROJECT.

PUBLIC RIGHTS-OF-WAY SHALL BE KEPT IN A CLEAN AND SERVICEABLE CONDITION AT ALL TIMES. IN THE EVENT MATERIALS ARE INADVERTENTLY DEPOSITED ON ROADWAYS, THE MATERIAL SHALL BE PROMPTLY REMOVED. MATERIALS ARE TO BE SWEEPED AND REMOVED WITH A VACUUM SWEEPER.

PUBLIC AND PRIVATE DRAINAGE WAYS SHALL BE PROTECTED FROM POLLUTION. NO MATERIAL IS TO BE DISCHARGED TO, OR DEPOSITED IN STORMWATER SYSTEMS THAT MAY RESULT IN VIOLATION OF STATE OR FEDERAL WATER QUALITY STANDARDS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTING, MAINTAINING, & REMOVING EROSION CONTROL MEASURES (SILT FENCE, ROCK CHECK DAMS, SILT PONDS, CATCH BASIN FILTERS, ETC...) THROUGHOUT THE DURATION OF THE PROJECT. ALL EROSION CONTROL WORK IS CONSIDERED INCIDENTAL TO THE ITEMS OF WORK IN THE CONTRACT FOR THIS PROJECT. REFER TO THE 'STORM WATER POLLUTION PREVENTION PLAN' SHEETS AND BID ITEMS NOTED IN THE CONTRACT PORTION OF THE PROJECT SPECIFICATIONS FOR SPECIFIC EROSION CONTROL NOTES.

STORM NOTES

BEDDING AND BACKFILL FOR PVC STORM MAIN PIPE SHALL CONFORM TO CITY OF BELLINGHAM STANDARD PLAN No. DR-538.

STORM MAIN CLEANOUTS SHALL CONFORM TO CITY OF BELLINGHAM STANDARD NO. SS-720

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EROSION CONTROL MEASURES (SILT FENCE, ROCK CHECK DAMS, SILT PONDS, ETC..., AS DIRECTED BY THE ENGINEER) THROUGHOUT THE DURATION OF THE PROJECT.

DURING CONSTRUCTION, CATCH BASIN INSERTS OR ACCEPTABLE ALTERNATIVES MUST BE PLACED UNDER ALL EXISTING AND NEWLY CONSTRUCTED CATCH BASIN GRATES WITHIN THE PROJECT SITE.

ALL CATCH BASINS WITHIN THE PROJECT LIMITS SHALL BE CLEANED OUT AT THE COMPLETION OF THE PROJECT AND ANY MATERIAL REMOVED SHALL BE PROPERLY DISPOSED OF.

DURING ANY DITCH, CREEK & DRAINAGE WORK, WATER SHALL BE DIVERTED AROUND THE PROJECT WITH A CITY ENGINEER APPROVED METHOD.

ANY MISCELLANEOUS DRAINAGE FOUND WILL BE REQUIRED TO BE REMOVED OR CONNECTED TO THE NEW DRAINAGE SYSTEM UNDER THE DIRECTION OF THE ENGINEER.

STORM WATER POLLUTION PREVENTION PLAN AND STORM WATER PERMIT APPLICATION (SWPPP) SHALL BE SUBMITTED BY THE CONTRACTOR. CONTRACTOR SHALL SUBMIT DETAILS ON CONSTRUCTION TIMING, HAUL ROUTES, CONSTRUCTION ENTRANCES AND GROUND STABILIZATION. THE SWPPP AND PERMIT SHALL BE REVIEWED AND APPROVED BY THE CITY PRIOR TO COMMENCEMENT OF WORK.

SURVEY NOTES

CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO LOCATE AND PROTECT ALL EXISTING SURVEY MONUMENTS DURING CONSTRUCTION. ALL SURVEY MONUMENTS THAT MAY BE DISTURBED BY CONSTRUCTION OPERATIONS SHALL BE IDENTIFIED, REFERENCED AND REPLACED IN ACCORDANCE WITH RECOGNIZED SURVEYING PRACTICES BY A LICENSED LAND SURVEYOR PROVIDED BY THE CONTRACTOR. CONTRACTOR SHALL COORDINATE WITH PROJECT ENGINEER PRIOR TO DESTRUCTION.

PRELIMINARY

	4		
	3		
	2		
	1		
Date	No	Revision	By

PROJECT ENGINEER JB
DESIGNED/DRAWN JB/JAM
INSPECTOR TBD

DIRECTOR PUBLIC WORKS E.C.J.
CITY ENGINEER C.M.A.S.
ASSISTANT DIRECTOR M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
Horiz. 1"= N/A
Vert. 1"= N/A

DATUM
NAD 83/98
NAVD 88

Job. No. ET034
Date xx
Field Bk. xx

LINCOLN / E. MAPLE SIGNAL & N.M.I.
GENERAL NOTES AND LEGEND

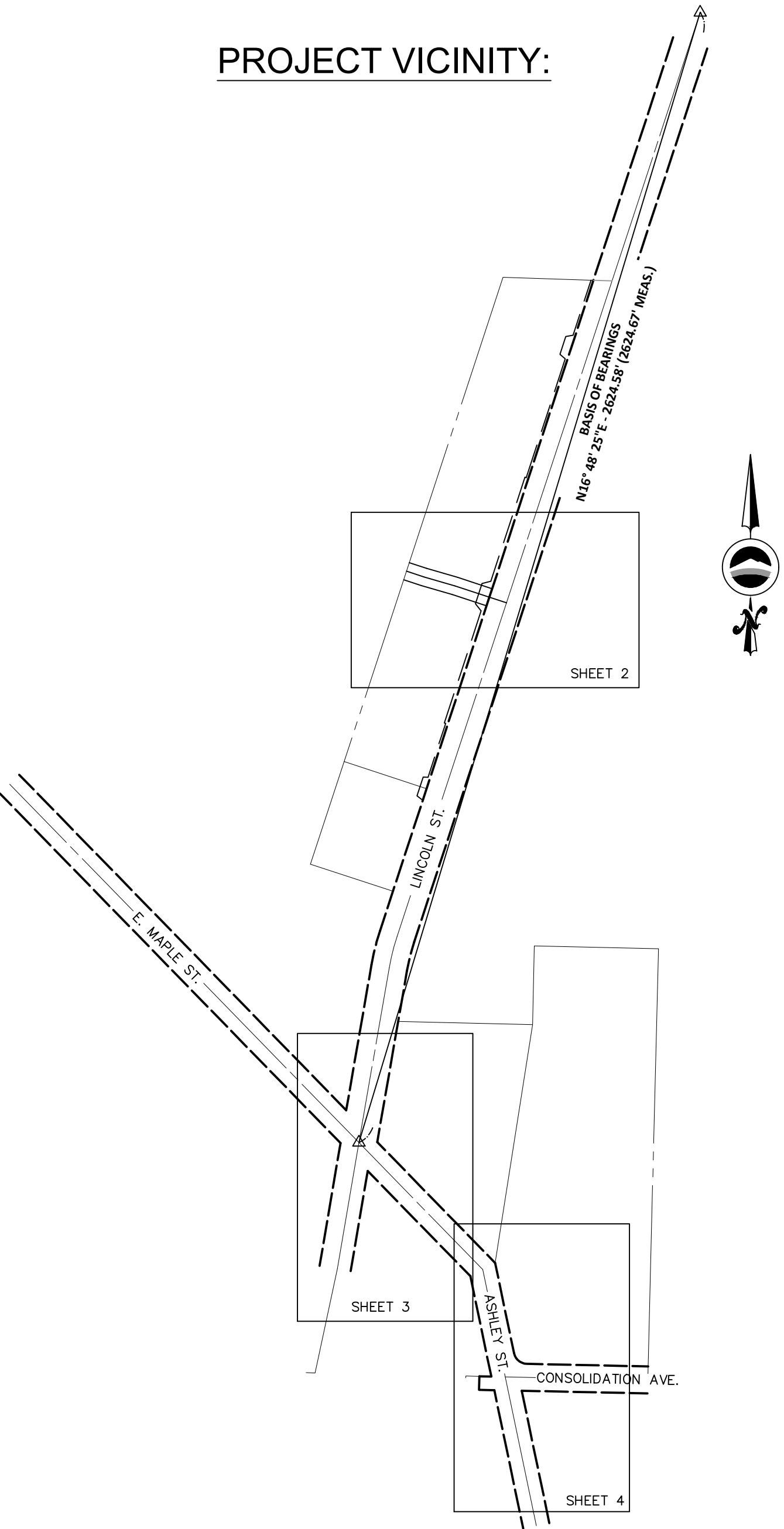
SHEET
2 OF
19

CONTACT PERSON: , PROJECT ENGINEER AT 778-7900

LINCOLN ST / E MAPLE ST TRAFFIC SIGNAL

CITY OF BELLINGHAM PUBLIC WORKS PROJECT #ET034 TOPOGRAPHIC EXISTING CONDITIONS SURVEY

PROJECT VICINITY:



SURVEYOR'S NOTES:

- HORIZONTAL DATUM:** RELATED TO WASHINGTON COORDINATE SYSTEM (NAD83/98), NORTH ZONE

BASIS OF BEARINGS: CITY OF BELLINGHAM SURVEY WORKSHEET #5403 (SIDEWALK IMPROVEMENT PROGRAM ES-0504)

LINE HELD: **N16°48'25"E 2624.58'** (2624.67' MEAS.) BETWEEN FOUND BRASS DISK (COB 967) AT THE INTERSECTION OF LINCOLN ST. AND E. MAPLE ST., AND FOUND BRASS PIN (COB 3223) AT LINCOLN ST. P.I.
- VERTICAL DATUM:** NAVD88

METHOD: CLOSED LOOP DIFFERENTIAL LEVELING

PROJECT BENCHMARKS:

COB 5915	BRASS DISK BM	EL=162.34' (PT #916)
COB 967	BRASS DISK C/L INTERSECTION	EL=170.88' (PT #908)
COB 5916	BRASS DISK BM	EL=161.48'
- DATE OF SURVEY: **FEBRUARY 6-7, 13, 15-17, 23, & 28, AND MARCH 3, 2023**
- PROCEDURES USED IN THIS SURVEY MEET OR EXCEED STANDARDS SET FORTH BY WAC 332-130-145: TOPOGRAPHIC ELEMENTS ON MAPS.
- THE PURPOSE OF THIS SURVEY WAS TO COLLECT TOPOGRAPHIC DATA WITHIN THE RIGHT OF WAY OF THE SCOPED AREA.
- THIS SURVEY WAS ACCOMPLISHED USING A COMBINATION OF RELATIVE GNSS OBSERVATIONS WITH A BASE/ROVER RTK CONFIGURATION AND STANDARD FIELD TRAVERSE PROCEDURES WITH A TOTAL STATION. VERTICAL CONTROL WAS ESTABLISHED USING CLOSED LOOP DIFFERENTIAL LEVELING. ALL MONUMENTS SHOWN WERE VISITED DURING THE COURSE OF THIS SURVEY UNLESS OTHERWISE NOTED.
- SURFACE CONTOURS DEPICTED WITH 1' (MINOR) AND 5' (MAJOR) INTERVALS WERE GENERATED FROM FIELD OBSERVATIONS USING AUTOCAD CIVIL 3D (VERSION 2019) AND ARE TYPICALLY ACCURATE TO WITHIN APPROXIMATELY 0.5±.
- JEPSON AND ASSOCIATES ASSUMES NO LIABILITY FOR ANY SUBSURFACE CONDITIONS OR FEATURES THAT MAY EXIST WHICH WERE UNDETECTABLE OR NOT VIABLE AT THE TIME OF THIS SURVEY AND THEREAFTER.
- THIS IS NOT A BOUNDARY SURVEY AND IS NOT INTENDED TO BE USED AS SUCH, SEE A RECORD OF SURVEY OR PLAT MAP.

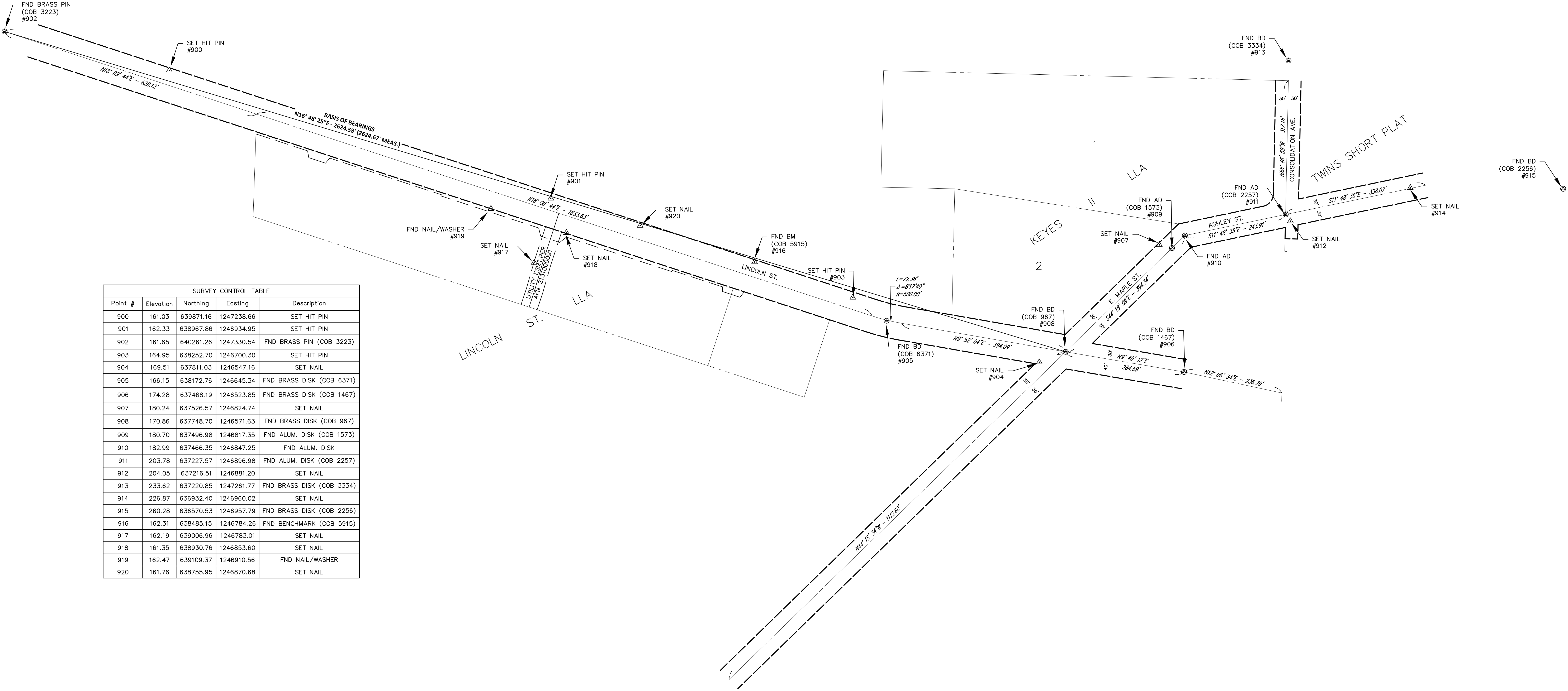
LEGEND:

- △ SURVEY CONTROL
⊙ FOUND CENTERLINE MON.



	4			PROJECT ENGINEER	DIRECTOR PUBLIC WORKS E.C.J.	CITY OF BELLINGHAM, WASHINGTON PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION	SCALE	DATUM	Job. No. ET034	LINCOLN ST / E MAPLE ST TRAFFIC SIGNAL SURVEY CONTROL	SHEET 3 OF 19
	3			DESIGNED/DRAWN	CITY ENGINEER C.M.A.S.		Horiz. 1"= 250'	NAD 83/98	Date 03/17/2023		
	2			INSPECTOR	ASSISTANT DIRECTOR M.A.O.		Vert. N/A	NAVD 88	Field Bk. 1068-1		
Date	No	Revision	By								

SURVEY CONTROL MAP
LINCOLN ST. & MAPLE ST.



SURVEY CONTROL TABLE				
Point #	Elevation	Northing	Easting	Description
900	161.03	639871.16	1247238.66	SET HIT PIN
901	162.33	638967.86	1246934.95	SET HIT PIN
902	161.65	640261.26	1247330.54	FND BRASS PIN (COB 3223)
903	164.95	638252.70	1246700.30	SET HIT PIN
904	169.51	637811.03	1246547.16	SET NAIL
905	166.15	638172.76	1246645.34	FND BRASS DISK (COB 6371)
906	174.28	637468.19	1246523.85	FND BRASS DISK (COB 1467)
907	180.24	637526.57	1246824.74	SET NAIL
908	170.86	637748.70	1246571.63	FND BRASS DISK (COB 967)
909	180.70	637496.98	1246817.35	FND ALUM. DISK (COB 1573)
910	182.99	637466.35	1246847.25	FND ALUM. DISK
911	203.78	637227.57	1246896.98	FND ALUM. DISK (COB 2257)
912	204.05	637216.51	1246881.20	SET NAIL
913	233.62	637220.85	1247261.77	FND BRASS DISK (COB 3334)
914	226.87	636932.40	1246960.02	SET NAIL
915	260.28	636570.53	1246957.79	FND BRASS DISK (COB 2256)
916	162.31	638485.15	1246784.26	FND BENCHMARK (COB 5915)
917	162.19	639006.96	1246783.01	SET NAIL
918	161.35	638930.76	1246853.60	SET NAIL
919	162.47	639109.37	1246910.56	FND NAIL/WASHER
920	161.76	638755.95	1246870.68	SET NAIL



TEMPORARY EROSION/SEDIMENTATION CONTROL

THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION.

THE TESC FACILITIES SHOWN ON THE PLANS MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS.

THE TESC FACILITIES SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE TESC FACILITIES SHALL BE UPGRADED (E.G., ADDITIONAL SUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.) AS NEEDED FOR UNEXPECTED STORM EVENTS.

THE TESC FACILITIES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.

AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT LADEN WATER INTO THE DOWNSTREAM SYSTEM.

WHERE SEEDING FOR TEMPORARY EROSION CONTROL IS REQUIRED, FAST GERMINATING GRASSES SHALL BE APPLIED AT AN APPROPRIATE RATE (E.G., ANNUAL OR PERENNIAL RYE APPLIED AT APPROXIMATELY 80 POUNDS PER ACRE).

WHERE STRAW MULCH FOR TEMPORARY EROSION CONTROL IS REQUIRED, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF TWO INCHES.

SLURRY AND PROCESS WATER RESULTING FROM SAWCUTTING AND ASPHALT COLD-PLANING SHALL BE COLLECTED AND DISPOSED OF IN A MANNER THAT DOES NOT VIOLATE GROUNDWATER OR SURFACE WATER QUALITY PER D.O.E. BMP C152: SAWCUTTING AND SURFACE POLLUTION PREVENTION. PROCESS WATER THAT IS GENERATED DURING HYDRO-DEMOLITION, SURFACE ROUGHENING, OR SIMILAR OPERATIONS SHALL NOT DRAIN TO ANY NATURAL OR CONSTRUCTED DRAINAGE CONVEYANCE AND SHALL BE DISPOSED OF IN A MANNER THAT DOES NOT VIOLATE GROUND WATER OR SURFACE WATER QUALITY STANDARDS

EROSION/SEDIMENTATION CONTROL FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS IN THESE PLANS. LOCATIONS MAYBE MOVED TO SUIT FIELD CONDITIONS, SUBJECT TO APPROVAL BY THE ENGINEER AND THE CITY INSPECTOR.

PRESERVE VEGETATION/MARK CLEARING LIMITS

1. PRIOR TO BEGINNING LAND DISTURBING ACTIVITIES (INCLUDING CLEARING AND GRADING) CLEARLY MARK ALL CLEARING LIMITS AND TREES THAT ARE TO BE PRESERVED WITHIN THE CONSTRUCTION AREA AS SHOWN ON THE DRAWINGS.
2. SILT FENCE, GEOTEXTILE ENCASED BARRIERS, CONSTRUCTION FENCE, ORANGE PLASTIC FENCE, OR OTHER APPROVED MEASURES MAY BE USED TO MARK THE CLEARING LIMITS IN ADDITION TO THE CONSTRUCTION FENCING SHOWN ON THE PLAN.
3. THE DUFF LAYER, NATIVE TOPSOIL, AND NATURAL VEGETATION SHALL BE RETAINED IN AN UNDISTURBED STATE TO THE MAXIMUM DEGREE PRACTICABLE.

SUGGESTED BMPs/BMPs TO BE USED:
BMP C103: HIGH VISIBILITY PLASTIC OR METAL FENCE
BMP C233: SILT FENCE

ESTABLISH CONSTRUCTION ACCESS

IF SEDIMENT IS TRACKED OFF SITE, PUBLIC ROADS SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY, OR MORE FREQUENTLY DURING WET WEATHER. SEDIMENT SHALL BE REMOVED FROM ROADS BY SHOVELING OR PICKUP SWEEPING AND SHALL BE TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA.

SUGGESTED BMPs/BMPs TO BE USED:
BMP C105: STABILIZED CONSTRUCTION ENTRANCE/EXIT

CONTROL FLOW RATES

PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM EROSION DUE TO INCREASES IN THE VELOCITY AND PEAK VOLUMETRIC FLOW RATE OF STORMWATER RUNOFF FROM THE PROJECT SITE.

SUGGESTED BMPs/BMPs TO BE USED:
BMP C207: CHECK DAMS
BMP C235: WATTLES

INSTALL SEDIMENT CONTROLS

1. THE DUFF LAYER, NATIVE SOIL, AND NATURAL VEGETATION SHALL BE RETAINED IN AN UNDISTURBED STATE TO THE MAXIMUM EXTENT PRACTICABLE.
2. SEDIMENT CONTROL BMPs SHALL BE CONSTRUCTED AS ONE OF THE FIRST STEPS IN GRADING. THESE BMPs SHALL BE FUNCTIONAL BEFORE OTHER LAND DISTURBING ACTIVITIES TAKE PLACE.
3. PRIOR TO LEAVING THE CONSTRUCTION SITE, STORMWATER RUNOFF FROM DISTURBED AREAS SHALL PASS THROUGH AN APPROPRIATE SEDIMENT REMOVAL BMP. RUNOFF FROM FULL STABILIZED AREAS MAY BE DISCHARGED WITHOUT A SEDIMENT REMOVAL BMP, BUT MUST MEET PERFORMANCE STANDARDS OF CONTROL FLOWRATES.

SUGGESTED BMPs/BMPs TO BE USED:
BMP C231: BRUSH BARRIER

BMP C232: GRAVEL FILTER BERMS
BMP C233: SILT FENCE
BMP C234: VEGETATED STRIP
BMP C235: STRAW WATTLES
BMP C240: SEDIMENT TRAP

STABILIZE SOILS

1. EXPOSED AND UNWORKED SOILS SHALL BE STABILIZED BY APPLICATION OF EFFECTIVE BMPs THAT PROTECT THE SOIL FROM EROSION FORCES OF RAINDROPS, FLOWING WATER, AND WIND.
2. TO PREVENT EROSION, NO SOILS SHALL REMAIN EXPOSED AND UNWORKED FOR MORE THAN THE TIME PERIODS SET FORTH BELOW:
DURING THE WET SEASON (OCTOBER 1-APRIL 30): 2 DAYS
DURING THE DRY SEASON (MAY 1-SEPT. 30): 7 DAYS
- THIS STABILIZATION REQUIREMENT APPLIES TO ALL SOILS ON SITE, WHETHER AT FINAL GRADE OR NOT. THESE TIMES MAY BE ADJUSTED BY THE LOCAL PERMITTING AUTHORITY IF IT CAN BE SHOWN THAT SITE CONDITIONS OR THE AVERAGE TIME BETWEEN STORM EVENTS JUSTIFIES A DIFFERENT STANDARD.
3. SOILS SHALL BE STABILIZED AT THE END OF THE SHIFT BEFORE A HOLIDAY OR WEEKEND IF NEEDED BASED ON THE WEATHER FORECAST.
4. SOIL STOCKPILES SHALL BE STABILIZED FROM EROSION, PROTECTED WITH SEDIMENT TRAPPING MEASURES, AND WHERE POSSIBLE, BE LOCATED AWAY FROM STORM DRAIN INLETS, WATERWAYS, AND DRAINAGE CHANNELS.
5. APPLICABLE BMPs INCLUDE, BUT ARE NOT LIMITED TO: TEMPORARY AND PERMANENT SEEDING, SODDING, MULCHING, PLASTIC COVERING, EROSION CONTROL FABRICS AND MATTING, THE EARLY APPLICATION OF GRAVEL BASE ON AREAS TO BE PAVED AND DUST CONTROL. SELECT SOIL STABILIZATION MEASURES SHALL BE APPROPRIATE FOR THE TIME OF YEAR, SITE CONDITIONS, ESTIMATED DURATION OF USE, AND THE POTENTIAL WATER QUALITY IMPACTS.
6. REMOVE ALL TESC MEASURES AS SOON AS PRACTICAL AFTER ESTABLISHMENT OF UNIFORM GRASS GROWTH OR INSTALLATION OF OTHER PERMANENT STABILIZATION MEASURES. REPAIR ANY DAMAGE TO STABILIZED SURFACES AFTER REMOVAL OF TESC MEASURES.
7. ALL DISTURBED SOILS WITHIN THE PROJECT LIMITS SHALL BE AMENDED AS SHOWN ON THE LANDSCAPE PLAN WHERE SHOWN AND PER ECOLOGY BMP T5.13:POST CONSTRUCTION SOIL QUALITY AND DEPTH, IN ALL OTHER AREAS.

SUGGESTED BMPs/BMPs TO BE USED:
BMP C121: MULCHING
BMP C122: NETS AND BLANKETS
BMP C123: PLASTIC COVERING
BMP C125: TOP SOILING
BMP C130: SURFACE ROUGHENING
BMP C140: DUST CONTROL

PROTECT SLOPES

1. DESIGN, CONSTRUCT, AND PHASE CUT AND FILL SLOPES IN A MANNER THAT WILL MINIMIZE EROSION. APPLICABLE PRACTICES INCLUDE, BUT ARE NOT LIMITED TO, REDUCING CONTINUOUS LENGTH OF SLOPE WITH TERRACING AND DIVERSIONS REDUCING SLOPE STEEPNESS, AND ROUGHENING SLOPE SURFACES (E.G., TRACK WALKING).
2. OFF-SITE STORMWATER RUNOFF OR GROUNDWATER SHALL BE DIVERTED AWAY FROM SLOPES AND DISTURBED AREAS WITH INTERCEPTOR DIKES, PIPES, AND OR SWALES. OFF-SITE STORMWATER SHOULD BE MANAGED SEPARATELY FROM STORMWATER GENERATED ON THE SITE.

SUGGESTED BMPs/BMPs TO BE USED:
BMP C121: MULCHING
BMP C122: NETS AND BLANKETS
BMP C123: PLASTIC COVERING
BMP C125: TOP SOILING
BMP C130: SURFACE ROUGHENING

PROTECT DRAIN INLETS

ALL STORM DRAIN INLETS OPERABLE DURING CONSTRUCTION AND ALL INLETS WITHIN 200' DOWNSTREAM OF THE PROJECT SITE SHALL BE PROTECTED WITH CATCH BASIN FILTERS SO THAT STORMWATER RUNOFF DOES NOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR TREATED TO REMOVE SEDIMENT. CATCH BASIN FILTERS IN THE ROADWAY WILL BE OIL/SEDIMENT FILTERS AND CATCH BASIN FILTERS OUTSIDE OF THE ROADWAY WILL BE SEDIMENT FILTERS.

SUGGESTED BMPs/BMPs TO BE USED:
BMP C220: STORMDRAIN INLET PROTECTION

STABILIZE CHANNELS AND OUTLETS

1. ALL CONVEYANCE CHANNELS WITH THE PROJECT LIMITS SHALL BE STABILIZED TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT TRANSPORT.
2. PROVIDE STABILIZATION INCLUDING ARMORING MATERIAL, ADEQUATE TO PREVENT EROSION OF OUTLETS, ADJACENT STREAMBANKS, SLOPES, AND DOWNSTREAM REACHES AT OUTLETS OF ALL CONVEYANCE SYSTEMS.

SUGGESTED BMPs/BMPs TO BE USED:
BMP C122: NETS AND BLANKETS
BMP C202: CHANNEL LINING
BMP C209: OUTLET PROTECTION

CONTROL POLLUTANTS

1. ALL POLLUTANTS, INCLUDING WASTE MATERIALS AND DEMOLITION DEBRIS, THAT OCCUR ON SITE SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORMWATER.
2. COVER, CONTAINMENT, AND PROTECTION FROM VANDALISM SHALL BE PROVIDED FOR ALL CHEMICALS, LIQUID PRODUCTS, PETROLEUM PRODUCTS, AND OTHER MATERIALS THAT HAVE THE POTENTIAL TO POSE A THREAT TO HUMAN HEALTH OR THE ENVIRONMENT. ON-SITE FUELING TANKS SHALL INCLUDE SECONDARY CONTAINMENT.
3. MAINTENANCE, FUELING, AND REPAIR OF HEAVY EQUIPMENT AND VEHICLES

SHALL BE CONDUCTED USING SPILL PREVENTION AND CONTROL MEASURES. CONTAMINATED SURFACES SHALL BE CLEANED IMMEDIATELY FOLLOWING ANY SPILL INCIDENT.

BMPs SHALL BE USED TO PREVENT OR TREAT CONTAMINATION OF STORMWATER RUNOFF BY pH MODIFYING SOURCES. THESE SOURCES INCLUDE, BUT ARE NOT LIMITED TO: BULK CEMENT, CEMENT KILN DUST, FLY ASH, NEW CONCRETE WASHING AND CURING WATERS, WASTE STREAMS GENERATED FROM CONCRETE GRINDING AND SAWING, EXPOSED AGGREGATE PROCESSES, AND CONCRETE PUMPING AND MIXER WASHOUT WATERS. PERMITTEES SHALL ADJUST THE pH OF STORMWATER IF NECESSARY TO PREVENT VIOLATIONS OF WATER QUALITY STANDARDS.

SUGGESTED BMPs/BMPs TO BE USED:
BMP C151: CONCRETE HANDLING
BMP C152: SAWCUTTING AND SURFACING POLLUTION PROTECTION
BMP C153: MATERIALS DELIVERY, STORAGE, AND CONTAINMENT

CONTROL DEWATERING

- 1) FOUNDATION, VAULT, AND TRENCH DE-WATERING WATER, WHICH HAVE SIMILAR CHARACTERISTICS TO STORMWATER RUNOFF AT THE SITE, SHALL BE DISCHARGED INTO A CONTROLLED CONVEYANCE SYSTEM PRIOR TO DISCHARGE TO A SEDIMENT TRAP OF SEDIMENT POND.
- 2) CLEAN, NON-TURBID DE-WATERING WATER, SUCH AS WELL-POINT GROUND WATER, CAN BE DISCHARGED TO SYSTEMS TRIBUTARY TO, OR DIRECTLY INTO SURFACE WATERS OF THE STATE, AS SPECIFIED IN ELEMENT #8. PROVIDED THE DE-WATERING FLOW DOES NOT CAUSE EROSION OR FLOODING OF RECEIVING WATERS. CLEAN DE-WATERING WATER SHOULD NOT BE ROUTED THROUGH STORMWATER SEDIMENT PONDS.
- 3) OTHER DE-WATERING DISPOSAL OPTIONS MAY INCLUDE:
a) INFILTRATION.
b) TRANSPORT OFF SITE IN A VEHICLE, SUCH AS A VACUUM FLUSH TRUCK, FOR LEGAL DISPOSAL IN A MANNER THAT DOES NOT POLLUTE STATE WATERS.
c) ECOLOGY APPROVED ON-SITE CHEMICAL TREATMENT OR OTHER SUITABLE TREATMENT TECHNOLOGIES.
d) SANITARY SEWER DISCHARGE WITH LOCAL SEWER DISTRICT APPROVAL, IF THERE IS NO OTHER OPTION.
e) USE OF A SEDIMENTATION BAG (DIRTBAG OR APPROVED EQUAL) WITH OUTFALL TO A DITCH OR SWALE FOR SMALL VOLUMES OF LOCALIZED DE-WATERING.
- 4) HIGHLY TURBID CONTAMINATED DEWATERING WATER FROM CONSTRUCTION EQUIPMENT OPERATION, CLAMSHELL DIGGING, CONCRETE TREMIE POUR, OR WORK INSIDE A COFFERDAM SHALL BE HANDLED SEPARATELY FROM STORMWATER.

MAINTAIN BMPs

WHEN SEDIMENT ACCUMULATION IN SEDIMENTATION STRUCTURES, OTHER THAN INLET PROTECTION DEVICES, HAS REACHED A POINT ONE-THIRD DEPTH OF SEDIMENT STRUCTURE OR DEVICE, OR IF FLOW THROUGH THE DEVICE IS REDUCED BY MORE THAN ONE-THIRD CAPACITY, THE CONTRACTOR SHALL REMOVE AND REPLACE DISPOSABLE DEVICES OR CLEAN AND DISPOSE OF SEDIMENT.

TEMPORARY EROSION AND SEDIMENT CONTROL BMPs SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BMPs ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOILS SHALL BE PERMANENTLY STABILIZED.

SUGGESTED BMPs/BMPs TO BE USED:
BMP C150: MATERIALS ON HAND

MANAGE THE PROJECT

SEASONAL WORK LIMITATIONS:
FROM OCTOBER 1 THROUGH APRIL 30, CLEARING, GRADING, AND OTHER SOIL DISTURBING ACTIVITIES SHALL ONLY BE PERMITTED IF SHOWN TO THE SATISFACTION OF THE LOCAL PERMITTING AUTHORITY THAT THE TRANSPORT OF SEDIMENT FROM THE CONSTRUCTION SITE TO RECEIVING WATERS WILL BE PREVENTED THROUGH A COMBINATION OF THE FOLLOWING:
a) SITE CONDITIONS INCLUDING EXISTING VEGETATIVE COVERAGE, SLOPE, SOIL TYPE AND PROXIMITY TO RECEIVING WATERS; AND
b) LIMITATIONS ON ACTIVITIES AND THE EXTENT OF DISTURBED AREAS; AND
c) PROPOSED EROSION AND SEDIMENT CONTROL MEASURES.

BASED ON THE INFORMATION PROVIDED AND LOCAL WEATHER CONDITIONS, THE LOCAL PERMITTING AUTHORITY MAY EXPAND OR RESTRICT THE SEASONAL LIMITATION ON SITE DISTURBANCE. THE LOCAL PERMITTING AUTHORITY SHALL TAKE ENFORCEMENT ACTION—SUCH AS NOTICE OF VIOLATION, ADMINISTRATIVE ORDER, PENALTY OR STOP-WORK ORDER—UNDER THE FOLLOWING CIRCUMSTANCES:
—IF, DURING THE COURSE OF ANY CONSTRUCTION ACTIVITY OR SOIL DISTURBANCE DURING THE SEASONAL LIMITATION PERIOD, SEDIMENT LEAVES THE CONSTRUCTION SITE CAUSING A VIOLATION OF THE SURFACE WATER QUALITY STANDARD
OR
—IF CLEARING AND GRADING LIMITS OR EROSION AND SEDIMENT CONTROLS MEASURES SHOWN IN THE APPROVED PLAN ARE NOT MAINTAINED.

SUGGESTED BMPs/BMPs TO BE USED:
BMP C162: SCHEDULING

PROTECT LOW IMPACT DEVELOPMENT BMPs.

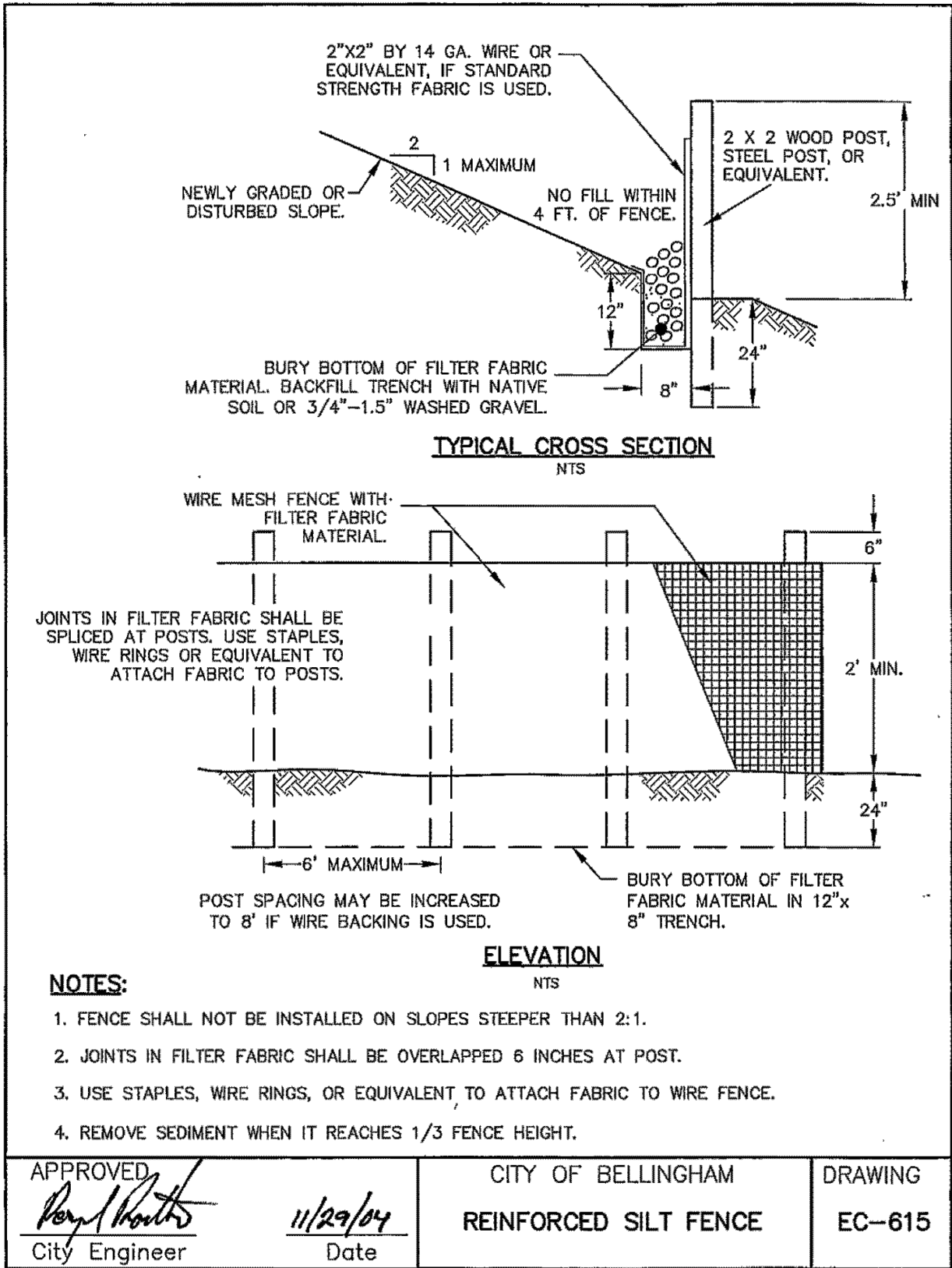
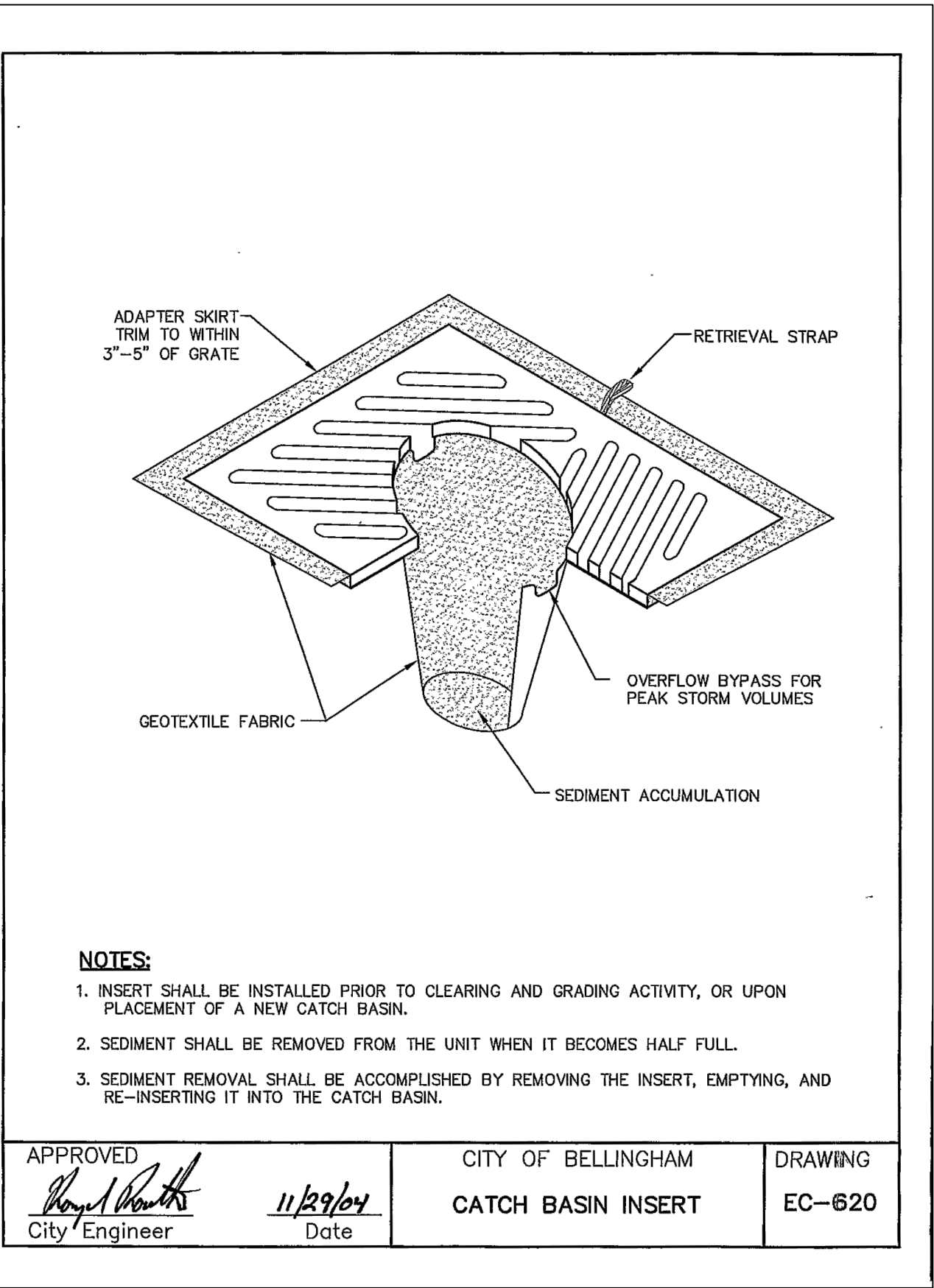
(A) PROTECT ALL BIORETENTION AND RAIN GARDEN BMPs FROM SEDIMENTATION THROUGH INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENT CONTROL BMPs ON PORTIONS OF THE SITE THAT DRAIN INTO THE BIORETENTION AND/OR RAIN GARDEN BMPs. RESTORE THE BMPs TO THEIR FULLY FUNCTIONING CONDITION IF THEY ACCUMULATE SEDIMENT DURING CONSTRUCTION. RESTORING THE BMP MUST INCLUDE REMOVAL OF SEDIMENT AND ANY SEDIMENT-LADEN BIORETENTION/RAIN GARDEN SOILS, AND REPLACING THE REMOVED SOILS WITH SOILS MEETING THE DESIGN SPECIFICATION.

(B) PREVENT COMPACTING BIORETENTION AND RAIN GARDEN BMPs BY EXCLUDING CONSTRUCTION EQUIPMENT AND FOOT TRAFFIC. PROTECT COMPLETED LAWN AND LANDSCAPED AREAS FROM COMPACTION DUE TO CONSTRUCTION EQUIPMENT.

(C) CONTROL EROSION AND AVOID INTRODUCING SEDIMENT FROM SURROUNDING LAND USES ONTO PERMEABLE PAVEMENTS. DO NOT ALLOW MUDDY CONSTRUCTION EQUIPMENT ON THE BASE MATERIAL OR PAVEMENT. DO NOT ALLOW SEDIMENT-LADEN RUNOFF ONTO PERMEABLE PAVEMENTS OR BASE MATERIALS.

(D) PAVEMENT FOULED WITH SEDIMENTS OR NO LONGER PASSING AN INITIAL INFILTRATION TEST MUST BE CLEANED USING PROCEDURES IN ACCORDANCE WITH THE ECOLOGY MANUAL OR THE MANUFACTURER'S PROCEDURES.

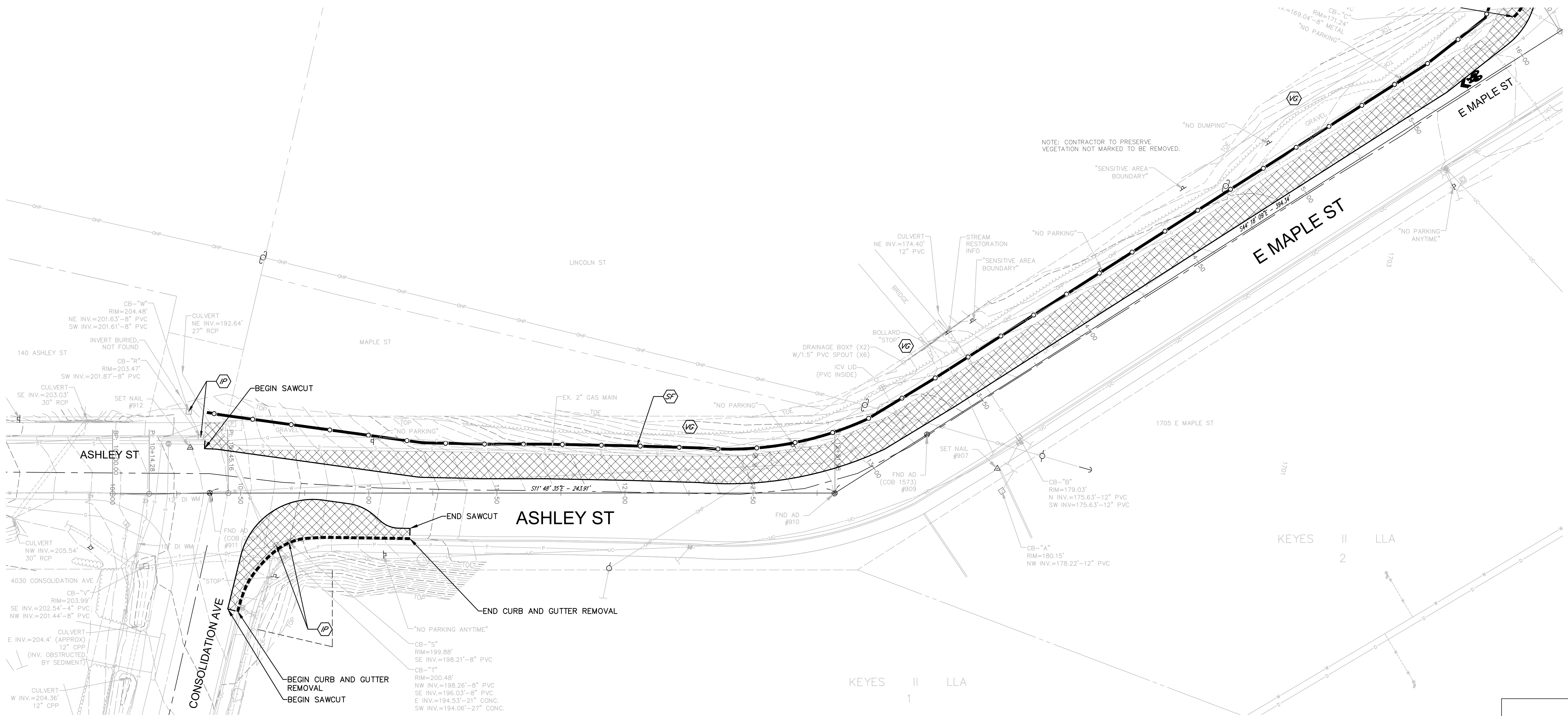
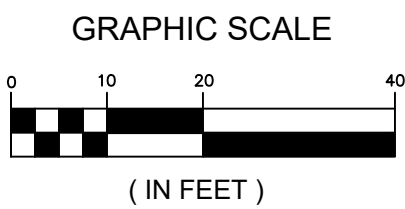
(E) KEEP ALL HEAVY EQUIPMENT OFF EXISTING SOILS UNDER LID FACILITIES THAT HAVE BEEN EXCAVATED TO FINAL GRADE TO RETAIN THE INFILTRATION RATE OF THE SOILS.



PRELIMINARY

	4			PROJECT ENGINEER	JB	DIRECTOR	PUBLIC WORKS E.C.J.	CITY OF BELLINGHAM, WASHINGTON	SCALE	DATUM	Job. No.	LINCOLN / E. MAPLE SIGNAL & N.M.I.	SHEET
	3			DESIGNED/DRAWN	JB/JAM		CITY ENGINEER	PUBLIC WORKS DEPARTMENT	Horiz. 1"= N/A	NAD 83/98	Date	STORMWATER POLLUTION PREVENTION PLAN	5
	2			INSPECTOR	TBD		ASSISTANT DIRECTOR	ENGINEERING DIVISION	Vert. 1"= N/A	NAVD 88	Field Bk.		OF
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Date	No		Revision	By									

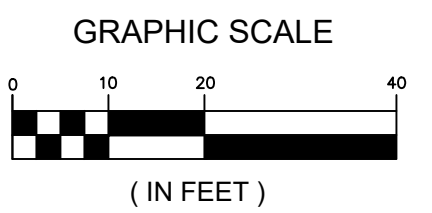
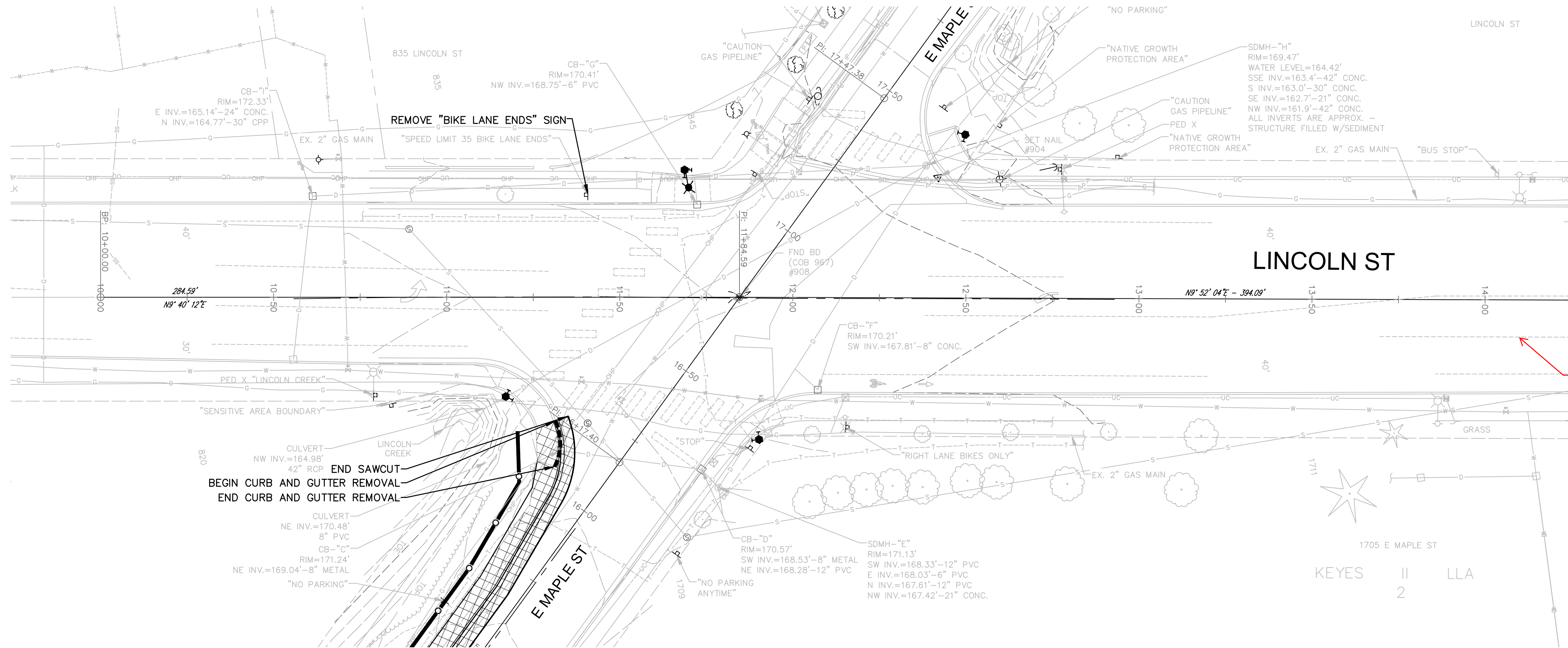
CONTACT PERSON: , PROJECT ENGINEER AT 778-7900



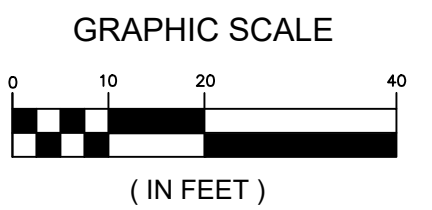
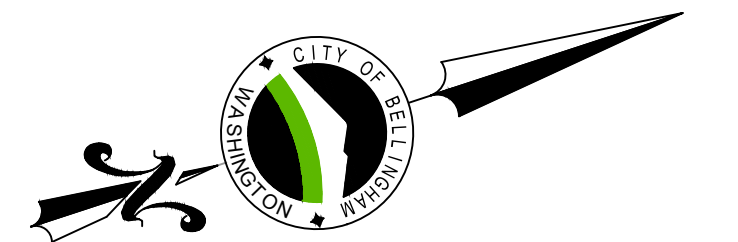
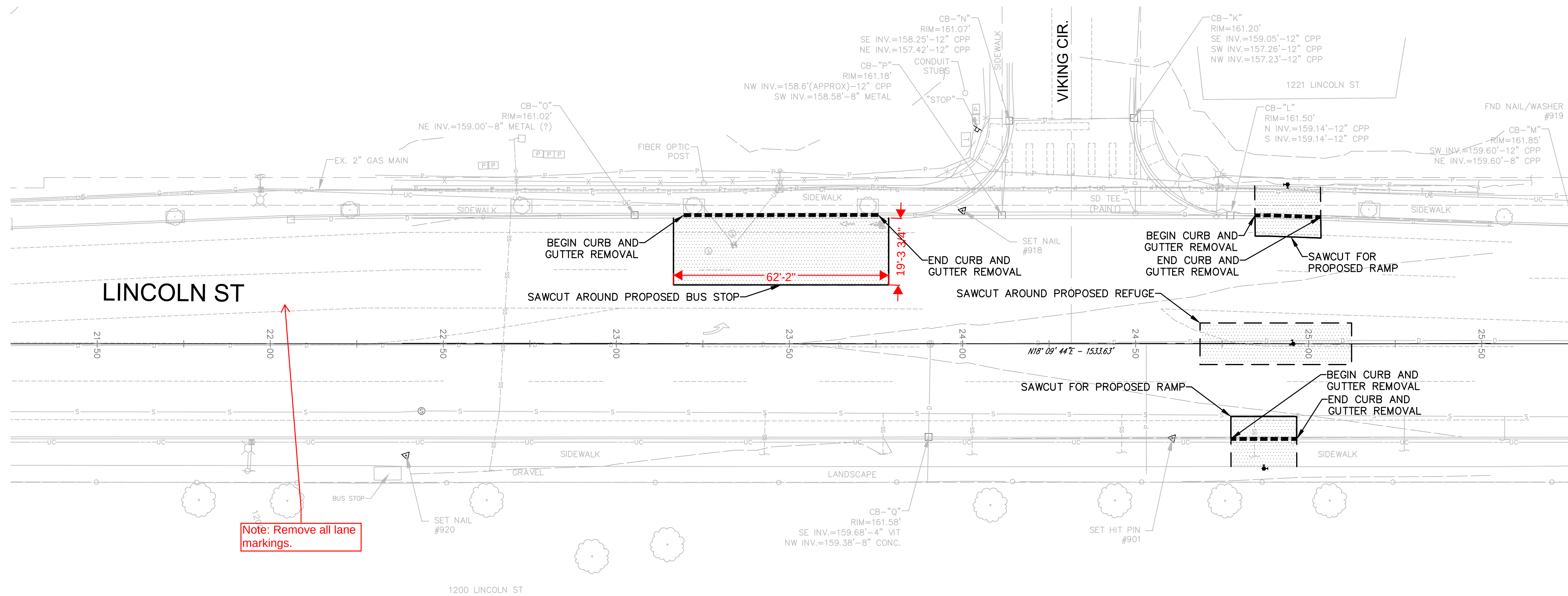
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CONTACT PERSON: _____, PROJECT ENGINEER AT 778-7900



Note: Remove all lane markings.

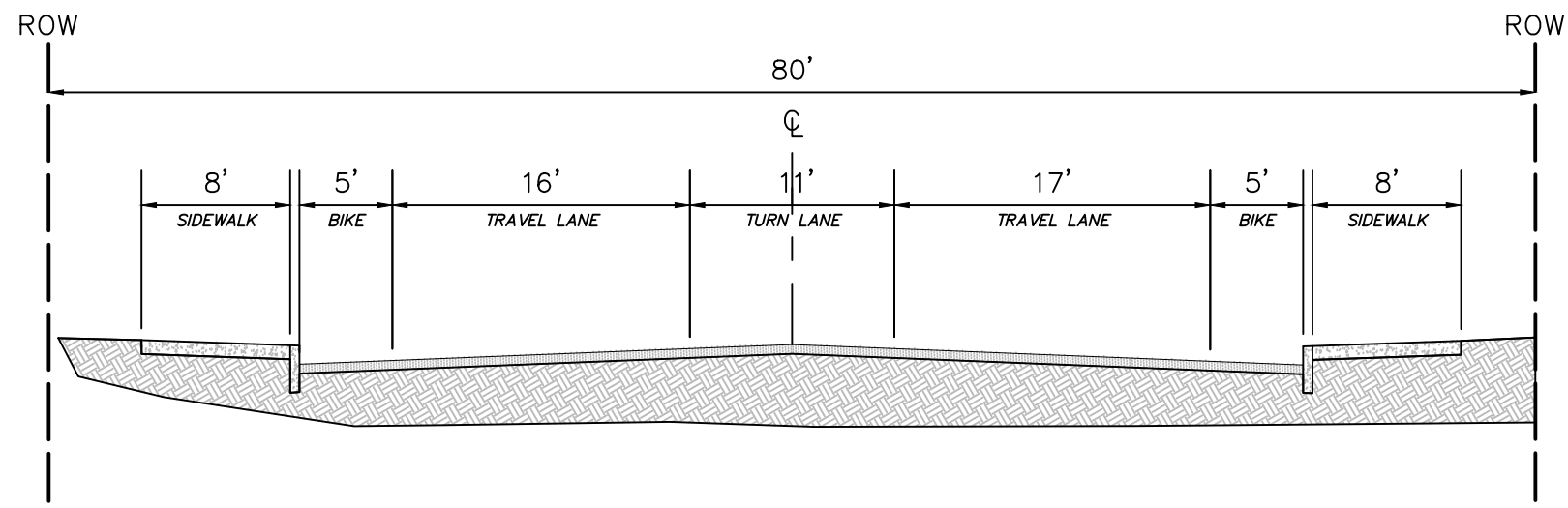


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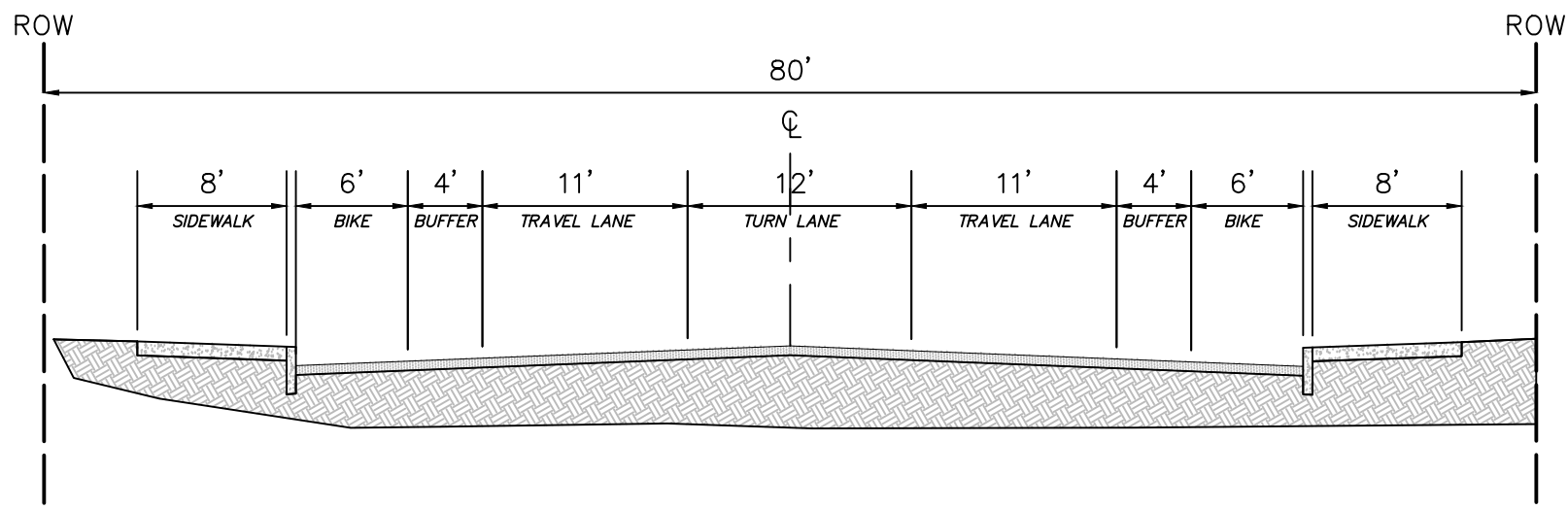
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4		PROJECT ENGINEER JB		DIRECTOR PUBLIC WORKS E.C.J.		CITY OF BELLINGHAM, WASHINGTON PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION		SCALE		DATUM		Job. No. ET034		LINCOLN / E. MAPLE SIGNAL & N.M.I. DEMO & TESC LINCOLN ST STA 20+25 TO 30+25		SHEET 7 OF 19	
3		DESIGNED/DRAWN JB/JAM		CITY ENGINEER C.M.A.S.				Horiz. 1"= 20'		NAD 83/98		Date xx					
2		INSPECTOR TBD		ASSISTANT DIRECTOR M.A.O.				Vert. 1"= NA		NAVD 88		Field Bk. xx					
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Date	No	Revision		By													

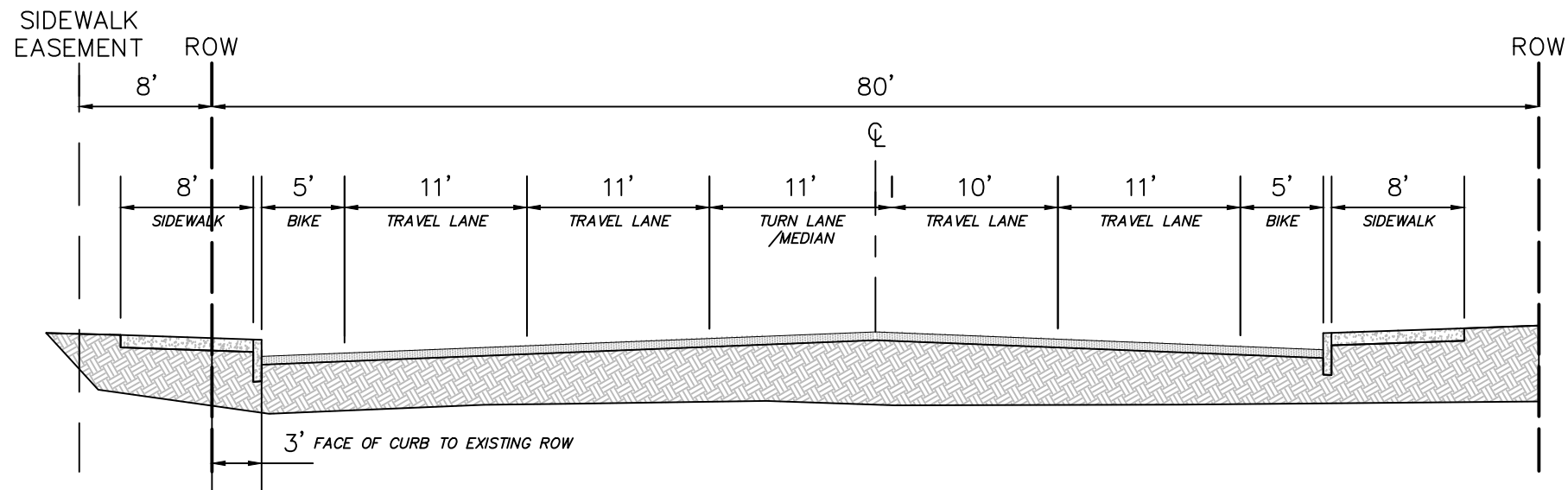
CONTACT PERSON: _____, PROJECT ENGINEER AT 778-2700



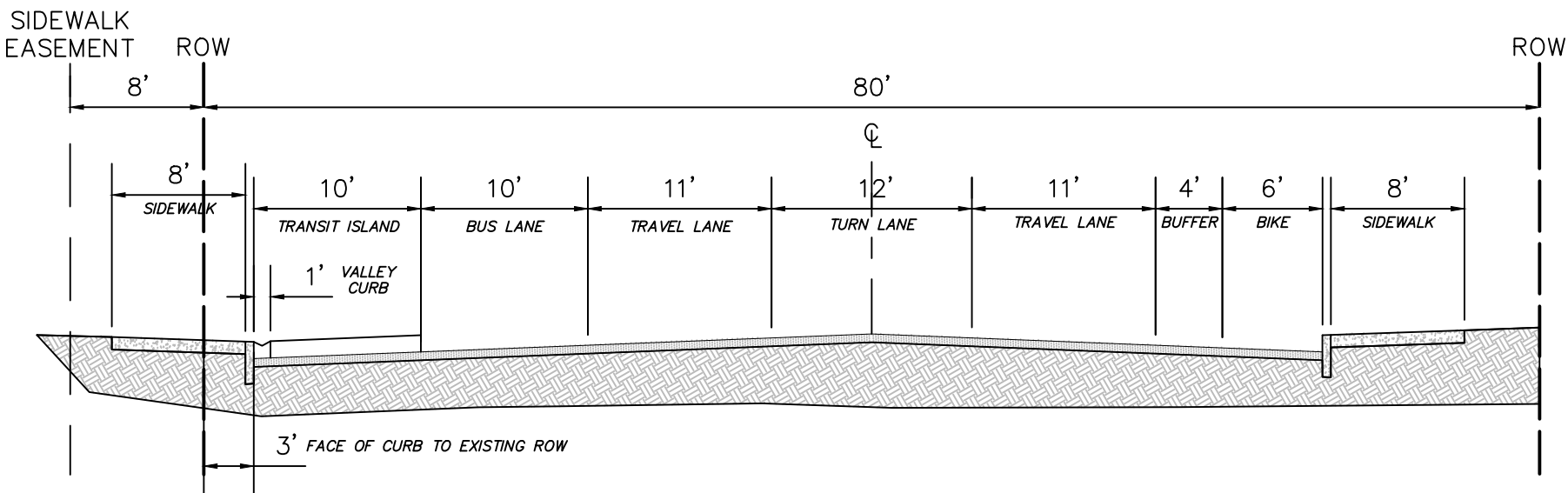
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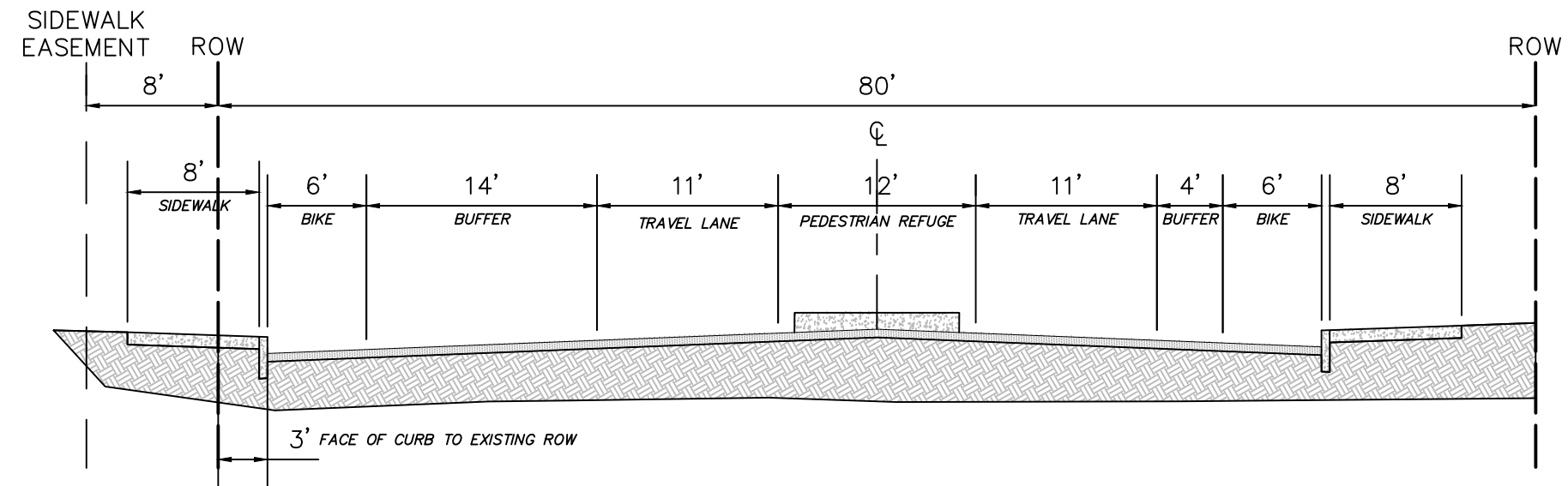
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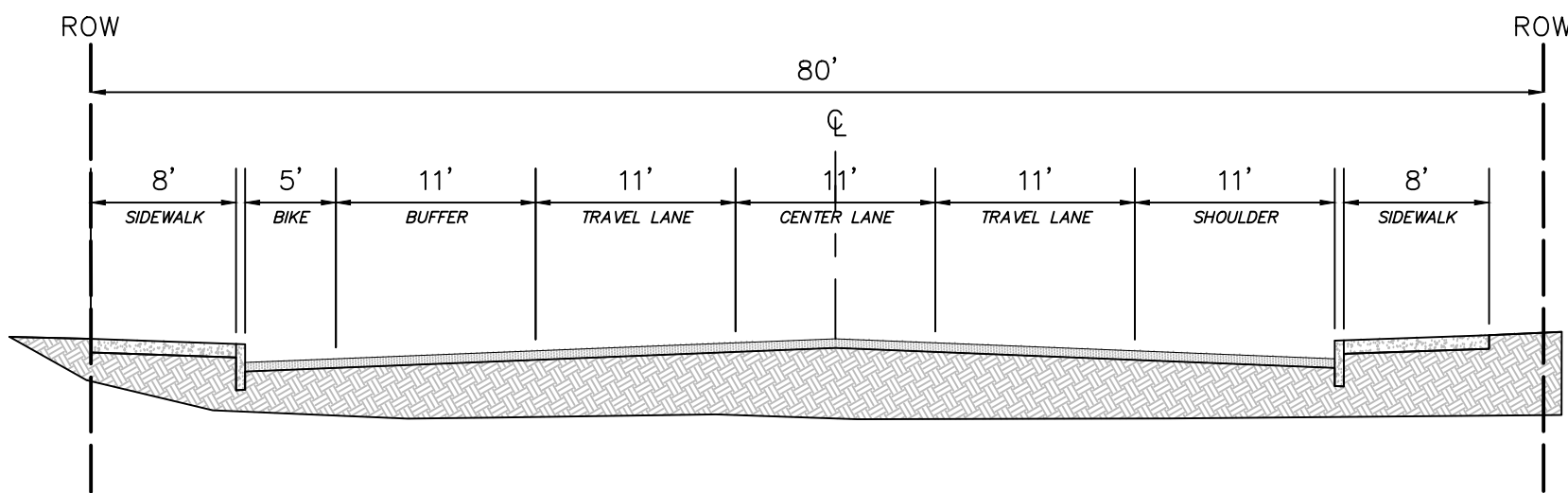
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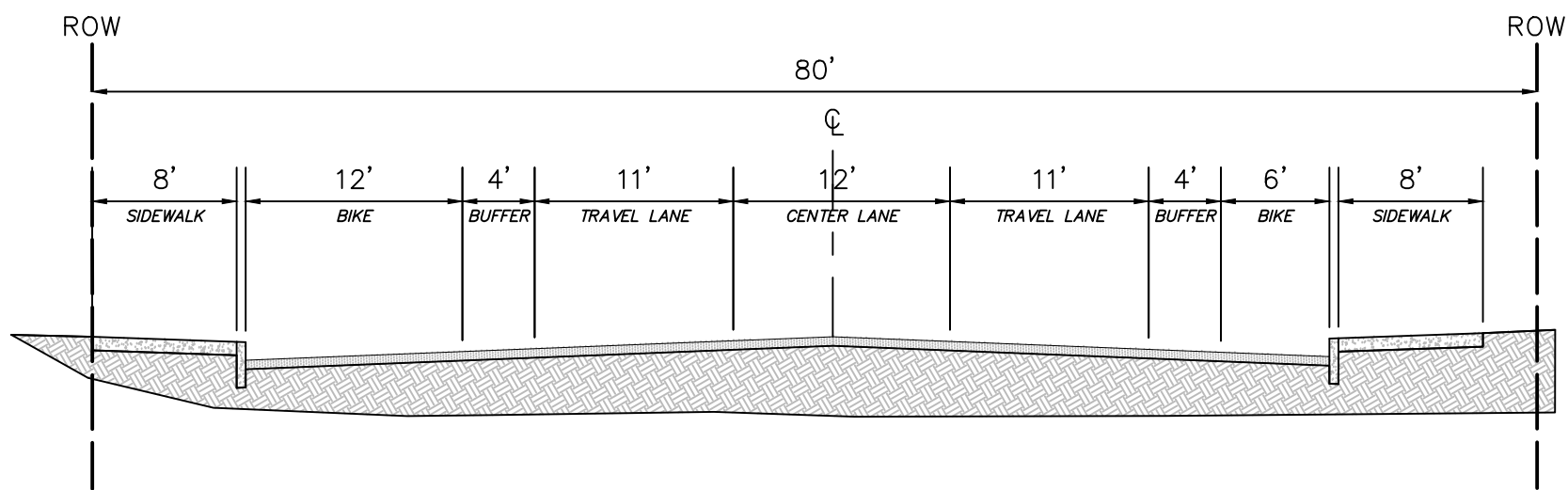
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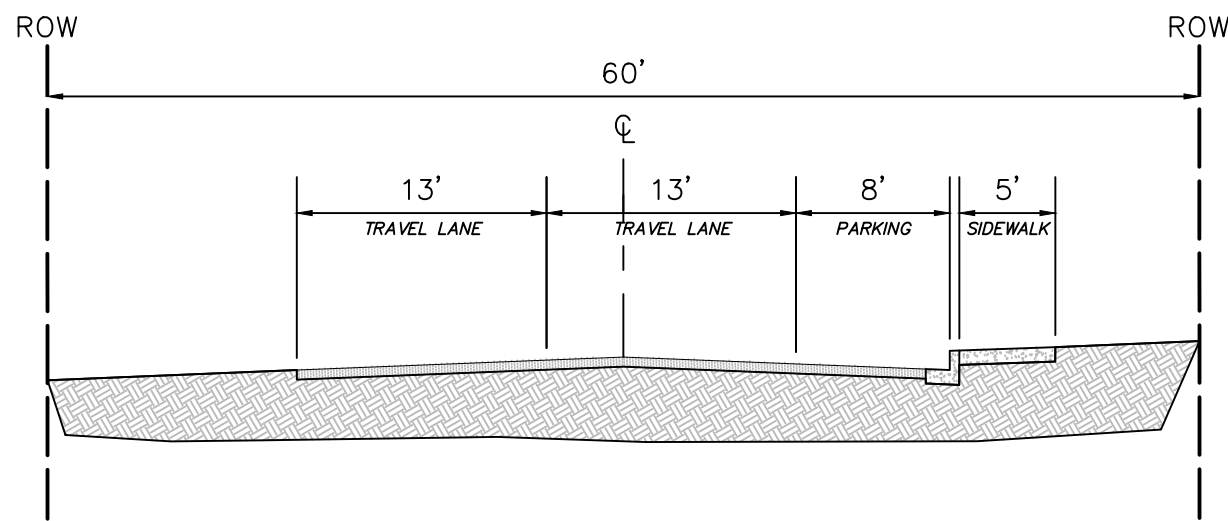
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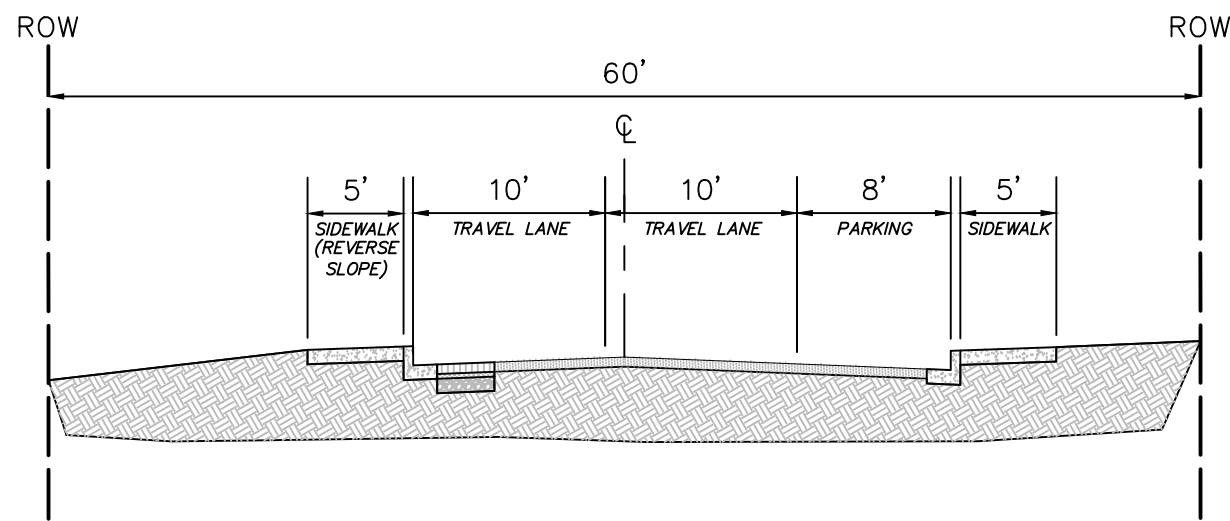
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PROPOSED - LINCOLN ST AT STA 23+75
NTS



EXISTING - E. MAPLE ST.
NTS



PROPOSED - E. MAPLE ST.
NTS

NOTE FOR 60% REVIEWERS:

THE FOLLOWING WILL BE SHOWN ON THE 90% PLANS:

THERE WILL BE THREE SIDEWALK CONDITIONS ALONG THE E. MAPLE ST SECTION.

CONDITION 1 (APPROX. STA 10+15 TO STA 11+50 & STA 13+00 TO STA 14+75):

- 5-FT SIDEWALK W/ REVERSE SLOPE
- STANDARD CURB AND GUTTER
- 1.5-FT FILL SECTION AT SIDEWALK SLOPE
- 2:1 CATCH SLOPE FROM 1.5-FT WIDE SECTION TO EXISTING GRADE

CONDITION 2 (APPROX. STA 11+50 TO STA 13+00):

- 5.5-FT SIDEWALK W/ REVERSE SLOPE
- STANDARD CURB AND GUTTER
- THICKENED EDGE AT BACK OF WALK
- PEDESTRIAN HANDRAIL AT BACK OF WALK

CONDITION 3 (APPROX. STA 14+75 TO LINCOLN INTERSECTION):

- 5-FT SIDEWALK W/ STANDARD SLOPE (SLOPE TOWARD ROADWAY)

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Date	No	Revision	By

PROJECT ENGINEER JB
DESIGNED/DRAWN JB/JAM
INSPECTOR TBD

DIRECTOR PUBLIC WORKS E.C.J.
CITY ENGINEER C.M.A.S.
ASSISTANT DIRECTOR M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
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Vert. 1"= N/A

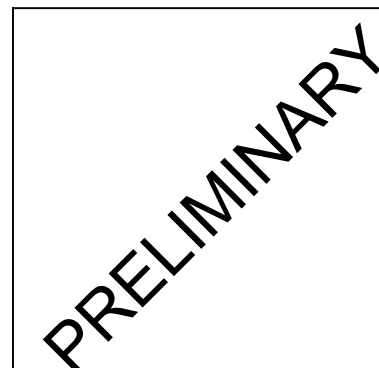
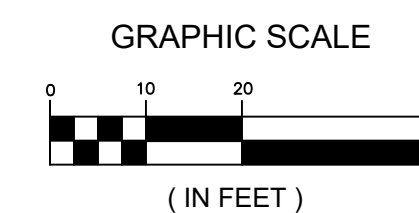
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NAD 83/98
NAVD 88

Job. No. ET034
Date xx
Field Bk. xx

LINCOLN / E. MAPLE SIGNAL & N.M.I.
TYPICAL ROAD SECTIONS

SHEET
8 OF
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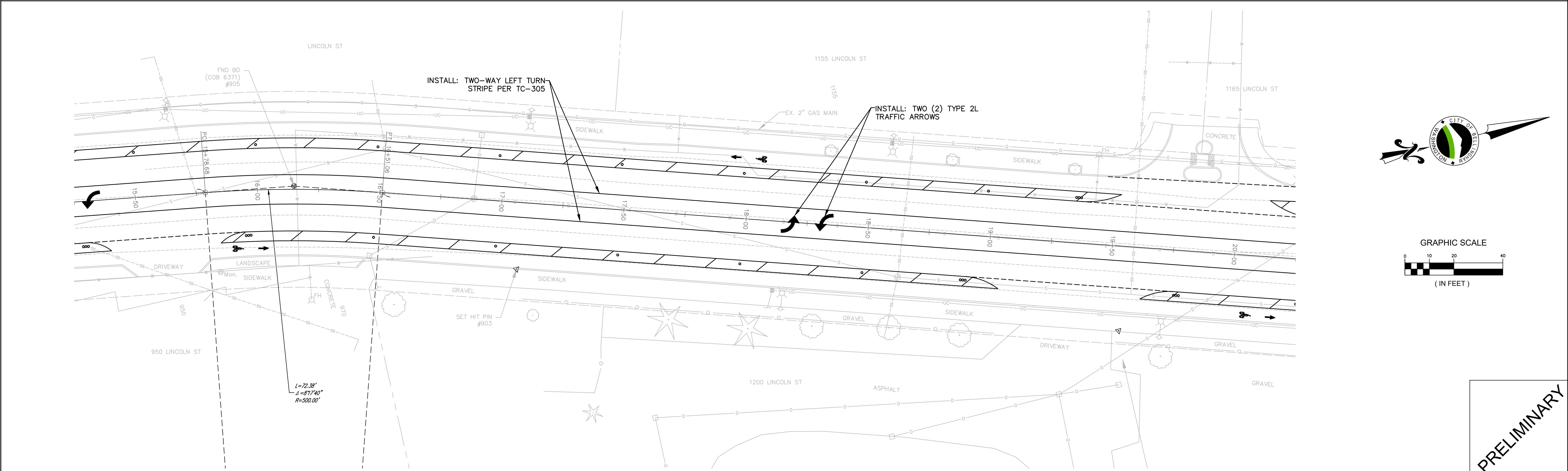
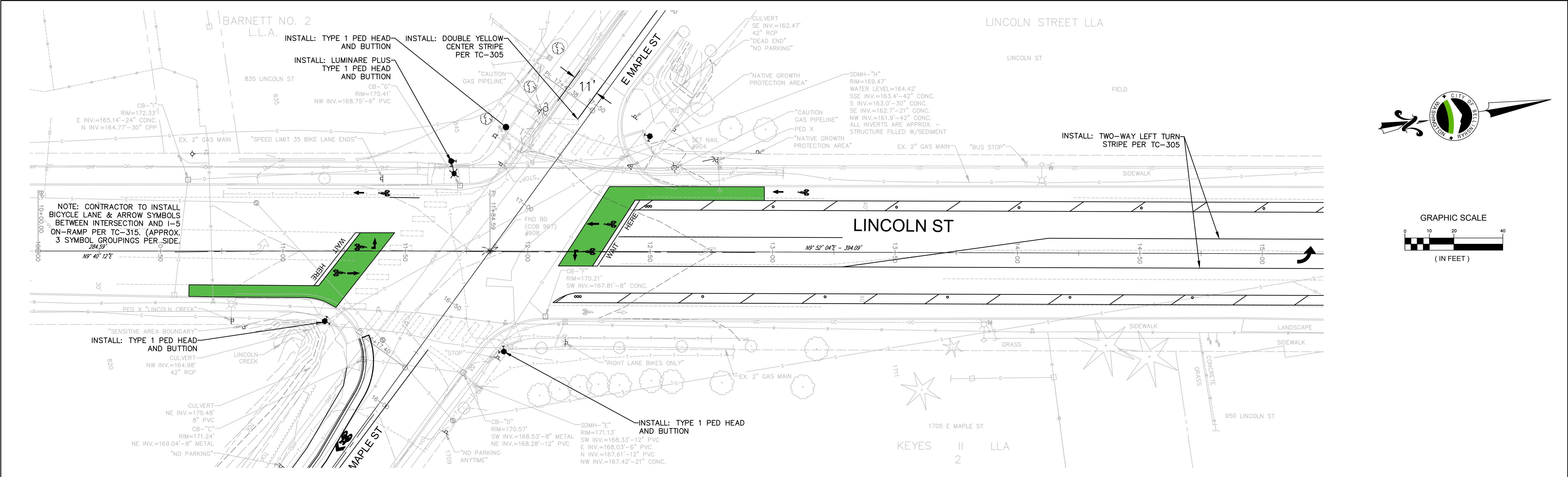
CONTACT PERSON: , PROJECT ENGINEER AT 778-7900



	4				PROJECT ENGINEER JB	DIRECTOR PUBLIC WORKS E.C.J.	CITY OF BELLINGHAM, WASHINGTON	SCALE	DATUM	Job No. ET034	LINCOLN / E. MAPLE SIGNAL & N.M.I.	SHEET
	3				DESIGNED/DRAWN JB/JAM	CITY ENGINEER C.M.A.S.	PUBLIC WORKS DEPARTMENT	Horiz. 1"= 20'	NAD 83/98	Date xx	E MAPLE ST - STA 10+00 TO STA 15+50	9 OF
	2				INSPECTOR TBD	ASSISTANT DIRECTOR M.A.O.	ENGINEERING DIVISION	Vert. 1"= NA	NAVD 88	Field Bk. xx		19
Date	No		Revision	By								

CONTACT PERSON: _____, PROJECT ENGINEER AT 778-7900

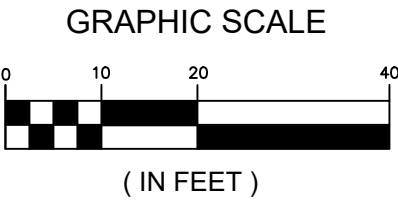
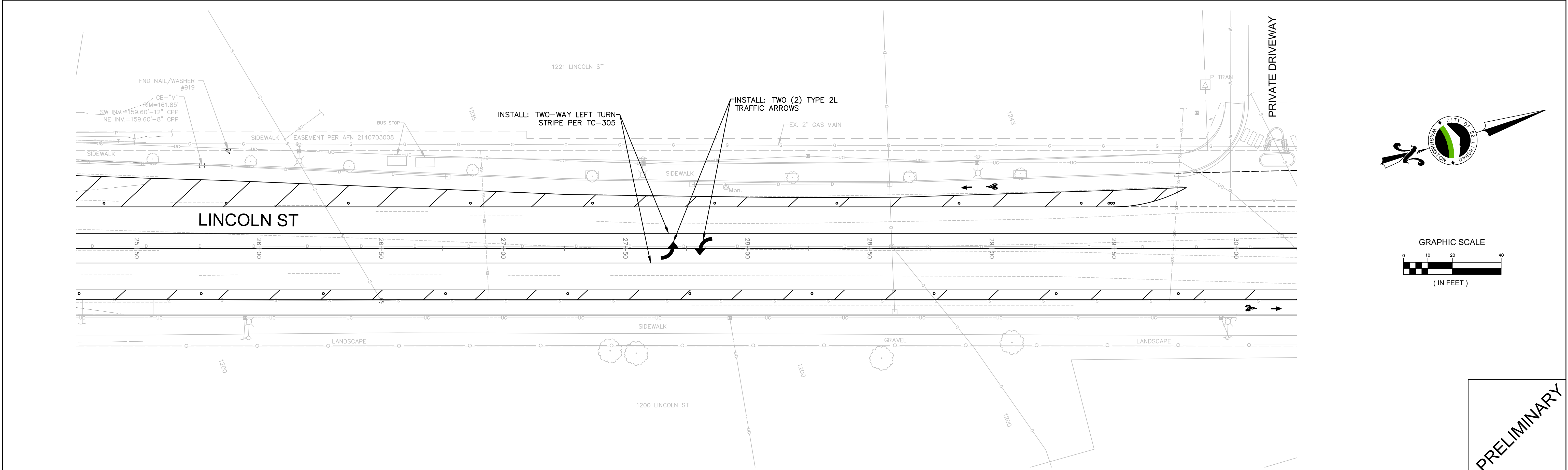
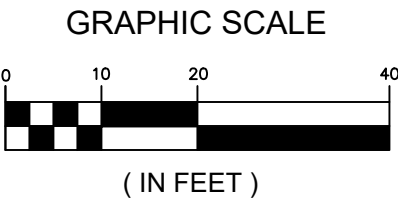
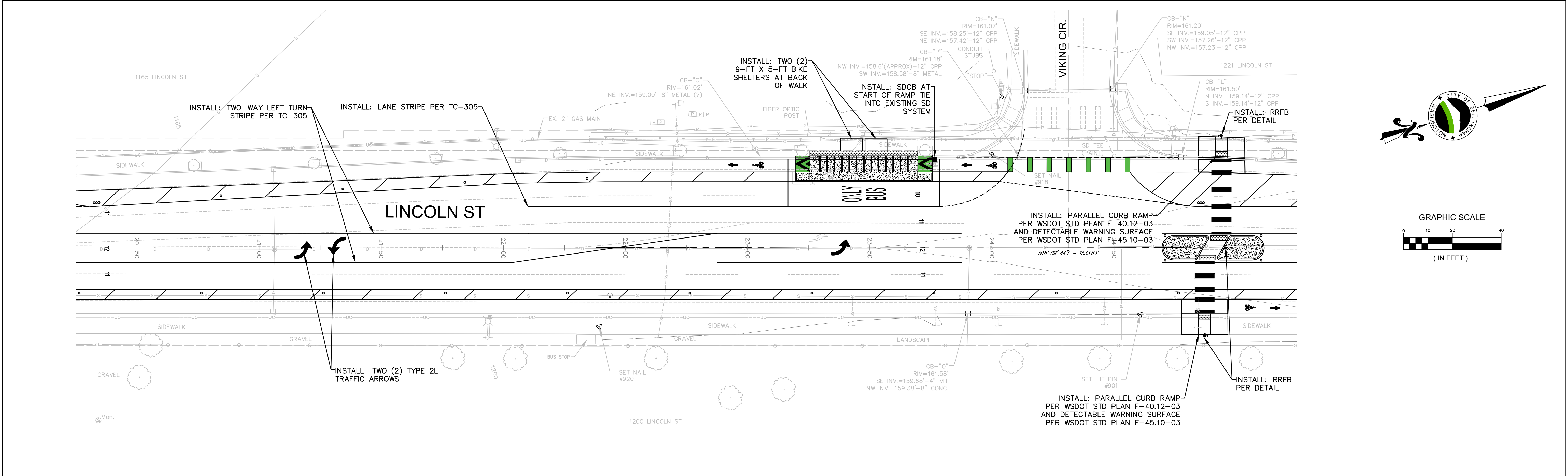
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4				PROJECT ENGINEER JB		DIRECTOR PUBLIC WORKS E.C.J.		CITY OF BELLINGHAM, WASHINGTON		SCALE		DATUM		Job. No. ET034		LINCOLN / E. MAPLE SIGNAL & N.M.I.		SHEET	
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2				INSPECTOR TBD		ASSISTANT DIRECTOR M.A.O.		ENGINEERING DIVISION		Vert. 1"=NA		NAVD 88		Field Bk. xx				19	
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Date	No	Revision	By																

CONTACT PERSON: _____, PROJECT ENGINEER AT 778-7900

PRELIMINARY



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Date	No	Revision	By

PROJECT ENGINEER	TBD
DESIGNED/DRAWN	TB
INSPECTOR	TBD

DIRECTOR	PUBLIC WORKS E.C.J.
CITY ENGINEER	C.M.A.S.
ASSISTANT DIRECTOR	M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
Horiz. 1"= 20'
Vert. 1"= NA

DATUM
NAD 83/98
NAVD 88

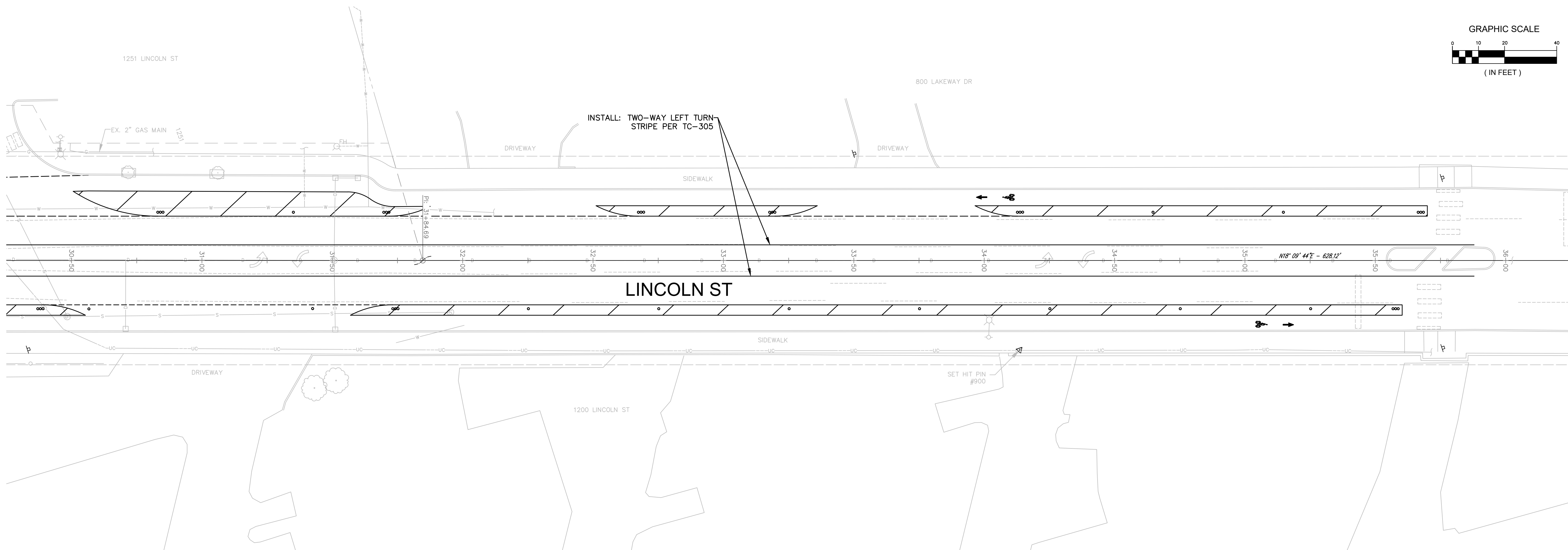
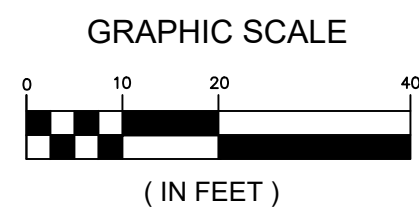
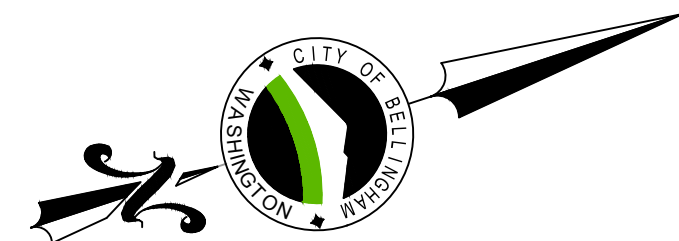
Job. No.	ET034
Date	xx
Field Bk.	xx

LINCOLN / E. MAPLE SIGNAL & N.M.I.
LINCOLN ST - STA 20+25 TO STA 30+25

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CONTACT PERSON: , PROJECT ENGINEER AT 778-7900

PRELIMINARY



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Date	No	Revision	By

PROJECT ENGINEER	JB
DESIGNED/DRAWN	JB/JAM
INSPECTOR	TBD

DIRECTOR PUBLIC WORKS	E.C.J.
CITY ENGINEER	C.M.A.S.
ASSISTANT DIRECTOR	M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

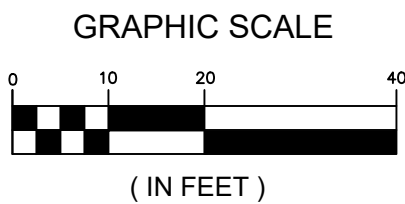
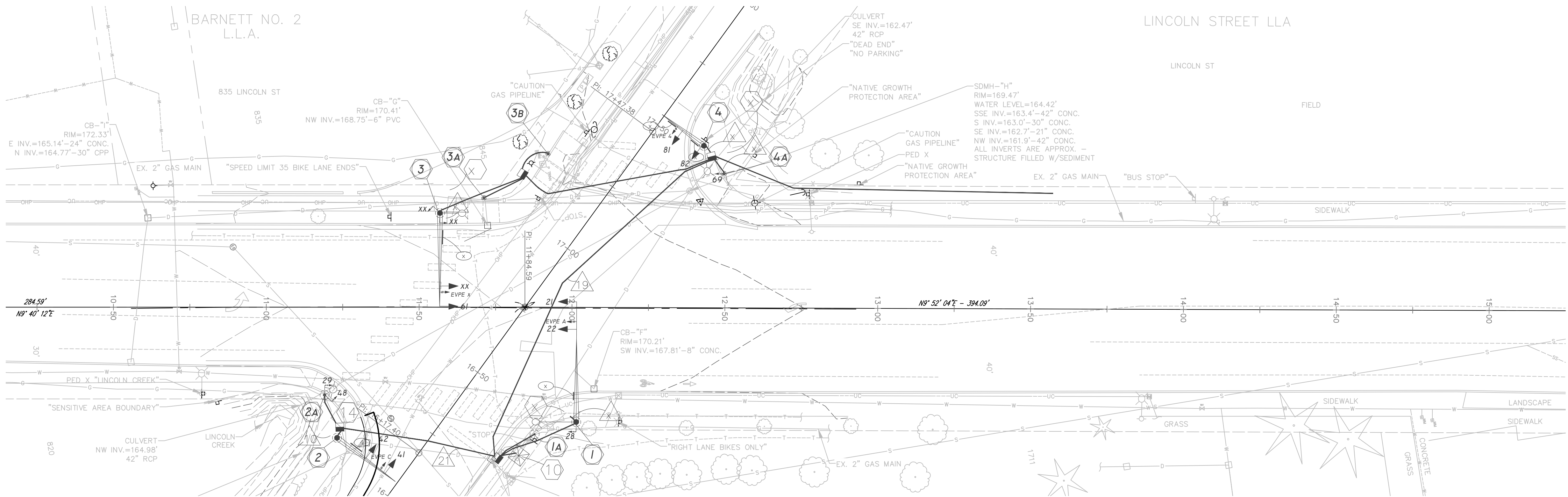
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DATUM
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NAVD 88

Job. No.	ET034
Date	xx
Field Bk.	xx

LINCOLN / E. MAPLE SIGNAL & N.M.I.	
LINCOLN ST - STA 30+25 TO STA 36+25	
SHEET 12	OF 19

CONTACT PERSON: _____, PROJECT ENGINEER AT 778-7900



SIGNAL CONSTRUCTION NOTES

- 1-CONSTRUCT 3' x 10' SIGNAL POLE FOUNDATION PER EL-432. INSTALL ONE TYPE III SIGNAL POLE WITH ONE 42' MAST ARM AND RECESSED TERMINAL COMPARTMENT PER EL-424. SUPPLY AND INSTALL NUMBERED TERMINAL STRIPS, THREE VEHICLE SIGNAL HEADS WITH TYPE "M" PLUMBIZERS, ONE MODEL 721 OPTICOM DETECTOR, TWO LED COUNTDOWN PEDESTRIAN SIGNAL HEADS WITH TYPE "E" CLAMSHELL MOUNTS, TWO PEDESTRIAN PUSHBUTTON ASSEMBLIES WITH SIGNS, ONE 250W HIGH PRESSURE SODIUM LUMINAIRE ON A 12' ARM AND TWO SIGNS.
- 2-CONSTRUCT 3' x 10' SIGNAL POLE FOUNDATION PER EL-432. INSTALL ONE TYPE III SIGNAL POLE WITH ONE 36' MAST ARM AND RECESSED TERMINAL COMPARTMENT PER EL-424. SUPPLY AND INSTALL NUMBERED TERMINAL STRIPS, TWO VEHICLE SIGNAL HEADS WITH TYPE "M" PLUMBIZERS, ONE MODEL 721 OPTICOM DETECTOR, TWO LED COUNTDOWN PEDESTRIAN SIGNAL HEADS WITH TYPE "E" CLAMSHELL MOUNTS, TWO PEDESTRIAN PUSHBUTTON ASSEMBLIES WITH SIGNS, ONE 250W HIGH PRESSURE SODIUM LUMINAIRE ON A 6' ARM AND ONE SIGN.
- 3-CONSTRUCT 3' x 9' SIGNAL POLE FOUNDATION PER EL-432. INSTALL ONE TYPE II SIGNAL POLE WITH ONE 34' MAST ARM AND RECESSED TERMINAL COMPARTMENT PER EL-424. SUPPLY AND INSTALL NUMBERED TERMINAL STRIPS, THREE VEHICLE SIGNAL HEADS WITH TYPE "M" PLUMBIZERS, ONE MODEL 721 OPTICOM DETECTOR, ONE LED COUNTDOWN PEDESTRIAN SIGNAL HEADS WITH TYPE "E" CLAMSHELL MOUNT, AND TWO SIGNS
- 3A-CONSTRUCT 3' x 9' SIGNAL POLE FOUNDATION PER EL-432. INSTALL ONE TYPE III SIGNAL POLE WITH ONE 32' MAST ARM AND RECESSED TERMINAL COMPARTMENT PER EL-424. SUPPLY AND INSTALL NUMBERED TERMINAL STRIPS, TWO VEHICLE SIGNAL HEADS WITH TYPE "M" PLUMBIZERS, ONE LED COUNTDOWN PEDESTRIAN SIGNAL HEAD WITH TYPE "E" CLAMSHELL MOUNT, ONE 250W HPS LUMINAIRE ON A 12' ARM AND ONE SIGN
- 3B-CONSTRUCT PPB FOUNDATION PER WSDOT STD J-20.10-00. INSTALL PPB PER SAME.
- 4-CONSTRUCT 3' x 4.5' SIGNAL POLE FOUNDATION PER EL-432. INSTALL ONE LUMINAIRE POLE PER STD EL-404, SUPPLY AND INSTALL TWO LED COUNTDOWN PEDESTRIAN SIGNAL HEADS WITH TYPE "E" CLAMSHELL MOUNTS, TWO PEDESTRIAN PUSHBUTTON ASSEMBLIES WITH SIGNS, ONE 250W HIGH PRESSURE SODIUM LUMINAIRE ON A 12' ARM

- 5 INSTALL TYPE I J-BOX PER WSDOT STD PLAN J-11a
- 6 INSTALL TYPE II J-BOX PER WSDOT STD PLAN J-11a
- 7 INSTALL TYPE 8 J-BOX PER WSDOT STD PLAN J-40.30-00, STAMPED WITH "TS".
- 8 INSTALL TYPE II INDUCTION LOOP PER BELLINGHAM STD PLAN EL-462
- 9 INSTALL TYPE I INDUCTION LOOP PER BELLINGHAM STD PLAN EL-460
- 10 CONSTRUCT FOUNDATION PER CITY STANDARD EL-436, INSTALL CITY SUPPLIED CABINET AND SEAL WITH SILICONE
- 11 INSTALL SERVICE CABINET PER CITY STD EL-444.
- 12 PROVIDE 20' PVC PIPE, STAND-OFFS AND STRAPS FOR PSE USE
- 13 REPLACE EXISTING JUNCTION BOX WITH A TYPE II JUNCTION BOX. RE-USE EXISTING 20C AND 3C CABLE IF DESIRED
- 14 COORDINATE WITH CITY TO REPLACE EXISTING CABINET WITH NEW CITY SUPPLIED CABINET. CITY FORCES WILL WIRE.

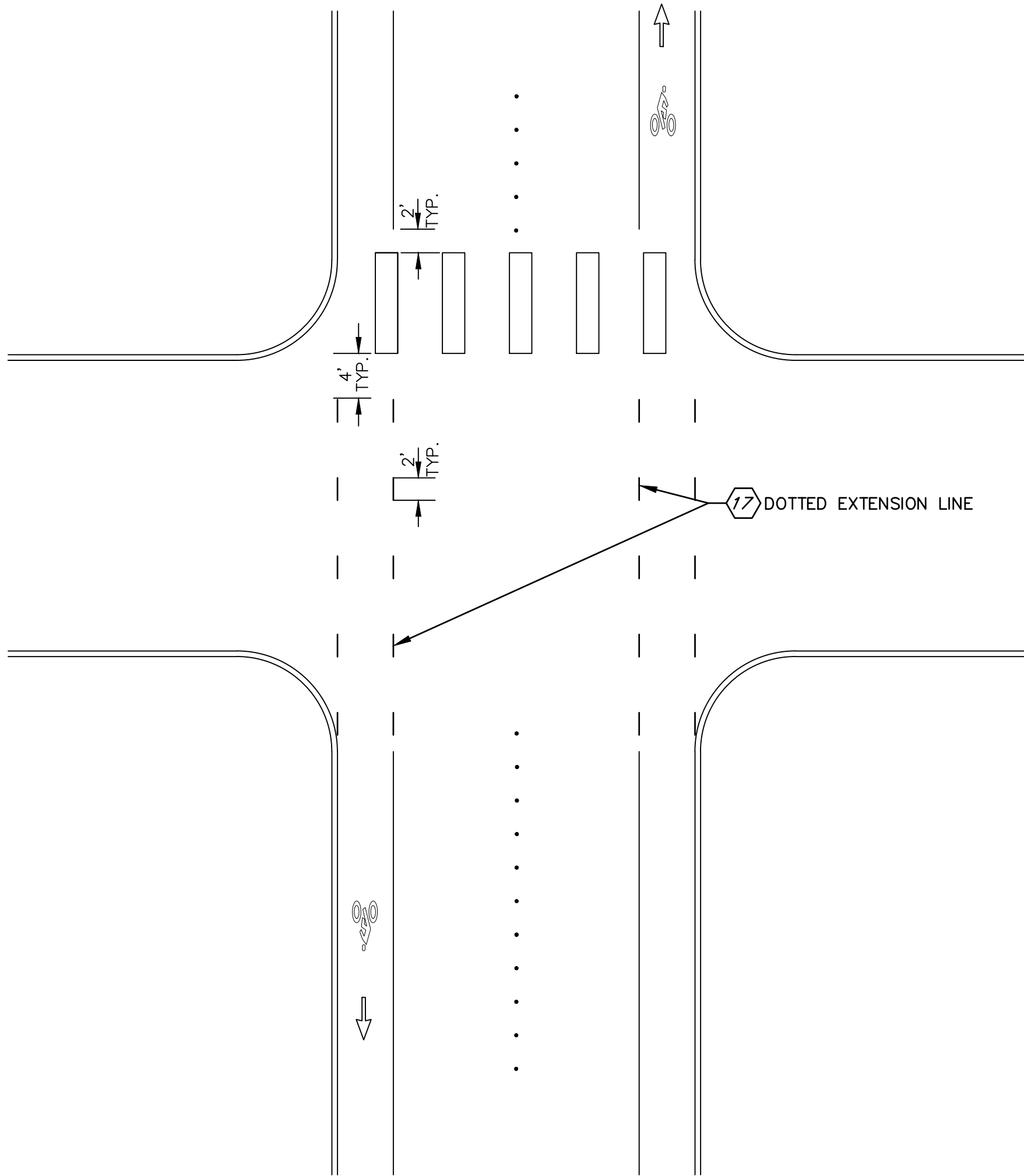
WIRE NOTES

CONDUCTORS										CONDUIT SIZE	COMMENTS
RUN NO.	CITY OF BELLINGHAM 20C (920 IN")	SM 650 10C (615 IN")	MSA 10C (615 IN")	MSA 20C (615 IN")	NO 12 USE 10C (615 IN")	NO 12 USE 10C (615 IN")	NO 12 USE 10C (615 IN")	NO 12 USE 10C (615 IN")	NO 12 USE 10C (615 IN")		
1										1.5	
2										1.5	
3										2	
4										2	
5										1.5	
6										2	
7										2	
8										2	
9										2	SIGNAL CABINET SERVICE
10	1	1								3	
11	2	2								4	
12	1	1								2	
13	1	1								4	
14										2	SERVICE
15										2	EMPTY (FOR FIBER)
16										4	
17										4	
18										3	
19										1	
20										4	
21										2	

PRELIMINARY

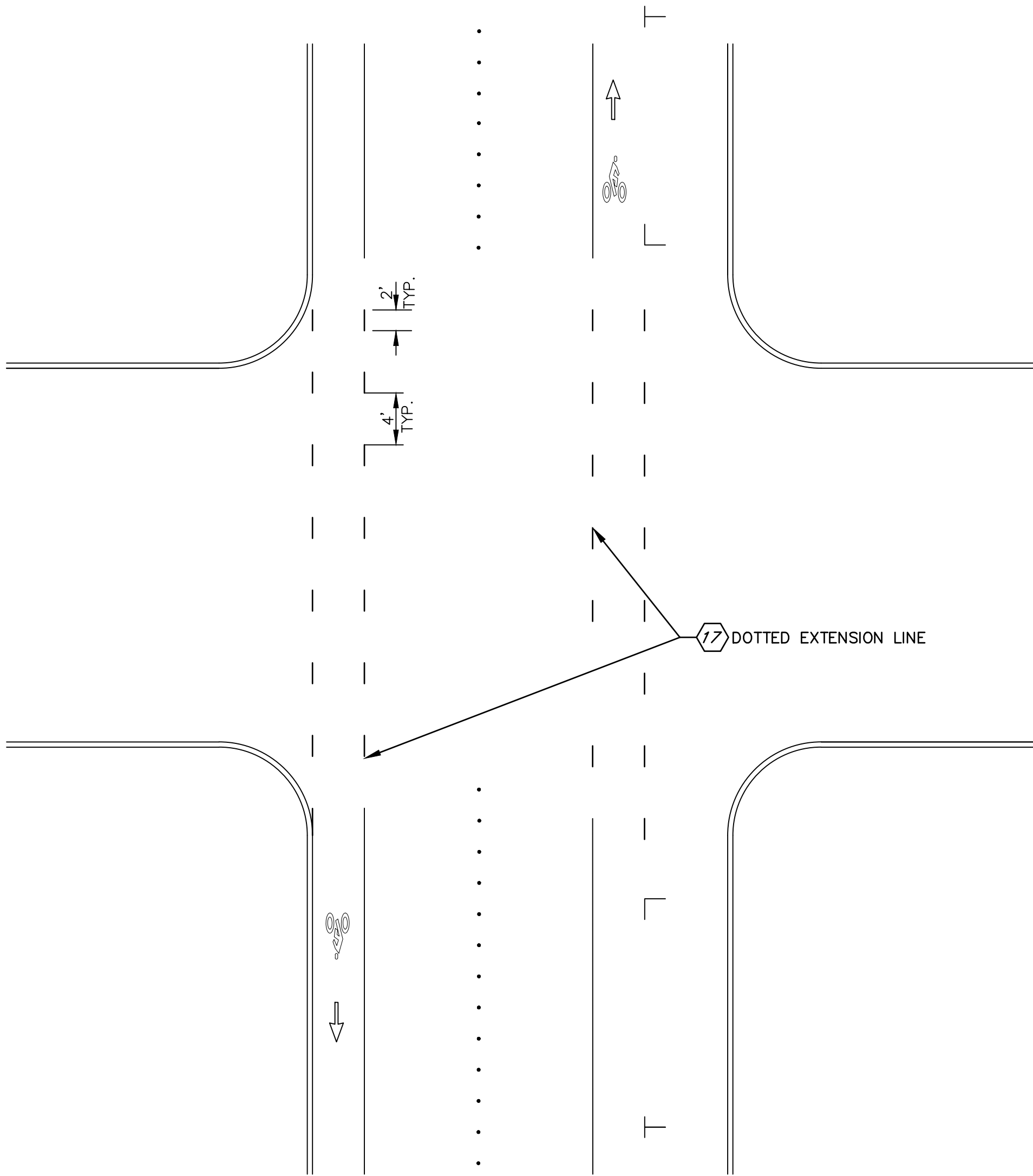
4						PROJECT ENGINEER TBD	DIRECTOR PUBLIC WORKS E.C.J.	CITY OF BELLINGHAM, WASHINGTON	SCALE	DATUM	Job. No. ET034	LINCOLN / E. MAPLE SIGNAL & N.M.I.	SHEET 13 OF 19
3						DESIGNED/DRAWN TBD	CITY ENGINEER C.M.A.S.	PUBLIC WORKS DEPARTMENT	Horiz. 1"=20'	NAD 83/98	Date xx	LINCOLN ST & E MAPLE ST SIGNAL	
2						INSPECTOR TBD	ASSISTANT DIRECTOR M.A.O.	ENGINEERING DIVISION	Vert. 1"=NA	NAVD 88	Field Bk. xx		
1													
Date	No					Revision	By						

CONTACT PERSON: , PROJECT ENGINEER AT 778-7900



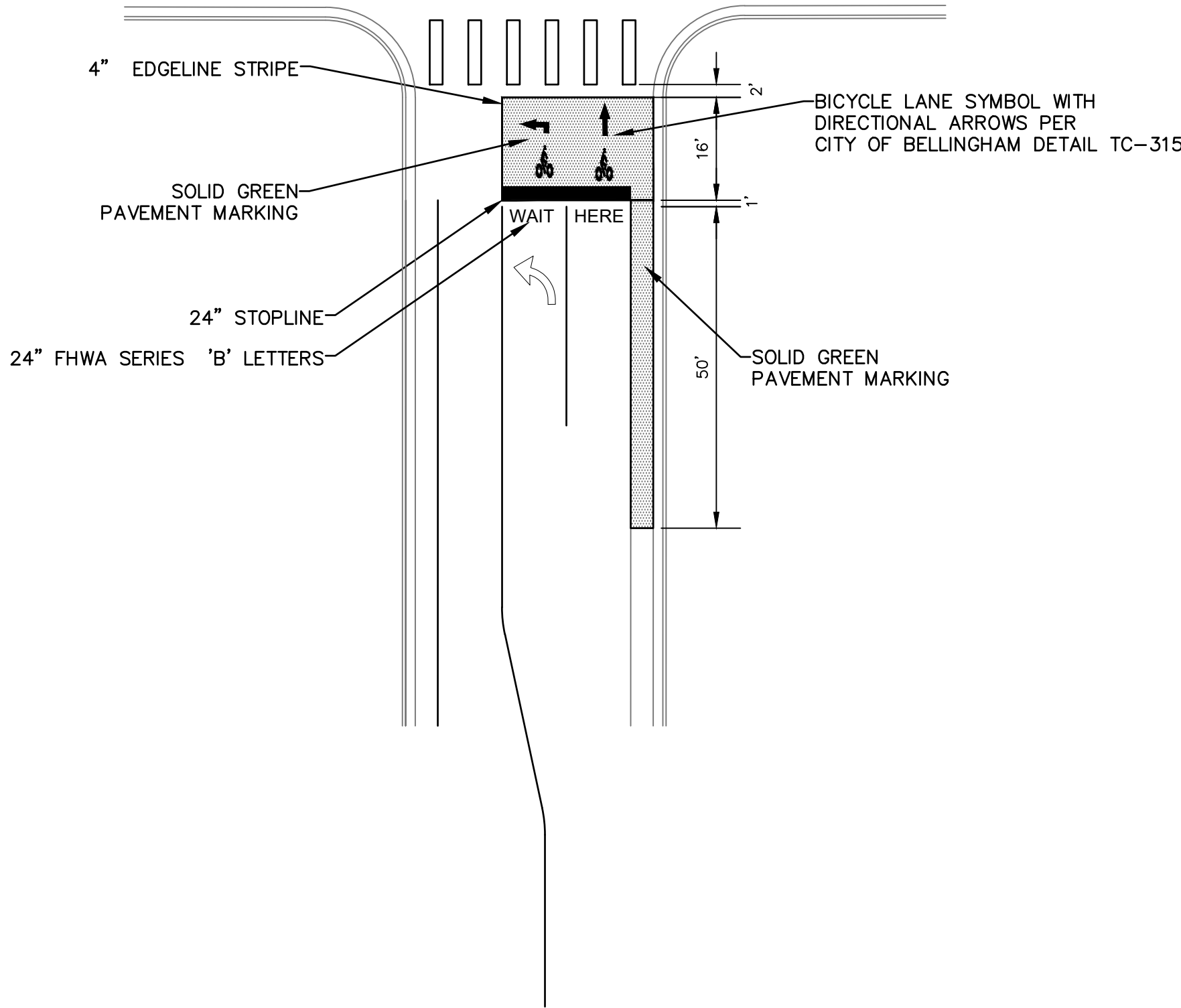
TYPICAL BIKE LANE EXTENSIONS DETAIL - AT CROSSWALK

NTS



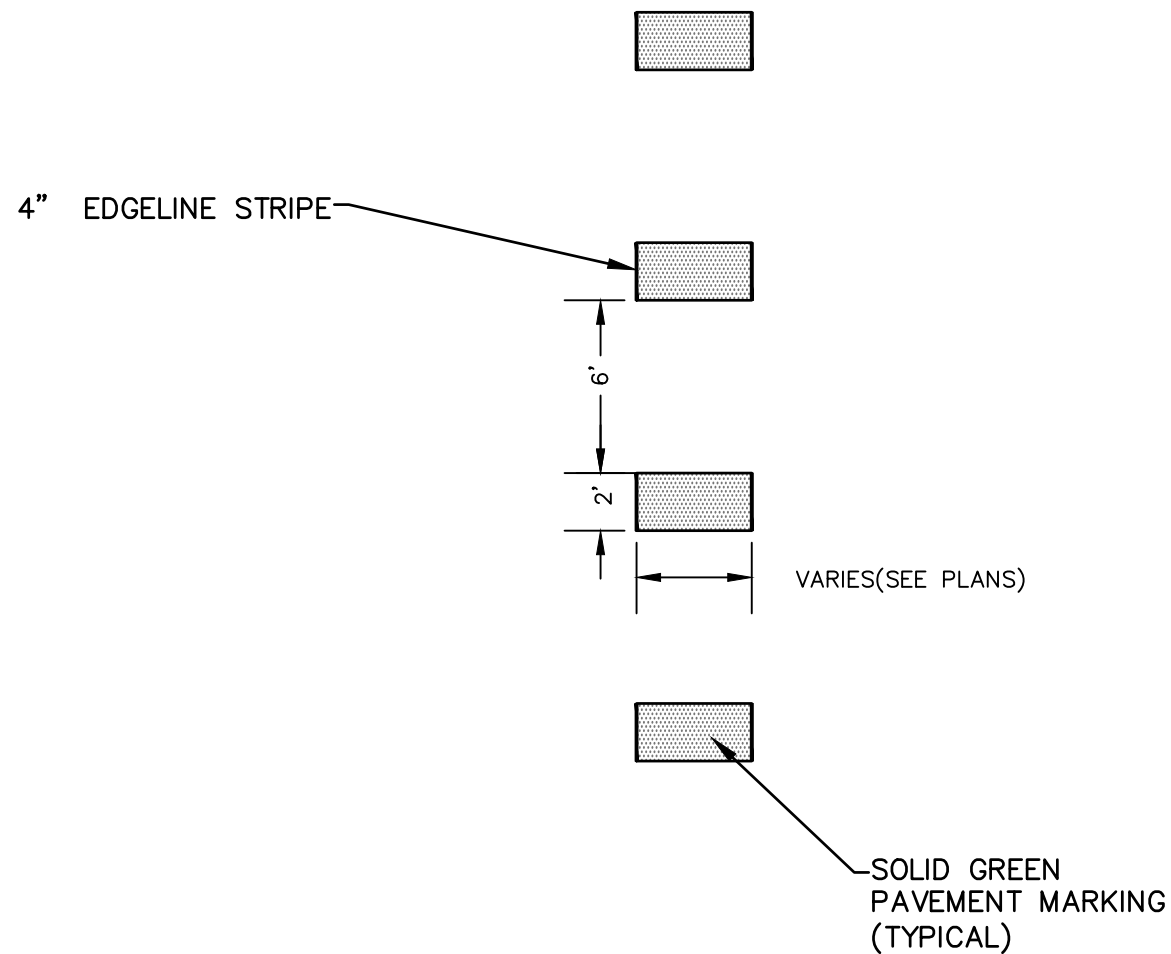
TYPICAL BIKE LANE EXTENSIONS DETAIL

NTS



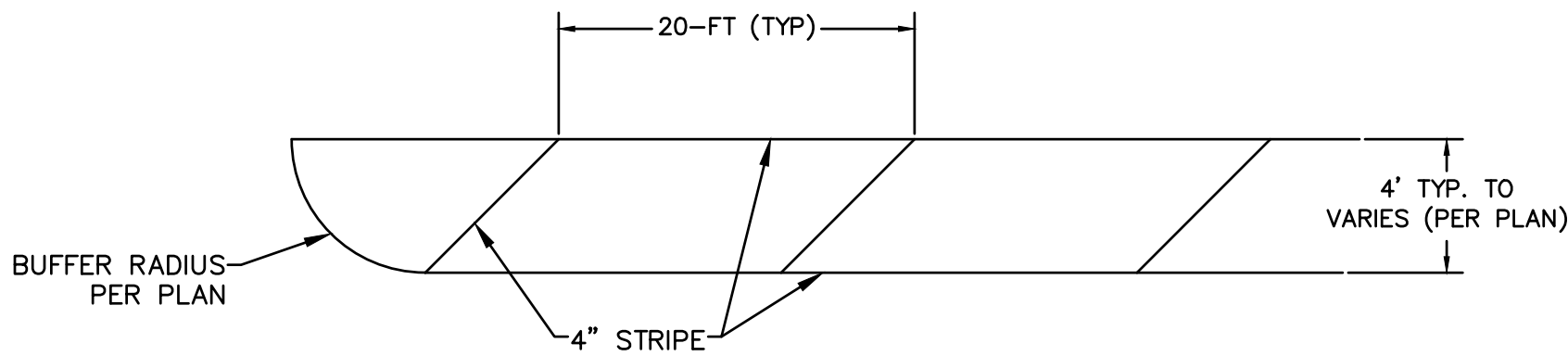
TYPICAL BIKE BOX DETAIL

NTS



PAVEMENT MARKING ACROSS DRIVEWAY

NTS



BUFFER STRIPE DETAIL

NTS

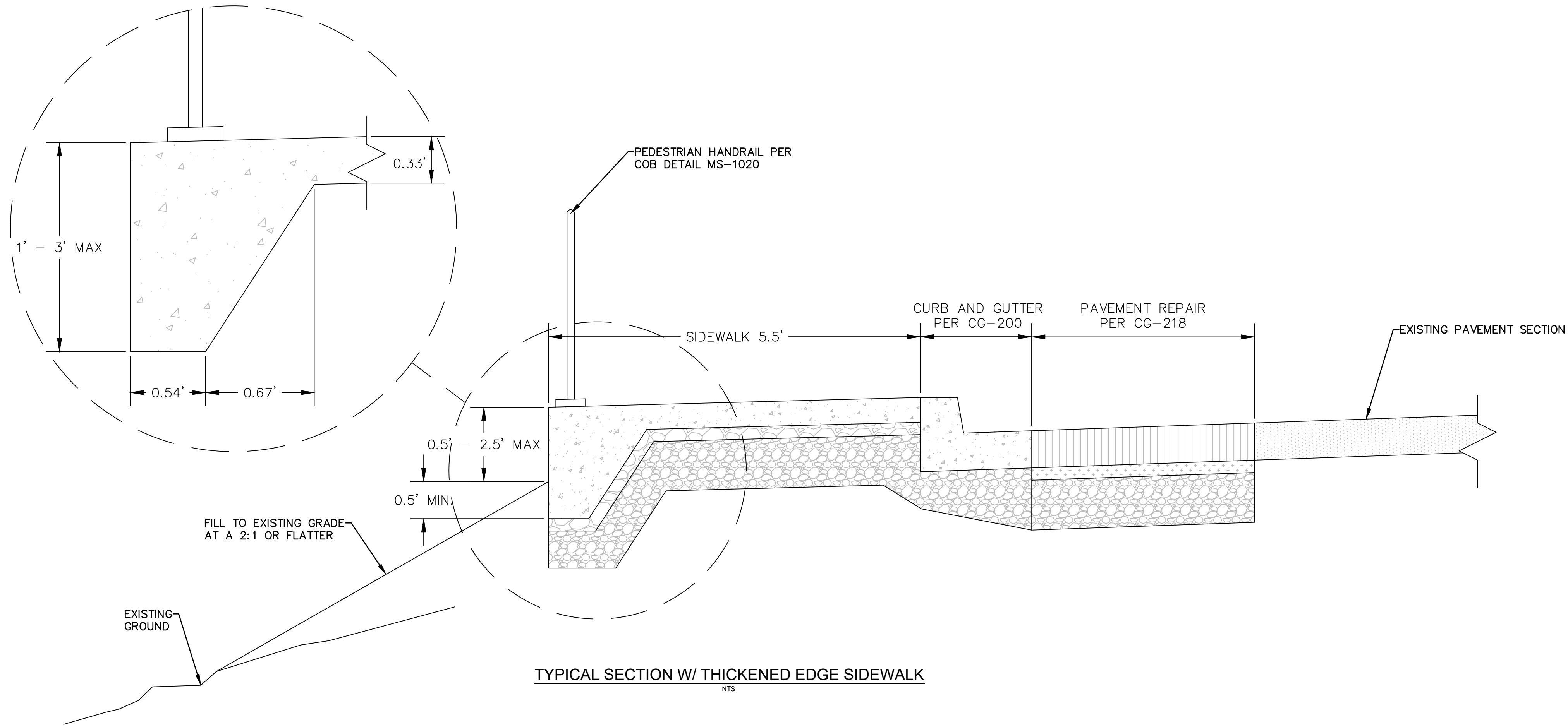
BIKE DELINEATOR DETAIL (PLACEHOLDER)

NTS

PRELIMINARY

				PROJECT ENGINEER JB		DIRECTOR PUBLIC WORKS E.C.J.		CITY OF BELLINGHAM, WASHINGTON		SCALE		DATUM		Job. No. ET034		LINCOLN / E. MAPLE SIGNAL & N.M.I.		SHEET	
				DESIGNED/DRAWN JB/JAM		CITY ENGINEER C.M.A.S.		PUBLIC WORKS DEPARTMENT		Horiz. 1"= N/A		NAD 83/98		Date xx		CHANNELIZATION DETAILS		14	
				INSPECTOR TBD		ASSISTANT DIRECTOR M.A.O.		ENGINEERING DIVISION		Vert. 1"= N/A		NAVD 88		Field Bk. xx				OF	
																		19	

CONTACT PERSON: , PROJECT ENGINEER AT 778-7900



VALLEY GUTTER AT BUS STOP (PLACEHOLDER)

PRELIMINARY

	4		
	3		
	2		
	1		
Date	No	Revision	By

PROJECT ENGINEER	JB
DESIGNED/DRAWN	JB/JAM
INSPECTOR	TBD

DIRECTOR	PUBLIC WORKS E.C.J.
CITY ENGINEER	C.M.A.S.
ASSISTANT DIRECTOR	M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
Horiz. 1"= N/A
Vert. 1"= N/A

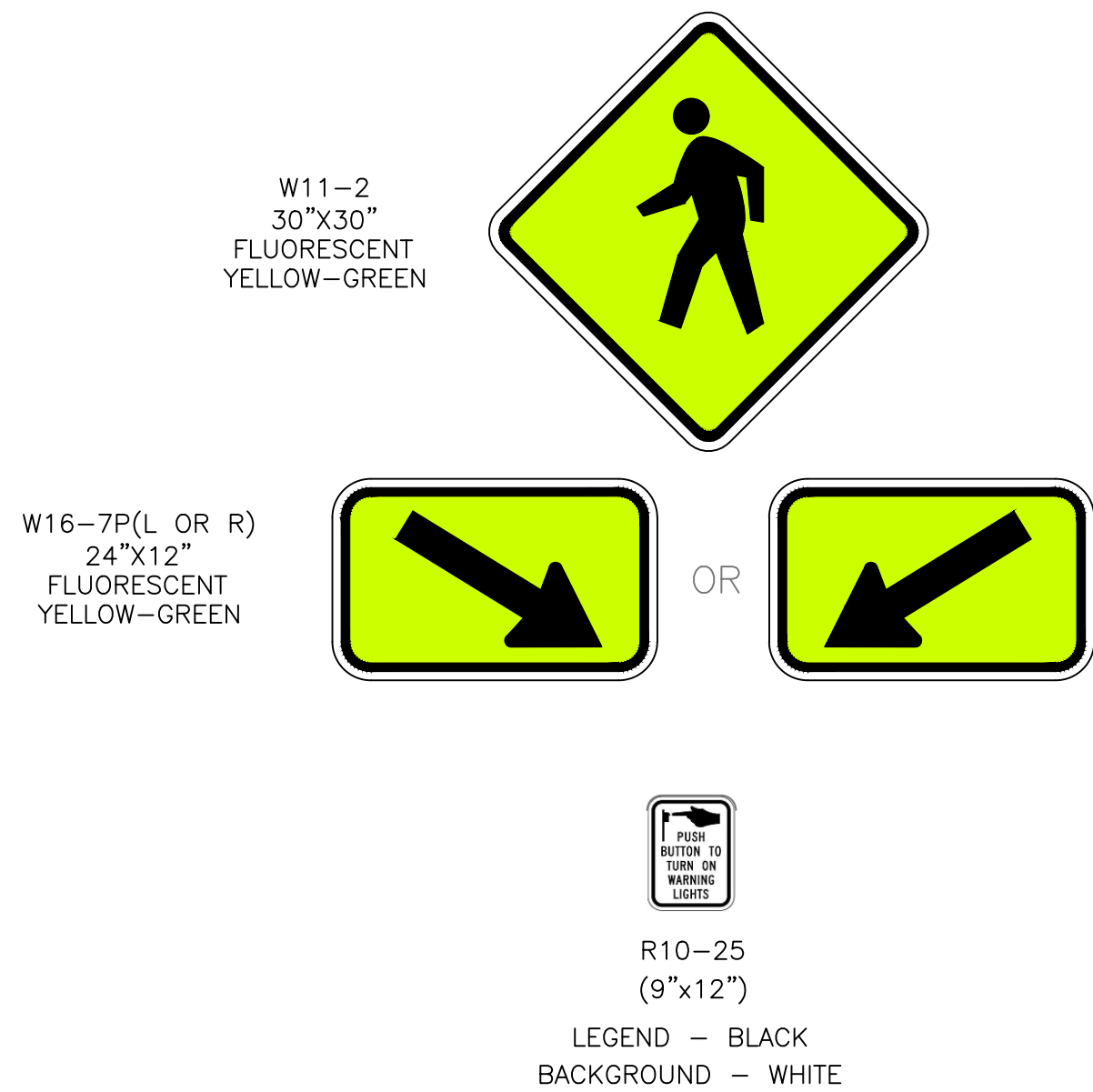
DATUM
NAD 83/98
NAVD 88

Job. No.	ET034
Date	xx
Field Bk.	xx

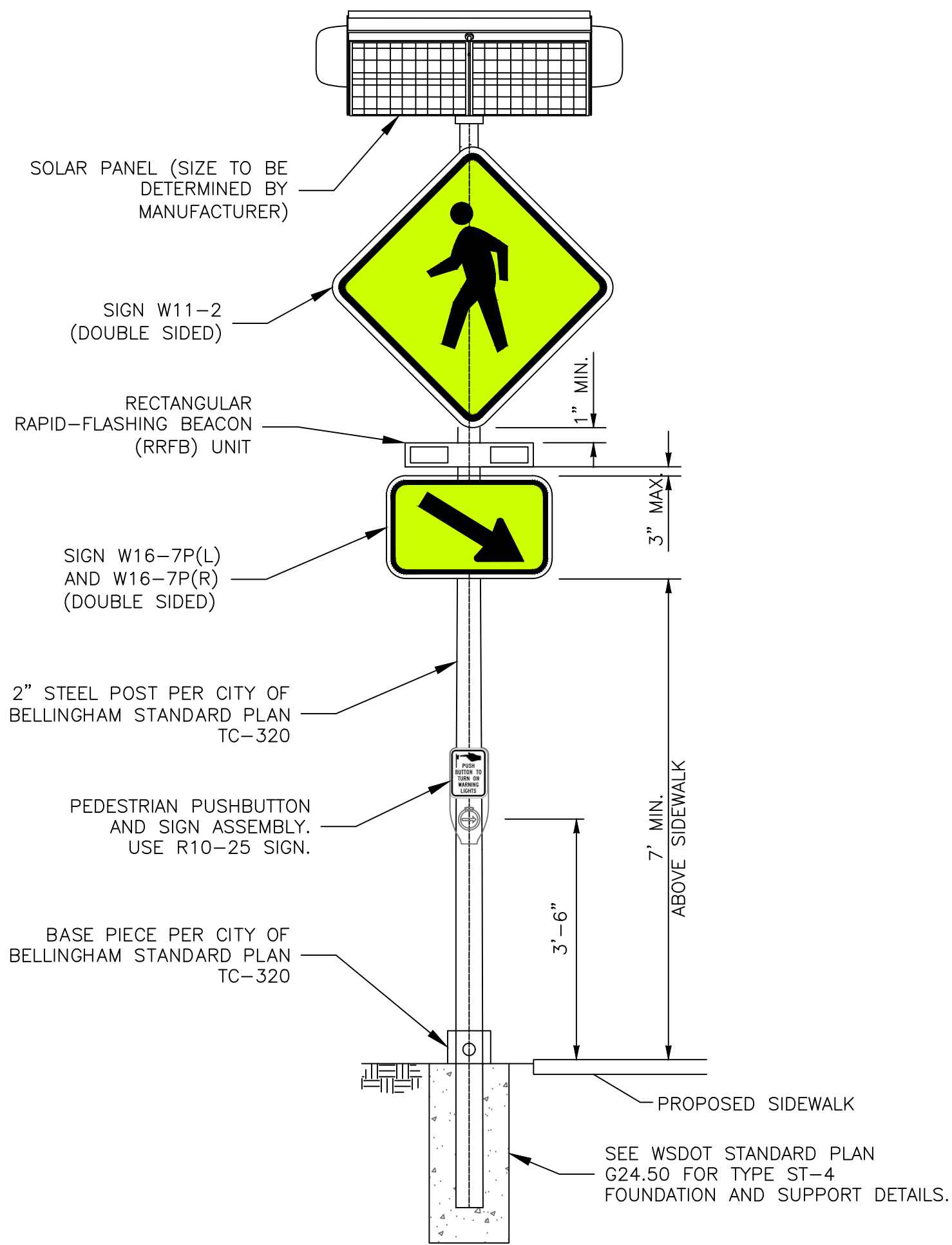
LINCOLN / E. MAPLE SIGNAL & N.M.I.
MISCELLANEOUS DETAILS

SHEET	OF
15	19

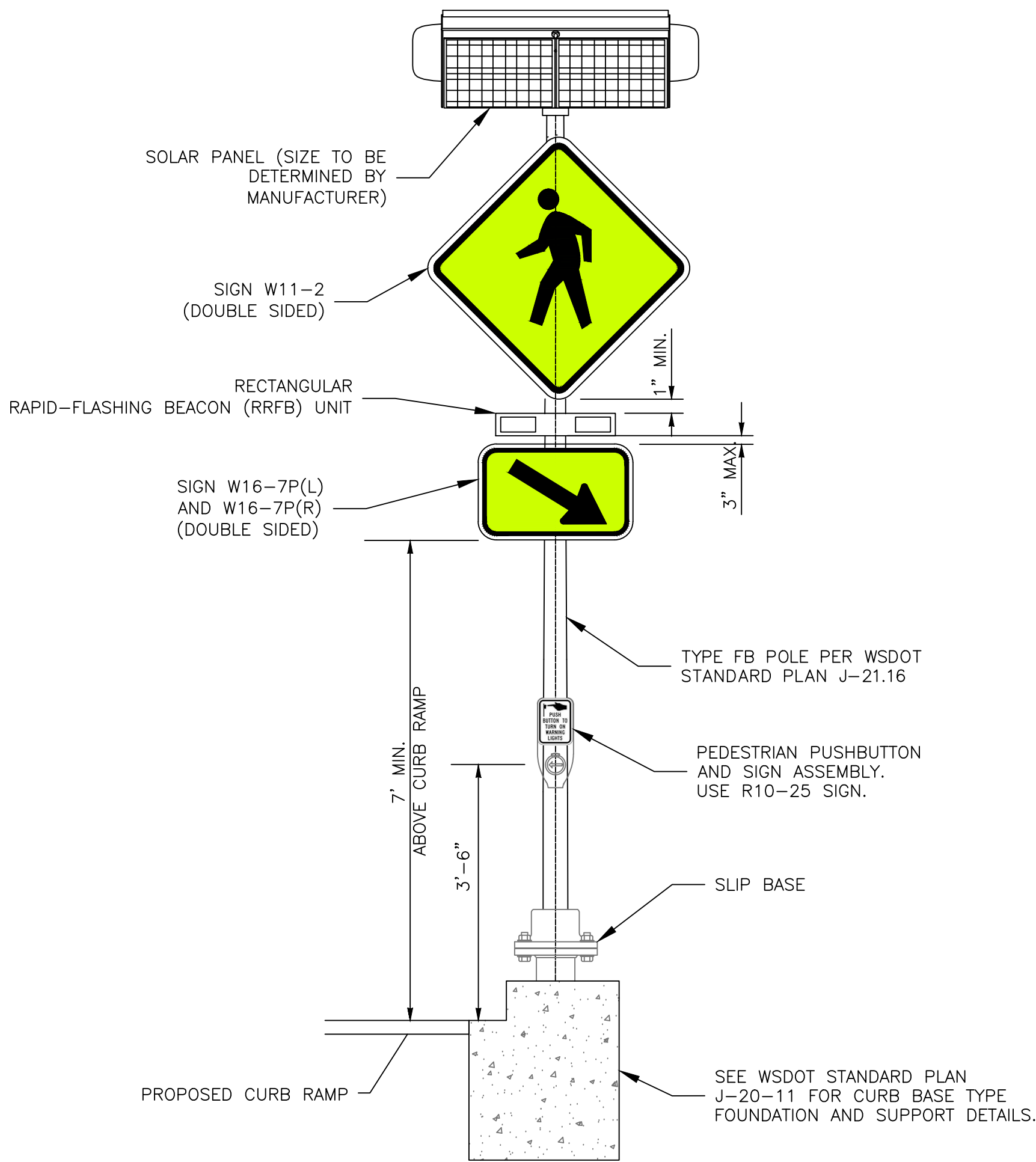
CONTACT PERSON: , PROJECT ENGINEER AT 778-7900



- SIGN DETAIL NOTES:**
- RRFB SIGNS, AS SHOWN ON THIS DETAIL AND THE PLANS, SHALL BE PROVIDED BY THE CONTRACTOR.
 - ALL OTHER GROUND-MOUNTED SMALL SIGNS SHALL BE PROVIDED BY THE CITY OF BELLINGHAM.
 - ORIENT SOLAR PANEL PER MANUFACTURER'S RECOMMENDATION.



TYPICAL INSTALLATION



CURB BASE TYPE INSTALLATION

RECTANGULAR RAPID FLASHING BEACON (RRFB) AND SIGN DETAIL

N.T.S.

PRELIMINARY

	4		
	3		
	2		
	1		
Date	No	Revision	By

PROJECT ENGINEER JB
DESIGNED/DRAWN JAM
INSPECTOR TBD

DIRECTOR PUBLIC WORKS E.C.J.
CITY ENGINEER C.M.A.S.
ASSISTANT DIRECTOR M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
Horiz. 1"= N/A
Vert. 1"= N/A

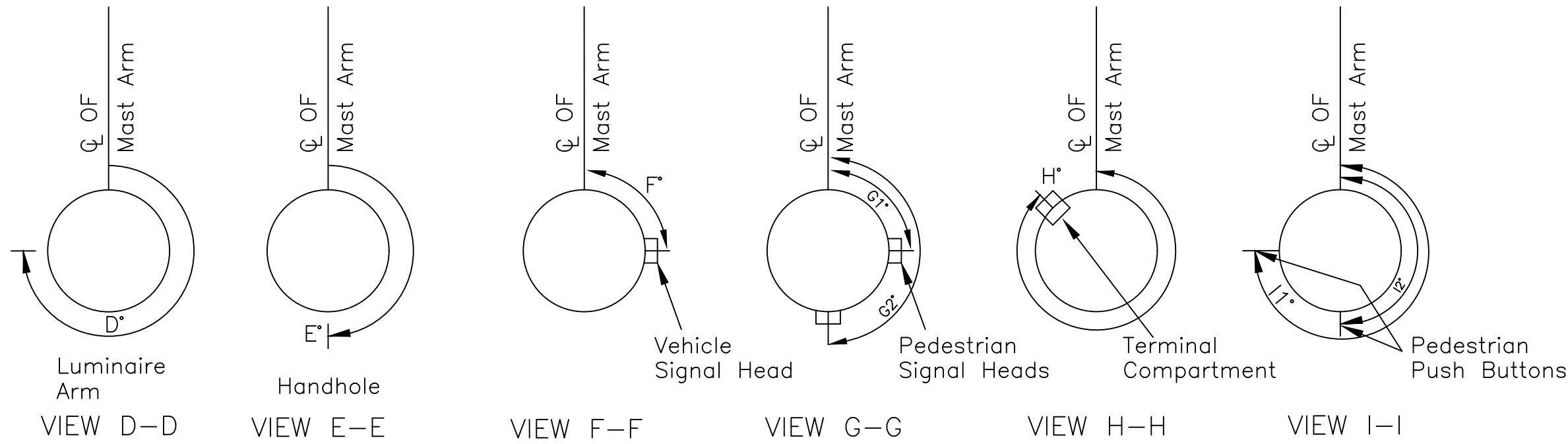
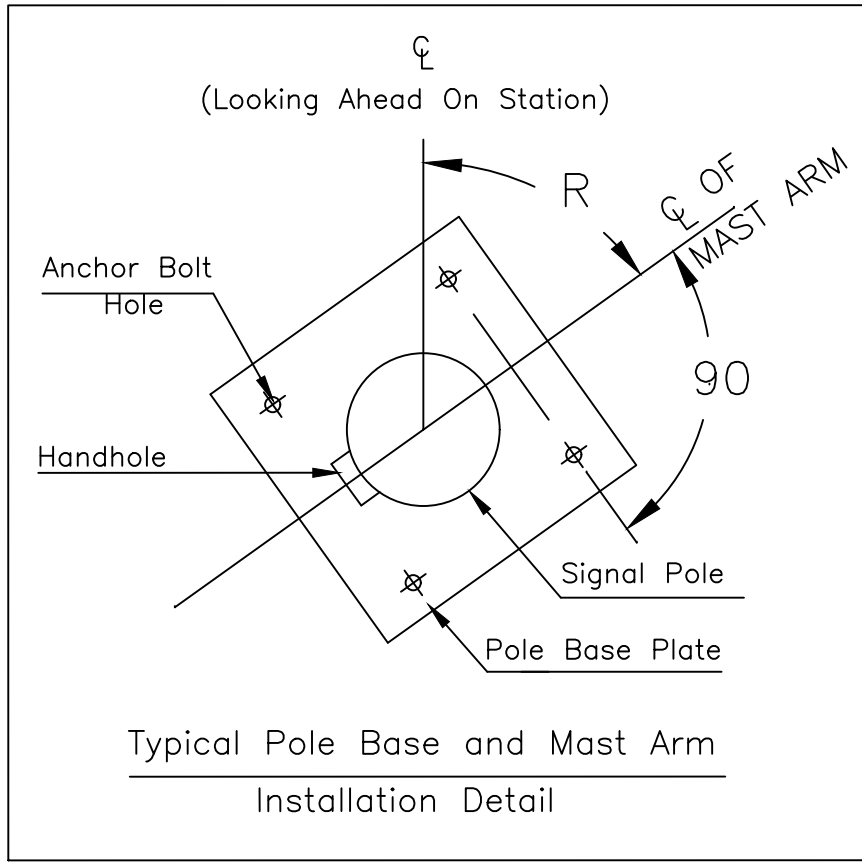
DATUM
NAD 83/98
NAVD 88

Job. No. ET034
Date xx
Field Bk. xx

LINCOLN / E. MAPLE SIGNAL & N.M.I.
RRFB DETAILS

SHEET
16 OF
19

CONTACT PERSON: , PROJECT ENGINEER AT 778-7900



ANGLES TO ATTACHMENT POINTS OF POLE APPURTENANCES

POLE NO.	STATION	OFFSET	ARM ROTATION	POLE ATTACHMENT HEIGHT						MAST ARM ATTACHMENT OFFSET														LUMINAIRE ARM (FT.)		ATTACHMENT ANGLE CLOCKWISE FROM MAST ARM ϕ										
				A1	A2	A3	A4	A5	A6	B1	Area S.F.	B2	Area S.F.	B3	Area S.F.	B4	Area S.F.	B5	Area S.F.	B6	Area S.F.	B7	Area S.F.	C	D	E	F	G1	G2	H	I1	I2	K			
			R																																	
#1	20+41.18	29.99R	270	30	18	*4	3	*8		30	11	27	5.0	21		18	9.2					8	12	12		0	180		0	90	315	0	270	315		
#2	19+73.03	54.01R	0		18	*4				23	9.2	20	6.0	17		15	9.2					8	12				180				315		315			
#2A	19+60.10	27.58R		30			3	*8																12	0			270			0		180			
#3	19+67.85	29.37L	90	30	18	*4	3	*8		30	11	27	5.0	20		18	9.2					8	12	12	0	180	0		315	270		315				
#4	20+22.26	72.90L	180		18	*4				23	9.2	19	6.0	21		12	9.2										180			315			315			
#4A	20+41.03	23.95L		30			3	*8														0	12	12	12	**158		**0	**270		**90	**180	**158			

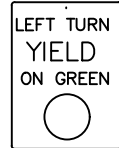
* MEASURED TO THE BOTTOM

** MEASURED CLOCKWISE FROM STATIONING

SIGN NOTES

ALL SIGNS SHALL CONFORM TO WSDOT SIGN FABRICATION MANUAL
ALL SIGNS SHALL HAVE 3M VIP REFLECTIVE GRADE SHEETING

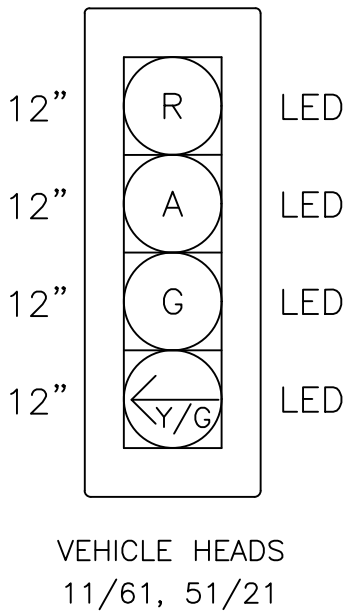
- R10-12 24" X 30" LEFT TURN YIELD ON GREEN BALL SIGN
- R10-1201 24" X 36" LEFT TURN MUST YIELD SIGN
- D3-101 18" X VARIES LINCOLN ST STREET NAME SIGN (USE 8" UPPER CASE/ 6" LOWER CASE LETTERING)
- D3-101 18" X VARIES MAPLE ST STREET NAME SIGN (USE 8" UPPER CASE/ 6" LOWER CASE LETTERING)



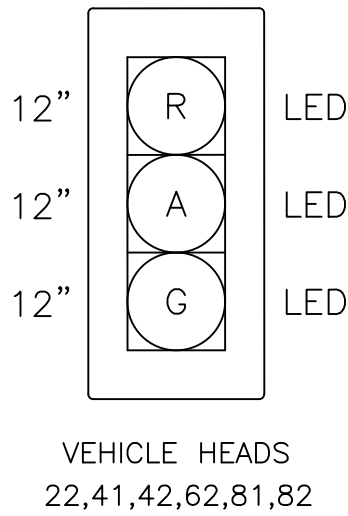
SIGNAL DISPLAY NOTES

- VEHICLE HEADS SHALL BE CONVENTIONAL TYPE, POWDER COATED DARK OLIVE GREEN, 5" BACKPLATES, TUNNEL VISORS, AND SQUARE DOORS. ALL SECTIONS SHALL UTILIZE DIALIGHT BRAND 433 SERIES LED DISPLAYS
- MAST ARM VEHICLE HEADS SHALL HAVE TYPE "M" PLUMBIZERS LOCATED BETWEEN THE RED AND AMBER SECTIONS, AND UTILIZE STAINLESS STEEL MOUNTING HARDWARE PER CITY STANDARD EL-420.
- ALL PEDESTRIAN HEADS SHALL BE DIALIGHT BRAND COUNTDOWN LED AND HAVE TYPE "E" CLAMSHELL MOUNTS
- PEDESTRIAN PUSHBUTTON ASSEMBLIES SHALL BE PER WSDOT STD PLAN J-5 PPB-M EXCEPT THEY SHALL UTILIZE A POLARA BRAND "BULLDOG" PLUNGER AND INCLUDE R10-4000 SERIES SIGNS

SIGNAL DISPLAY



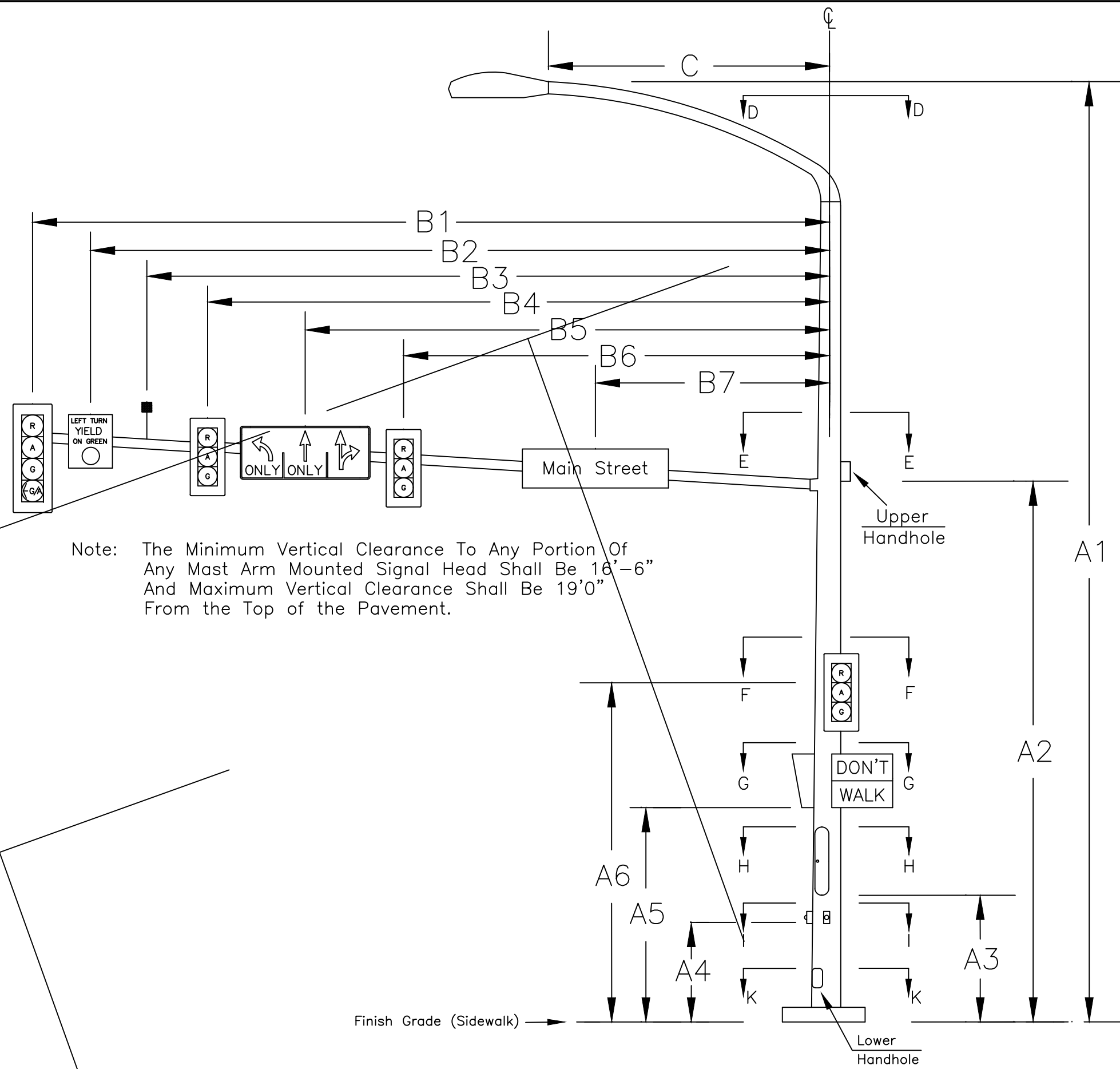
VEHICLE HEADS
11/61, 51/21



VEHICLE HEADS
22,41,42,62,81,82

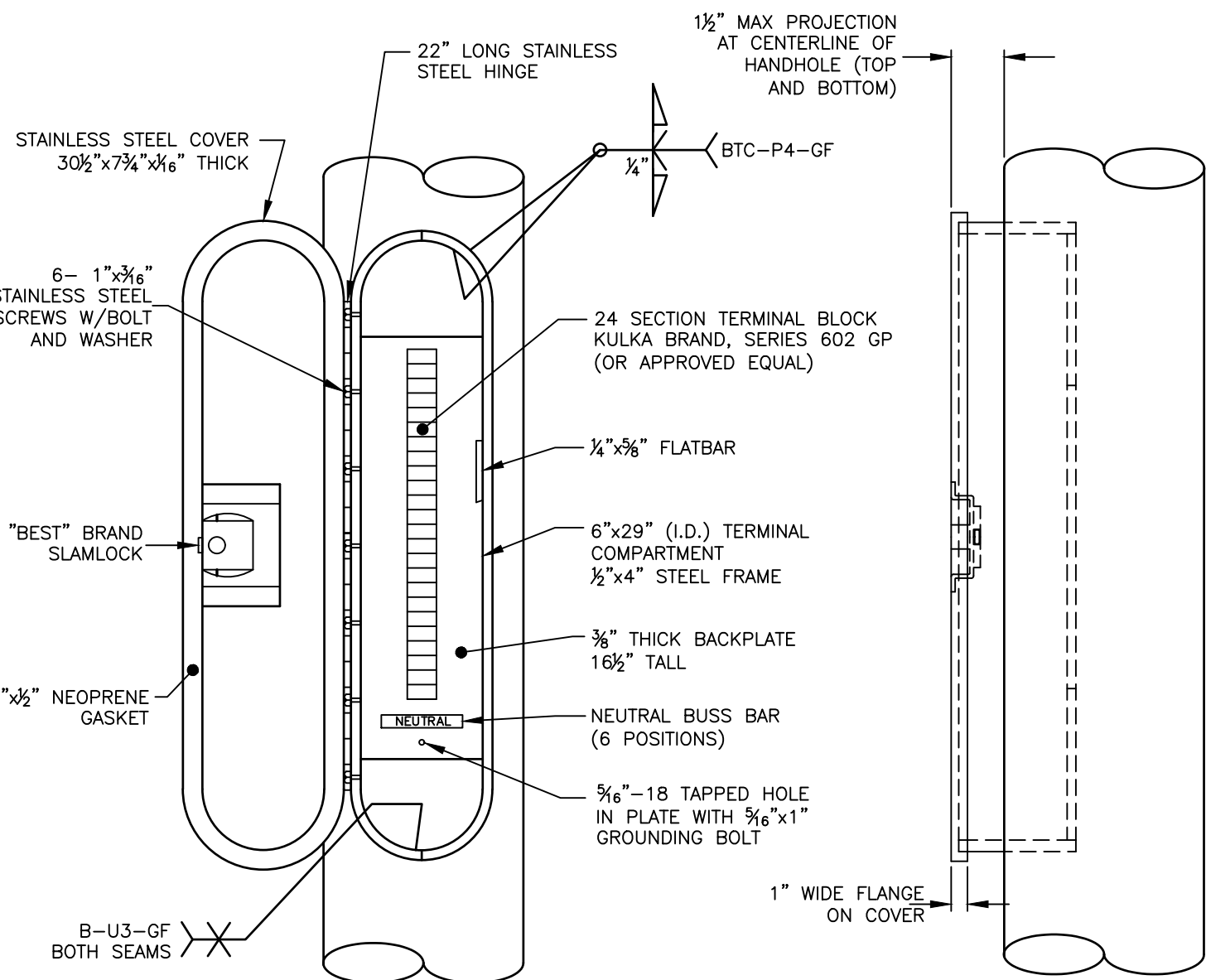


PEDESTRIAN HEADS
28, 29, 68, 69, 88, 89

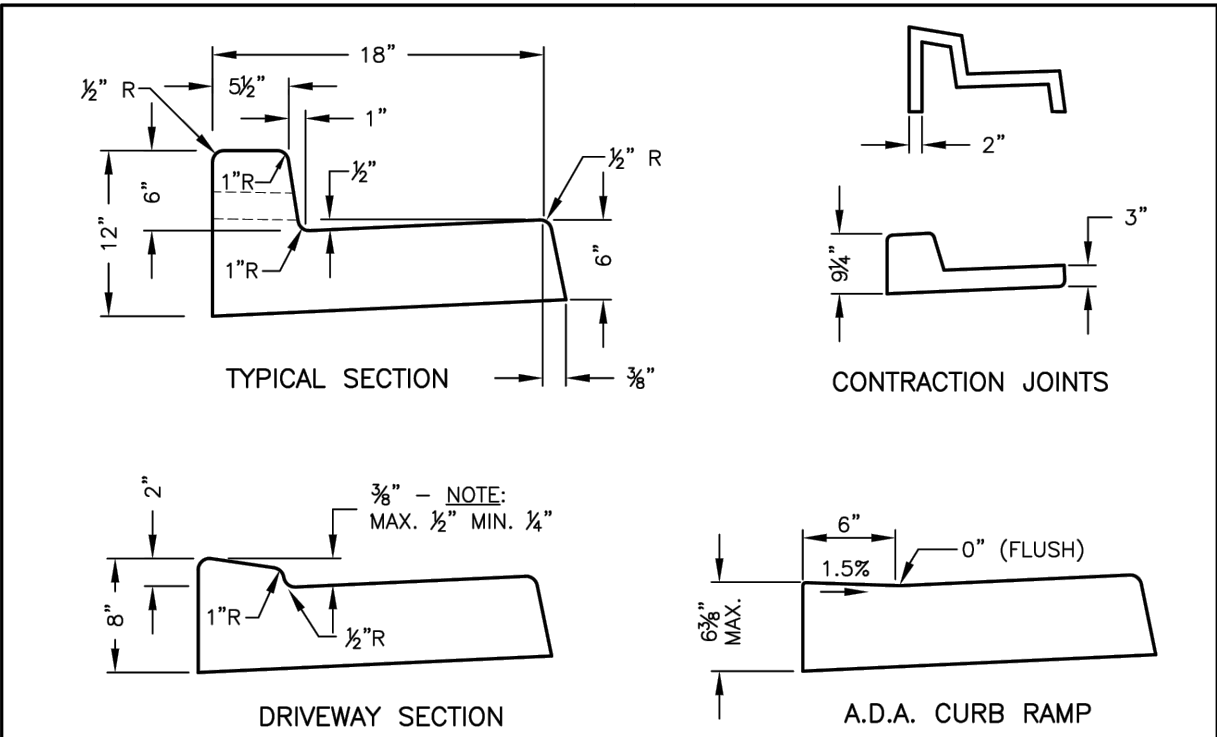


NOTES

- ALL DIMENSIONS SHOWN ARE APPROXIMATE. FINAL VALUES SHALL BE FIELD VERIFIED PRIOR TO SUBMITTAL OF SHOP DRAWINGS TO THE ENGINEERING DEPT.
- THE POLE MANUFACTURER SHALL INSTALL ALL TENONS AS REQUIRED FOR THE INSTALLATION OF THE VEHICLE SIGNAL HEADS
- CONTRACTOR SHALL ENSURE THAT THE SIGNAL POLE FOUNDATION IS SQUARE WITH THE RESPECTIVE POLE BASE PLATE.
- EACH POLE SHALL INCORPORATE A RECESSED TERMINAL COMPARTMENT PER THE BELOW DRAWING (CITY STD EL-424). (SEE A3, H)



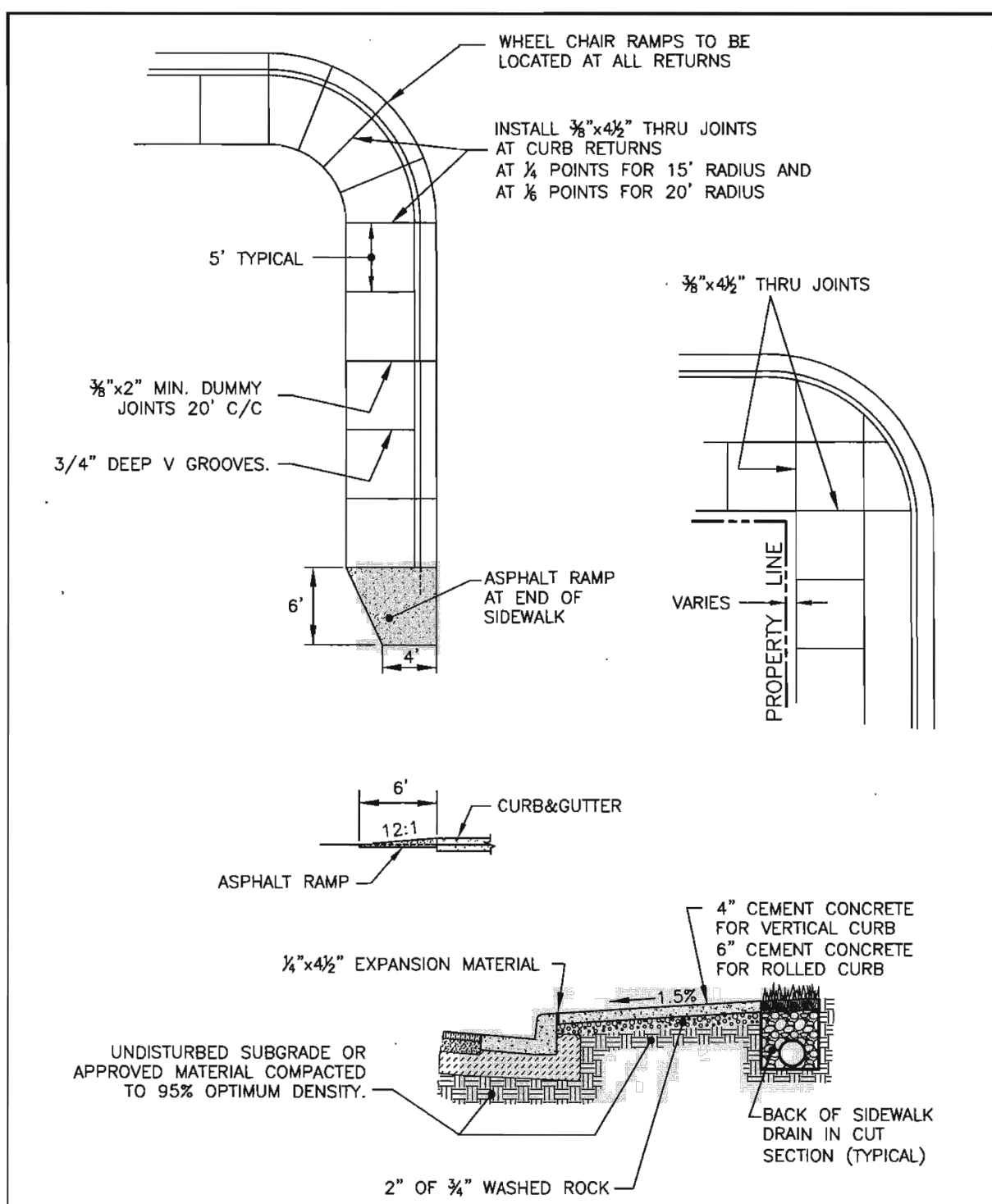
PRELIMINARY



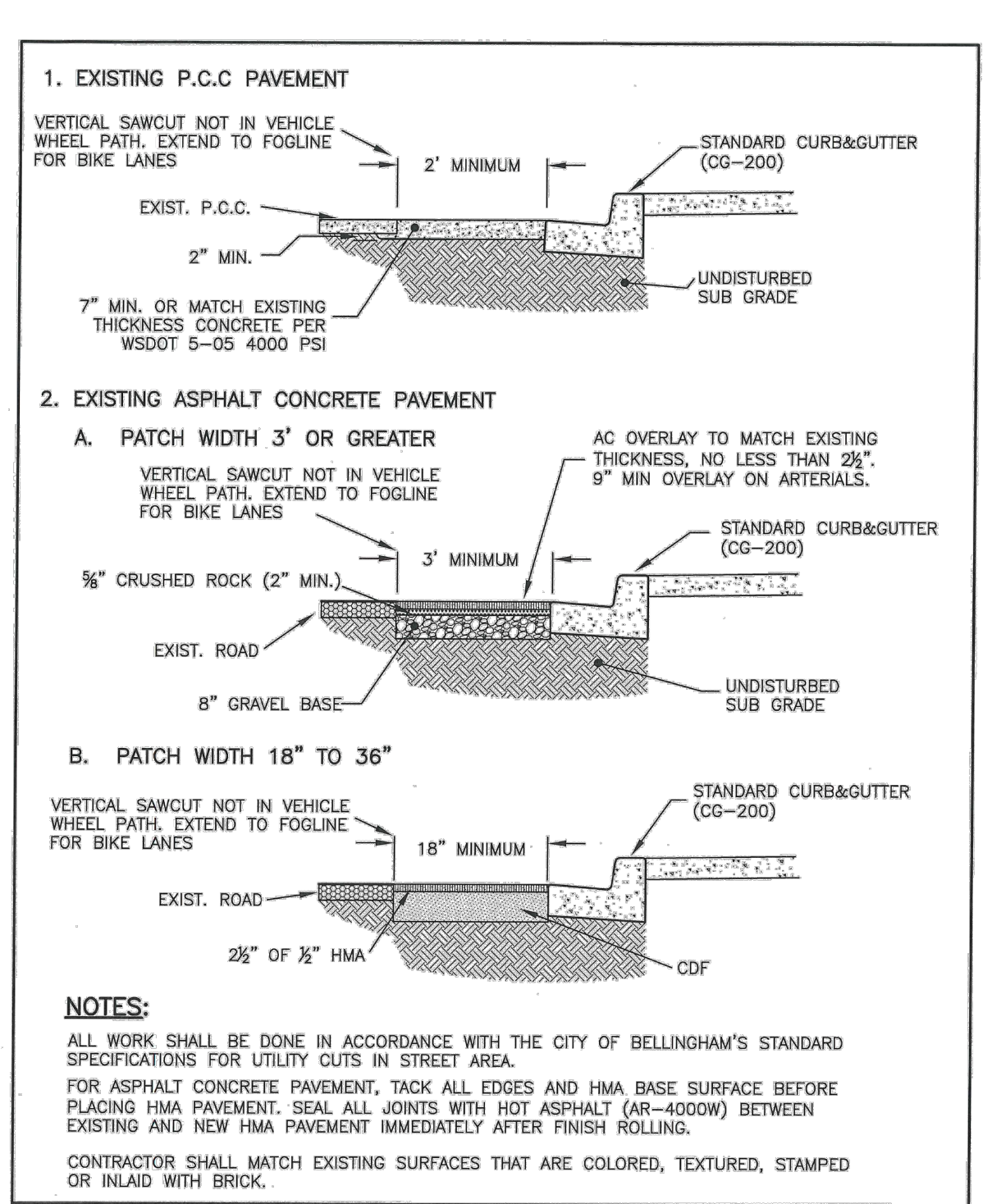
GENERAL NOTES:

- CONTRACTION JOINTS OF ONE OF THE TYPES SHOWN ABOVE TO BE PLACED 10' C/C. JOINTS MUST COMPLETELY SEVER THE STRUCTURE TO THE POINTS SHOWN. JOINTS MAY BE MADE BY INSERTING MIN. 3/8" BITUMINOUS FILLER DUMMY JOINTS. JOINTS SHALL BE CLEANED AND EDGED.
- ALL RADII LESS THAN 100' SHALL USE FLEXIBLE WOOD OR METAL FORMS TO ELIMINATE ANGULAR POINTS AT 10' SECTION POINTS.
- 2" PVC SCHD 40 WEEP HOLES TO BE PLACED ON EACH SIDE OF DRIVEWAY SECTION AND AT MAX. OF 60' C/C IN CUT SECTIONS WHERE SIDEWALK DRAIN NOT REQUIRED BY CITY ENGINEER.
- 3/4" EXPANSION JOINTS TO BE PLACED AT DRIVEWAY SECTIONS, CURB RETURNS, CURB RAMPS, & COLD JOINTS OR A MAX. OF 80' C/C. EXPANSION JOINTS SHALL PROTRUDE 1" BELOW THE BOTTOM OF GUTTER.
- CONCRETE SHALL BE COMMERCIAL CONCRETE CLASS 3000 PER WSDOT SPEC. 6-02.3(2)B.
- FINISHED WORK SHALL NOT VARY MORE THAN 1/8" INCH IN GRADE AND 1/4" INCH IN ALIGNMENT WHEN CHECKED WITH A 10-FOOT STRAIGHT EDGE.
- EXPOSED SURFACES SHALL BE BRUSHED WITH A FIBER HAIR BRUSH.
- WHITE PIGMENTED OR TRANSPARENT CURING COMPOUND SHALL BE APPLIED AS OUTLINED IN THE STANDARD SPECIFICATIONS.
- FURTHER REQUIREMENTS SHALL BE AS SPECIFIED IN THE STANDARD SPECIFICATIONS.

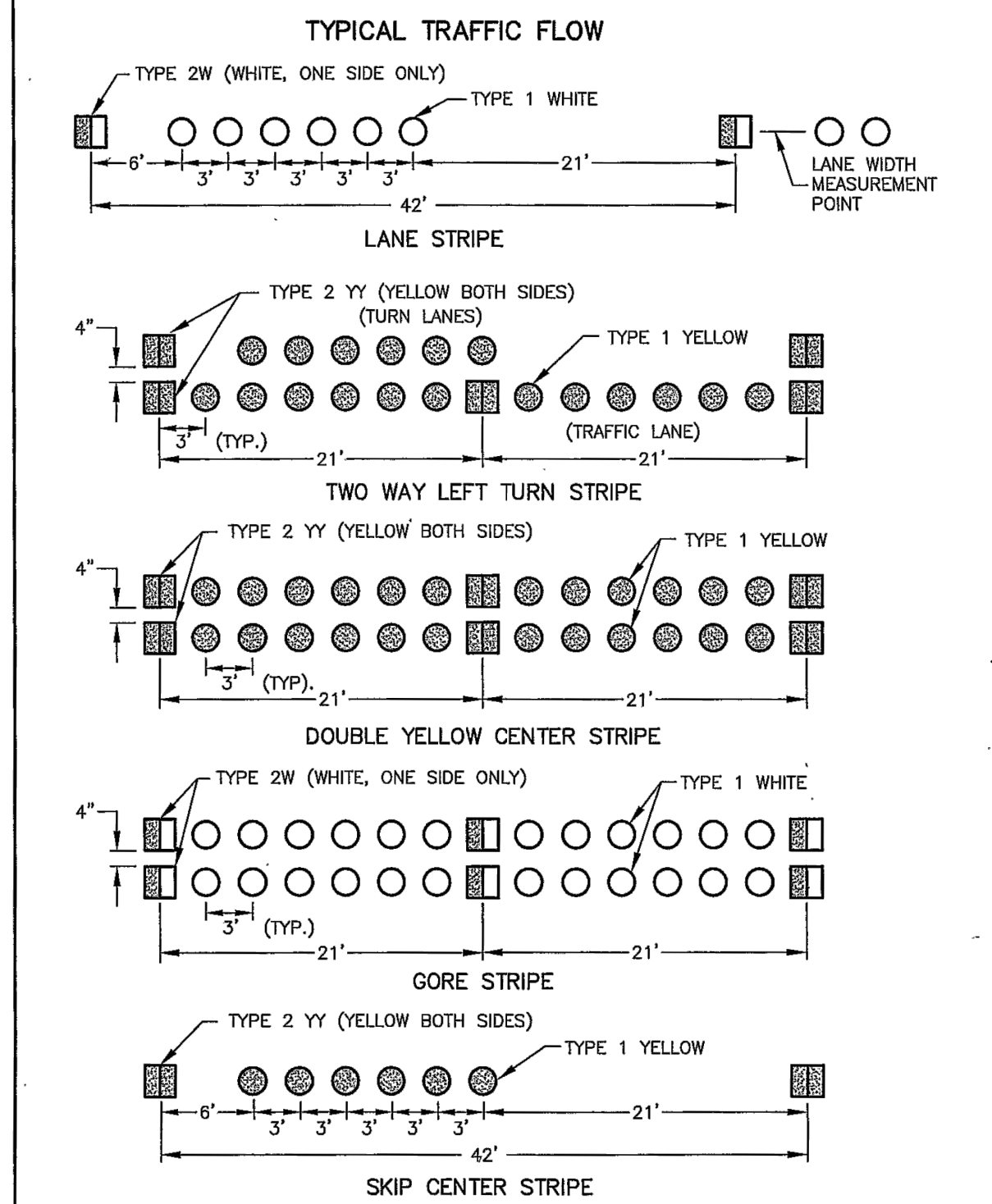
APPROVED	CITY OF BELLINGHAM	DRAWING
City Engineer	TYPE 'A' MODIFIED CURB AND GUTTER	CG-200
Date		



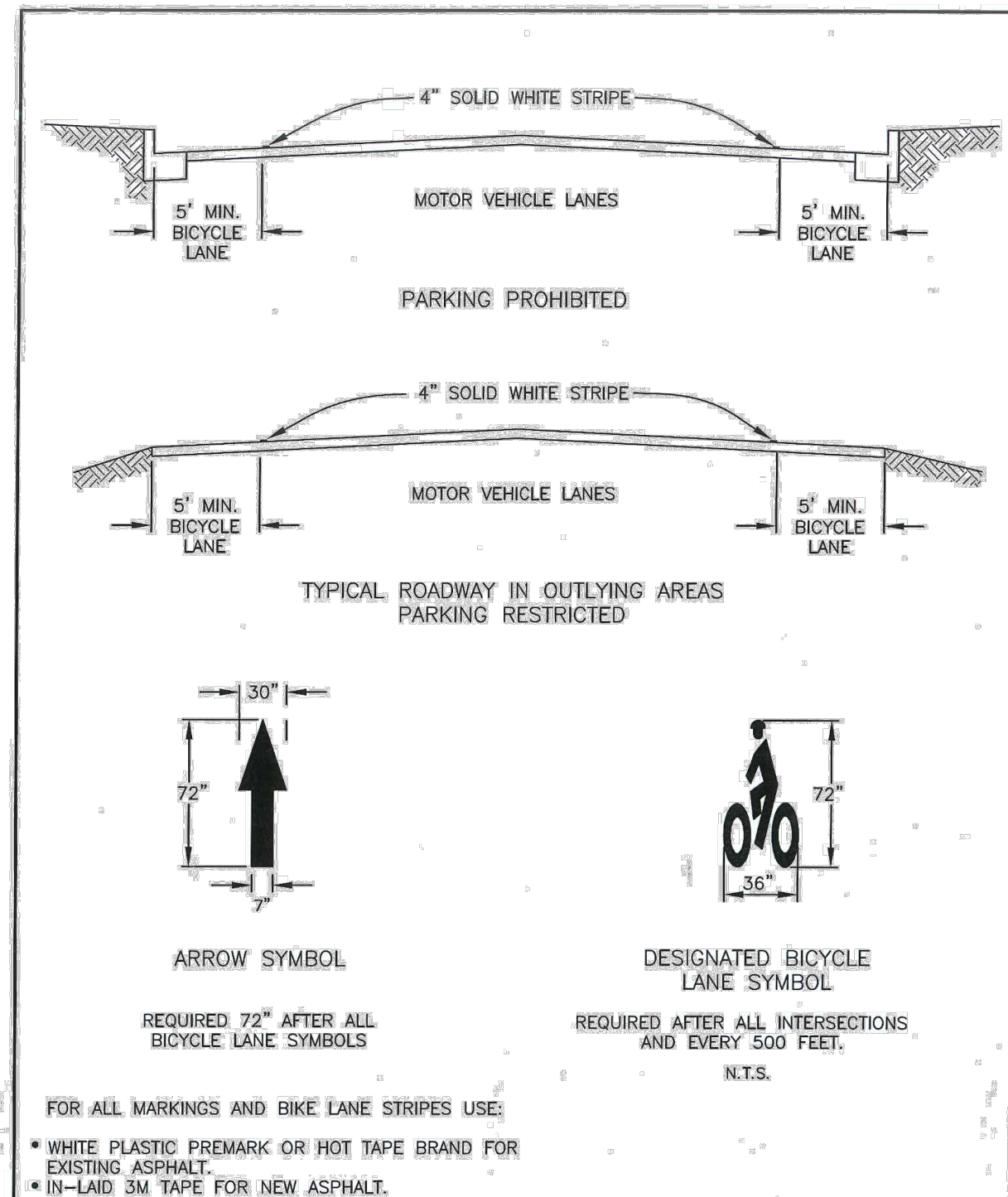
APPROVED	CITY OF BELLINGHAM	DRAWING
City Engineer	TYPE 'A' MODIFIED CURB AND GUTTER	CG-200
Date		



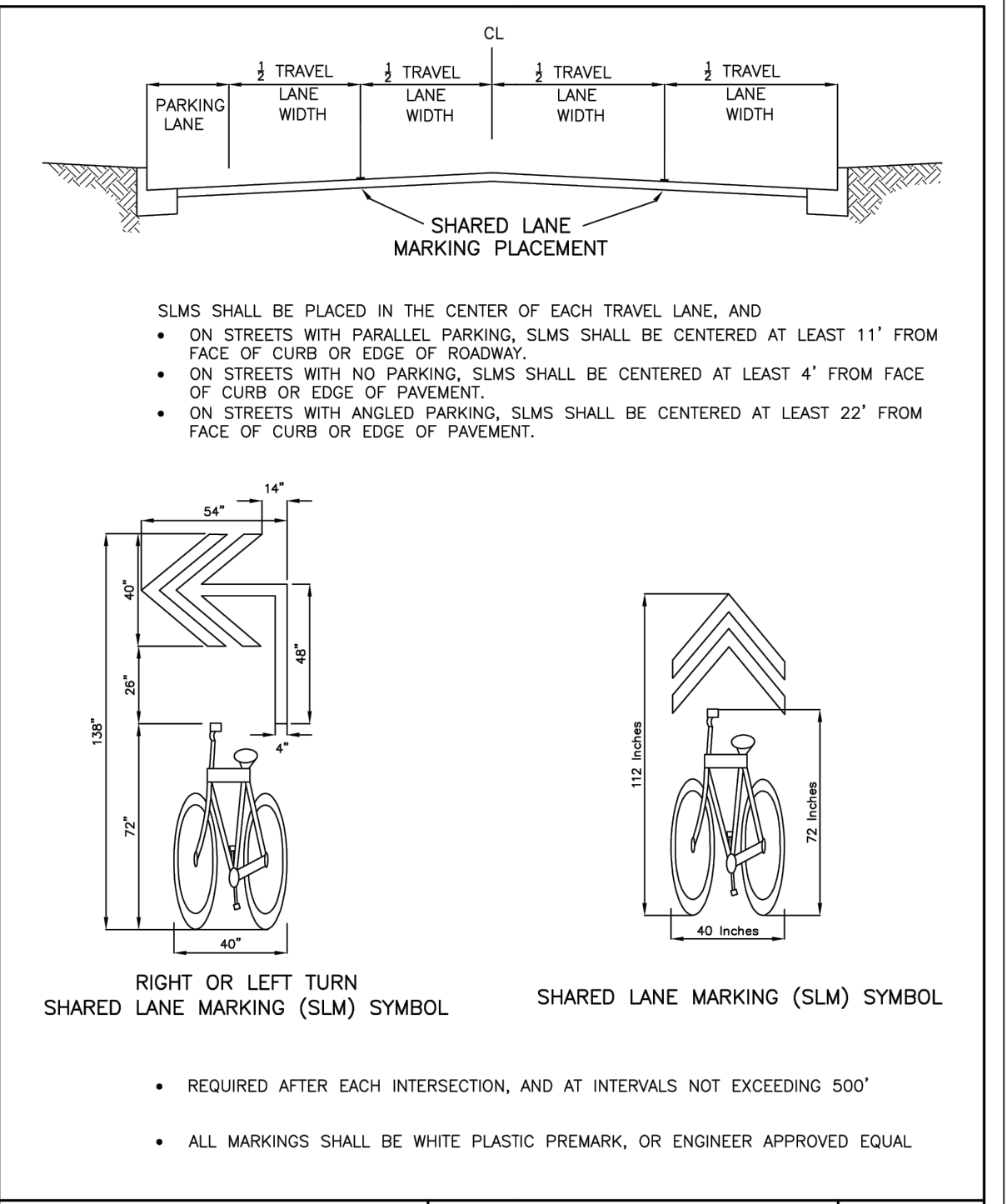
APPROVED	CITY OF BELLINGHAM	DRAWING
City Engineer	TYPE 'A' MODIFIED CURB AND GUTTER	CG-200
Date		



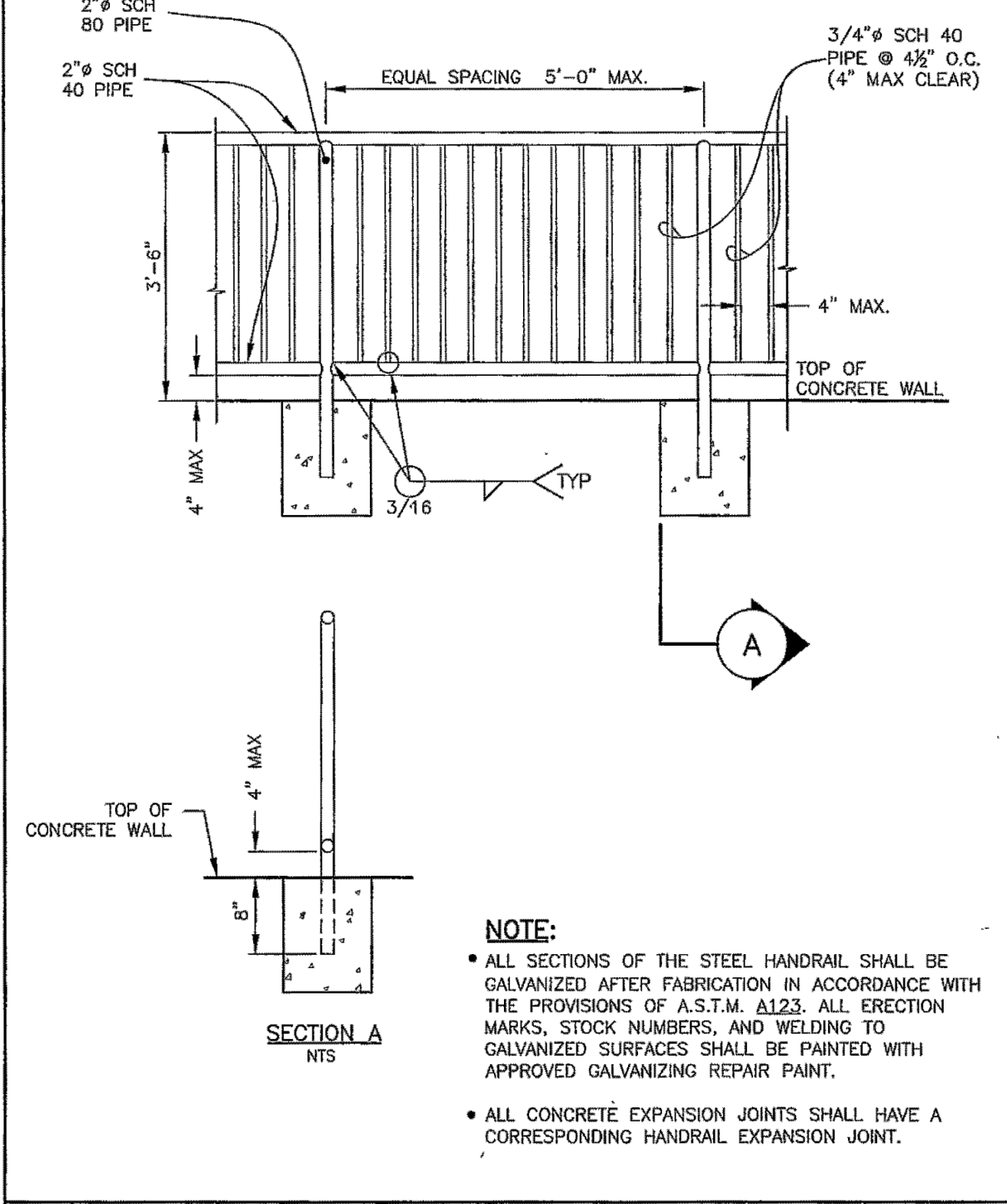
APPROVED	CITY OF BELLINGHAM	DRAWING
City Engineer	PAVEMENT MARKING DETAILS	TC-305
Date		



APPROVED	CITY OF BELLINGHAM	DRAWING
City Engineer	BICYCLE LANE STANDARDS	TC-315
Date		



APPROVED	CITY OF BELLINGHAM	DRAWING
City Engineer	BICYCLE LANE STANDARDS	TC-315
Date		



APPROVED	CITY OF BELLINGHAM	DRAWING
City Engineer	BICYCLE LANE STANDARDS	TC-315
Date		



APPROVED	CITY OF BELLINGHAM	DRAWING
City Engineer	BICYCLE LANE STANDARDS	TC-315
Date		

PRELIMINARY

