

# THE ACADEMY ON MAPLETON HILL

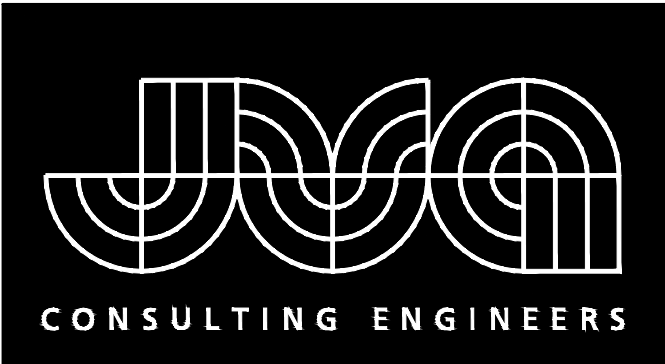
## BUILDING PACKAGE A, B, F & G

### BOULDER, CO 80303

### TECHNICAL DOCUMENT REVIEW

CONTACTS

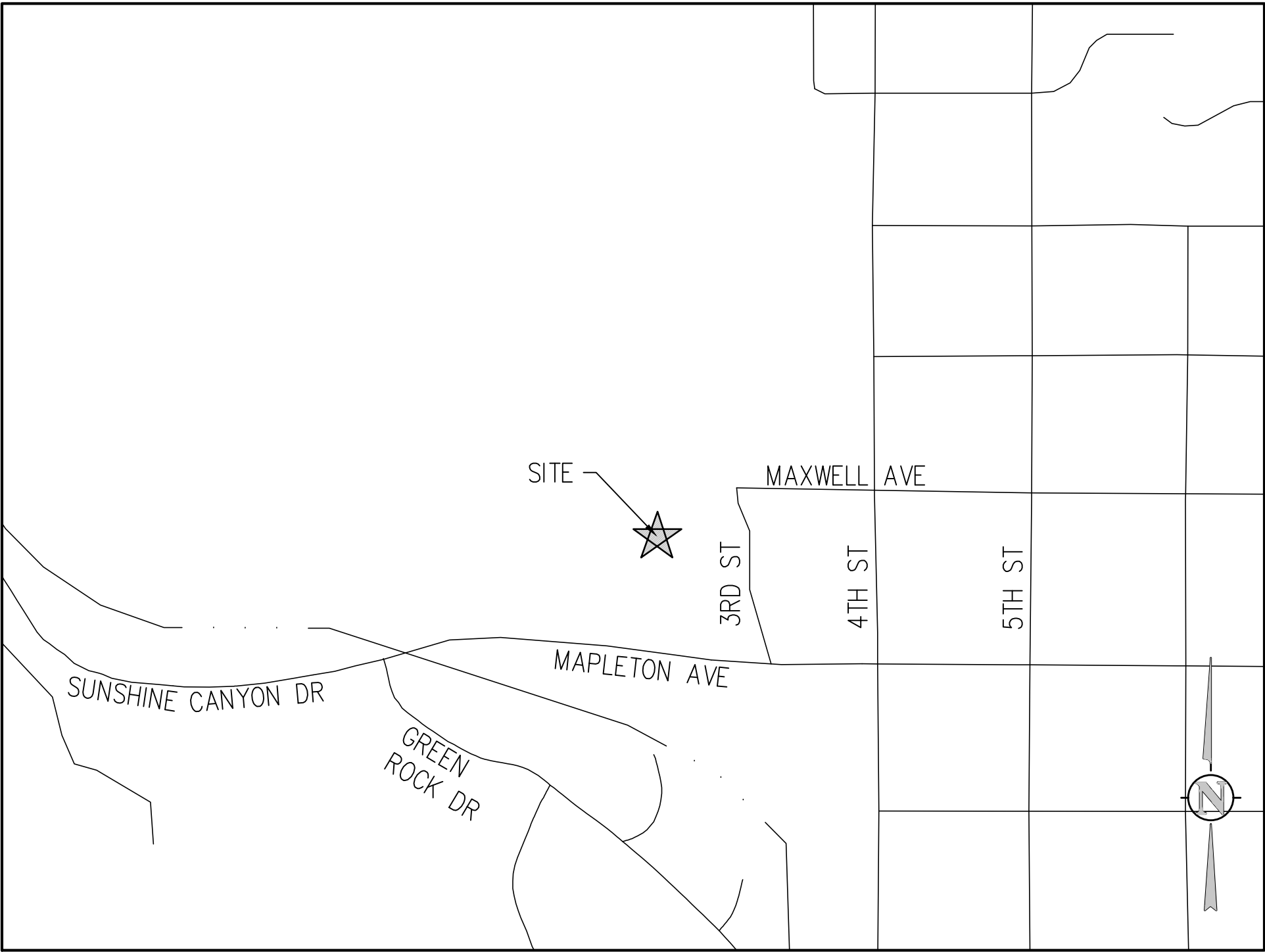
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PHOTOMETRIC AND SITE ELECTRICAL

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SP2.0B	FIXTURE DETAILS
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E2.0B	SITE POWER PLAN



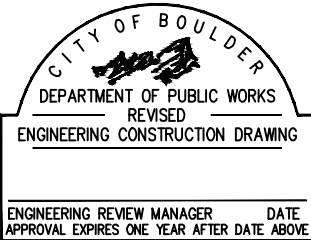
LOCATION MAP  
NTS

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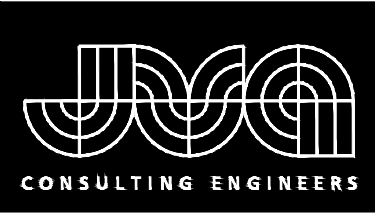
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CITY OF BOULDER PUBLIC WORKS DEPARTMENT	
RECOMMENDATION FOR APPROVAL	
WATER/SEWER	_____
TRANSPORTATION	_____
DRAINAGE	_____

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THE ACADEMY  
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311 MAPLETON AVENUE  
BOULDER, COLORADO 80304

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1	5/28/2019	FIRST SUBMITTAL
2	10/21/2019	SECOND SUBMITTAL
3	12/02/2019	THIRD SUBMITTAL

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AMP/WDD  
CHECKED BY: DIB  
DESCRIPTION: COVER SHEET

C0.0

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ABBREVIATIONS

AMERICAN ASSOC. OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS	INCL	INCLUDED
ABANDON	ID	INSIDE DIAMETER
ASPHALTIC CONCRETE PAVING	IN	INLET
ADDITIONAL	INSUL	INSULATION
ADJUSTABLE	INV	INVERT
ALUMINUM	IRR	IRRIGATION
ALTERNATE	JTS	JOINTS
AMOUNT		
APPROXIMATE	KO	KNOCKOUT
ARCHITECT(URAL)	KPL	KICK PLATE
AIR RELIEF VALVE	KWY	KEYWAY
AMERICAN SOCIETY FOR TESTING AND MATERIALS		
ASPHALT	L	LEFT OR LITER
ASSEMBLY	LSCAPE	LANDSCAPE(ING)
ASYMMETRICAL	LF	LINEAR FOOT
AUTOMATIC	LP	LOW POINT
AVERAGE	LT	LIGHT
AMERICAN WATER WORKS ASSOC.	LWL	LOW WATER LEVEL
BACK OF CURB	MAINT	MAINTENANCE
BUTTERFLY VALVE	MAN	MANUAL
BUILDING	MATL	MATERIAL
BLOCK	MAX	MAXIMUM
BENCH MARK	ME	MATCH EXISTING
BEST MANAGEMENT PRACTICE	MECH	MECHANICAL
BACKSIGHT	MFR	MANUFACTURER
BOTTOM OF STEP	MH	MANHOLE
BOTTOM	MIN	MINIMUM
BASEMENT	MISC	MISCELLANEOUS
BEGIN VERTICAL CURVE ELEVATION	MJ	MECHANICAL JOINT
BEGIN VERTICAL CURVE STATION		
BOTTOM OF WALL	N	NORTH
	NA	NOT APPLICABLE
CATCH BASIN	NIC	NOT IN CONTRACT
COUNTER CLOCKWISE	NPT	NATIONAL PIPE THREAD
COLORADO DEPARTMENT OF TRANSPORTATION	NTS	NOT TO SCALE
CAST IRON PIPE		
CONSTRUCTION JOINT	OC	ON CENTER
CENTER LINE OR CHAIN LINK	OD	OUTSIDE DIAMETER
CLEAR	OPP	OPPOSITE
CORRUGATED METAL PIPE	OPT	OPTIONAL
CONCRETE MASONRY UNIT		
CLEANOUT	PC	POINT OF CURVATURE
CONCRETE	PCO	PRESSURE CLEAN OUT
CONSTRUCTION	PCR	POINT OF CURVE RETURN
CONTINUOUS(ATION)	PI	POINT OF INTERSECTION
CORNER	PVI	POINT OF VERTICAL INTERSECTION
CENTER	PL	PROPERTY LINE
CUBIC YARDS	PE	POLYETHYLENE
	PREFAB	PREFABRICATED
DEMOLITION	PRELIM	PRELIMINARY
DIAMETER	PREP	PREPARATION
DIAGONAL	PROV	PROPOSED
DUCTILE IRON PIPE	PRV	PRESSURE REDUCING VALVE OR
DOMESTIC		PRESSURE RELIEF VALVE
DOWN	PSF	POUNDS PER SQUARE FOOT
DRAIN	PSI	POUNDS PER SQUARE INCH
DRAWING	PT	POINT OF TANGENCY
DOWEL	PV	PLUG VALVE
	PVC	POLYVINYL CHLORIDE OR
EAST		POINT OF VERTICAL CURVATURE
EACH	PVMT	PAVEMENT
ECCENTRIC		
EXPANSION JT	QTY	QUANTITY
ELEVATION		
ELBOW	R	RIGHT
ELECTRICAL	RAD	RADIUS
ENGINEER	RCP	REINFORCED CONCRETE PIPE
EDGE OF PAVEMENT	RD	ROOF DRAIN
EQUAL	RE	REFERENCE
EQUIPMENT	RECT	RECTANGULAR
EQUIVALENT	REINF	REINFORCE (D) (ING) (MENT)
EASEMENT	REQD	REQUIRED
ESTIMATE	REQD	REQUIRED
END VERTICAL CURVE ELEVATION	RQW	RIGHT OF WAY
END VERTICAL CURVE STATION		
EACH WAY	SAN	SANITARY
EXPANSION JOINT	SD	STORM DRAIN
EXISTING	SECT	SECTION
	SPD	STANDARD PROCTOR DENSITY
FOUNDATION	SPEC	SPECIFICATION
FLARED END SECTION	SQ	SQUARE
FINISH FLOOR	SO IN	SQUARE INCH
FINISH GRADE	SO FT	SQUARE FOOT
FIRE HYDRANT	SO YD	SQUARE YARD
FLOW LINE	SS	SANITARY SEWER
FENCE	SST	STAINLESS STEEL
FACE OF CONCRETE	STA	STATION
FEET PER MINUTE	STD	STANDARD
FEET PER SECOND	STL	STEEL
FEET	STRUCT	STRUCTURAL
FOOTING OR FITTING	SWMP	STORMWATER MANAGEMENT PLAN
	SYM	SYMMETRICAL
GAS	TB	THRUST BLOCK
GAUGE	TBC	TOP BACK OF CURB
GALLON	TBM	TEMPORARY BENCH MARK
GALVANIZED	TEMP	TEMPORARY
GRADE CLEANOUT	THK	THICK
GALVANIZED IRON PIPE	THB	TOP OF BANK
GROUND	TOT	TOP OF CONCRETE OR TOP OF CURB
GALLONS PER DAY	TOS	TOP OF STEP
GALLONS PER MINUTE	TOT	TOTAL
GRATE	TW	TOP OF WALL
GRATING	TYP	TYPICAL
GALVANIZED STEEL PIPE		
GATE VALVE		
	UBC	UNIFORM BUILDING CODE
HIGH	UGE	UNDERGROUND ELECTRIC UTILITY
HOSE BIB	VERT	VERTICAL
HORIZONTAL ELLIPTICAL	VC	POINT OF VERTICAL CURVATURE
HEADWALL	VCP	VITRIFIED CLAY PIPE
HAND RAIL	W	WIDE OR WIDTH
HORIZONTAL	W/	WITH
HIGH POINT	W/O	WITHOUT
HOUR	WOCE	WATER QUALITY CONTROL ELEVATION
HEATING, VENTILATION,	WSE	WATER SURFACE ELEVATION
AIR CONDITIONING	WW	WASTEWATER
HIGHWAY	X SECT	CROSS SECTION
HIGH WATER LINE	YH	YARD HYDRANT
HYDRANT		

CITY OF BOULDER CONSTRUCTION NOTES:

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE "DESIGN AND CONSTRUCTION STANDARDS" OF THE CITY OF BOULDER, AND SHALL BE COMPLETED TO THE SATISFACTION OF THE DIRECTOR OF PUBLIC WORKS. IN THE EVENT THAT A DESIGN ELEMENT DOES NOT REFLECT CITY STANDARDS, THE MATTER MUST BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER AND THE DIRECTOR OF PUBLIC WORKS. THE ENGINEER SHALL BE RESPONSIBLE FOR RECOMMENDING A SOLUTION OR ALTERNATIVE SOLUTIONS TO THE CITY FOR REVIEW AND APPROVAL.
- THE APPROVAL OF A CONSTRUCTION PLAN DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF CONSTRUCTING WORKABLE PUBLIC IMPROVEMENTS. ALL REVISIONS AND/OR CORRECTIONS REQUIRED WILL BE SOLELY THE CONTRACTOR'S RESPONSIBILITY, AND AT THEIR EXPENSE.
- THESE PLANS HAVE BEEN CHECKED BY THE CITY OF BOULDER ONLY FOR CONFORMANCE WITH THE "DESIGN AND CONSTRUCTION STANDARDS," COMPLIANCE WITH DEVELOPMENT AGREEMENT CONDITIONS, AND FOR GENERAL CONCEPTUAL APPROVAL OF PUBLIC IMPROVEMENTS AS SHOWN. THE CITY'S REVIEW DOES NOT VERIFY OR ENSURE THE ACCURACY OF EXISTING OR PROPOSED DIMENSIONS, LINES, COORDINATES, OR GRADES SHOWN, INCLUDING ALL EXISTING UTILITIES SHOWN OR NOT SHOWN.
- UTILITY LOCATIONS SHOWN REFLECT AVAILABLE RECORD DATA. THE CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO PROTECT ALL UTILITY LINES SHOWN AND OTHERWISE LOCATED. THE CONTRACTOR SHALL CONTACT THE "UTILITY NOTIFICATION CENTER OF COLORADO" AT 1-800-922-1987 FOR UTILITY LOCATES 24 HOURS PRIOR TO BEGINNING CONSTRUCTION.
- BEFORE WORK BEGINS, THE CONTRACTOR SHALL OBTAIN A PERMIT TO WORK IN THE RIGHT-OF-WAY FROM THE CITY AND MUST NOTIFY THE CITY RIGHT-OF-WAY INSPECTION STAFF AT LEAST 24 HOURS IN ADVANCE OF COMMENCING CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL OBTAIN AND MAINTAIN A COMPLETE AND APPROVED SET OF CONSTRUCTION PLANS. THESE DRAWINGS, AND ANY REQUIRED PERMITS, SHALL BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES AND SHALL BE MADE AVAILABLE TO CITY STAFF UPON REQUEST. IF CONSTRUCTION PLANS ARE NOT READILY AVAILABLE AT THE PROJECT SITE, THE DIRECTOR OF PUBLIC WORKS MAY ISSUE A STOP WORK ORDER AND HALT ALL CONSTRUCTION ACTIVITIES PENDING COMPLIANCE BY THE CONTRACTOR.
- THE CONTRACTOR AGREES TO COMPLY WITH THE PROVISIONS OF THE TRAFFIC CONTROL PLAN AND THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," "TEMPORARY TRAFFIC CONTROL," FOR CONSTRUCTION SIGNAGE AND TRAFFIC CONTROL.
- ALL SURPLUS MATERIALS, TOOLS, AND TEMPORARY STRUCTURES, FURNISHED BY THE CONTRACTOR, SHALL BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR. ALL DEBRIS AND RUBBISH CAUSED BY THE OPERATIONS OF THE CONTRACTOR SHALL BE REMOVED, AND THE AREA OCCUPIED DURING CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO ITS ORIGINAL CONDITION, WITHIN 48 HOURS OF PROJECT COMPLETION, UNLESS OTHERWISE DIRECTED BY THE DIRECTOR OF PUBLIC WORKS.
- THE CONTRACTOR SHALL PROVIDE TREE AND LANDSCAPE PROTECTION AS SET FORTH IN CHAPTER 6-6, "PROTECTION OF TREES AND PLANTS," BOULDER REVISED CODE (B.R.C.) 1981 AND THE CITY OF BOULDER DESIGN AND CONSTRUCTION STANDARDS (DCS). ALL LANDSCAPING SHALL BE PROVIDED AND MAINTAINED IN COMPLIANCE WITH THE APPROVED LANDSCAPING PLAN, B.R.C. AND DCS.
- THE CONTRACTOR IS REQUIRED TO PROVIDE AND MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE URBAN DRAINAGE AND FLOOD CONTROL DISTRICT "URBAN STORM DRAINAGE CRITERIA MANUAL VOLUME 3", THE M STANDARD PLANS OF THE COLORADO DEPARTMENT OF TRANSPORTATION, AND THE APPROVED EROSION CONTROL PLAN. THE DIRECTOR OF PUBLIC WORKS MAY REQUIRE THE CONTRACTOR TO PROVIDE ADDITIONAL EROSION CONTROL MEASURES DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE PLANS DO NOT FUNCTION AS INTENDED.
- THE CITY OF BOULDER REQUIRES THAT SIDEWALKS CONSTRUCTED HAVE A CROSS SLOPE OF LESS THAN 2%. SIDEWALKS SHALL BE DESIGNED AND CONSTRUCTED WITH CROSS SLOPES SUFFICIENTLY LESS THAN 2% TO ENSURE THAT THEY DO NOT EXCEED THE 2% MAXIMUM.

GENERAL NOTES

- ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF THE CITY OF BOULDER, COLORADO DEPARTMENT OF TRANSPORTATION, BOULDER FIRE RESCUE REQUIREMENTS, AND APPLICABLE STATE AND LOCAL STANDARDS AND SPECIFICATIONS. THE CONTRACTOR SHALL HAVE IN POSSESSION AT THE JOB SITE AT ALL TIMES ONE (1) SIGNED COPY OF APPROVED PLANS, STANDARDS AND SPECIFICATIONS. CONTRACTOR SHALL CONSTRUCT AND MAINTAIN EMERGENCY ACCESS ROUTES TO THE SITE AND STRUCTURE AT ALL TIMES PER THE APPLICABLE BOULDER FIRE RESCUE REQUIREMENTS. THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FOR ANY VARIANCE TO THE ABOVE DOCUMENTS. NOTIFY ENGINEER OF ANY CONFLICTING STANDARDS OR SPECIFICATIONS. IN THE EVENT OF ANY CONFLICTING STANDARD OR SPECIFICATION, THE MORE STRINGENT OR HIGHER QUALITY STANDARD, DETAIL OR SPECIFICATION SHALL APPLY.
- THE CONTRACTOR SHALL OBTAIN, AT HIS OWN EXPENSE, ALL APPLICABLE CODES, LICENSES, STANDARD SPECIFICATIONS, PERMITS, BONDS, ETC., WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK, INCLUDING, BUT NOT LIMITED TO A LOCAL AND STATE GROUNDWATER DISCHARGE AND COLORADO DEPARTMENT OF HEALTH AND ENVIRONMENT (CDPHE) STORMWATER DISCHARGE PERMIT ASSOCIATED WITH CONSTRUCTION ACTIVITY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE CITY OF BOULDER AT LEAST 48 HOURS PRIOR TO START OF ANY CONSTRUCTION, PRIOR TO BACKFILLING, AND AS REQUIRED BY JURISDICTIONAL AUTHORITY AND/OR PROJECT SPECIFICATIONS. THE CONTRACTOR SHALL CONTINUE WITH NOTIFICATIONS THROUGHOUT THE PROJECT AS REQUIRED BY THE STANDARDS AND SPECIFICATIONS.
- THE LOCATIONS OF EXISTING UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION BASED ON INFORMATION BY OTHERS. NOT ALL UTILITIES MAY BE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT SIZE, LOCATION AND TYPE OF ALL EXISTING UTILITIES WHETHER SHOWN OR NOT BEFORE COMMENCING WORK. THE ENGINEER AND/OR OWNER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS SHOWN ON PLANS. THE CONTRACTOR SHALL BE FULLY AND SOLELY RESPONSIBLE FOR ANY AND ALL DAMAGES AND COSTS WHICH MIGHT OCCUR BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES. THE CONTRACTOR SHALL NOTIFY ALL PUBLIC AND PRIVATE UTILITY COMPANIES AND DETERMINE THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO PROCEEDING WITH GRADING AND CONSTRUCTION. ALL WORK PERFORMED IN THE AREA OF UTILITIES SHALL BE PERFORMED AND INSPECTED ACCORDING TO THE REQUIREMENTS OF THE UTILITY OWNER. LIKEWISE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND MAPPING ANY EXISTING UTILITY (INCLUDING DEPTH) WHICH MAY CONFLICT WITH THE PROPOSED CONSTRUCTION, AND FOR RELOCATING ENCOUNTERED UTILITIES AS DIRECTED BY THE ENGINEER. CONTRACTOR SHALL CONTACT AND RECEIVE APPROVAL FROM CITY OF BOULDER BEFORE RELOCATING ANY ENCOUNTERED UTILITIES. CONTRACTOR RESPONSIBLE FOR SERVICE CONNECTIONS, AND RELOCATING AND RECONNECTING AFFECTED UTILITIES AS COORDINATED WITH UTILITY OWNER AND/OR ENGINEER, INCLUDING NON-MUNICIPAL UTILITIES (TELEPHONE, GAS, CABLE, ETC., WHICH SHALL BE COORDINATED WITH THE UTILITY OWNER). THE CONTRACTOR SHALL IMMEDIATELY CONTACT ENGINEER UPON DISCOVERY OF A UTILITY DISCREPANCY OR CONFLICT. AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY NOTIFICATION CENTER OF COLORADO (1-800-922-1987, WWW.UNCC.ORG).
- THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS AT AND ADJACENT TO THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL PLAN FOR OWNER AND/OR CITY APPROVAL AND PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FENCING, FLAGMEN OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR AGREES TO COMPLY WITH THE PROVISIONS OF THE TRAFFIC CONTROL PLAN AND THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," PART VI, FOR CONSTRUCTION SIGNAGE AND TRAFFIC CONTROL. ALL TEMPORARY AND PERMANENT TRAFFIC SIGNS SHALL COMPLY TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) WITH REGARD TO SIGN SHAPE, COLOR, SIZE, LETTERING, ETC. UNLESS OTHERWISE SPECIFIED. IF APPLICABLE, PART NUMBERS ON SIGNAGE DETAILS REFER TO MUTCD SIGN NUMBERS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ANY GROUNDWATER ENCOUNTERED DURING THE CONSTRUCTION OF ANY PORTION OF THIS PROJECT. GROUNDWATER SHALL BE PUMPED, REMOVED AND DISPOSED OF IN A MANNER WHICH DOES NOT CAUSE FLOODING OF EXISTING STREETS NOR EROSION ON ADJUTING PROPERTIES IN ORDER TO CONSTRUCT THE IMPROVEMENTS SHOWN ON THESE PLANS. GROUNDWATER TO BE PUMPED SHALL BE TESTED, PERMITTED, AND PUMPED PER THE STATE OF COLORADO AND LOCAL GROUNDWATER DISCHARGING PERMIT REQUIREMENTS.
- RIM AND GRATE ELEVATIONS SHOWN ON PLANS ARE APPROXIMATE ONLY AND ARE NOT TO BE TAKEN AS FINAL ELEVATIONS. THE CONTRACTOR SHALL ADJUST RIMS AND OTHER IMPROVEMENTS TO MATCH FINAL PAVEMENT AND FINISHED GRADE ELEVATIONS.
- THE EXISTING AND PROPOSED ELEVATIONS OF FLATWORK, SIDEWALKS, CURBS, THRESHOLDS, PAVING, ETC. AS SHOWN HEREON ARE BASED ON EXTRAPOLATION OF FIELD SURVEY DATA, EXISTING CONDITIONS, AND DATA PROVIDED BY OTHERS. AT CRITICAL AREAS AND SITE FEATURES, CONTRACTOR SHALL HAVE FORMWORK INSPECTED AND APPROVED BY OWNER, OWNER'S REPRESENTATIVE, OR ENGINEER PRIOR TO PLACING CONCRETE. MINOR ADJUSTMENTS, AS APPROVED, TO PROPOSED GRADES, INVERTS, ETC. MAY BE REQUIRED TO PREVENT PONDING OR SLOPE NOT IN CONFORMANCE WITH MUNICIPAL STANDARDS. ALL FLATWORK MUST PREVENT PONDING AND PROVIDE POSITIVE DRAINAGE AWAY FROM EXISTING AND PROPOSED BUILDINGS, WALLS, ROOF DRAIN OUTFALLS, ACROSS DRIVES AND WALKS, ETC., TOWARDS THE PROPOSED INTENDED DRAINAGE FEATURES AND CONVEYANCES.
- FINAL LIMITS OF REQUIRED ASPHALT SAWCUTTING AND PATCHING MAY VARY FROM LIMITS SHOWN ON PLANS. CONTRACTOR TO PROVIDE SAWCUT AND PATCH WORK TO ACHIEVE POSITIVE DRAINAGE AND A SMOOTH TRANSITION TO EXISTING ASPHALT WITHIN SLOPES ACCEPTABLE TO THE ENGINEER AND WITHIN MUNICIPAL STANDARDS. CONTRACTOR SHALL PROVIDE ADDITIONAL SAWCUTTING AND PATCHING AT UTILITY WORK, CONNECTION POINTS TO EXISTING PAVEMENT AND FEATURES, ETC. THAT MAY NOT BE DELINEATED ON PLANS.
- ANY EXISTING MONITORING WELLS, CLEANOUTS, VALVE BOXES, ETC. TO BE PROTECTED AND TO REMAIN IN SERVICE. IF FEATURES EXIST, EXTEND OR LOWER TO FINAL SURFACE WITH LIKE KIND CAP WITH STANDARD CAST ACCESS LID WITH SAME MARKINGS. IN LANDSCAPED AREAS PROVIDE A CONCRETE COLLAR (18"x18"x6" THICK) AT ALL EXISTING AND PROPOSED MONITORING WELLS, CLEANOUTS, VALVE BOXES, ETC.
- OWNER TO APPROVE ALL PRIVATE CONCRETE FINISHING, JOINT PATTERNS AND COLORING REQUIREMENTS PRIOR TO CONSTRUCTION. SUBMIT JOINT LAYOUT PLAN TO OWNER FOR APPROVAL PRIOR TO CONSTRUCTION.
- PIPE LENGTHS AND HORIZONTAL CONTROL POINTS SHOWN ARE FROM CENTER OF STRUCTURES, END OF FLARED END SECTIONS, ETC. SEE STRUCTURE DETAILS FOR EXACT HORIZONTAL CONTROL LOCATION. CONTRACTOR IS RESPONSIBLE FOR ADJUSTING ACTUAL PIPE LENGTHS TO ACCOUNT FOR STRUCTURES AND LENGTH OF FLARED END SECTIONS.
- ALL SURPLUS MATERIALS, TOOLS, AND TEMPORARY STRUCTURES, FURNISHED BY THE CONTRACTOR, SHALL BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR. ALL DEBRIS AND RUBBISH CAUSED BY THE OPERATIONS OF THE CONTRACTOR SHALL BE REMOVED, AND THE AREA OCCUPIED DURING CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO ITS ORIGINAL CONDITION, WITHIN 48 HOURS OF PROJECT COMPLETION, UNLESS OTHERWISE DIRECTED BY THE MUNICIPALITY OR OWNER'S REPRESENTATIVE.
- THE CONTRACTOR IS REQUIRED TO PROVIDE AND MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE LOCAL JURISDICTION, THE STATE OF COLORADO, URBAN DRAINAGE AND FLOOD CONTROL DISTRICT "URBAN STORM DRAINAGE CRITERIA MANUAL VOLUME 3", THE M-STANDARD PLANS OF THE COLORADO DEPARTMENT OF TRANSPORTATION, AND THE APPROVED EROSION CONTROL PLAN. JURISDICTIONAL AUTHORITY MAY REQUIRE THE CONTRACTOR TO PROVIDE ADDITIONAL EROSION CONTROL MEASURES AT THE CONTRACTOR'S EXPENSE DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE PLANS DO NOT FUNCTION AS INTENDED. THE CONTRACTOR IS RESPONSIBLE FOR PROHIBITING SILT AND DEBRIS LADEN RUNOFF FROM LEAVING THE SITE, AND FOR KEEPING ALL PUBLIC AREAS FREE OF MUD AND DEBRIS. THE CONTRACTOR IS RESPONSIBLE FOR RE-ESTABLISHING FINAL GRADES AND FOR REMOVING ACCUMULATED SEDIMENTATION FROM ALL AREAS INCLUDING SWALES AND DETENTION/WATER QUALITY AREAS. CONTRACTOR SHALL REMOVE TEMPORARY EROSION CONTROL MEASURES AND REPAIR AREAS AS REQUIRED AFTER VEGETATION IS ESTABLISHED AND ACCEPTED BY OWNER AND MUNICIPALITY.
- ADA COMPLIANCE: THE CROSS-SLOPE OF ALL WALKS MUST BE LESS THAN 1:48 (2.0%) PERPENDICULAR TO DIRECTION OF TRAVEL. RUNNING SLOPE OF ACCESSIBLE WALKS MUST BE NOT STEEPER THAN 1:20 (5.0%) IN DIRECTION OF TRAVEL. MAXIMUM GRADE OF ACCESSIBLE CURB RAMPS AND RAMPS IS 1:12 (8.3%). CURB RAMPS SHALL PROVIDE A LANDING AT THE TOP AND RAMP RUNS PROVIDE LANDINGS AT THE BOTTOM AND TOP OF EACH RAMP RUN AT A SLOPE NOT TO EXCEED 1:48. RAMPS RUNS EXCEEDING SIX INCHES SHALL INCLUDE HANDRAILS. ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL NOT EXCEED 1:48 IN ALL DIRECTIONS. CONTRACTOR SHALL NOTIFY ENGINEER PRIOR TO PLACEMENT OF FLATWORK OF SITE CONDITIONS OR DISCREPANCIES WHICH PREVENT TYPICAL REQUIRED GRADES FROM BEING ACHIEVED. ALL RAMPS, STAIRS, EDGE PROTECTION, AND RAILINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT ADA STANDARDS. ACCESSIBLE CURB RAMPS SHALL CONFORM TO THE CDOT M-STANDARDS (SEE DETAIL M-608-1, ETC). ACCESSIBLE FEATURE WITHIN THE PUBLIC RIGHTS-OF-WAY SHALL BE CONSTRUCTED TO CONFORM TO THE LOCAL AUTHORITY HAVING JURISDICTION REQUIREMENTS.

- PROTECT ALL TREES AND VEGETATION. PLACE CONSTRUCTION FENCING AT DRIP LINE OF TREES AND PLANTS NEAR THE WORK ZONE. DEEP WATER TREES WEEKLY. HAND EXCAVATION REQUIRED AT ROOT ZONES WHERE PROPOSED PAVING OR UTILITY WORK IS WITHIN DRIPLINE OF TREES.
- BENCHMARK INFORMATION: TOPOGRAPHIC INFORMATION WAS PROVIDED BY FLATIRONS SURVEYING, INC. SEE TOPOGRAPHIC EXHIBIT FOR A PARCEL OF LAND LOCATED IN THE WEST HALF OF SECTION 25, TOWNSHIP 1 NORTH, RANGE 71 WEST OF THE 6TH P.M., CITY OF BOULDER, COUNTY OF BOULDER, STATE OF COLORADO DATED 8-29-2014. ELEVATIONS ARE BASED ON THE CITY OF BOULDER POINT R-6-2, BEING A SPIKE IN POWER POLE LOCATED NEAR THE NORTHEAST CORNER OF PARCEL B, WITH A PUBLISHED ELEVATION OF 5480.89 FEET (NAVD88). NO DIFFERENTIAL LEVELING WAS PERFORMED TO ESTABLISH THIS ELEVATION.
- HORIZONTAL CONTROL INFORMATION: HORIZONTAL CONTROL COORDINATES ARE BASED ON THE REFERENCED SURVEY AND ARE PROVIDED BY THE FOLLOWING POINTS AS SHOWN ON THE PLANS:

FOUND #5 REBAR W/ 1" ALUM. COLLAR MARKED "LS7635"

FOUND #5 REBAR W/ 1-1/2" ALUM. CAP MARKED "WM STENGAL RLS4846"

FOUND #5 REBAR

N1251546.23

E3057582.21

ELEV 5583.02

N1250463.42

E3057767.40

ELEV 5501.66

N1250611.12

E3058428.32

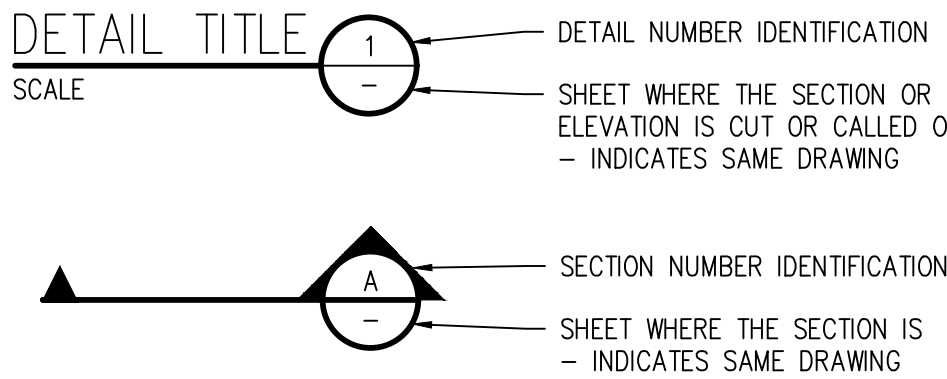
ELEV 5489.12

BASIS OF BEARINGS: SEE PLANS.

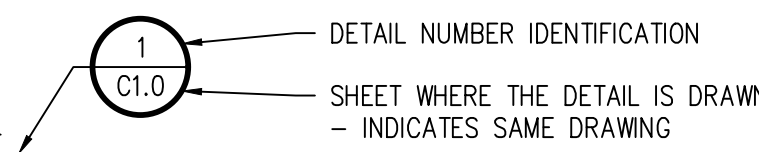
DESIGN LEGEND

	BENCHMARK		FENCE
	MANHOLE		FLOW LINE OF DITCH OR WASH
	AREA DRAIN		SLOPE ARROW
	COMBINATION INLET		PROPOSED SPOT ELEVATION
	TYPE R INLET		EXIST SPOT ELEVATION
	TYPE 13 FIELD INLET		EXIST INDEX CONTOUR
	FLARED END SECTION W/ RIPRAP		EXIST INTERMEDIATE CONTOUR
	TEE W/ THRUST BLOCK		PROPOSED INDEX CONTOUR
	BEND W/ THRUST BLOCK		PROPOSED INTERMEDIATE CONTOUR
	END CAP W/ THRUST BLOCK		
	GATE VALVE		
	REDUCER/INCREASER		
	WATER METER		CURB AND GUTTER
	FIRE HYDRANT		SPILL/CATCH CURB TRANSITION
	STORM - 12" AND SMALLER		SIGN W/ POST
	STORM - LARGER THAN 12"		CURB RAMP
	ROOF DRAIN		
	TRENCH DRAIN		SIDEWALK CHASE
	UNDERDRAIN		
	SANITARY SEWER		SIDEWALK
	FORCE MAIN		CONCRETE PAVING
	WATER		HEAVY DUTY CONCRETE PAVING
	NON POTABLE WATER		HEAVY DUTY ASPHALT PAVING
	POTABLE WATER		LIGHT DUTY ASPHALT PAVING
	IRRIGATION		GRAVEL
	IRRIGATION - LARGER THAN 12"		
	CABLE TV		PROPOSED BUILDING
	DRAIN		BUILDING ACCESS
	ELECTRIC		RETAINING WALL
	UNDERGROUND ELECTRIC		BOULDER/ROCK WALL
	OVERHEAD ELECTRIC		LIMITS OF SAWCUT
	TELEPHONE		LIMITS OF WORK
	FIBER OPTIC		EASEMENT LINE
	FUEL		PROPERTY LINE
	GAS		ADJACENT PROPERTY LINE/ROW
	PVC PIPE (MISC)		MATCHLINE

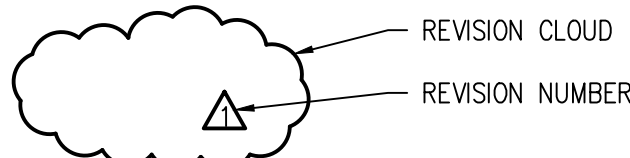
DETAIL TITLE



SECTION CALLOUT



DETAIL MARKER



SURVEY LEGEND

	WATER LINE		BENCHMARK AS DESCRIBED
	WATER VALVE		FOUND MONUMENT
	WATER METER		FOUND MONUMENT
	FIRE HYDRANT		TEST CP
	SANITARY SEWER LINE		UTILITY LOCATED FROM MAP
	SANITARY SEWER MANHOLE		AS MEASURED AT TIME OF SURVEY
	STORM DRAINAGE LINE		CALCULATED FROM RECORD AND AS MEASURED INFORMATION
	STORM DRAINAGE MANHOLE		PLAT
	CURB INLET		RECORDED
	UNDERGROUND ELECTRICAL LINE		MAILBOX
	OVERHEAD ELECTRICAL LINE		CONCRETE
	ELECTRICAL POLE		EDGE OF ASPHALT
	GUY WIRE		GRAVEL
	ELECTRICAL TRANSFORMER		BOULDER
	ELECTRICAL RISER		
	ELECTRIC VAULT		
	LIGHT POLE		
	DECORATIVE LIGHT		
	FIBEROPTIC LINE		
	TELEPHONE LINE		
	TELEPHONE RISER		
	GAS LINE		
	INDICATION OF ACCESS		
	BUILDING		
	FENCE		
	GUARDRAIL		
	BOLLARD		
	SIGN		
	CONIFEROUS TREE (TRUNK)		
	DIAMETER/DRIP LINE RADIUS)		
	DECIDUOUS TREE (TRUNK)		
	DIAMETER/DRIP LINE RADIUS)		

NOTE: SHADED ITEMS REPRESENT EXIST FEATURES

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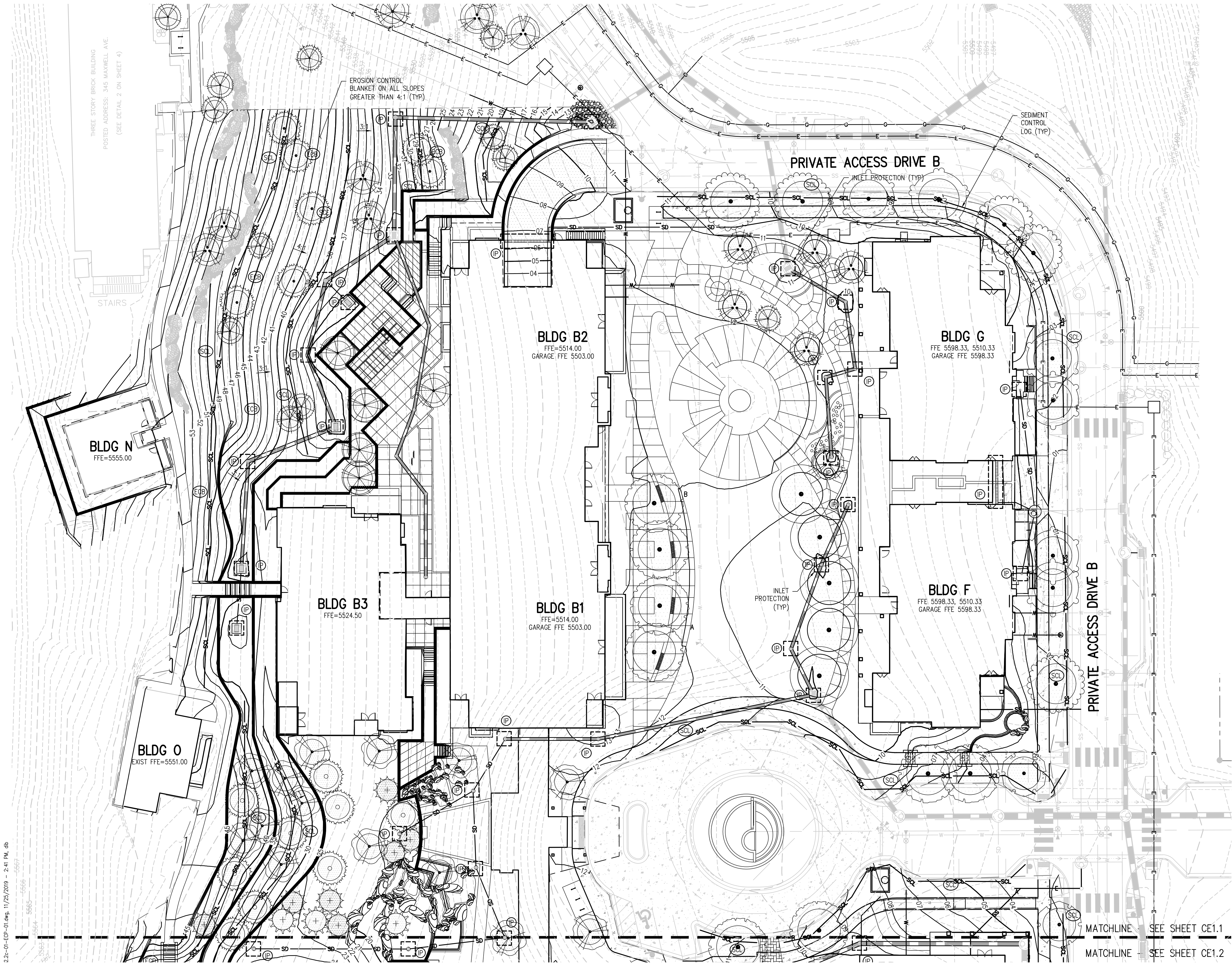
THE ACADEMY  
ON MAPLETON HILL  
311 MAPLETON AVENUE  
BOULDER, COLORADO 80304

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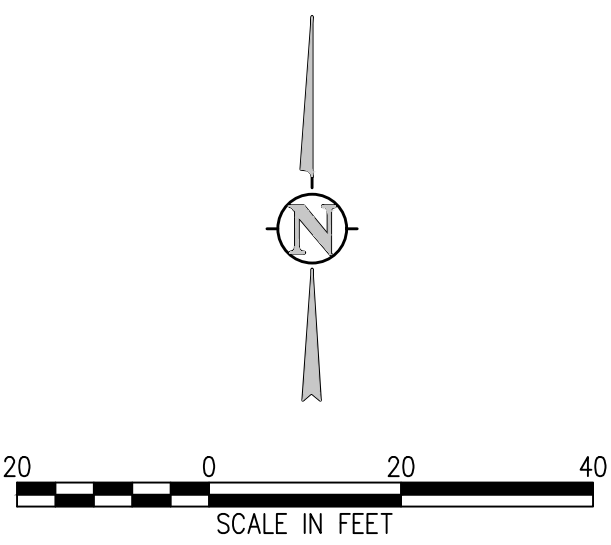
PROJECT NUMBER: 2462.2c  
AMP/WDD  
CHECKED BY: DIB  
DESCRIPTION: LEGEND, NOTES, AND ABBREVIATIONS

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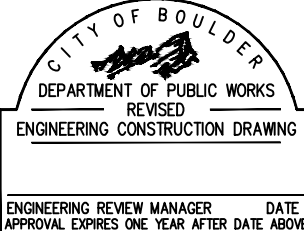
EROSION CONTROL LEGEND

- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- PROPOSED INDEX CONTOUR
- PROPOSED INTERMEDIATE CONTOUR
- LIMITS OF WORK
- INLET PROTECTION
- OUTLET PROTECTION
- VEHICLE TRACKING CONTROL
- STRAW BALE EROSION BARRIER
- SILT FENCE
- CONSTRUCTION FENCE
- TEMPORARY SLOPE DRAIN
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- SEDIMENT CONTROL LOG
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- ROCK CHECK DAM
- ROOF DRAIN DOWNSPOUT
- CONCRETE WASHOUT AREA
- TEMPORARY SEDIMENTATION POND
- EROSION CONTROL BLANKET
- CHANNEL STABILIZATION MATTING
- SURFACE ROUGHENING



EROSION AND SEDIMENTATION NOTES:

- CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING ALL CONTROLS DURING INITIAL, INTERIM, AND FINAL CONDITIONS.
- ALL CONTROLS SHALL BE INSTALLED WITHIN THE PROPERTY LINES UNLESS OTHERWISE SPECIFIED. WHEN CONSTRUCTION ACTIVITIES DISTURB ADJACENT AND/OR RIGHT-OF-WAY PROPERTIES, COORDINATION WITH PROPERTY OWNERS IS REQUIRED PRIOR TO CONSTRUCTION.



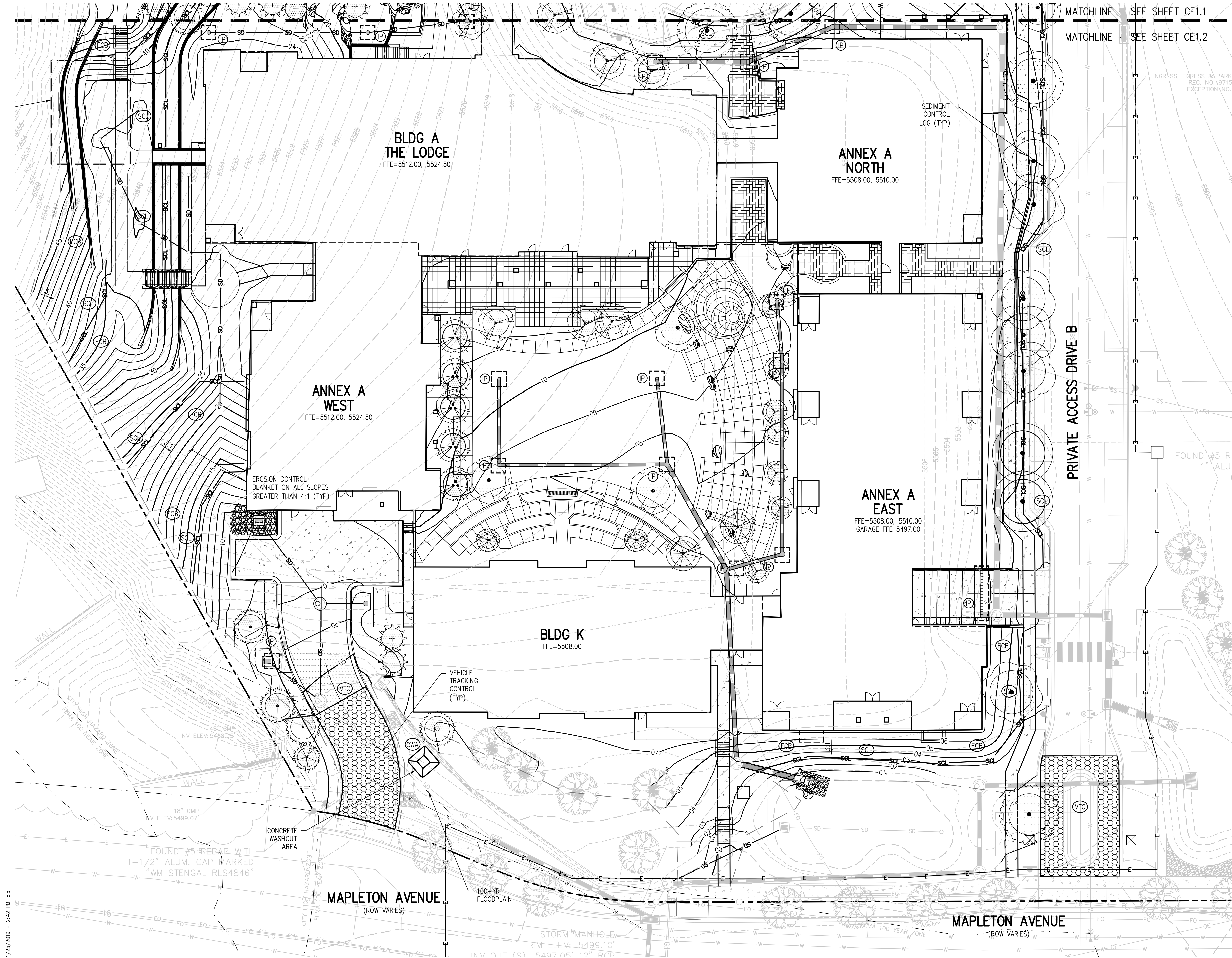
CITY OF BOULDER  
PUBLIC WORKS DEPARTMENT  
RECOMMENDATION FOR APPROVAL  
WATER/SEWER \_\_\_\_\_  
TRANSPORTATION \_\_\_\_\_  
DRAINAGE \_\_\_\_\_

THE ACADEMY  
ON MAPLETON HILL  
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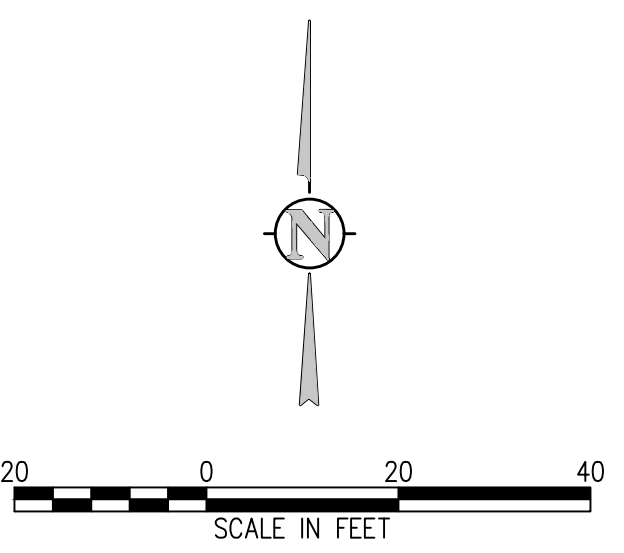
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PROJECT NUMBER: 2462.2c  
AMP/WDD  
CHECKED BY: DIB  
DESCRIPTION: EROSION CONTROL  
PLAN



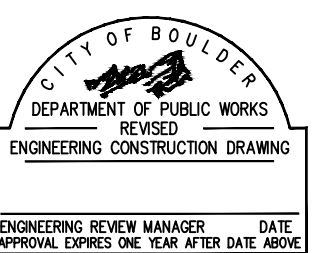
EROSION CONTROL LEGEND

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CITY OF BOULDER  
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PROJECT NUMBER: 2462.2c  
AMP/WDD  
CHECKED BY: DIB  
DESCRIPTION: EROSION CONTROL PLAN

STORMWATER MANAGEMENT PLAN (SWMP)

THIS STORMWATER MANAGEMENT PLAN IS TO BE RETAINED AND MAINTAINED ONSITE INCLUDING FINAL LANDSCAPING PLANS AND ANY OTHER EROSION CONTROL DOCUMENTATION. A SWMP ADMINISTRATOR WILL BE DESIGNATED BY THE CONTRACTOR AND IS RESPONSIBLE FOR DEVELOPING, IMPLEMENTING, MAINTAINING, AND REVISING THIS SWMP. THE SWMP ADMINISTRATOR IS THE CONTACT FOR ALL SWMP-RELATED ISSUES AND IS RESPONSIBLE FOR ITS ACCURACY, COMPLETENESS, AND IMPLEMENTATION. THE FOLLOWING HAS BEEN DESIGNATED AS THE SWMP ADMINISTRATOR FOR THIS PROJECT.

NAME: \_\_\_\_\_  
CONTACT INFO: \_\_\_\_\_  
\_\_\_\_\_

THE SITE IS LOCATED AT 311 MAPLETON AVE, BOULDER CO 80304 AND AT APPROXIMATELY 40° 01' 21" LATITUDE, 105° 17' 33" LONGITUDE. THE PROPOSED PROJECT CONSISTS OF PARKING, UTILITY SERVICE CONNECTIONS, OVERLOT GRADING, PAVING OF SIDEWALKS, ENTRANCE DRIVES, AND UTILITY INFRASTRUCTURE IN THE CITY OF BOULDER. THE TOTAL SITE AREA IS APPROXIMATELY 15.77 ACRES WITH AT TOTAL DISTURBANCE OF 5.47 ACRES. NO AREAS GREATER THAN 40 ACRES SHALL BE DISTURBED AT ANY GIVEN TIME. NO CONSTRUCTION ACTIVITIES SHALL OCCUR OFFSITE OR OUTSIDE OF THE CONSTRUCTION LIMITS SHOWN ON THE CONSTRUCTION DOCUMENTS. THE SEQUENCE OF CONSTRUCTION STARTS IS AS FOLLOWS:

PHASE	ESTIMATED	ACTUAL
CONSTRUCTION START	APRIL, 2020	_____
ROAD AND OVERLOT GRADING	MAY, 2020	_____
UTILITY CONSTRUCTION	AUGUST, 2020	_____
BUILDING CONSTRUCTION	NOVEMBER, 2020	_____
PAVING	MARCH, 2021	_____
SITE RESTORATION	MAY, 2021	_____

THE EXISTING SITE IS CURRENTLY DEVELOPED. THE CURRENT USE OF THE PROPERTY IS PRIMARY FOR A MEDICAL HOSPITAL BUILDING AND SEVERAL SMALL MEDICAL OFFICE BUILDINGS AND GARAGES/STORAGE BUILDINGS THAT HAVE BEEN CONSTRUCTED IN PHASES OVER MANY YEARS. A PORTION OF THE SITE IS STABILIZED. HOWEVER, DUE TO EXISTING STEEP SLOPES SOME AREAS OF THE SITE ARE SUBJECT TO EROSION. THE ESTIMATED HISTORIC RUNOFF COEFFICIENT FOR THE SITE IS 0.70 AND THE ESTIMATED DEVELOPED RUNOFF COEFFICIENT FOR THE SITE IS 0.78.

OFFSITE RUNOFF FLOWS ONTO THE PROPERTY FROM THE EXISTING OPEN SPACE AREAS TO THE WEST OF THE SITE. ONSITE FLOWS ARE GENERALLY DIRECTED WEST TO EAST. ONSITE DETENTION AND WATER QUALITY IS PROVIDED BY DETENTION PONDS ONSITE. STORMWATER IS DISCHARGED FROM THE SOUTHERN PORTION OF THE SITE TO MAPLETON STREET. THE SITE IS PART OF THE BOULDER CREEK WATERSHED. A DRAINAGE REPORT FOR THE DEVELOPMENT HAS BEEN SUBMITTED TO THE CITY OF BOULDER ENGINEER.

OTHER POTENTIAL POLLUTION SOURCES SUCH AS VEHICLE FUELING, STORAGE OF FERTILIZER OR CHEMICAL, VEHICLE WASHING, WASTE INCINERATION, HAUL-ROADS, AND LOADING/UNLOADING AREAS ARE LOCATED ONSITE IN CONTAINED AREAS. NON-STORMWATER COMPONENTS OF THE DISCHARGE, SUCH AS SPRINGS AND LANDSCAPE IRRIGATION RETURN FLOWS ARE NOTE LOCATED ONSITE.

THE MAJORITY OF SOILS FOUND ONSITE ARE TERRACE ESCARPMENTS WITH A NATURAL RESOURCES CONSERVATION SERVICE (NRCS) HYDROLOGIC SOILS GROUP (HGS) OF A. SOILS WITH AN HSG OF A HAVE A VERY HIGH INFILTRATION RATE WHEN THOROUGHLY WET AND THEREFORE HAVE LOW RUNOFF POTENTIAL.

OTHER POTENTIAL POLLUTION SOURCES DO NOT EXIST ON THIS SITE. NON-STORMWATER COMPONENTS OF THE DISCHARGE ARE NOT ANTICIPATED.

BEST MANAGEMENT PRACTICES FOR STORMWATER MANAGEMENT

NON STRUCTURAL BMPs WILL BE IMPLEMENTED TO THE MAXIMUM EXTENT POSSIBLE. THE UTILIZATION OF NON STRUCTURAL BMPs WILL BE AN ONGOING PROCESS DIRECTED AT PREVENTING EROSION. THE NON STRUCTURAL BMPs WILL RECEIVE CONTINUOUS EMPHASIS THROUGHOUT CONSTRUCTION BECAUSE THEY AVERT PROBLEMS BEFORE THEY OCCUR AND REDUCE THE NEED FOR STRUCTURAL BMPs. NON STRUCTURAL BMPs WILL CONSIST PRIMARILY OF PRESERVATION OF EXISTING MATURE VEGETATION AND TREES, PLANNING AND SCHEDULING CONSTRUCTION ACTIVITIES AIMED AT ACHIEVING THE GOAL OF MINIMIZING EROSION. FURTHERMORE, CONSTRUCTION PERSONNEL WILL BE INSTRUCTED AND SUPERVISED IN CONSTRUCTION METHODS CONSISTENT WITH EROSION PREVENTION PRACTICES.

PLANNED STRUCTURAL BMPs FOR EROSION AND SEDIMENT CONTROL ARE SHOWN ON THE EROSION AND SEDIMENTATION CONTROL PLAN. IMPLEMENTING THESE MEASURES SHOULD MINIMIZE NUISANCE SILT AND SEDIMENTATION EXITING THE SITE AND PREVENT CLOGGING EXISTING STORM SEWERS AND STREET GUTTERS.

APPLICATION OF THESE BMPs FOR STORMWATER MANAGEMENT ARE FOR CONSTRUCTION PERIODS AND ARE CONSIDERED TEMPORARY. POST-DEVELOPMENT STORMWATER MANAGEMENT IS PROVIDED THROUGH VEGETATED LANDSCAPED AREAS, GRASSED SWALES, RIPRAP PROTECTION, STORM COLLECTION SYSTEM, AND THE UTILIZATION OF THE PERMANENT DETENTION AND WATER QUALITY PONDS.

VEHICLE TRACKING CONTROL (VTC):

A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED WITHIN THE SITE WITH ACCESS TO 4TH STREET AND MAPLETON STREET. THE CONSTRUCTION ACCESS AND PARKING WILL BE GRADED AND COVERED WITH A CRUSHED STONE BASE COURSE DURING CONSTRUCTION. THE VEHICLE TRACKING CONTROL WILL BE RELOCATED WITH THE CONSTRUCTION ACCESS AS NECESSARY.

SILT FENCING (SF) AND SEDIMENT CONTROL LOGS (SCL):

SILT FENCING AND SEDIMENT CONTROL LOGS SHALL BE INSTALLED WITH RESPECT TO PROPOSED DRAINAGE PATTERNS. SILT FENCE AND SEDIMENT CONTROL LOGS SHALL BE CONSTRUCTED ALONG THE PORTIONS OF THE EAST SIDE OF THE PROPERTY AND ALONG ANY DRAINAGE AREAS SUBJECT TO EROSION. THE SILT FENCING AND SEDIMENT CONTROL LOGS SHALL BE INSTALLED AT THE DOWNHILL SIDE OF THE EXISTING SLOPES ACROSS THE SITE AND AT ALL POINT DISCHARGE AREAS WHETHER SHOWN OR NOT. SILT FENCE AND SEDIMENT CONTROL LOGS SHALL BE MAINTAINED AS NEEDED THROUGHOUT THE CONSTRUCTION PROCESS. THE TEMPORARY SILT FENCE AND SEDIMENT CONTROL LOGS WILL REMAIN UNTIL THE STORM SEWER STRUCTURES ARE COMPLETED AND GROUND COVER IS EFFECTIVE.

INLET PROTECTION (IP):

THE INLET PROTECTION WILL BE INSTALLED AS THE STORM SEWER STRUCTURES ARE CONSTRUCTED. EACH INLET ON THE PROPOSED STORM SEWER SYSTEM WILL HAVE A TEMPORARY INLET SEDIMENT TRAP CONSTRUCTED AROUND IT. IN PAVED AREAS, THIS TRAP CONSISTS OF WIRE MESH SOCKS AND/OR CONCRETE BLOCKS TO FILTER THE STORM RUNOFF AND ALLOW ANY SILT TO SETTLE OUT. IN FIELDS OR LANDSCAPED AREAS THIS TRAP CONSISTS OF (WIRE MESH SOCKS OR STRAW BALE BARRIERS.

STRAW BALE DROP STRUCTURES DAMS (SB):

STRAW BALE BARRIERS WILL BE INSTALLED TO PROTECT THE PROPOSED SWALE(S) PRIOR TO LANDSCAPING THE SITE. THESE BARRIERS WILL REDUCE THE FLOW VELOCITY IN THE SWALE(S) AND ALLOW THE DISTURBED SOIL TO SETTLE OUT.

OUTLET PROTECTION (OP):

THE STORM SEWER OUTLETS WILL BE PROTECTED WITH RIPRAP. PLACING RIPRAP AT PIPE OUTFALLS REDUCES EXIT VELOCITIES AND REDUCES SCOUR. THIS RIPRAP WILL BE LEFT IN PLACE AS PART OF THE PERMANENT STORMWATER MANAGEMENT PLAN.

OVERLOT GRADING:

ALL OPEN AREAS WILL BE TREATED WITHIN 14 DAYS OF COMPLETION OF THE OVERLOT GRADING. ALL OVERLOT GRADING IN THE NON-IRRIGATED AREAS WILL HAVE THE SURFACE ROUGHENED AND WILL BE PERMANENTLY LANDSCAPED OR TEMPORARILY SEEDED UNTIL THE PLANNED INSTALLATIONS ARE COMPLETED. AT THE COMPLETION OF THE MASS GRADING, ALL EXPOSED SOIL AREAS WILL HAVE THE SURFACE ROUGHENED AND PLANTED WITH A REVEGETATION SEED MIX. VEGETATION IS TO BE MAINTAINED THROUGHOUT CONSTRUCTION BY THE CONTRACTOR UNTIL AREAS ARE PERMANENTLY LANDSCAPED. ALTERNATELY, ROUGH-CUT DRIVEWAYS OR PROPOSED PAVED AREAS CAN BE COVERED WITH A LAYER OF AGGREGATE, ROAD BASE OR ASPHALT PAVING.

DUST CONTROL MEASURES:

DISTURBED AREAS NOT YET READY TO BE SEEDED, LANDSCAPES, PAVED, OR OTHERWISE STABILIZED SHALL BE WATERED, OR RIPPED AS NECESSARY TO PRECLUDE VISIBLE DUST EMISSIONS.

ITEMS ARE SCHEDULED TO BE IMPLEMENTED ACCORDING TO THE CONSTRUCTION SCHEDULE. AS WORK PROCEEDS, IMPLEMENTATION OF INDIVIDUAL BMPs IS TO COINCIDE WITH THE CONSTRUCTION THEREBY MINIMIZING THE EXPOSURE OF UNPROTECTED AREAS. THE SILT FENCE, INLET PROTECTION (FOR EXISTING INLETS), AND GRAVELING OF THE CONSTRUCTION ENTRANCE WILL BE PERFORMED WHEN THE GRADING BEGINS. THE INLET PROTECTION WILL BE INSTALLED AS THE STORM SEWER STRUCTURES ARE CONSTRUCTED. THE RIPRAP PROTECTION WILL BE INSTALLED AS THE STORM SEWER OUTFALLS OR CULVERTS ARE CONSTRUCTED. THE STRUCTURAL BMPs THAT DO NOT BECOME PART OF THE PERMANENT STORMWATER MANAGEMENT PLAN ARE TO BE REMOVED, AS THE PAVING, LANDSCAPING, AND OTHER PERMANENT GROUNDCOVER INSTALLATIONS ARE COMPLETED. FUGITIVE DUST EMISSIONS RESULTING FROM GRADING ACTIVITIES AND/OR WIND SHALL BE CONTROLLED USING THE BEST AVAILABLE CONTROL TECHNOLOGY AS DEFINED BY THE COLORADO DEPARTMENT OF HEALTH AT THE TIME OF GRADING. THE GRAVELING IS TO BE MAINTAINED AND EXTENDED CONSTRUCTION PROGRESSES ESPECIALLY AROUND THE BUILDING SITE. THE STRUCTURAL BMPs ARE TO BE REMOVED, AS THE PERMANENT LANDSCAPING INSTALLATIONS ARE COMPLETED.

THE EROSION AND SEDIMENT CONTROL PLAN MAY BE MODIFIED BY THE DEPARTMENT OF HIGHWAYS AND TRANSPORTATION, OWNER'S ENGINEER, COUNTY ENGINEERING INSPECTORS, MUNICIPALITY, OR ITS AUTHORIZED REPRESENTATIVE AS FIELD CONDITIONS WARRANT.

STORMWATER DETENTION AND WATER QUALITY:

STORMWATER DETENTION AND WATER QUALITY TREATMENT ARE PROVIDED THROUGH ONSITE DETENTION PONDS.

TEMPORARY SEEING AND MULCHING:

ALL SEEDS FURNISHED SHALL BE FREE FROM NOXIOUS SEEDS (SUCH AS RUSSIAN OR CANADIAN THISTLE, COURSE FESCUE, EUROPEAN BINDWEED, JOHNSON GRASS, KNAPEWEED, AND LEAFY SPURGE. THE FORMULA USED FOR DETERMINING THE QUALITY OF PURE LIVE SEED (PLS) SHALL BE (POUNDS OF SEED) X (PURITY) X (GERMINATION) = POUNDS OF PURE LIVE SEED (PLS). SEEDING RECOMMENDATIONS ARE PROVIDED BELOW, BUT MAY BE MODIFIED WITH THE OWNER'S APPROVAL TO MAKE THE BEST USE OF EXISTING CLEARINGS AND GRUBBINGS:

SPECIES	COMMON NAME	VARIETY	LBS/ACRE
AGROPYRON SMITHI	WESTERN WHEATGRASS	ARRIBA	8.0
ARRHENATHERUM ELATES	TALL OATGRASS		3.0
LOLIUM PERENNE	PERENNIAL RYEGRASS	PENNFINE	2.0

ALL SEEDS SHALL BE DRILLED NOT HYDROSEEDED. ALL DISTURBED AREAS SHALL BE SEEDED AND CRIMP MULCHED IF PERMANENT VEGETATION IS NOT IMMEDIATELY INSTALLED. AFTER SEEDING HAS BEEN COMPLETED, A RATE OF 4,000 LBS. OF STRAW PER ACRE SHALL BE APPLIED UNIFORMLY, CRIMPED IN WITH A CRIMPER OR OTHER APPROVED EQUIPMENT OR OTHERWISE ATTACHED. A TACKIFIER OR JUTE NETTING TO ATTACH MULCH MAY BE USED WITH THE OWNER'S APPROVAL. THE SEEDED AREA SHALL BE CRIMPED MULCHED AND THE MULCH ATTACHED WITHIN TWENTY-FOUR (24) HOURS AFTER SEEDING. AREAS NOT MULCHED AND ATTACHED WITHIN TWENTY-FOUR (24) HOURS AFTER SEEDING MUST BE RESEEDED WITH THE SPECIFIED MIX AT THE CONTRACTOR'S EXPENSE, PRIOR TO MULCHING AND ATTACHING. ON STEEP SLOPES OR OTHER SPECIFIED AREAS AS SHOWN ON THE PLANTING PLAN, WHICH ARE DIFFICULT TO MULCH AND ATTACH BY CONVENTIONAL METHOD, BURLAP OR OTHER BLANKETING MATERIALS PROPERLY ANCHORED AND SECURED MAY BE USED WHEN APPROVED BY THE CITY OF BOULDER ENGINEER.

PERMANENT STABILIZATION MEASURES:

RIRAP FOR STORM DRAIN OUTFALLS AND ROCK CHECK DAMS WILL BECOME PART OF THE PERMANENT STORMWATER MANAGEMENT PLAN AND WILL NOT BE REMOVED. PERMANENT LANDSCAPING WILL INCLUDE SODDING, SEEDING, TREES, SHRUBS, OR OTHER VEGETATIVE COVER TO OPEN AREAS. NATIVE PERENNIAL SEEDING WILL BE ESTABLISHED IN NON-IRRIGATED AREAS AND SOD OR OTHER VEGETATIVE COVER WILL BE ESTABLISHED IN IRRIGATED OPEN AREAS. ALL PERMANENT STABILIZATION MEASURES WILL BE SPECIFIED BY THE LANDSCAPE ARCHITECT OR OWNER.

MATERIALS AND SPILL PREVENTION:

THE CONTRACTOR WILL STORE CONSTRUCTION MATERIALS AND EQUIPMENT IN CONFINED AREAS ON SITE FROM WHICH RUNOFF WILL BE CONTAINED AND FILTERED. MATERIALS WILL BE STORED OFF THE GROUND AND PROTECTED FROM THE WEATHER BY A COVER OR STORED IN A CONTAINER SUCH AS A VAN OR TRAILER. AN EARTHEN DIKE WILL BE CONSTRUCTED AROUND THE PERIMETER OF THE FUEL STORAGE AREA TO PREVENT MATERIALS FROM CONTACT WITH SURFACE RUNOFF. EQUIPMENT MAINTENANCE WILL BE PERFORMED IN A DESIGNATED AREA AND STANDARD MAINTENANCE PROCEDURES, SUCH AS THE USE OF DRIP PANS, WILL BE USED TO CONTAIN PETROLEUM PRODUCTS.

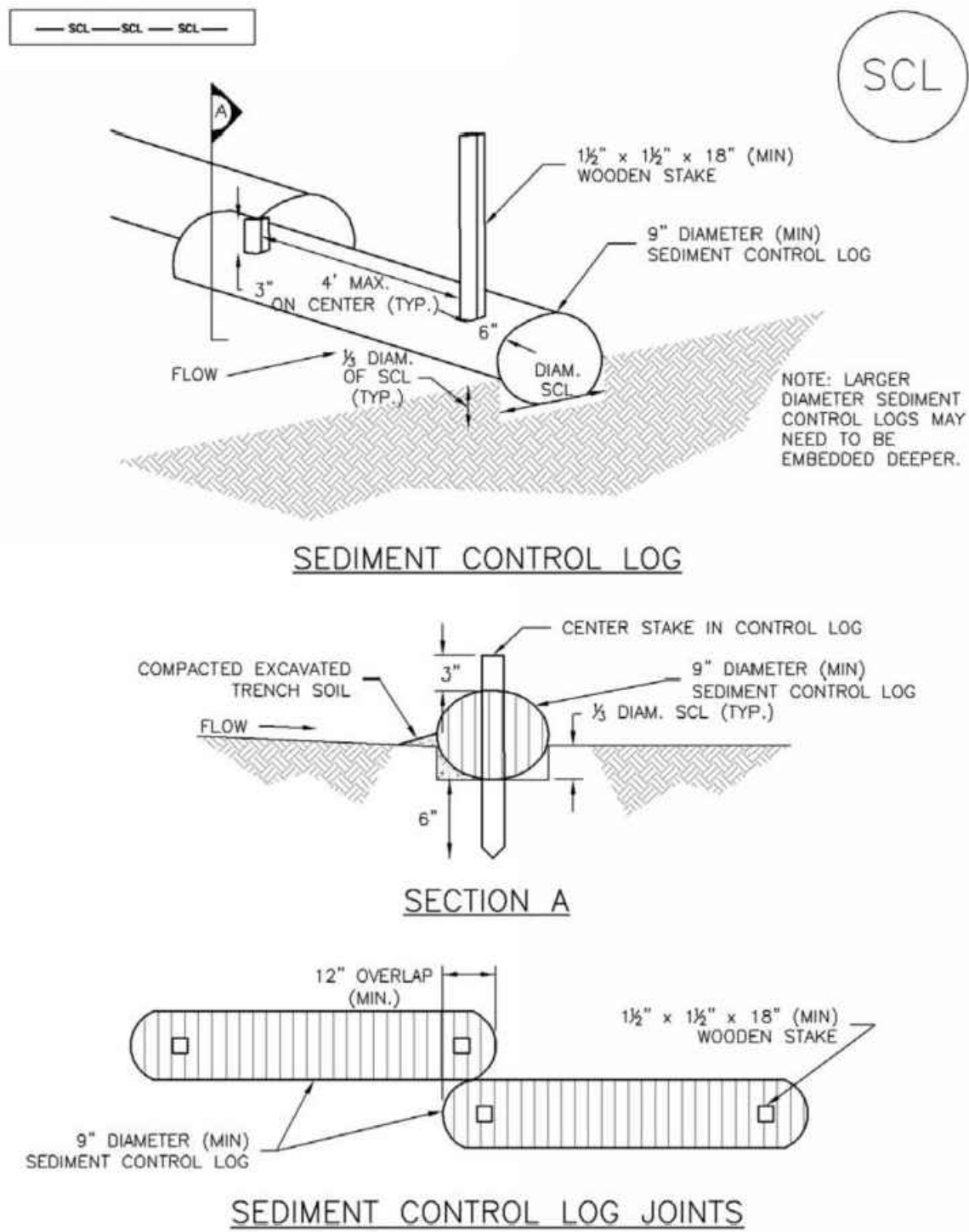
INSPECTION AND MAINTENANCE:

THE EROSION CONTROL MEASURES WILL BE INSPECTED DAILY DURING CONSTRUCTION BY THE CONTRACTOR AND AFTER EACH RAIN EVENT. ALL INSPECTIONS SHALL BE DOCUMENTED AND SHALL INCLUDE THE DATE OF INSPECTION, ANY INCIDENCE OF NON-COMPLIANCE, SIGNED CERTIFICATION THAT THE SITE IS IN COMPLIANCE, AND ANY NOTES, DRAWINGS, MAPS, ETC. PERTAINING TO REPAIRS. COPIES OF ALL DOCUMENTATION SHALL BE DISTRIBUTED TO MUNICIPALITIES AND OWNER ON A REGULAR BASIS AS SPECIFIED BY OWNER. SILT FENCE AND STRAW BALE BARRIERS WILL BE CHECKED FOR UNDERMINING AND BYPASS AND REPAIRED OR EXPANDED AS NEEDED. SEDIMENT SHOULD BE REMOVED FROM INLET FILTERS AND SILT FENCING BEFORE ONE HALF OF THE DESIGN DEPTH HAS BEEN FILLED. SEDIMENTS DEPOSITED IN THE PUBLIC RIGHTS-OF-WAY WILL BE REMOVED IMMEDIATELY. THE TEMPORARY VEGETATION OF BARE SOILS WILL BE CHECKED REGULARLY AND AREAS WHERE IT IS LOST OR DAMAGED WILL BE RESEEDED. AT MINIMUM THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL BMPs EVERY 14 DAYS AND AFTER SIGNIFICANT PRECIPITATION OR SNOWMELT EVENTS. INSTALLATIONS AND MODIFICATIONS AS REQUIRED BY THE CITY OF BOULDER WILL BE IMPLEMENTED WITHIN 48 HOURS OF NOTIFICATION. CONTRACTOR SHALL REMOVE TEMPORARY EROSION CONTROL MEASURES AND REPAIR AREAS AS REQUIRED AFTER VEGETATION IS ESTABLISHED AND ACCEPTED BY OWNER AND MUNICIPALITY.

FINAL STABILIZATION AND LONG-TERM STORMWATER QUALITY:

FINAL STABILIZATION IS REACHED WHEN ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED, AND UNIFORM VEGETATIVE COVER HAS BEEN ESTABLISHED WITH A DENSITY OF AT LEAST 70% OR PRE-DISTURBANCE LEVELS OR EQUIVALENT PERMANENT, PHYSICAL EROSION REDUCTION METHODS HAVE BEEN EMPLOYED. FINAL STABILIZATION WILL BE ACHIEVED USING SOD, NATIVE SEEDING, PERMANENT BMP'S, AND OTHER METHODS. CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL STABILIZATION REGARDLESS OF ACCEPTANCE BY OWNER OF THE CONTRACTOR ITEM.

Sediment Control Log (SCL)



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SEDIMENT CONTROL LOG INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATION AND LENGTH OF SEDIMENT CONTROL LOGS.
2. SEDIMENT CONTROL LOGS THAT ACT AS A PERIMETER CONTROL SHALL BE INSTALLED PRIOR TO ANY UPGRADIENT LAND-DISTURBING ACTIVITIES.
3. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR OR COCONUT FIBER, AND SHALL BE FREE OF ANY NOXIOUS WEED SEEDS OR DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.
4. SEDIMENT CONTROL LOGS MAY BE USED AS SMALL CHECK DAMS IN DITCHES AND SWALES. HOWEVER, THEY SHOULD NOT BE USED IN PERENNIAL STREAMS OR HIGH VELOCITY DRAINAGE WAYS.
5. IT IS RECOMMENDED THAT SEDIMENT CONTROL LOGS BE TRENCHED INTO THE GROUND TO A DEPTH OF APPROXIMATELY 1/2 OF THE DIAMETER OF THE LOG. IF TRENCHING TO THIS DEPTH IS NOT FEASIBLE AND/OR DESIRABLE (SHORT TERM INSTALLATION WITH DESIRE NOT TO DAMAGE LANDSCAPE) A LESSER TRENCHING DEPTH MAY BE ACCEPTABLE WITH MORE ROBUST STAKING.
6. THE UPHILL SIDE OF THE SEDIMENT CONTROL LOG SHALL BE BACKFILLED WITH SOIL THAT IS FREE OF ROCKS AND DEBRIS. THE SOIL SHALL BE TIGHTLY COMPACTED INTO THE SHAPE OF A RIGHT TRIANGLE USING A SHOVEL OR WEIGHTED LAWN ROLLER.
7. FOLLOW MANUFACTURERS' GUIDANCE FOR STAKING. IF MANUFACTURERS' INSTRUCTIONS DO NOT SPECIFY SPACING, STAKES SHALL BE PLACED ON 4' CENTERS AND EMBEDDED A MINIMUM OF 6" INTO THE GROUND. 3" OF THE STAKE SHALL PROTRUDE FROM THE TOP OF THE LOG. STAKES THAT ARE BROKEN PRIOR TO INSTALLATION SHALL BE REPLACED.

SEDIMENT CONTROL LOG MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOG SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 1/2 OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.
5. SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION, IF DISTURBED AREAS EXIST AFTER REMOVAL, THEY SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO, JEFFERSON COUNTY, COLORADO, DOUGLAS COUNTY, COLORADO, AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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#	DATE	REVISION
1	5/28/2019	FIRST SUBMITTAL
2	10/21/2019	SECOND SUBMITTAL
3	12/02/2019	THIRD SUBMITTAL

PROJECT NUMBER: 2462.2c  
AMP/WDD  
CHECKED BY: DIB  
DESCRIPTION: SWMP AND EROSION CONTROL DETAILS

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IP-4

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IP-5

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August 2013

Vehicle Tracking Control (VTC)

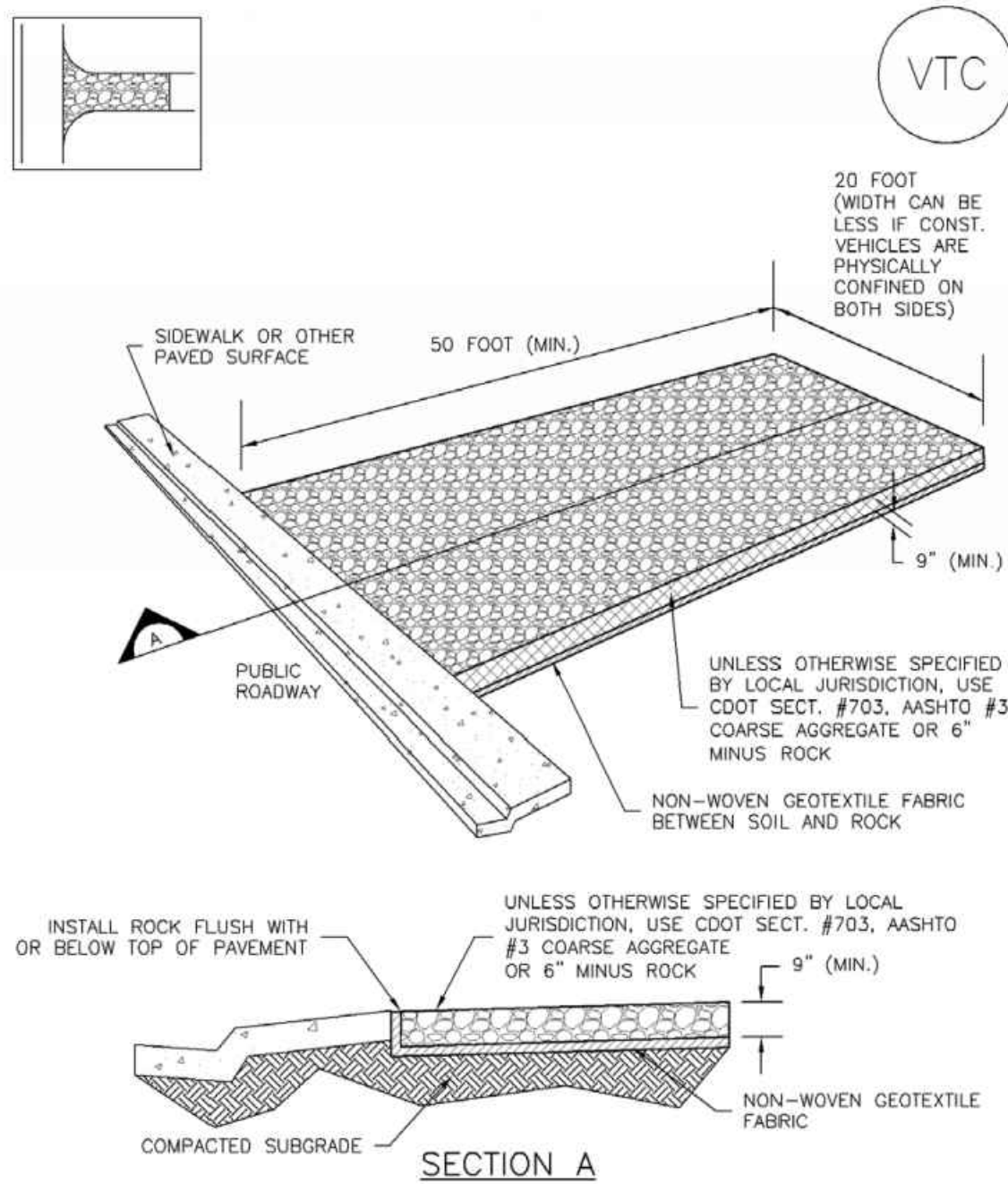
SM-4 SM-4

Vehicle Tracking Control (VTC)

EC-8

Temporary Outlet Protection (TOP) Temporary Outlet Protection (TOP)

EC-8



VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

- STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES**
- SEE PLAN VIEW FOR:
    - LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S).
    - TYPE OF CONSTRUCTION ENTRANCE(S)/EXIT(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).
  - CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.
  - A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS.
  - STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
  - A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.
  - UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.
- STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES**
- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
  - FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
  - WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
  - ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.
  - SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED DOWN STORM SEWER DRAINS.
- NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.
- (DETAILS ADAPTED FROM CITY OF BROOMFIELD, COLORADO, NOT AVAILABLE IN AUTOCAD)

VTC-3

VTC-6

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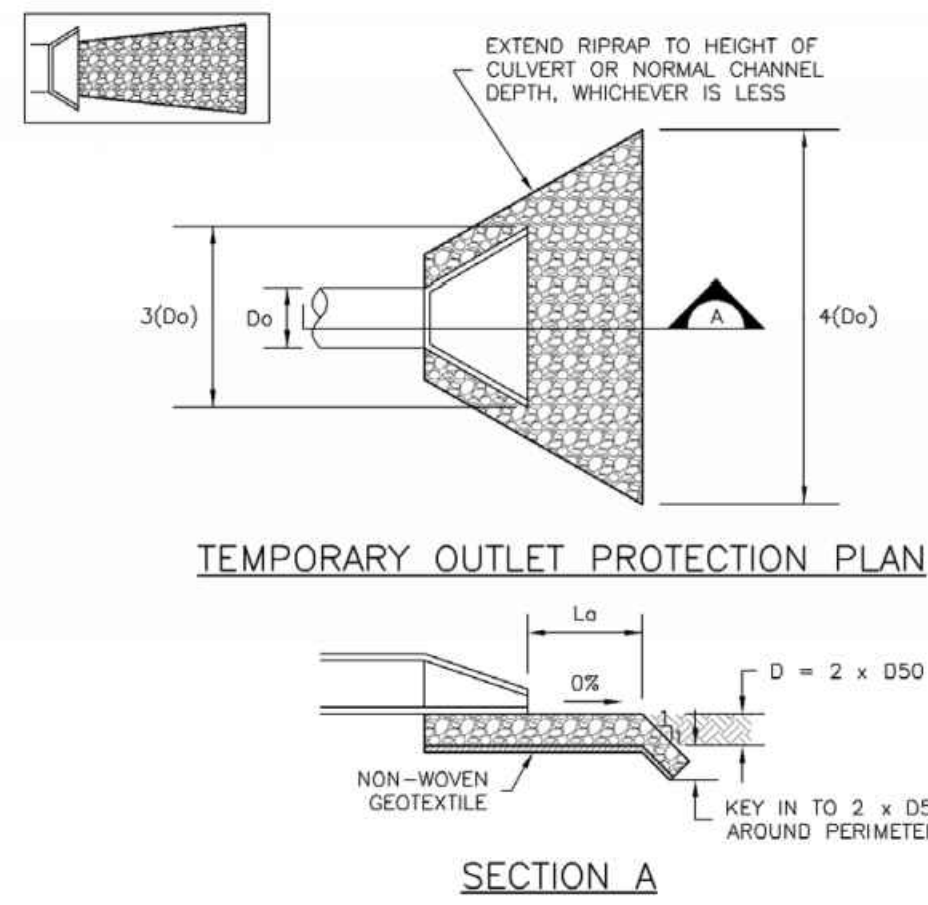


TABLE OP-1. TEMPORARY OUTLET PROTECTION SIZING TABLE			
PIPE DIAMETER, D <sub>o</sub> (INCHES)	DISCHARGE, Q (CFS)	APRON LENGTH, L <sub>a</sub> (FT)	RIPRAP D <sub>50</sub> DIAMETER MIN (INCHES)
8	2.5	5	4
	5	10	6
12	5	10	4
	10	13	6
18	10	10	6
	20	16	9
	30	23	12
	40	26	16
24	30	16	9
	40	26	9
	50	26	12
	60	30	16

OP-1. TEMPORARY OUTLET PROTECTION

TOP-2

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TOP-3

CITY OF BOULDER  
DEPARTMENT OF PUBLIC WORKS  
REVISED ENGINEERING CONSTRUCTION DRAWING

ENGINEERING REVIEW MANAGER DATE  
APPROVAL EXPIRES ONE YEAR AFTER DATE ABOVE

CITY OF BOULDER  
PUBLIC WORKS DEPARTMENT  
RECOMMENDATION FOR APPROVAL  
WATER/SEWER \_\_\_\_\_  
TRANSPORTATION \_\_\_\_\_  
DRAINAGE \_\_\_\_\_

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1	5/28/2019	FIRST SUBMITTAL
2	10/21/2019	SECOND SUBMITTAL
3	12/02/2019	THIRD SUBMITTAL

PROJECT NUMBER: 2462.2c

AMP/WDD

CHECKED BY: DIB

DESCRIPTION: EROSION CONTROL DETAILS

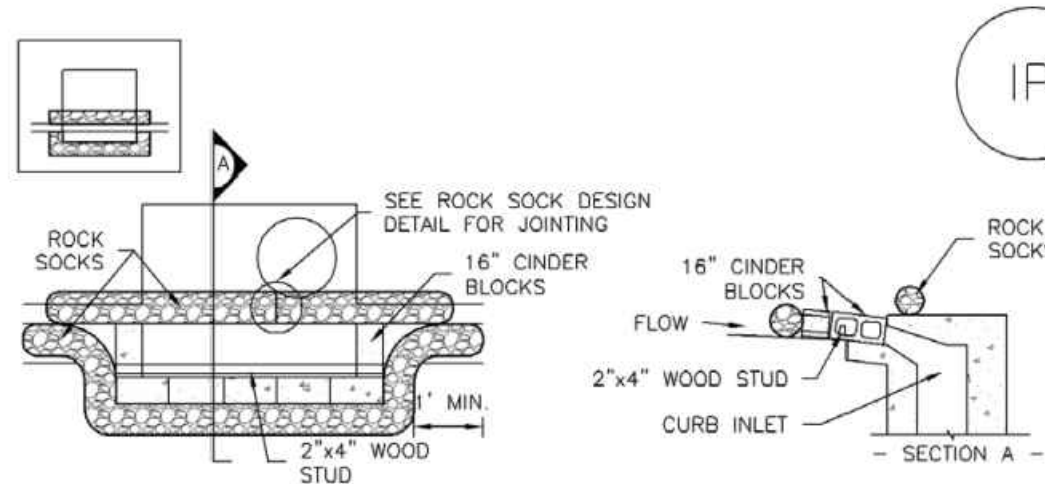
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SC-6

Inlet Protection (IP) Inlet Protection (IP)

SC-1 SC-6

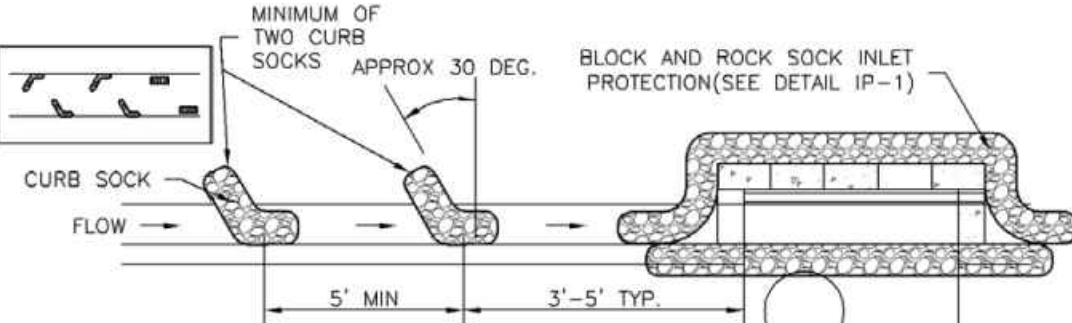
Inlet Protection (IP)



IP-1. BLOCK AND ROCK SOCK SUMP OR ON GRADE INLET PROTECTION

BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES

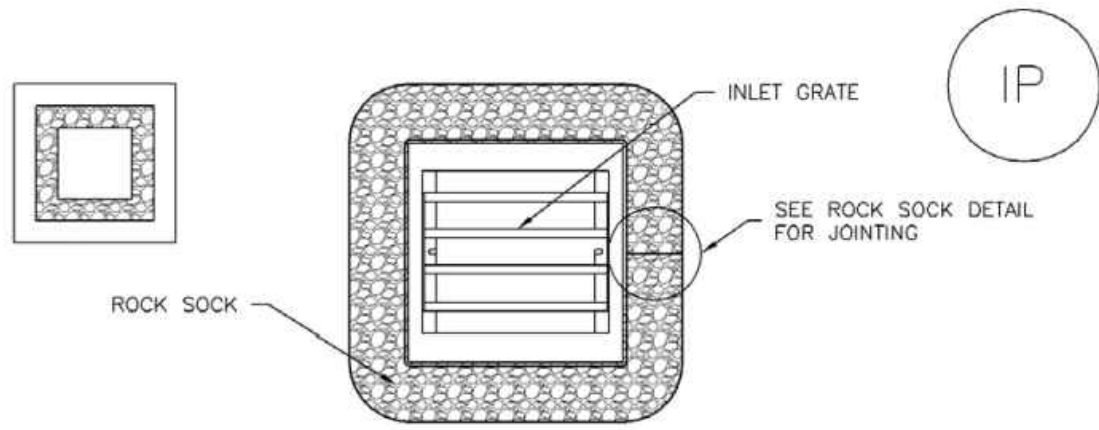
- SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
- CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW, ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.
- GRAVEL BAGS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINTED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.



IP-2. CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES

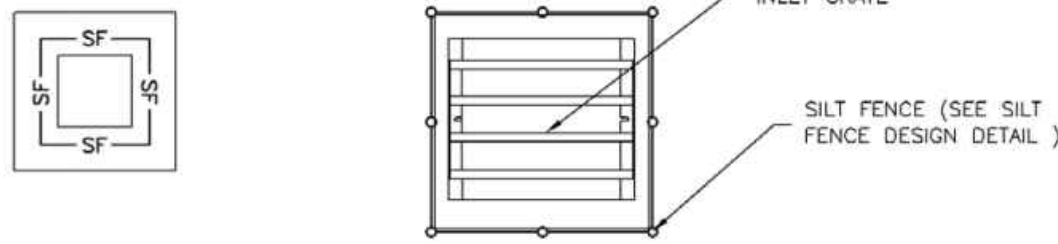
- SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.
- PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.
- SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.
- AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADE INLETS.



IP-3. ROCK SOCK SUMP/AREA INLET PROTECTION

ROCK SOCK SUMP/AREA INLET PROTECTION INSTALLATION NOTES

- SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
- STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF ROCK SOCKS FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.



IP-4. SILT FENCE FOR SUMP INLET PROTECTION

SILT FENCE INLET PROTECTION INSTALLATION NOTES

- SEE SILT FENCE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
- POSTS SHALL BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF 3 FEET.
- STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF SILT FENCE FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.

GENERAL INLET PROTECTION INSTALLATION NOTES

- SEE PLAN VIEW FOR:
  - LOCATION OF INLET PROTECTION.
  - TYPE OF INLET PROTECTION (IP-1, IP-2, IP-3, IP-4, IP-5, IP-6)
- INLET PROTECTION SHALL BE INSTALLED PROMPTLY AFTER INLET CONSTRUCTION OR PAVING IS COMPLETE (TYPICALLY WITHIN 48 HOURS). IF A RAINFALL/RUNOFF EVENT IS FORECAST, INSTALL INLET PROTECTION PRIOR TO ONSET OF EVENT.
- MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

INLET PROTECTION MAINTENANCE NOTES

- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN STORAGE VOLUME REACHES 50% OF CAPACITY, A DEPTH OF 6" WHEN SILT FENCE IS USED, OR 1/4 OF THE HEIGHT FOR STRAW BALES.
- INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED, UNLESS THE LOCAL JURISDICTION APPROVES EARLIER REMOVAL OF INLET PROTECTION IN STREETS.
- WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF INLET PROTECTION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY PROPRIETARY INLET PROTECTION METHODS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY INLET PROTECTION; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.

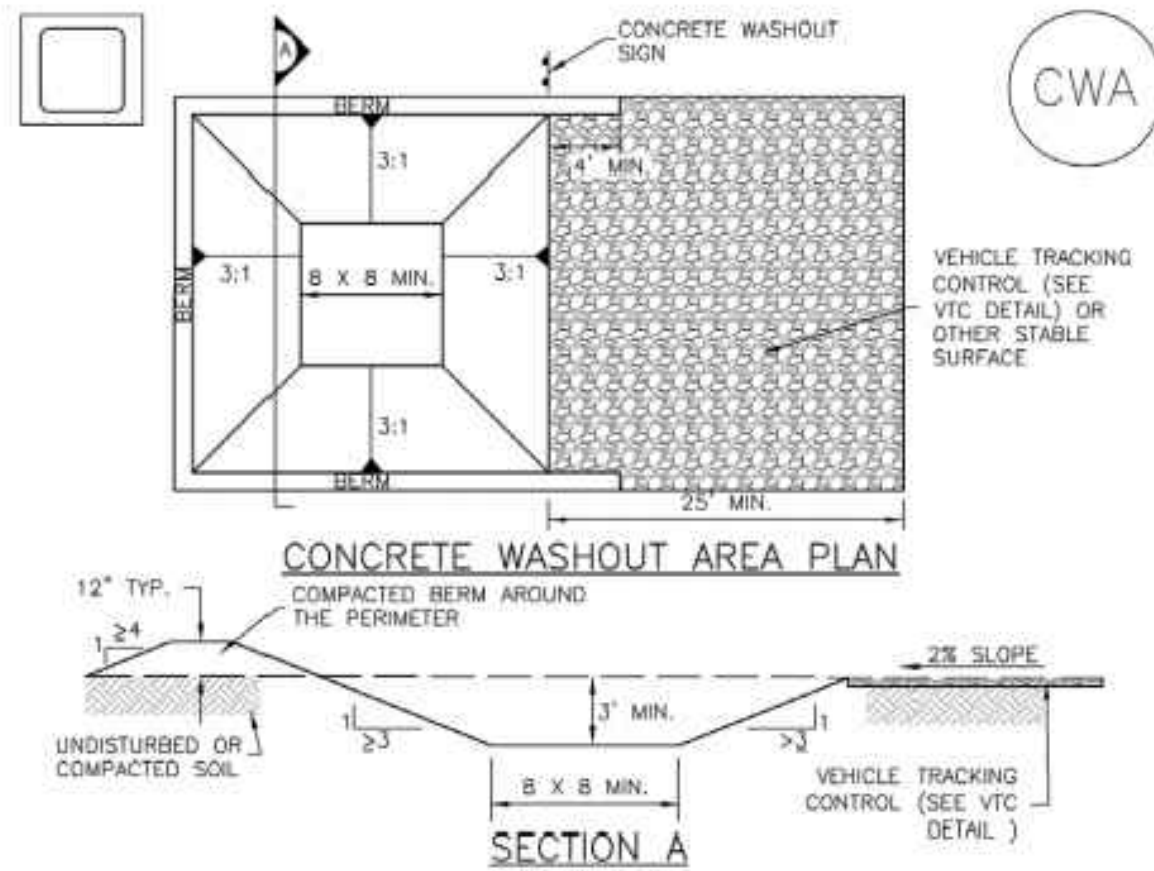
NOTE: SOME MUNICIPALITIES DISCOURAGE OR PROHIBIT THE USE OF STRAW BALES FOR INLET PROTECTION. CHECK WITH LOCAL JURISDICTION TO DETERMINE IF STRAW BALE INLET PROTECTION IS ACCEPTABLE.

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Concrete Washout Area (CWA)

MM-1 MM-1

Concrete Washout Area (CWA)



CWA-1. CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES

1. SEE PLAN VIEW FOR:  
-CWA INSTALLATION LOCATION.
2. DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.
3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
4. CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
5. BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.
6. VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
7. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
8. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

CWA MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS, ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'.
5. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED OF PROPERLY.
6. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
7. WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD).  
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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THE ACADEMY  
ON MAPLETON HILL  
311 MAPLETON AVENUE  
BOULDER, COLORADO 80304

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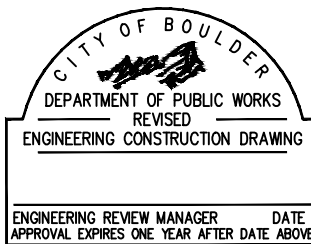
#	DATE	REVISION
1	5/28/2019	FIRST SUBMITTAL
2	10/21/2019	SECOND SUBMITTAL
3	12/02/2019	THIRD SUBMITTAL

PROJECT NUMBER: 2462.2c

AMP/WDD

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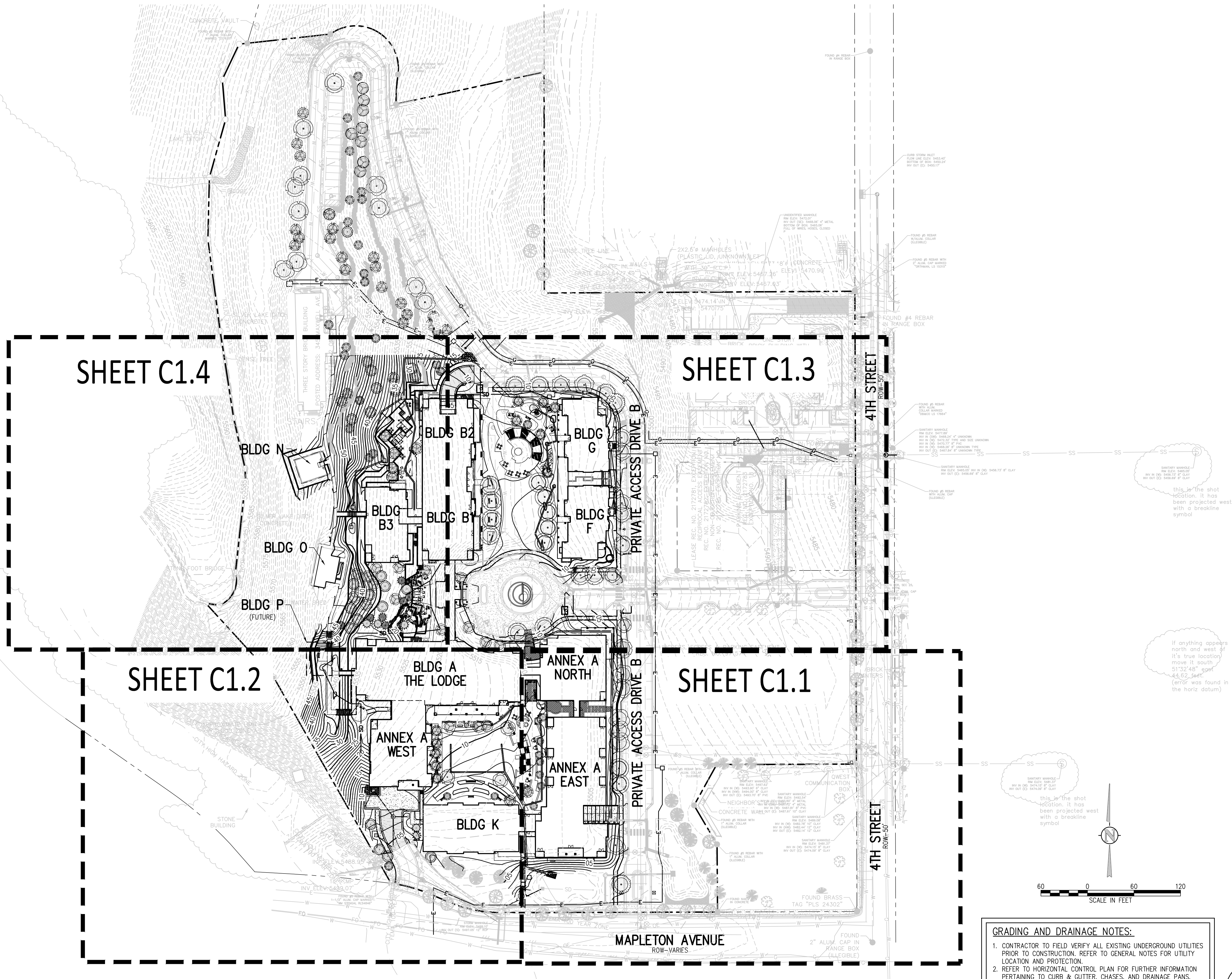
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DETAILS



CITY OF BOULDER PUBLIC WORKS DEPARTMENT	
RECOMMENDATION FOR APPROVAL	
WATER/SEWER	_____
TRANSPORTATION	_____
DRAINAGE	_____

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**GRADING AND DRAINAGE NOTES:**

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PUBLIC WORKS DEPARTMENT  
RECOMMENDATION FOR APPROVAL  
WATER/SEWER  
TRANSPORTATION  
DRAINAGE

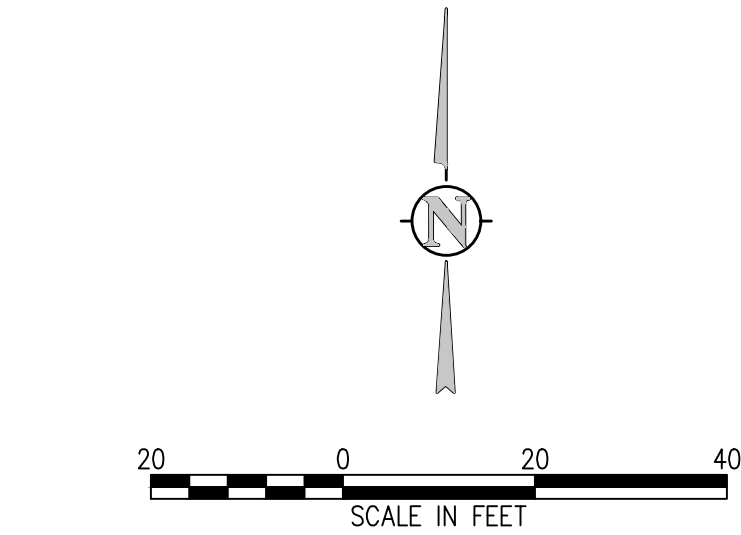
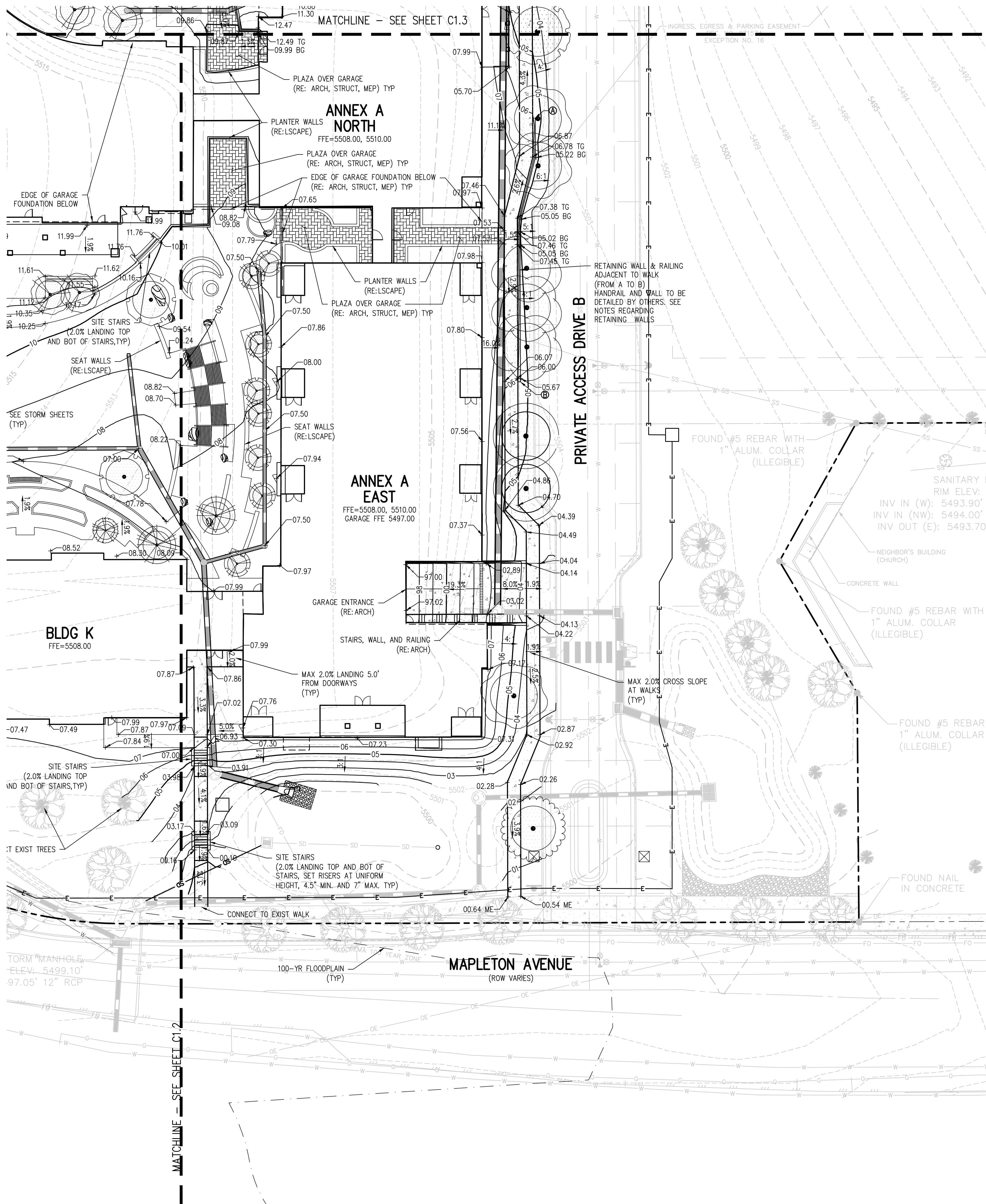
**THE ACADEMY  
ON MAPLETON HILL**  
311 MAPLETON AVENUE  
BOULDER, COLORADO 80304

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PROJECT NUMBER: 2462.2c  
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DESCRIPTION: OVERALL GRADING  
PLAN

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7. WALL DESIGN BY OTHERS.

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PUBLIC WORKS DEPARTMENT  
RECOMMENDATION FOR APPROVAL

WATER/SEWER \_\_\_\_\_  
TRANSPORTATION \_\_\_\_\_  
DRAINAGE \_\_\_\_\_

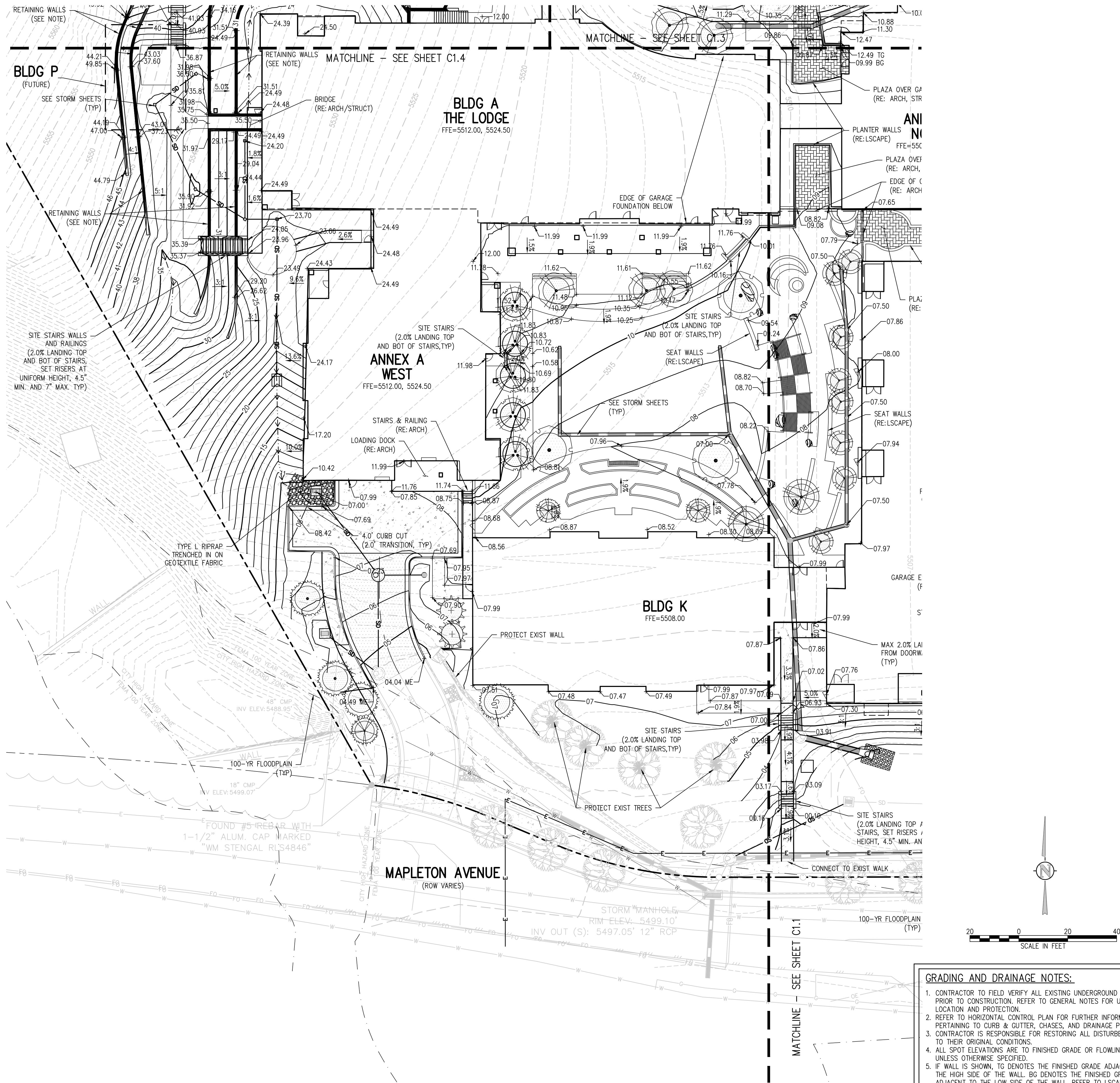
**THE ACADEMY  
ON MAPLETON HILL  
311 MAPLETON AVENUE  
BOULDER, COLORADO 80304**

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DESCRIPTION: DETAILED GRADING  
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RECOMMENDATION FOR APPROVAL	
WATER/SEWER	
TRANSPORTATION	
DRAINAGE	

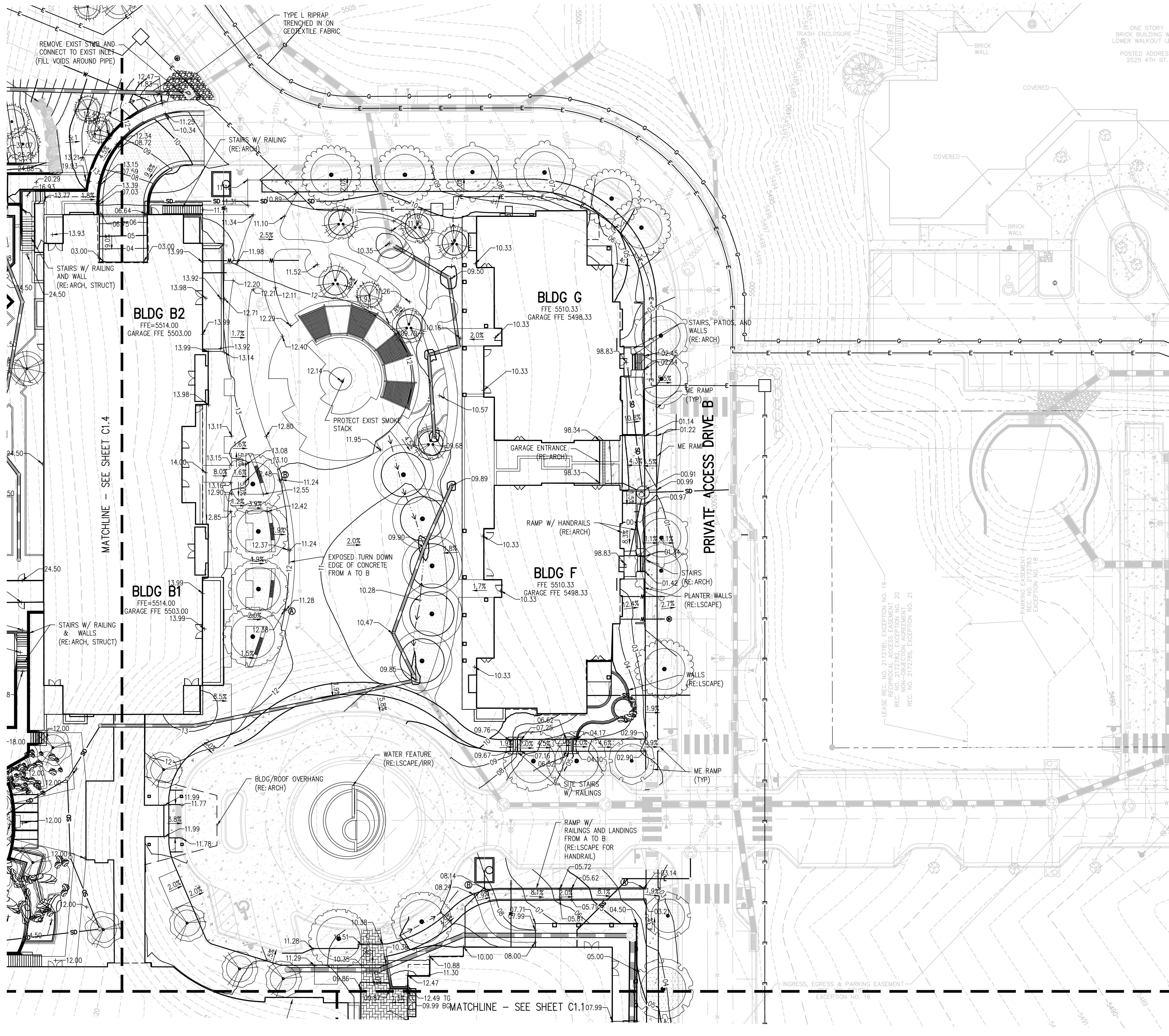
# THE ACADEMY ON MAPLETON HILL 311 MAPLETON AVENUE BOULDER, COLORADO 80304

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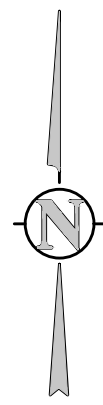
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AMP/WDD  
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AND DRAINAGE SHEET

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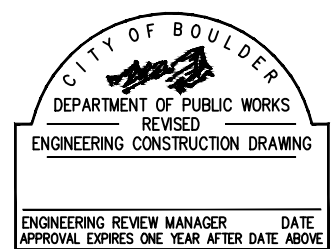


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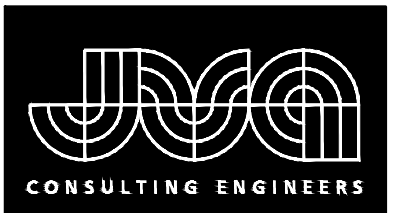
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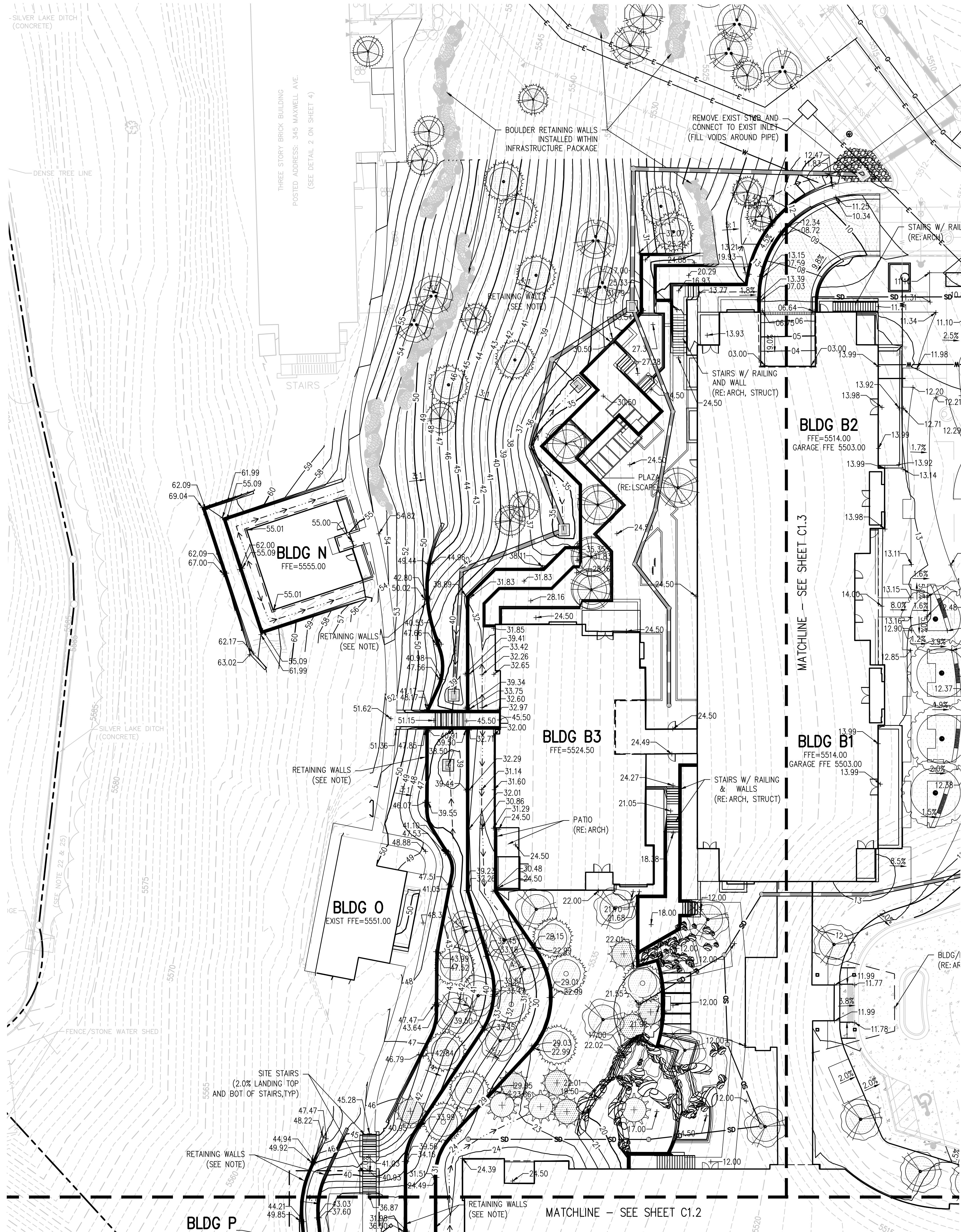
## THE ACADEMY ON MAPLETON HILL 311 MAPLETON AVENUE BOULDER, COLORADO 80304

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PROJECT NUMBER: 2462.2c  
AMP/WDD  
CHECKED BY: DIB  
DESCRIPTION: DETAILED GRADING  
AND DRAINAGE SHEET

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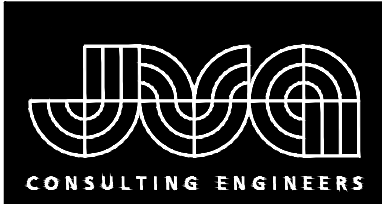
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DESCRIPTION: DETAILED GRADING  
AND DRAINAGE SHEET

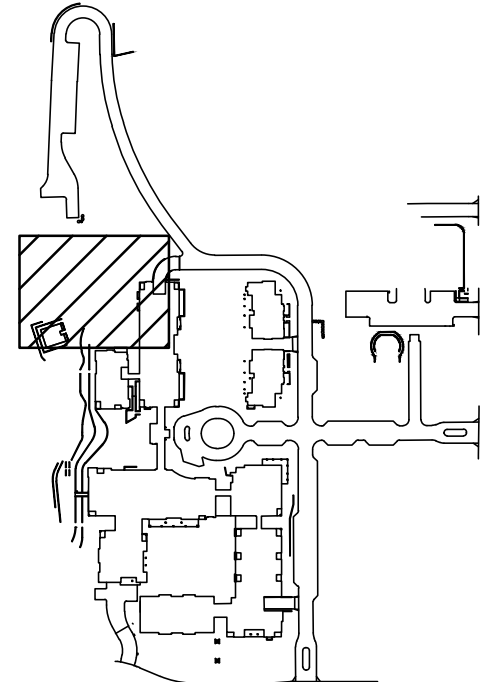
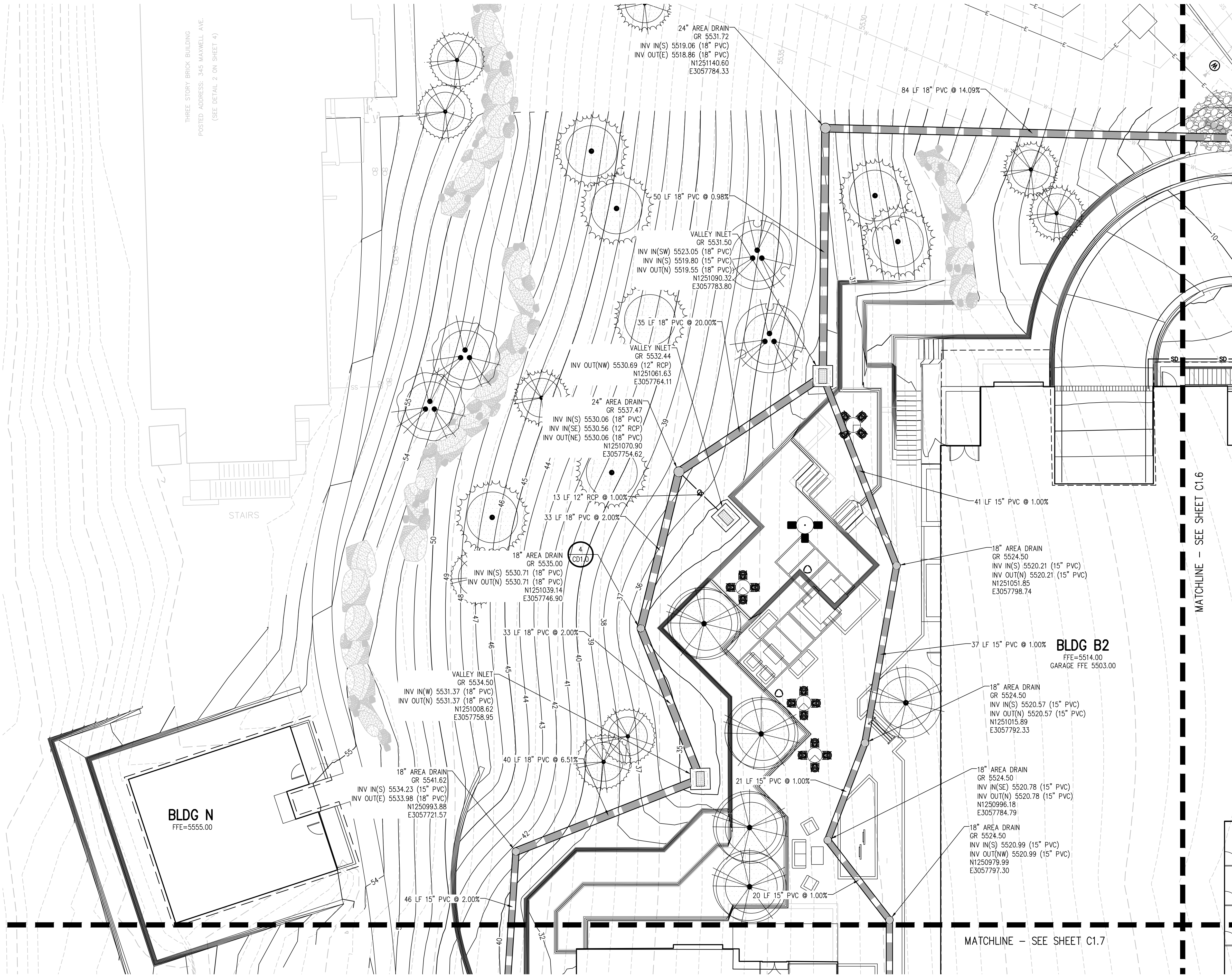
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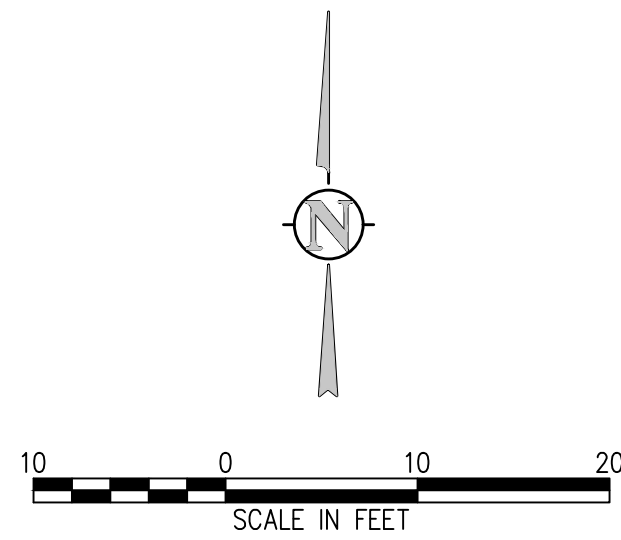


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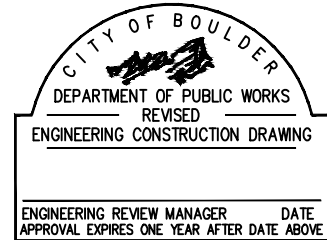


KEY MAP



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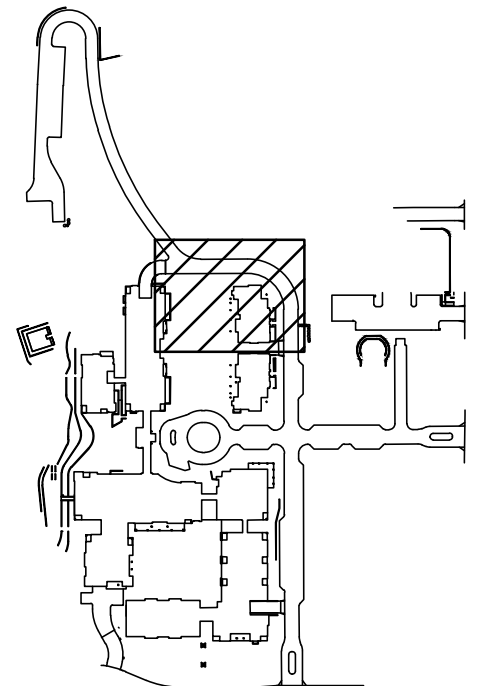
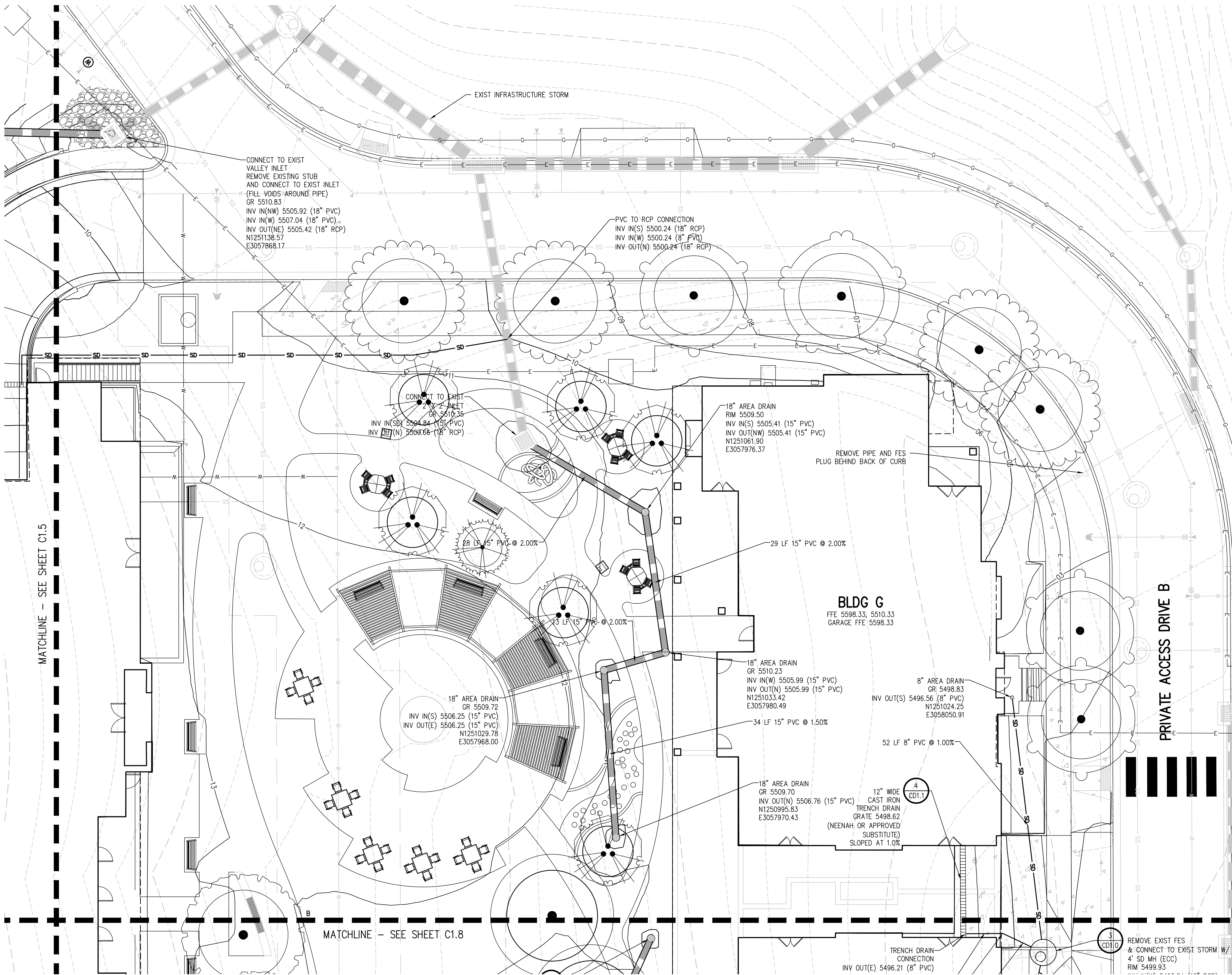
THE ACADEMY  
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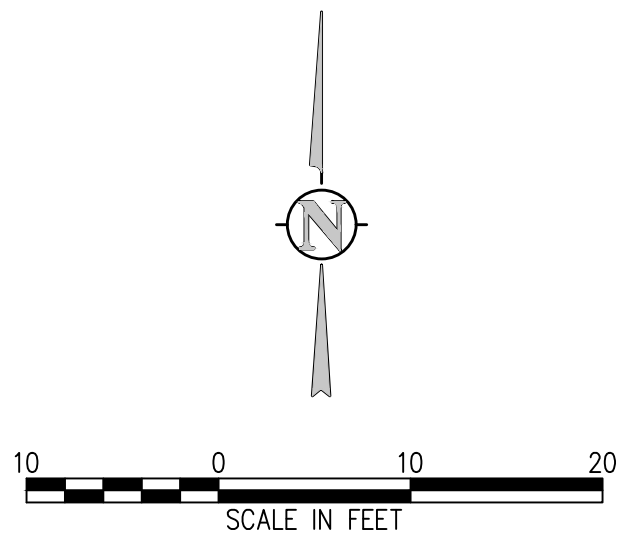
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PROJECT NUMBER: 2462.2c  
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DESCRIPTION: STORM PLAN

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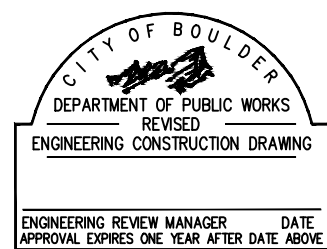


KEY MAP

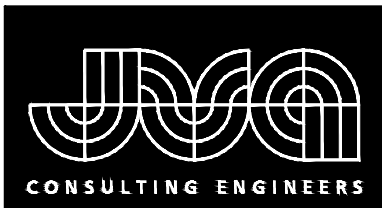


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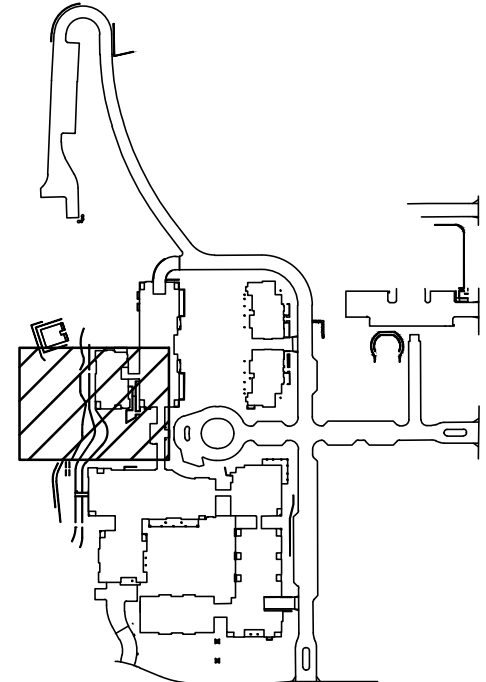
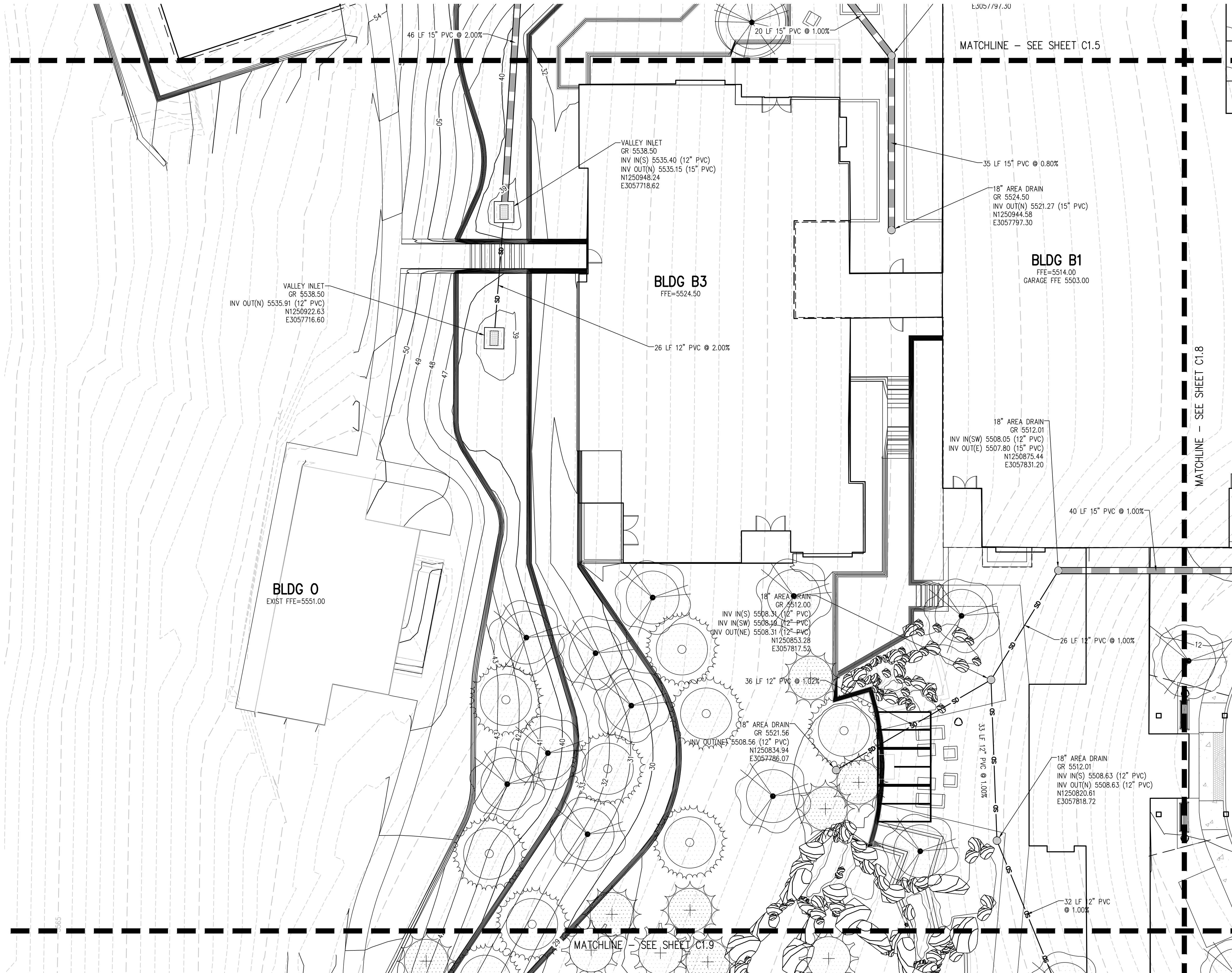
PROJECT NUMBER: 2462.2c

AMP/WDD

CHECKED BY: DIB

DESCRIPTION: STORM PLAN

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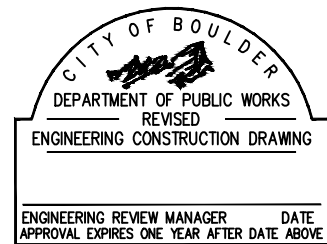
KEY MAP

# THE ACADEMY ON MAPLETON HILL 311 MAPLETON AVENUE BOULDER, COLORADO 80304

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APPROVAL	EXPIRES ONE YEAR AFTER DATE ABOVE
RECOMMENDATION FOR APPROVAL	
WATER/SEWER	
TRANSPORTATION	
DRAINAGE	

#	DATE	REVISION
1	5/28/2019	FIRST SUBMITTAL
2	10/21/2019	SECOND SUBMITTAL
3	12/02/2019	THIRD SUBMITTAL

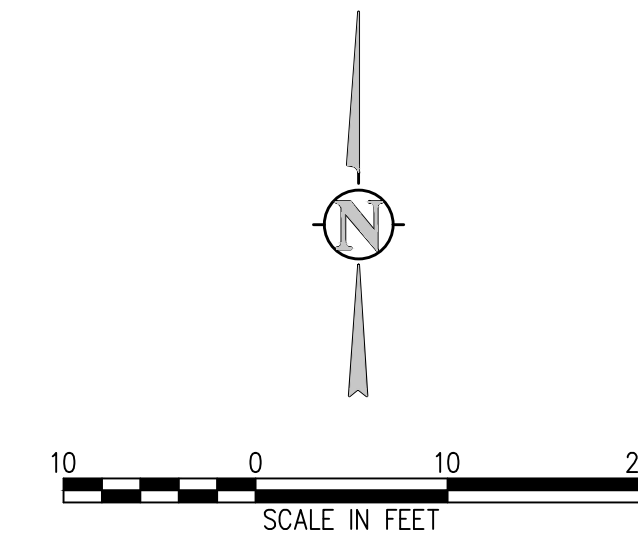
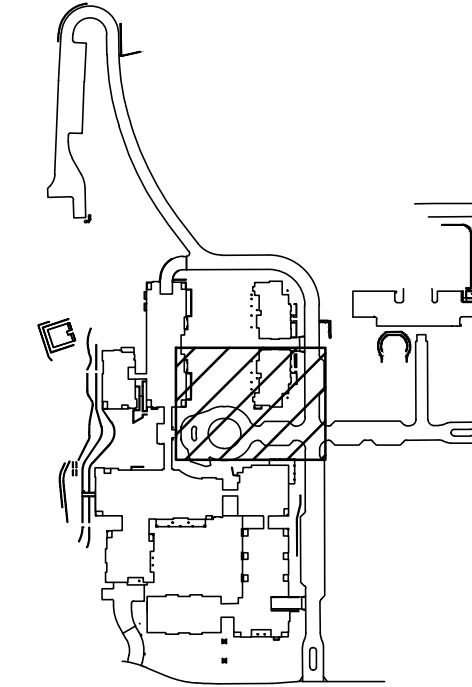
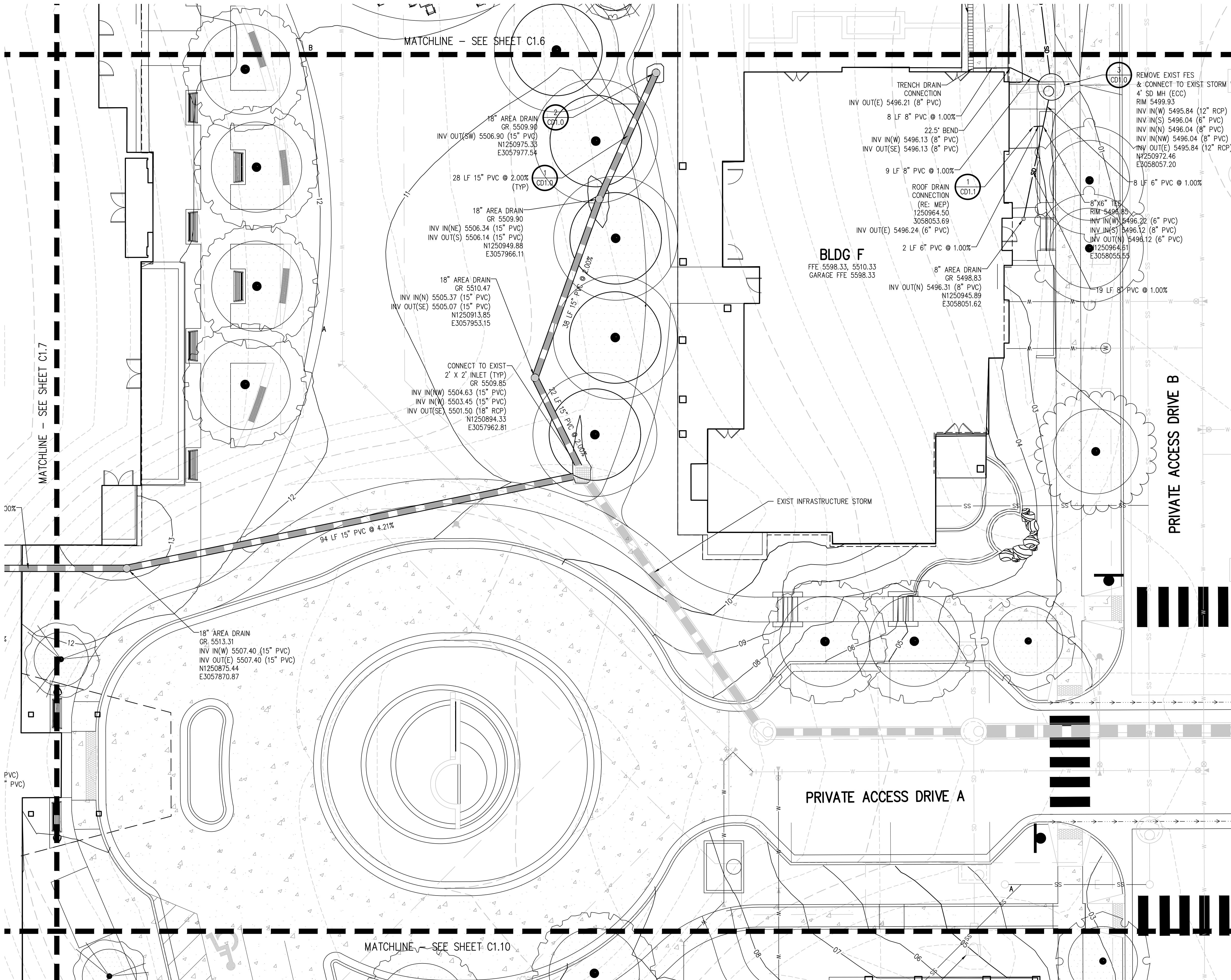
PROJECT NUMBER: 2462.2c

AMP/WDD

CHECKED BY: DIB

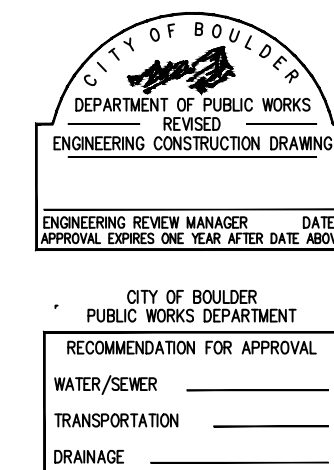
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**GRADING AND DRAINAGE NOTES:**

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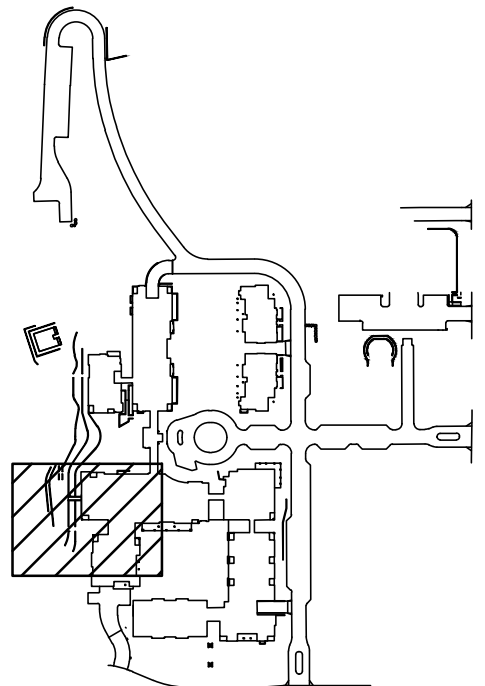
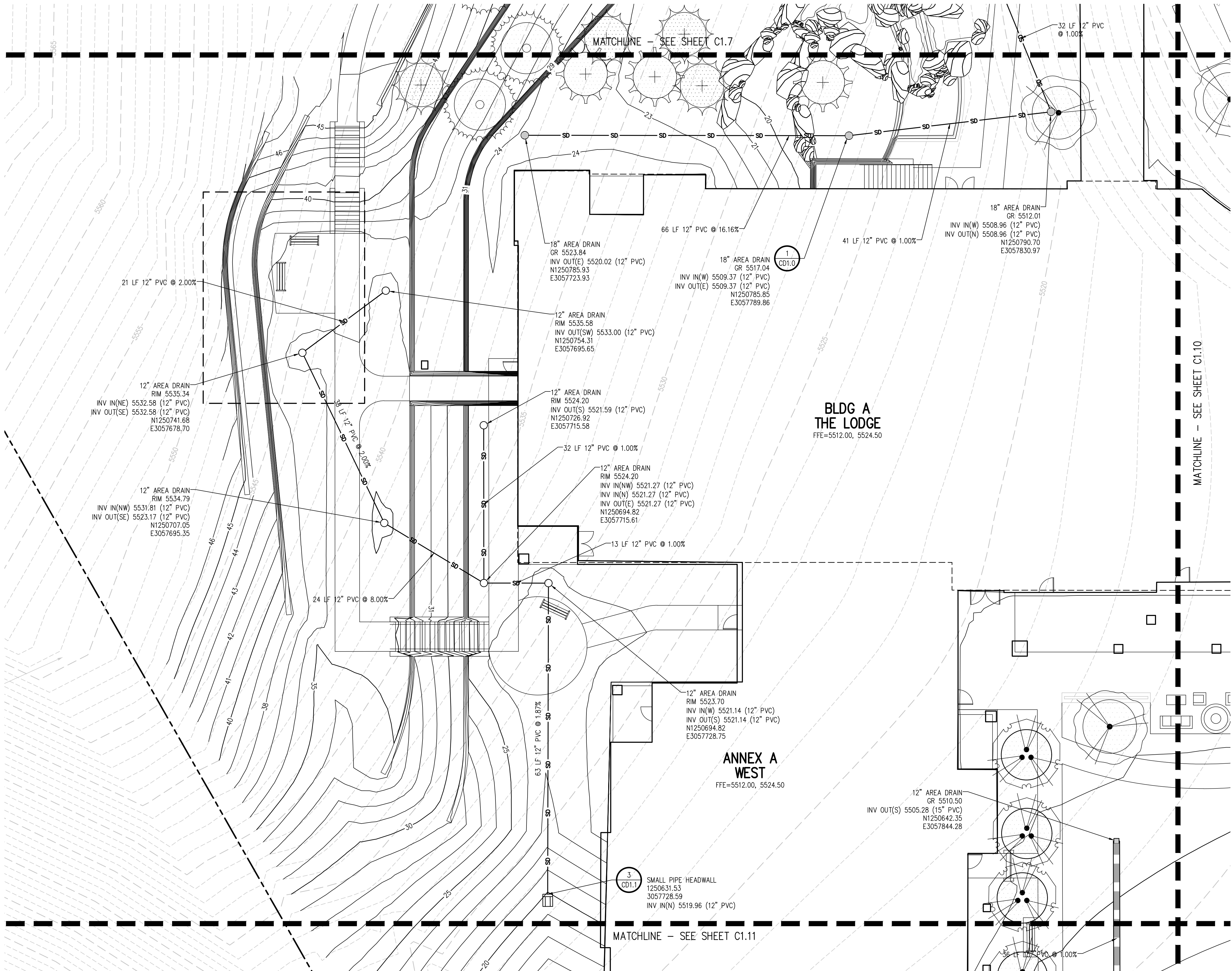
**THE ACADEMY  
ON MAPLETON HILL**  
311 MAPLETON AVENUE  
BOULDER, COLORADO 80304

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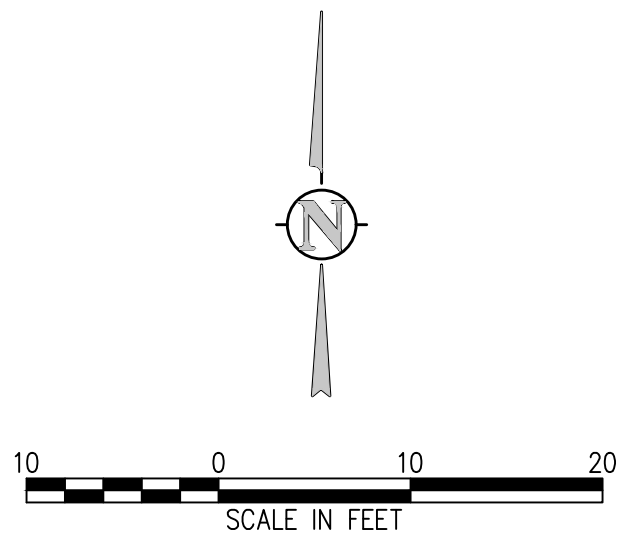
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CHECKED BY: DIB  
DESCRIPTION: STORM PLAN

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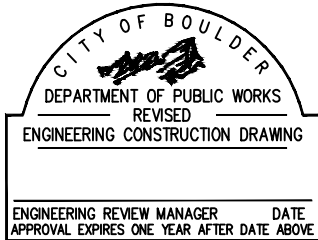


KEY MAP



GRADING AND DRAINAGE NOTES:

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CITY OF BOULDER	
PUBLIC WORKS DEPARTMENT	
RECOMMENDATION FOR APPROVAL	
WATER/SEWER	
TRANSPORTATION	
DRAINAGE	

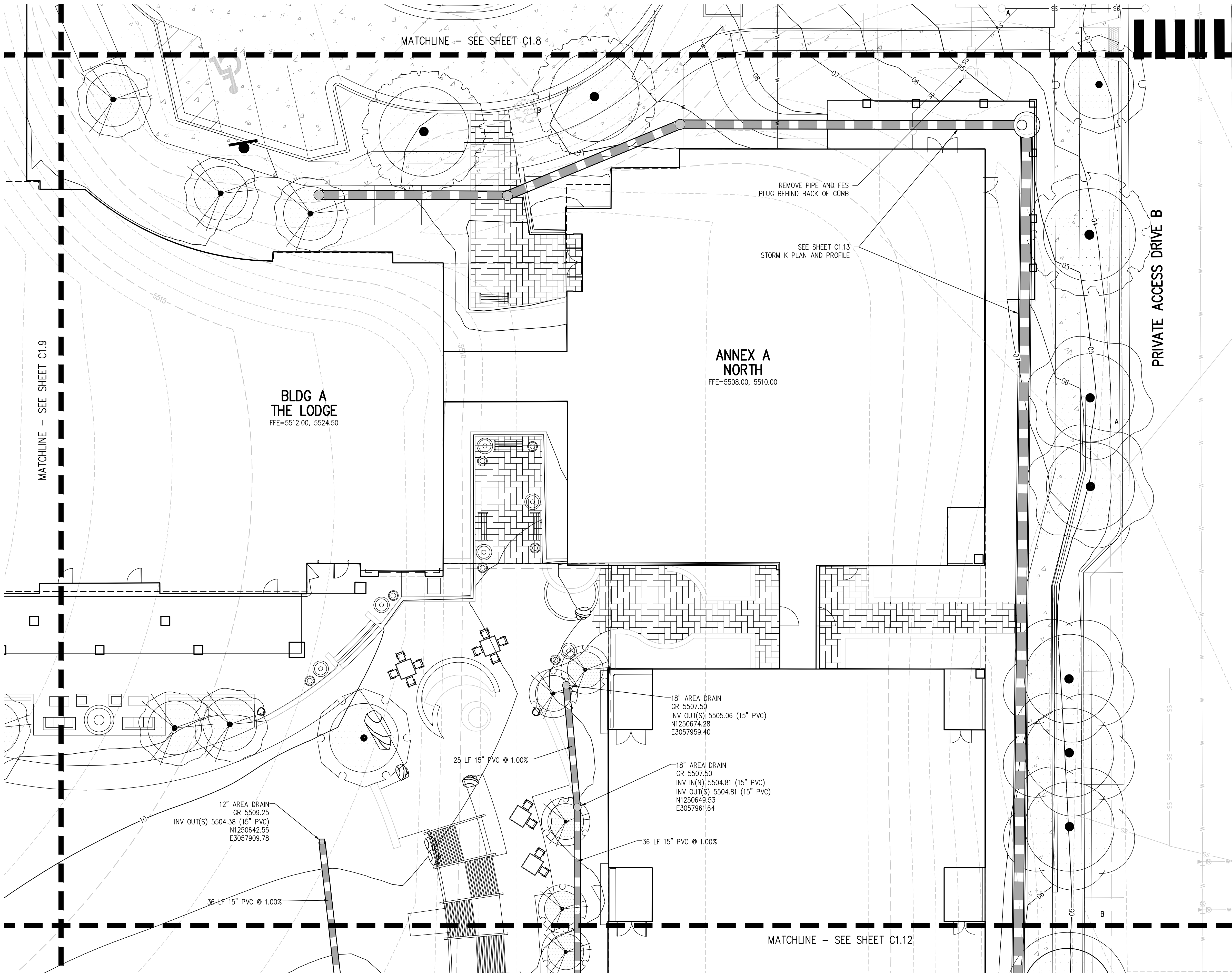
THE ACADEMY  
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311 MAPLETON AVENUE  
BOULDER, COLORADO 80304

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ENGINEERING REVIEW MANAGER DATE APPROVAL EXPIRES ONE YEAR AFTER DATE ABOVE	DATE
CITY OF BOULDER PUBLIC WORKS DEPARTMENT RECOMMENDATION FOR APPROVAL	
WATER/SEWER	_____
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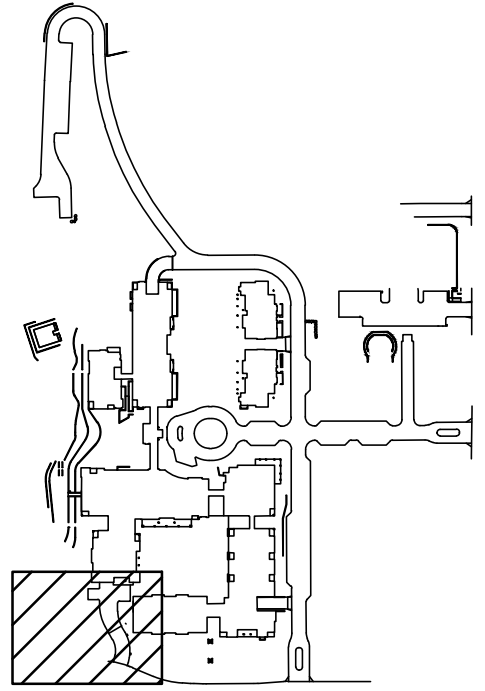
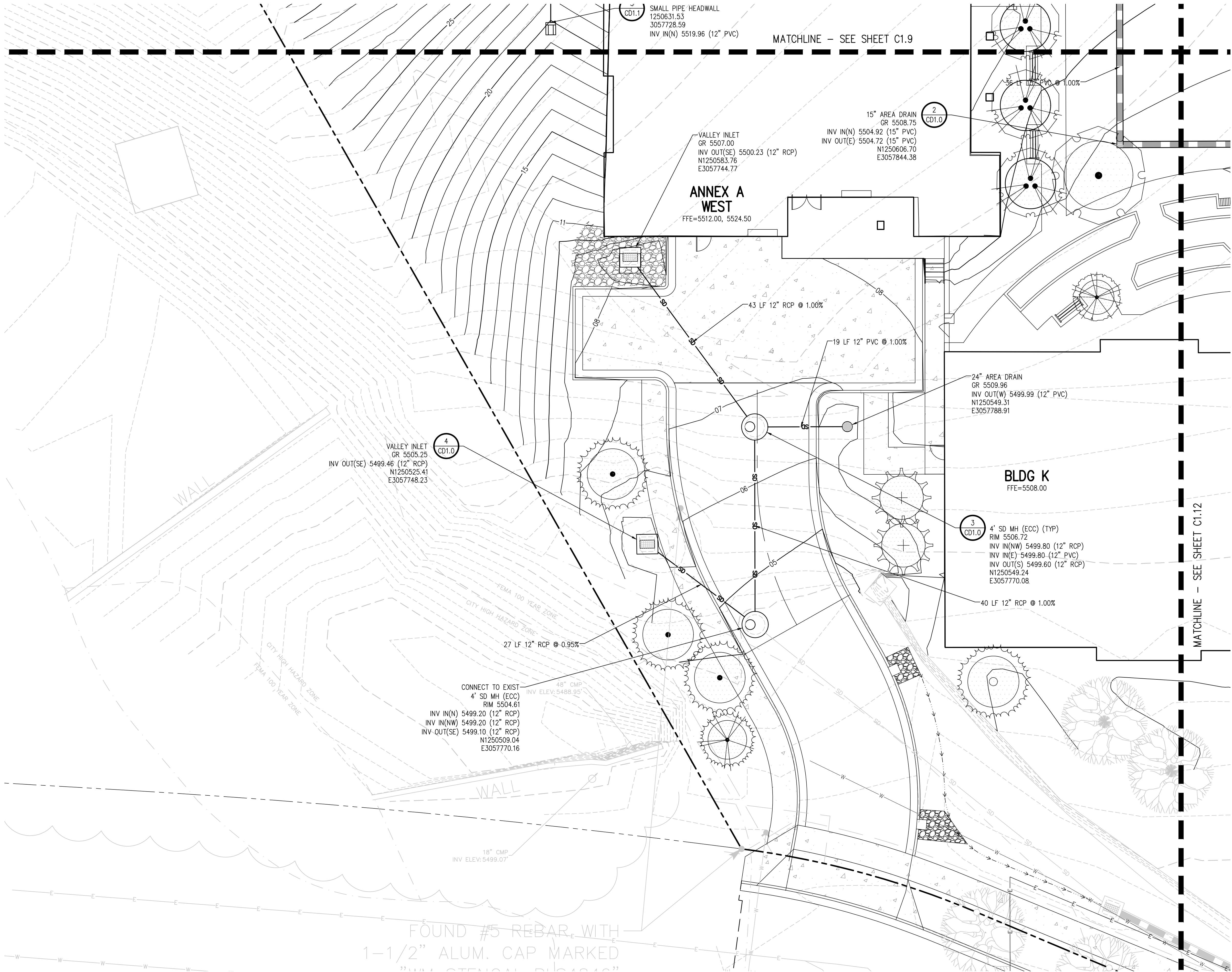
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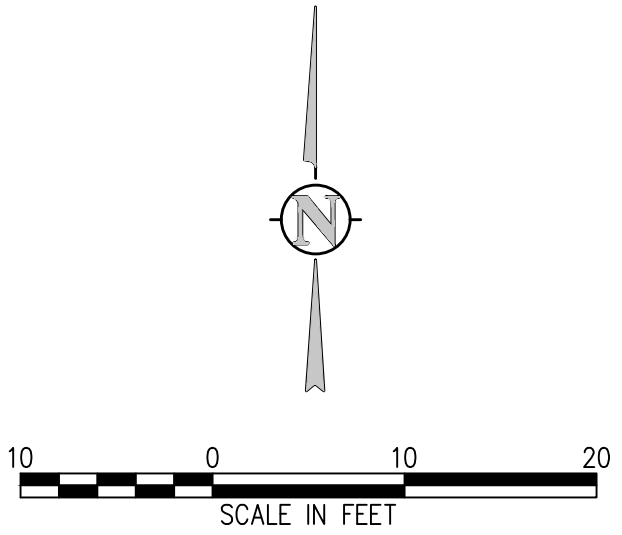
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DESCRIPTION: STORM PLAN

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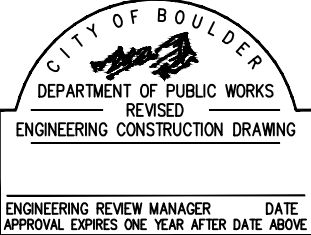


KEY MAP



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THE ACADEMY  
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311 MAPLETON AVENUE  
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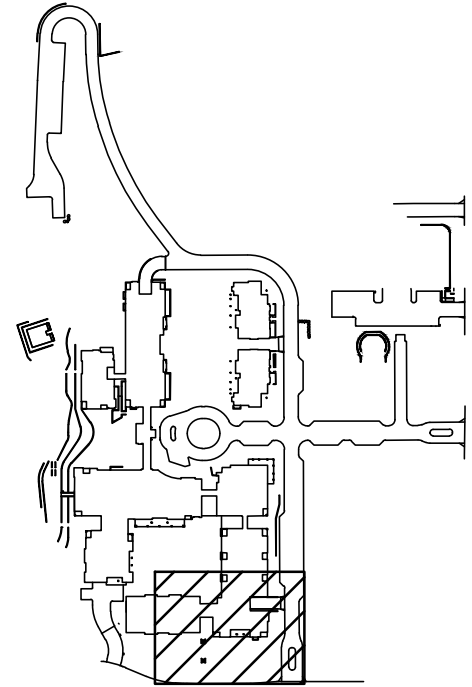
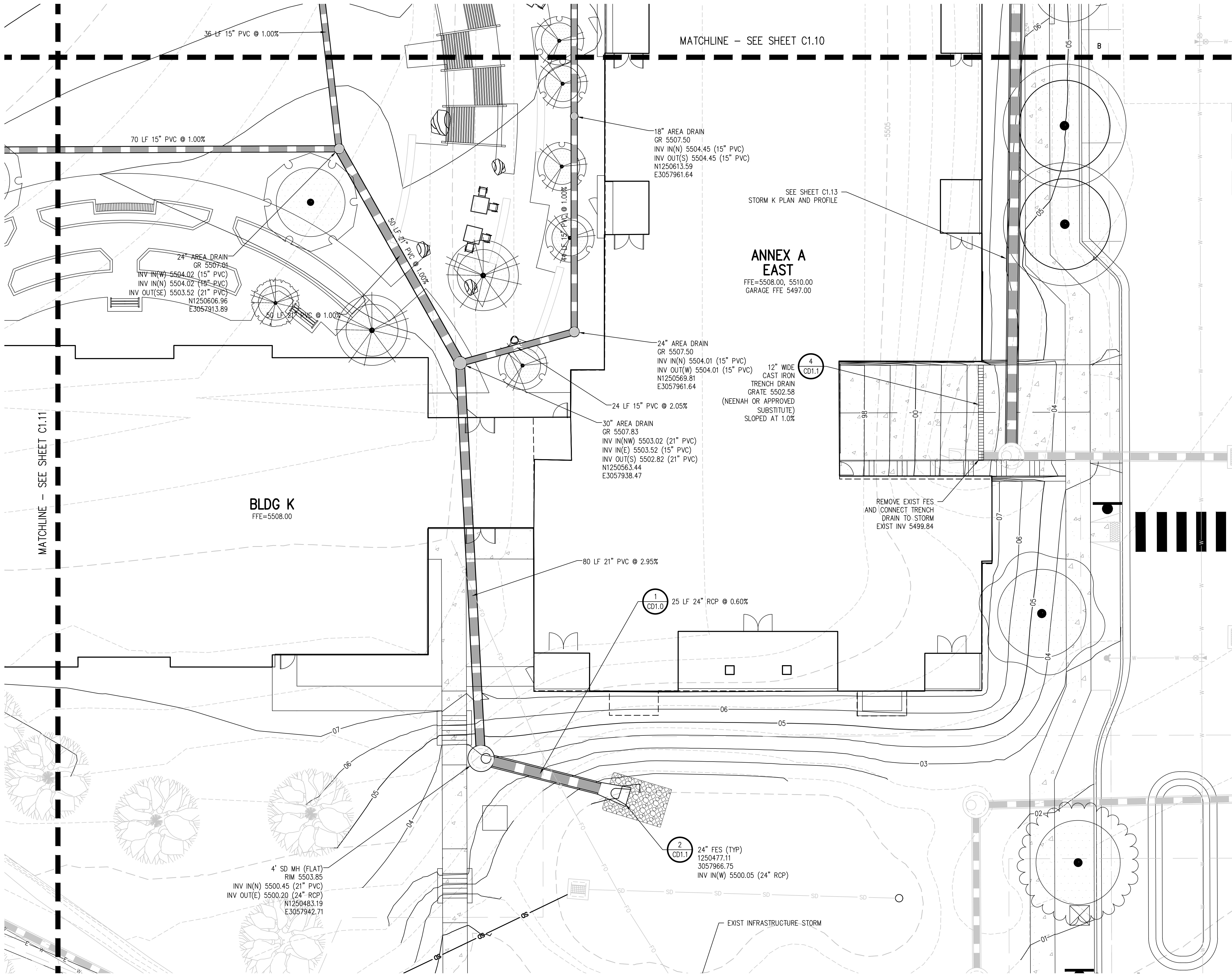
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CHECKED BY: DIB

DESCRIPTION: STORM PLAN

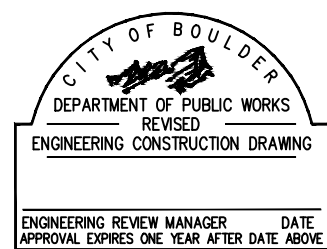
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KEY MAP

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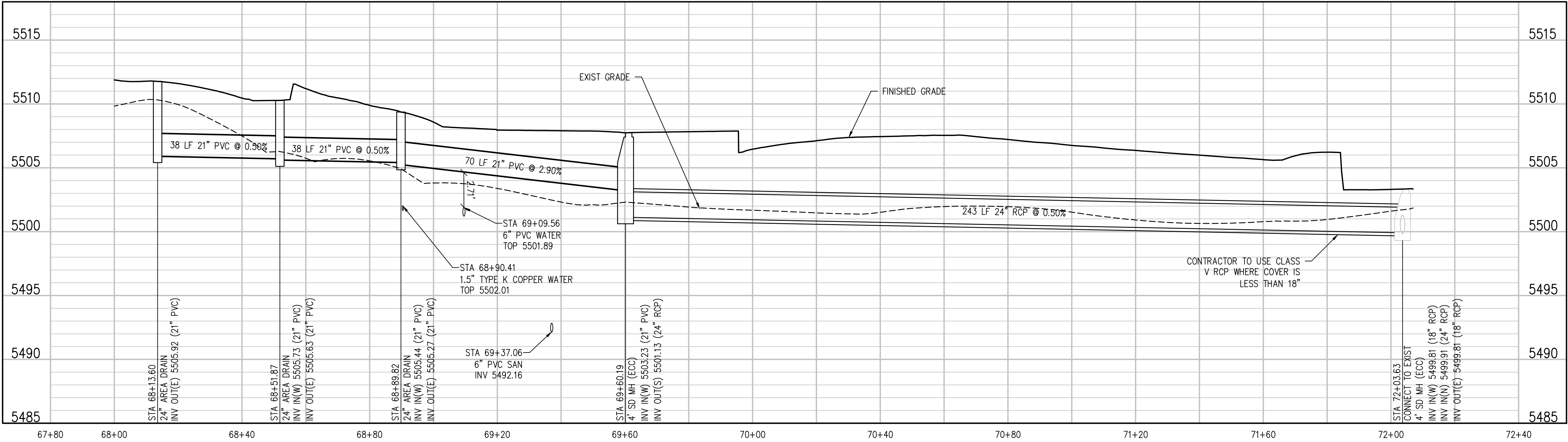
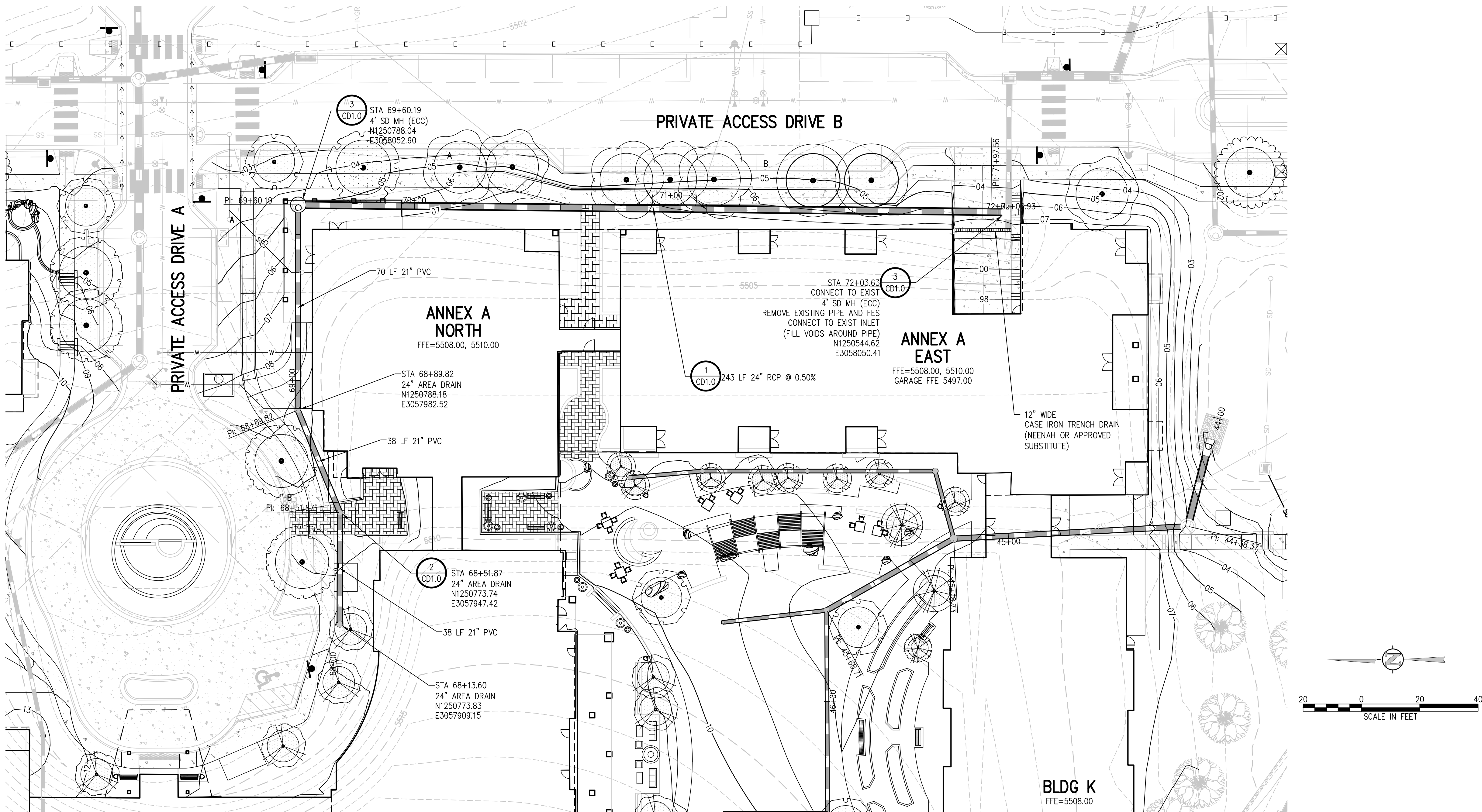
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CITY OF BOULDER PUBLIC WORKS DEPARTMENT	
RECOMMENDATION FOR APPROVAL	
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TRANSPORTATION	_____
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THE ACADEMY  
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311 MAPLETON AVENUE  
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PROJECT NUMBER: 2462.2c  
AMP/WDD  
CHECKED BY: DIB  
DESCRIPTION: STORM PLAN



**GRADING AND DRAINAGE NOTES:**

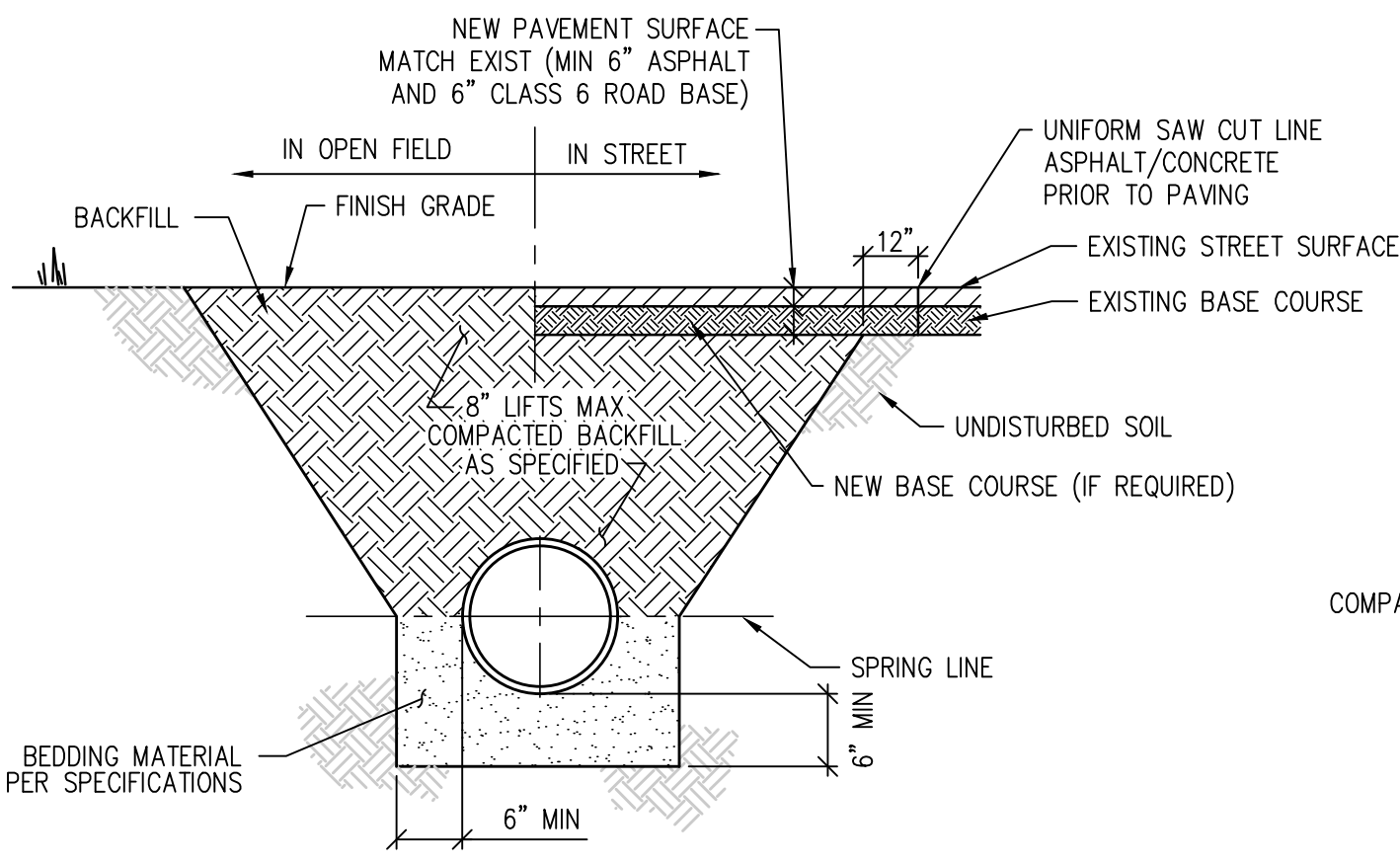
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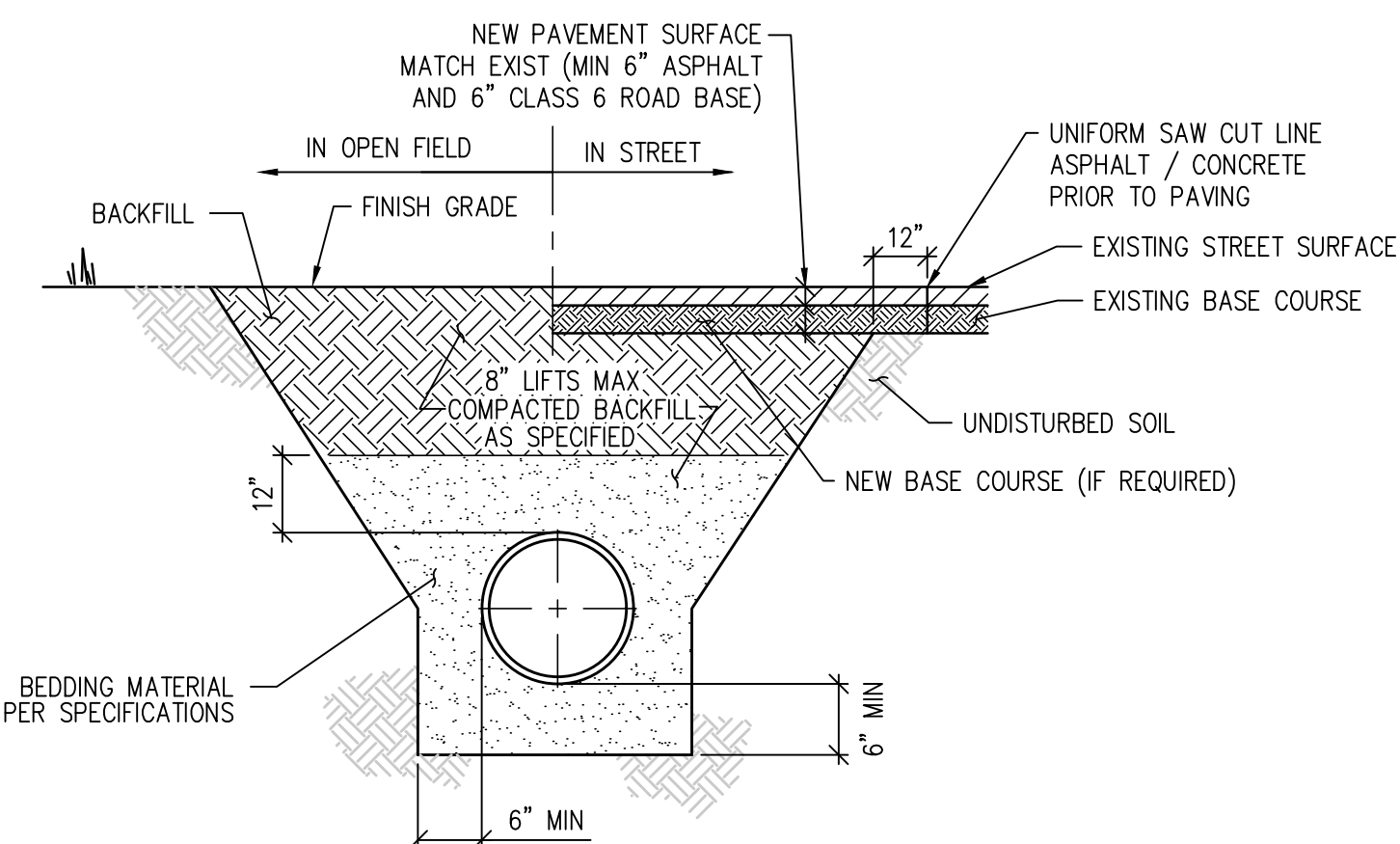
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PROJECT NUMBER: 2462.2c  
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CHECKED BY: DIB  
DESCRIPTION: STORM PLAN AND PROFILE

CITY OF BOULDER DEPARTMENT OF PUBLIC WORKS REVISOR ENGINEERING CONSTRUCTION DRAWING	
ENGINEERING REVIEW MANAGER DATE	APPROVAL EXPIRES ONE YEAR AFTER DATE ABOVE
CITY OF BOULDER PUBLIC WORKS DEPARTMENT RECOMMENDATION FOR APPROVAL	
WATER/SEWER	_____
TRANSPORTATION	_____
DRAINAGE	_____



REINFORCED CONCRETE PIPE

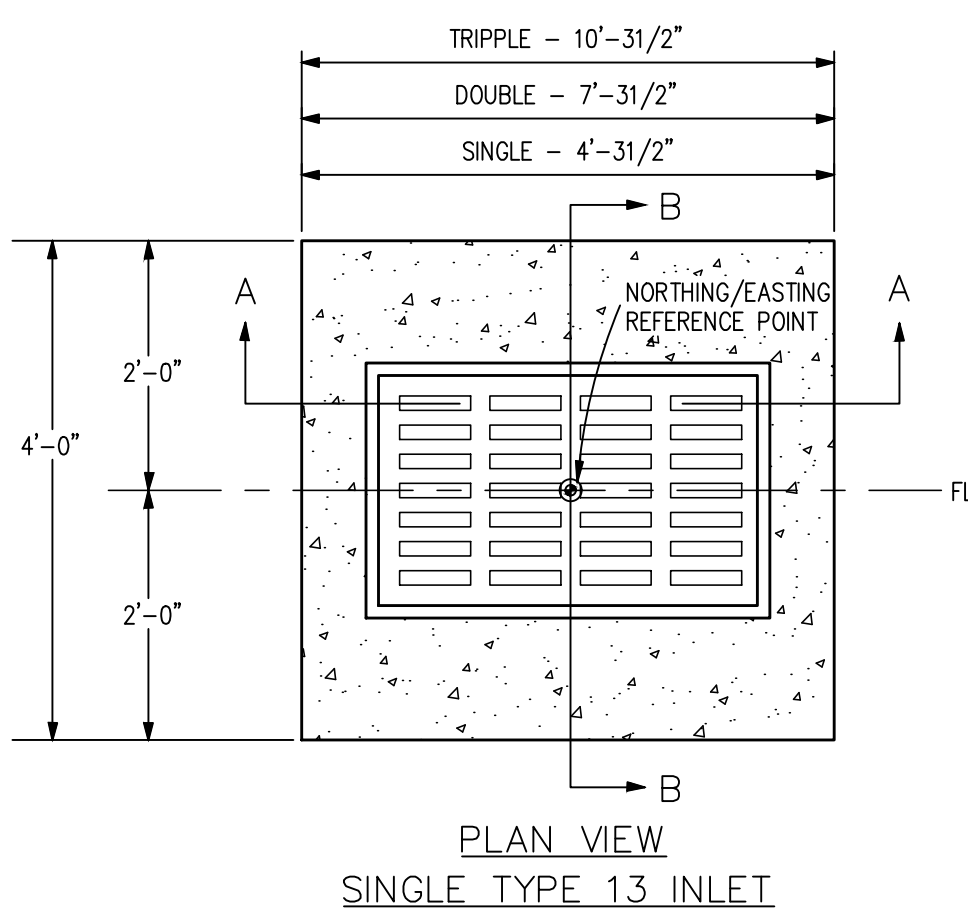


CMP/PVC/HDPE PIPE

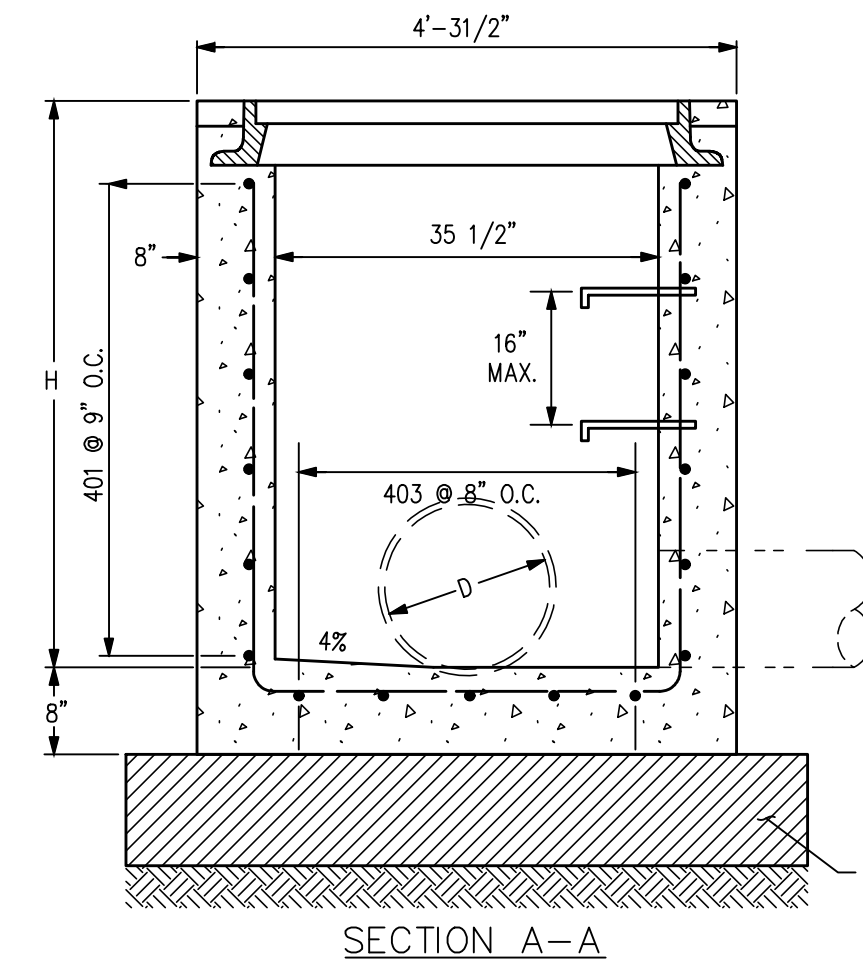
- NOTES:
1. IF UNSTABLE MATERIALS ARE FOUND IN TRENCH, OVEREXCAVATE PER SPECIFICATIONS OR AS REQUIRED.
  2. TRENCH TO BE BRACED OR SHEETED AS NECESSARY FOR THE SAFETY OF THE WORKERS AND THE PROTECTION OF OTHER UTILITIES.
  3. MINIMUM COVER IS 18" BELOW FINISHED GRADE.

STORM SEWER PIPE BEDDING DETAIL

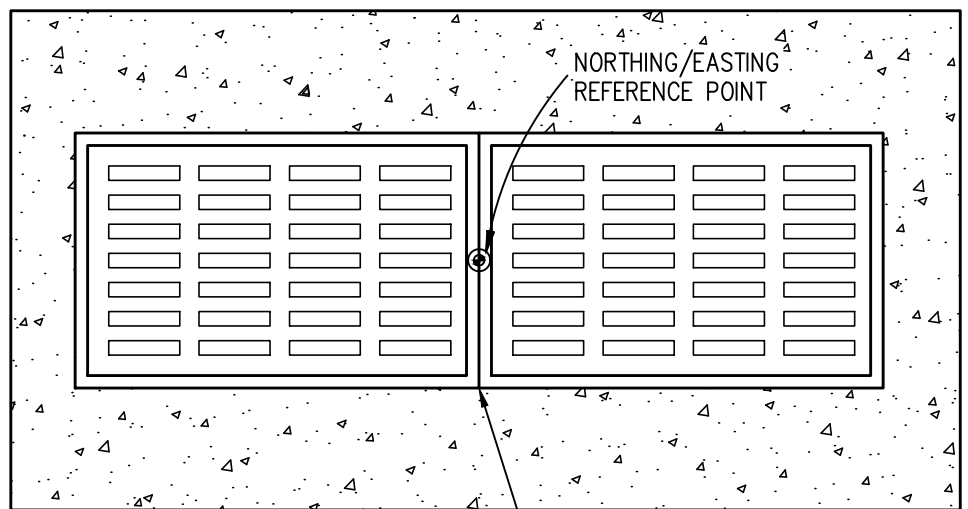
NTS



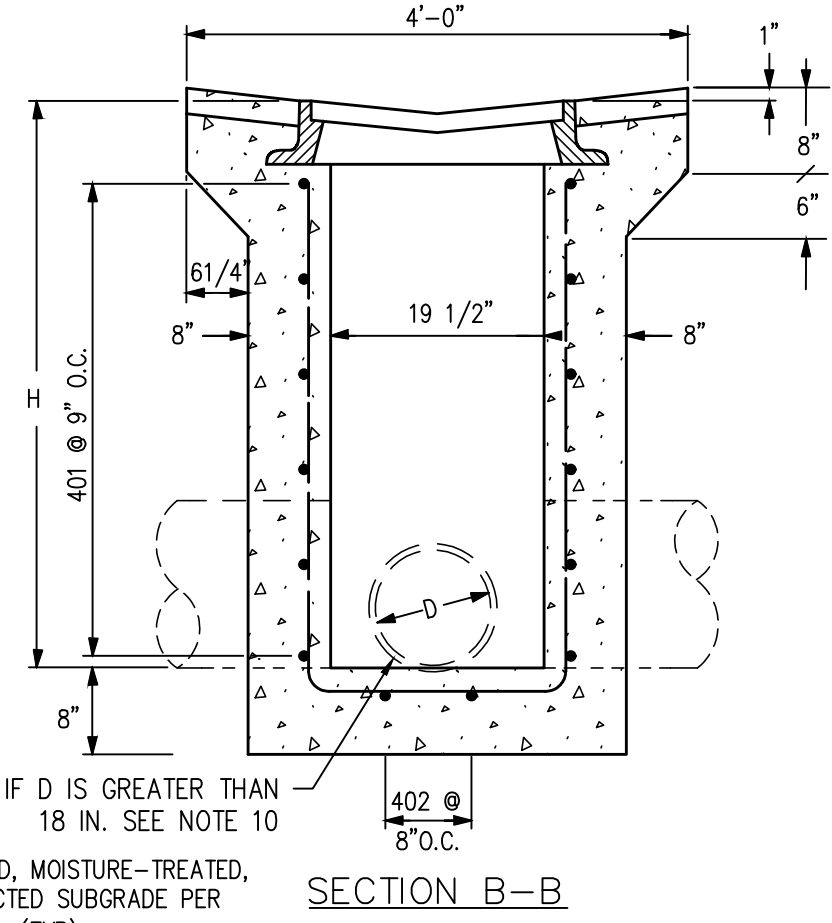
PLAN VIEW  
SINGLE TYPE 13 INLET



SECTION A-A



PLAN VIEW  
DOUBLE TYPE 13 INLET

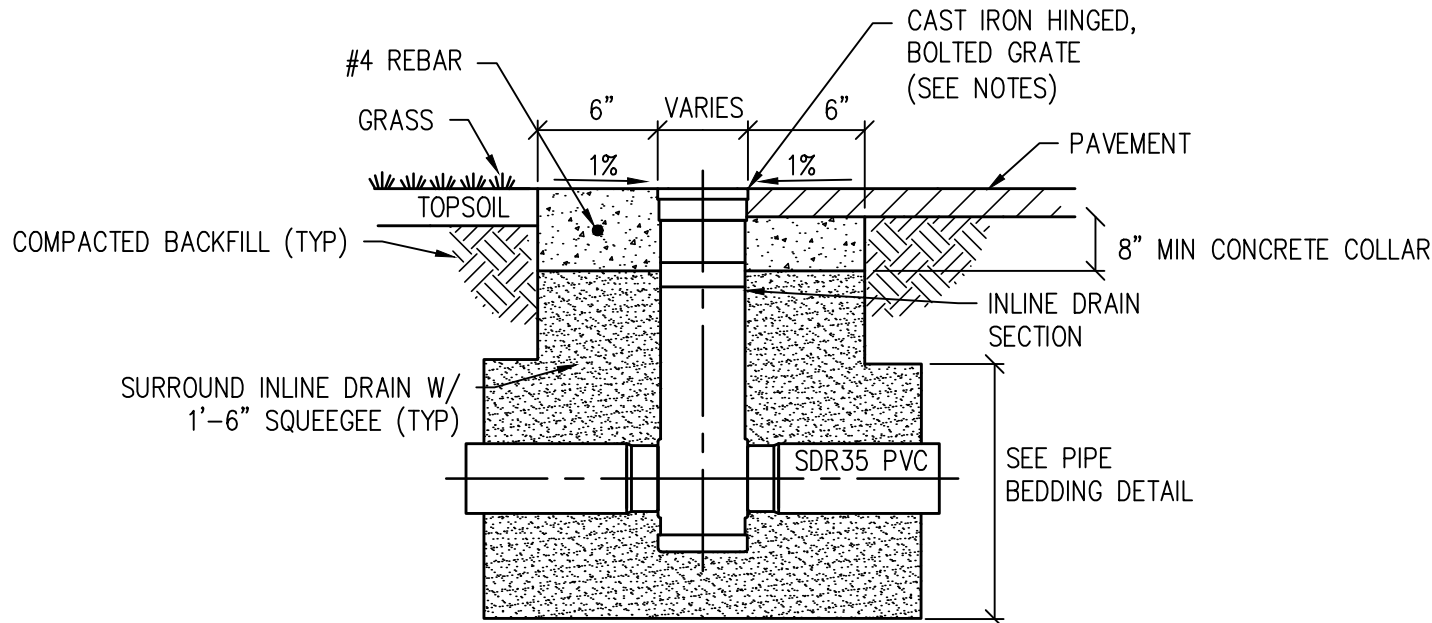


SECTION B-B

VALLEY INLET DETAIL

NTS

4  
C1.7

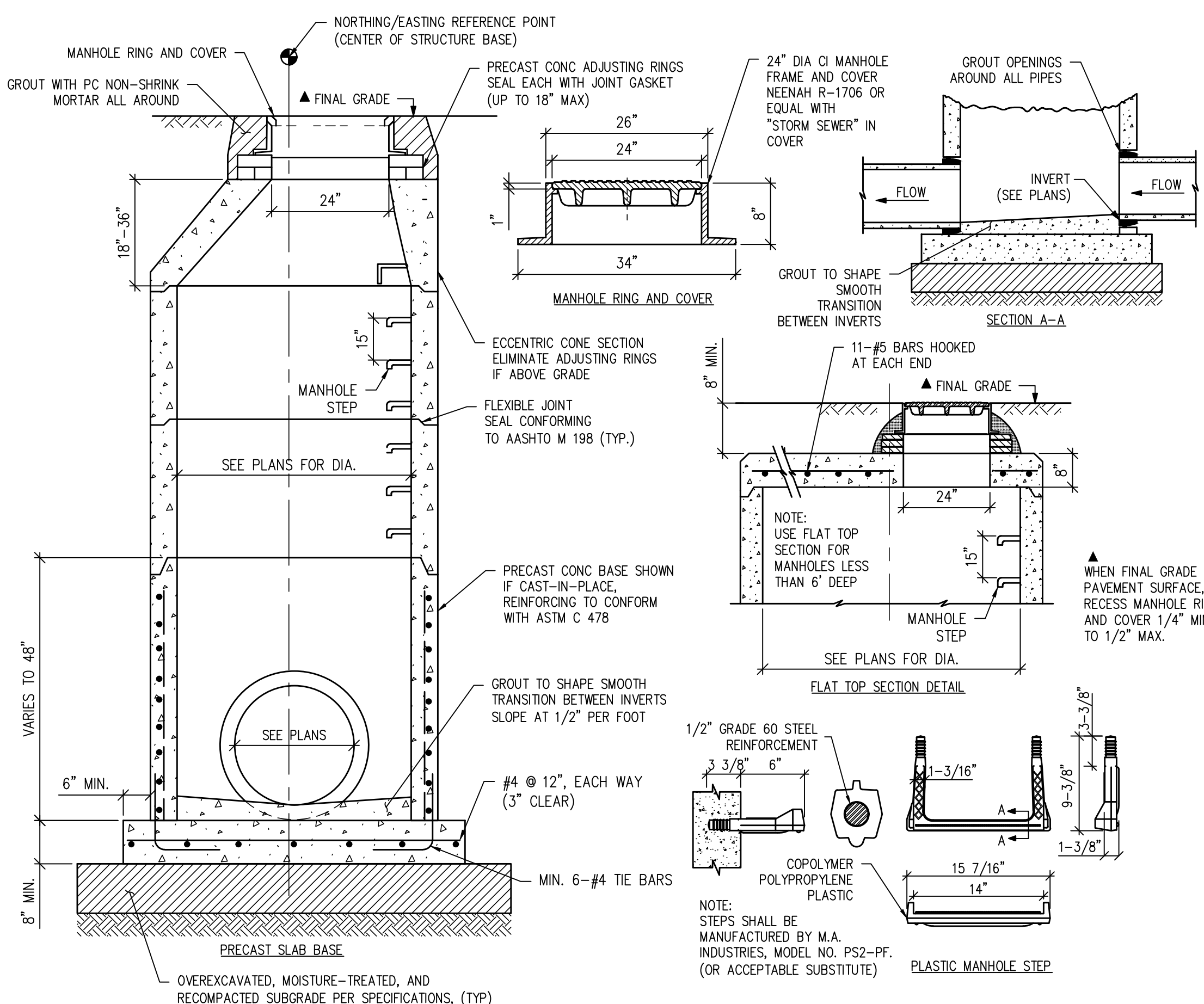


12", 15", 18" OR 24" NYLOPLAST DRAIN  
(SEE PLANS FOR SIZE)

- NOTES:
1. AREA DRAIN COVER TO BE NYLOPLAST CAST HS-20 RATED BOLTED AND HINGED GRATE OR APPROVED EQUAL IN TRAFFIC AREAS.
  2. AREA DRAIN INLETS IN PEDESTRIAN AREAS SHALL BE INSTALLED WITH PEDESTRIAN RATED GRATES (1/4" MAX OPENING, TYPICAL).

AREA DRAIN DETAIL

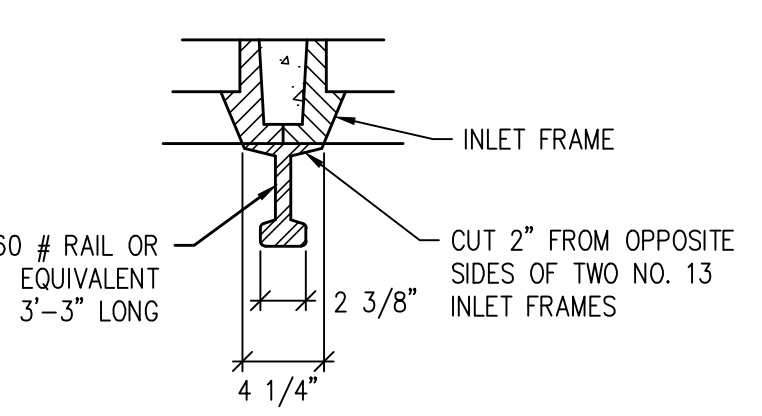
2  
C1.7



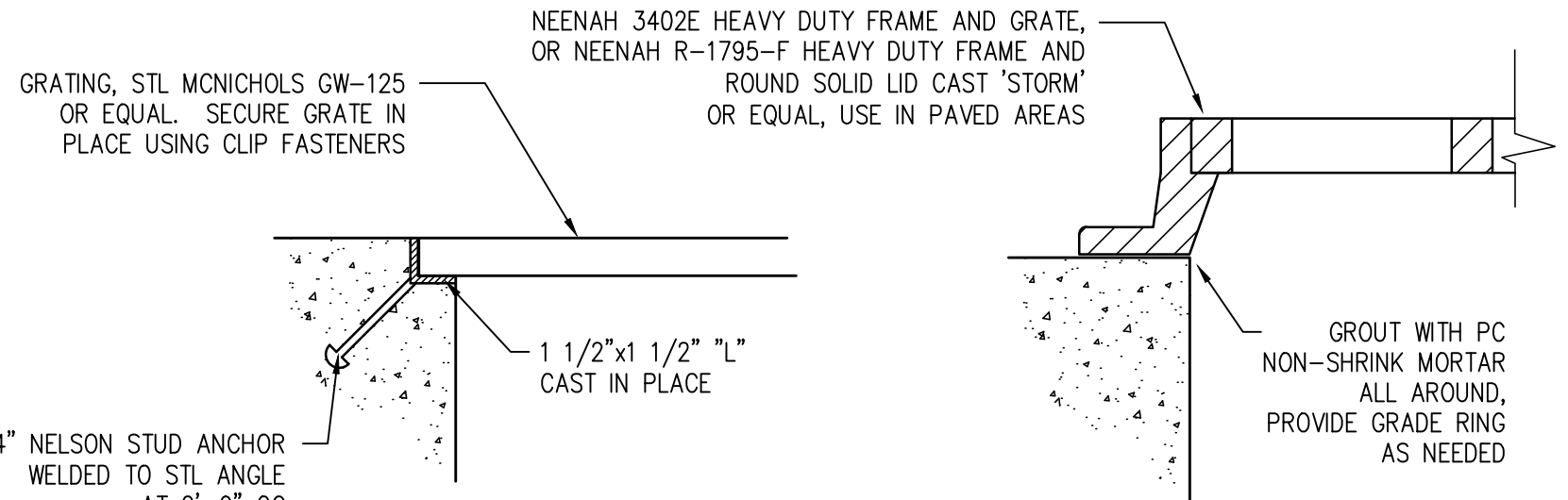
STORM MANHOLE DETAIL

NTS

3  
C1.7

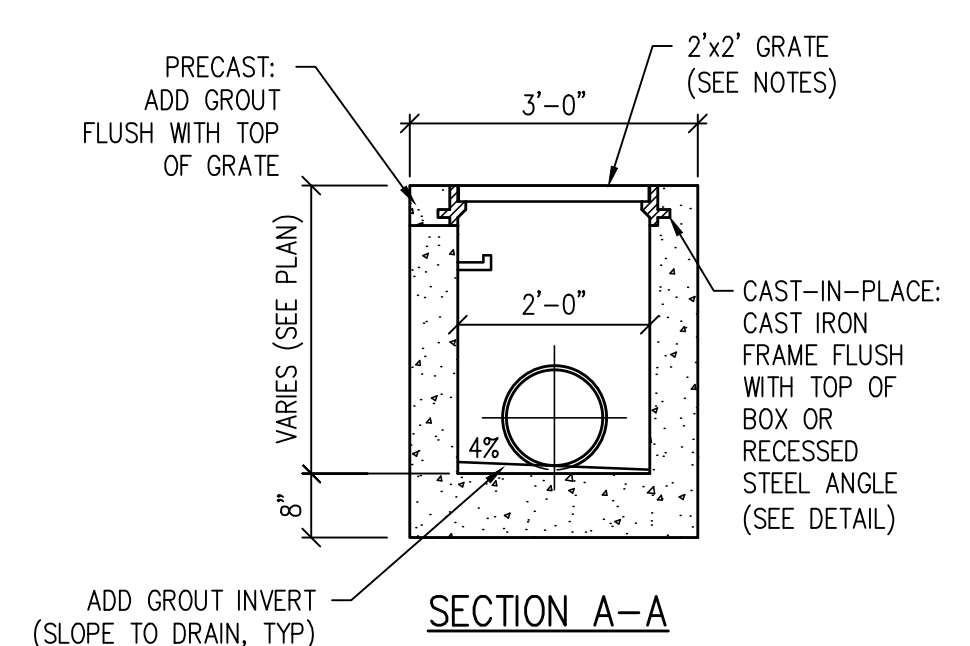


RAIL DETAIL

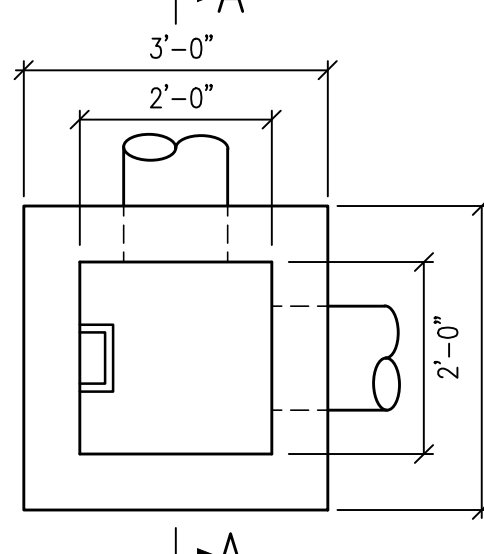


GRATING DETAIL FIELD

GRATING/LID DETAIL PAVEMENT



SECTION A-A



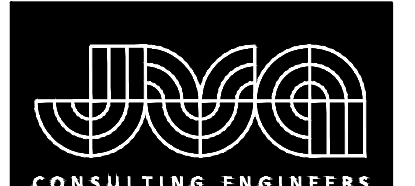
PLAN OF BOX INLET

- NOTES:
1. CONCRETE SHALL BE CDOT CLASS B. INLET MAY BE CAST-IN-PLACE OR PRECAST AND SHALL CONFORM TO ASTM C478. PRECAST BOX IS SHOWN.
  2. CAST-IN-PLACE CONCRETE WALLS SHALL BE 6" MIN THICKNESS WITH 3/4" CHAMFERED EDGES.
  3. ALL WALLS AND BASE SHALL BE REINFORCED WITH #4'S @ 8" OC EACH WAY. REINFORCING BARS SHALL BE DEFORMED AND SHALL HAVE A 2" MIN CLEARANCE.
  4. WHERE INLET IS INSTALLED IN TRAFFIC AREAS, ALL GRATES AND FRAMES SHALL BE GRAY OR DUCTILE CAST IRON CONFORMING TO CDOT 712.06. GRATES AND FRAMES SHALL BE DESIGNED TO WITHSTAND HS20 LOADING.
  5. USE NEENAH 3402E CAST GRATING OR ACCEPTED SUBSTITUTE.
  6. SEE PLAN FOR LOCATION AND SIZE OF PIPE. WHERE INLET IS INSTALLED IN PEDESTRIAN AREAS, A PEDESTRIAN/ADA GRATE SHALL BE USED (MAX 1/4" OPEN SPACING, IRONSMITH GRAY CAST GRATE 9032DR-24, MCNICHOLS GCM-1-125 METAL BAR GRATING W/ CLIPS, OR ACCEPTED SUBSTITUTE)
  7. WHEN CONCRETE OR BITUMINOUS PAVING IS TO EXTEND TO THE EDGE OF THE INLET, USE NEENAH 3402E HEAVY DUTY FRAME AND GRATE, OR NEENAH R-1795-F HEAVY DUTY FRAME AND ROUND SOLID LID CAST 'STORM' OR EQUAL, REFER TO PLANS.
  8. PROVIDED EMBEDDED PLASTIC LADDER STEPS AT 18" VERTICAL SPACING FOR INLETS DEEPER THAN 4'. SEE PLASTIC STEP DETAIL.

2'x2' INLET DETAIL

NTS

5  
C1.8



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Boulder, CO 80302 303.444.1951  
www.jvajva.com  
Boulder • Fort Collins • Winter Park  
Glenwood Springs • Denver

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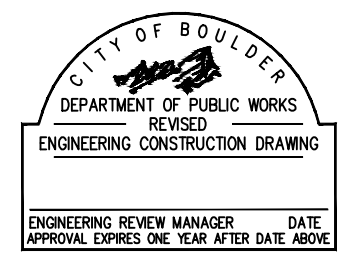
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PROJECT NUMBER: 2462.2c

AMP/WDD

CHECKED BY: DIB

DESCRIPTION: GRADING AND  
DRAINAGE DETAILS



CITY OF BOULDER PUBLIC WORKS DEPARTMENT RECOMMENDATION FOR APPROVAL	
WATER/SEWER	_____
TRANSPORTATION	_____
DRAINAGE	_____

CD1.0

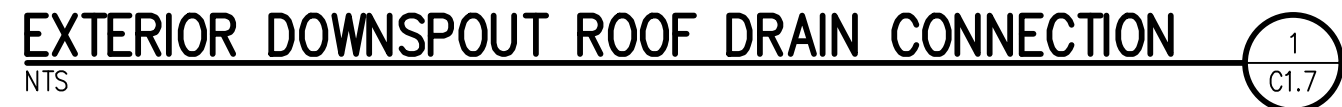
#	DATE	REVISION
1	5/28/2019	FIRST SUBMITTAL
2	10/21/2019	SECOND SUBMITTAL
3	12/02/2019	THIRD SUBMITTAL

PROJECT NUMBER: 2462.2c

AMP/WDD

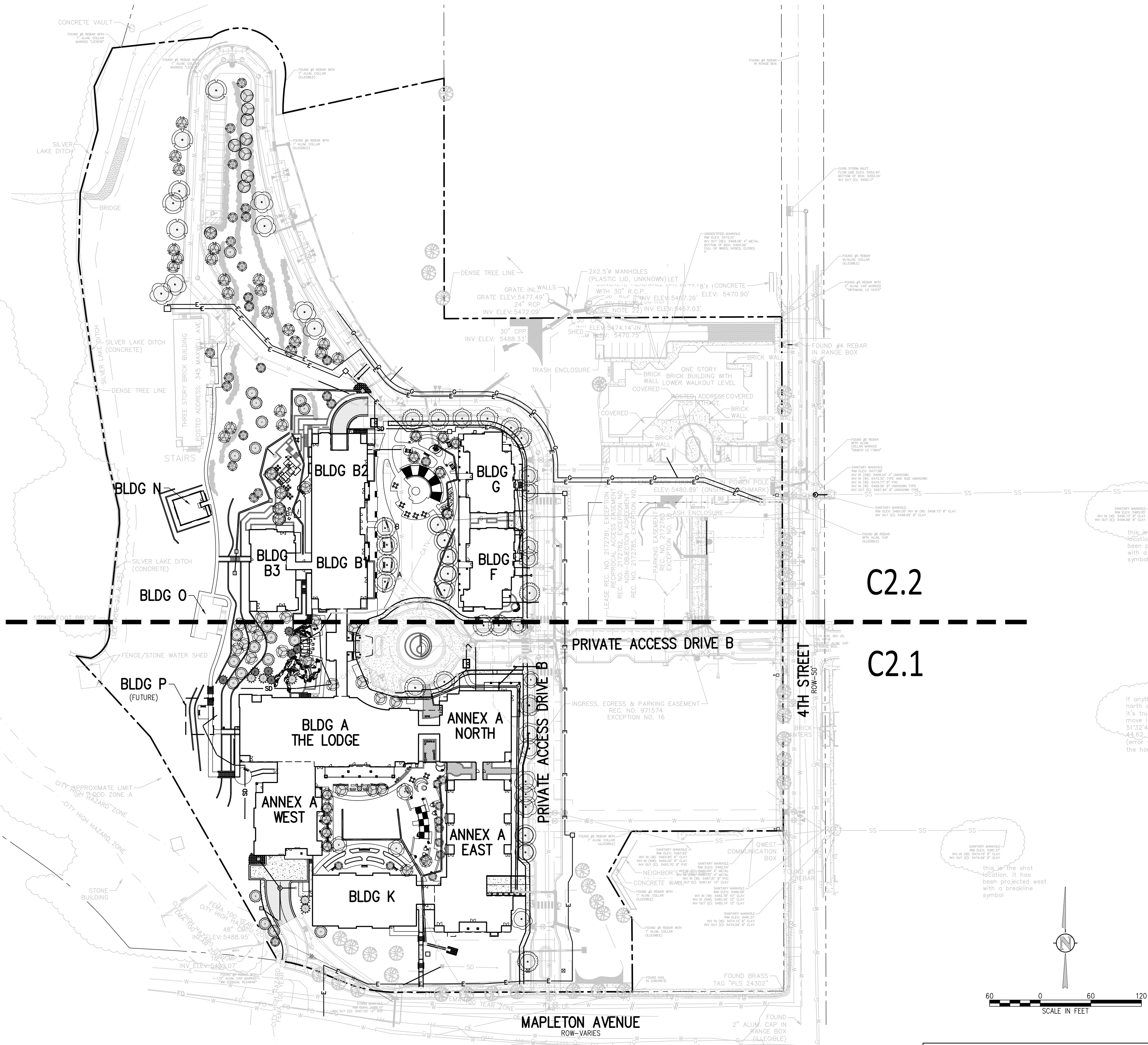
CHECKED BY: DIB

DESCRIPTION: GRADING AND  
DRAINAGE DETAILS



**NOTE:**

1. CONCRETE SHALL BE 4000 PSI @ 28 DAYS W/ FIBERESH. TRENCH DRAIN SHALL BE CAST-IN-PLACE CONCRECRE TO ASTM C-478.
2. GRATE AND FRAME SHALL BE DESIGNED TO WITHSTAND HS 20 LOADING.
3. SEE PLAN FOR LOCATION, LENGTH, INVERTS OF TRENCH AND OUTLET INVERT.
4. TRENCH DRAIN SHALL BE ACO, NEEENAH, OR APPROVED EQUAL.
5. TRENCH DRAIN SHALL NOT CONTAIN SECTION OF ZERO SLOPE.
6. INSTALL TO MANUFACTURERS SPECIFICATIONS AND MINIMUM SPECIFICATIONS PER THIS DETAIL.
7. PROVIDE FITTINGS AS REQUIRED TO CONNECT TO STORM SEWER.
8. PROVIDE 12" RADIUS TRANSITION CURB AND GUTTER TO ZERO SLOPE WITHIN 5' OF TRENCH DRAIN AND EXTEND TOP FLOWLINE.



**UTILITY NOTES:**

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2. ALL DRY UTILITY AND ELECTRIC SERVICES ARE PROVIDED BY OTHERS AND SHOWN FOR REFERENCE ONLY. SEE MEP PLANS AND SPECIFICATIONS AND COORDINATE WITH ALL UTILITY OWNERS AS NEEDED.
3. CONTRACTOR TO MARK ALL UTILITY STUBS WITH MARKERS.
4. SEE MEP PLANS FOR SS CLEANOUTS AT BUILDINGS

CITY OF BOULDER  
DEPARTMENT OF PUBLIC WORKS  
REVISOR  
ENGINEERING CONSTRUCTION DRAWING

ENGINEERING REVIEW MANAGER DATE  
APPROVAL EXPIRES ONE YEAR AFTER DATE ABOVE

CITY OF BOULDER  
PUBLIC WORKS DEPARTMENT  
RECOMMENDATION FOR APPROVAL  
WATER/SEWER  
TRANSPORTATION  
DRAINAGE

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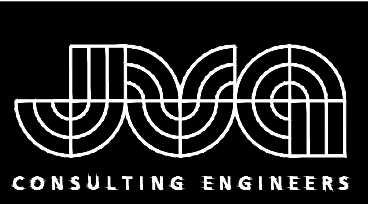
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THE ACADEMY  
ON MAPLETON HILL  
311 MAPLETON AVENUE  
BOULDER, COLORADO 80304

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3	12/02/2019	THIRD SUBMITTAL

PROJECT NUMBER: 2462.2c  
AMP/WDD  
CHECKED BY: DIB  
DESCRIPTION: OVERALL UTILITY PLAN



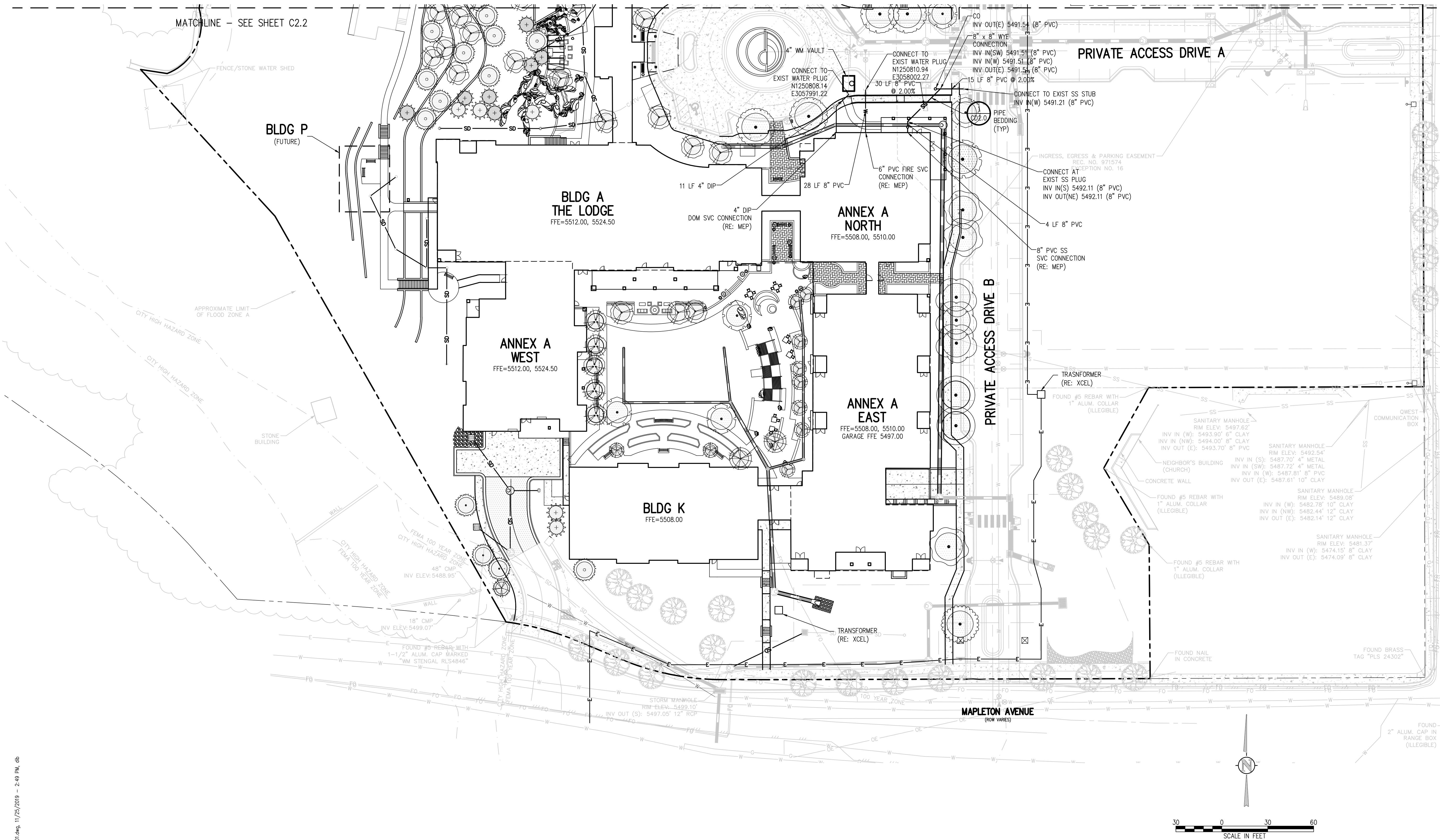
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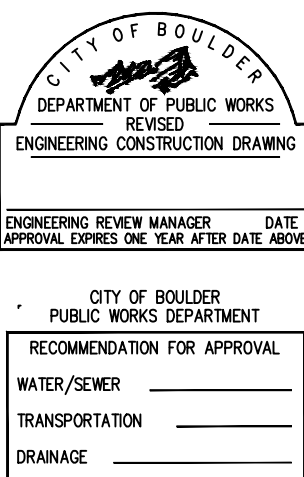
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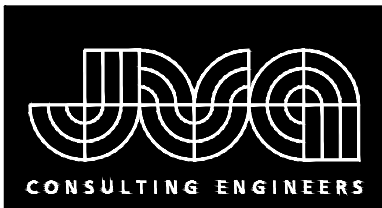
PROJECT NUMBER: 2462.2c  
AMP/WDD  
CHECKED BY: DIB  
DESCRIPTION: DETAILED UTILITY PLAN



UTILITY NOTES:

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- CONTRACTOR TO MARK ALL UTILITY STUBS WITH MARKERS.
- SEE MEP PLANS FOR SS CLEANOUTS AT BUILDINGS





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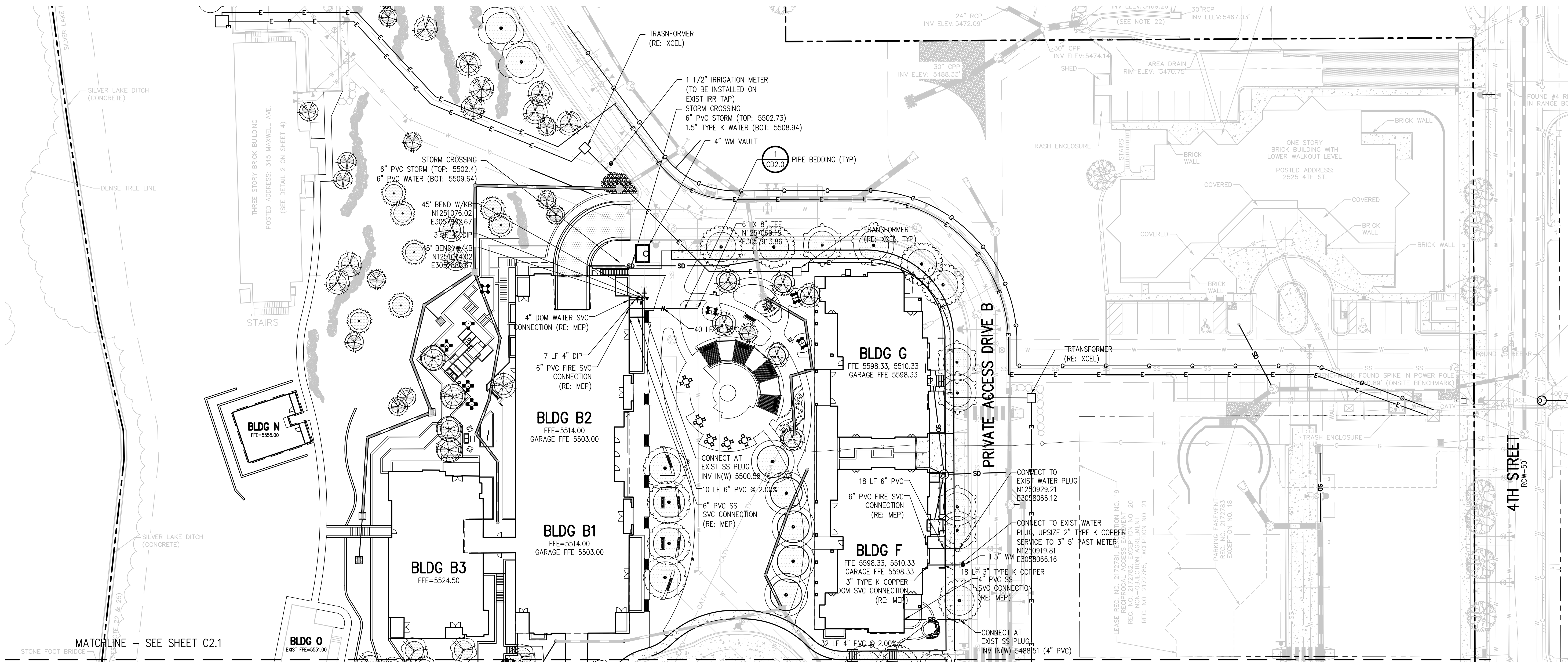
THE ACADEMY  
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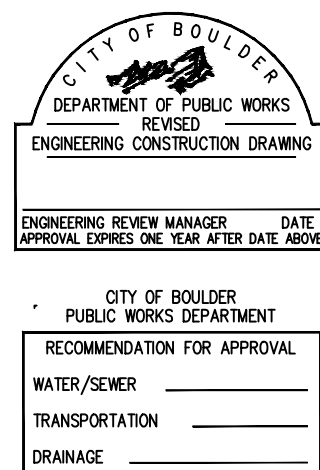
PROJECT NUMBER: 2462.2c  
AMP/WDD  
CHECKED BY: DIB  
DESCRIPTION: DETAILED UTILITY PLAN

C2.2



UTILITY NOTES:

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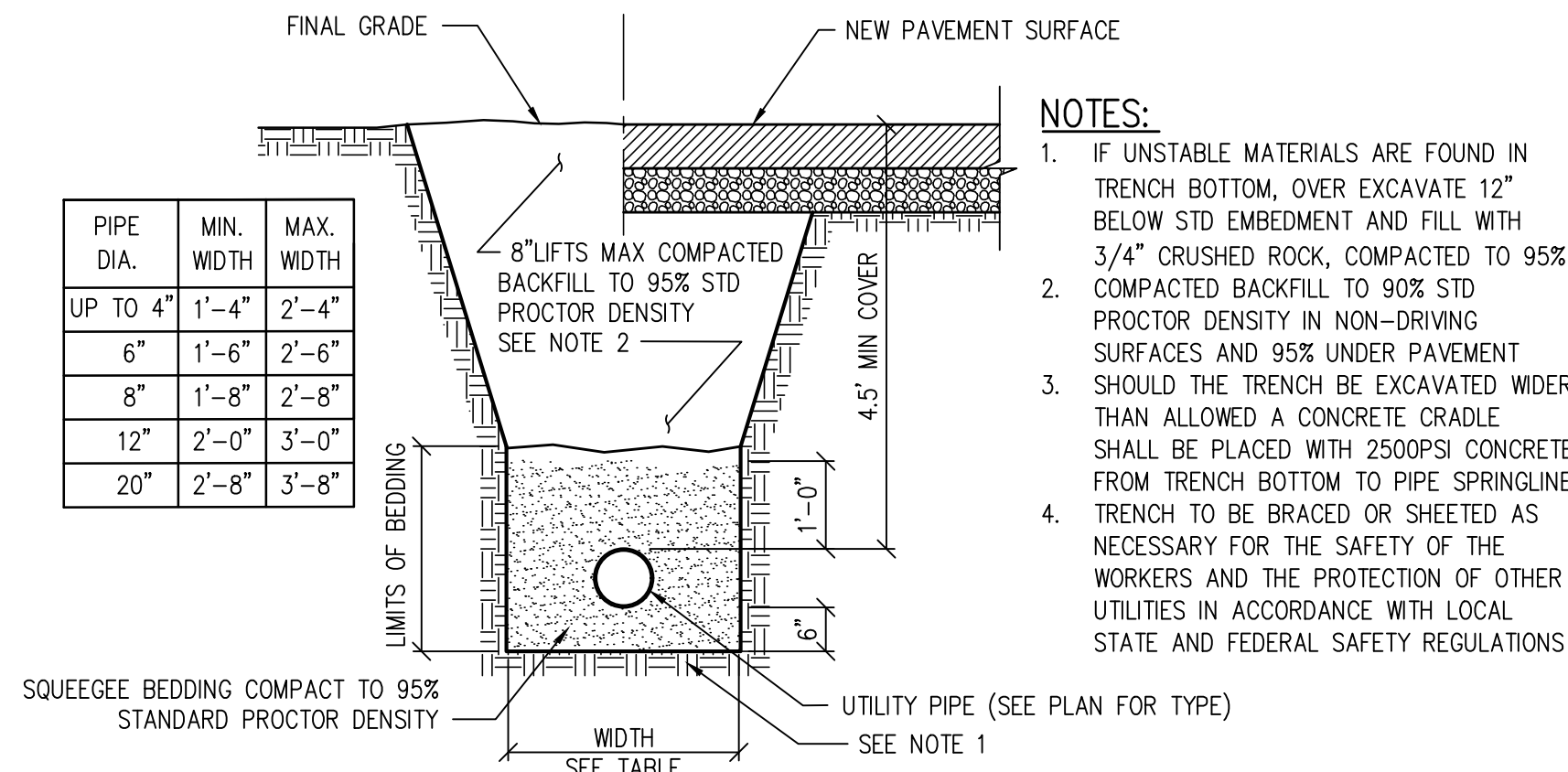
**THE ACADEMY  
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BOULDER, COLORADO 80304**

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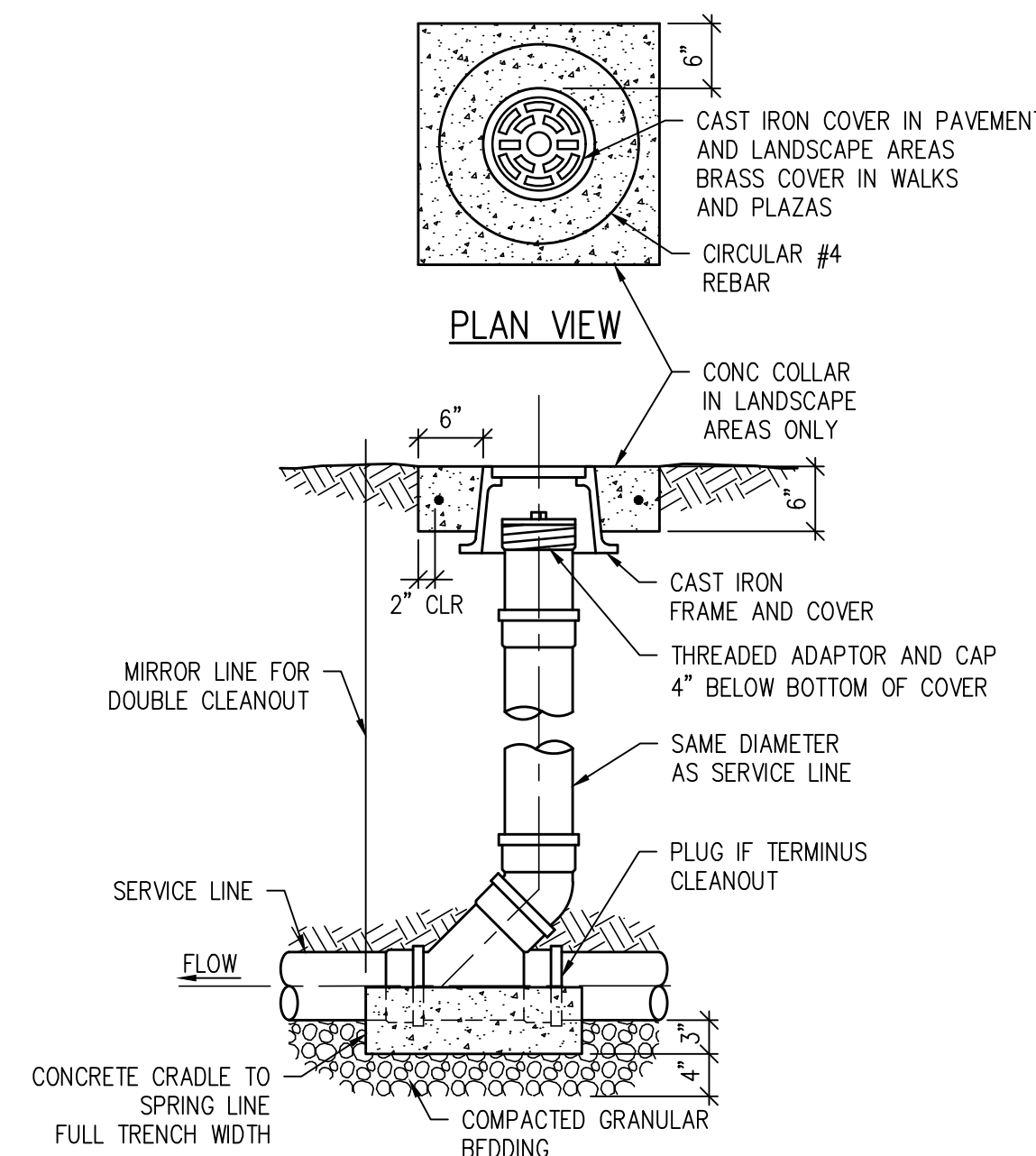
CITY OF BOULDER  
PUBLIC WORKS DEPARTMENT

RECOMMENDATION FOR APPROVAL	
WATER/SEWER	_____
TRANSPORTATION	_____
DRAINAGE	_____

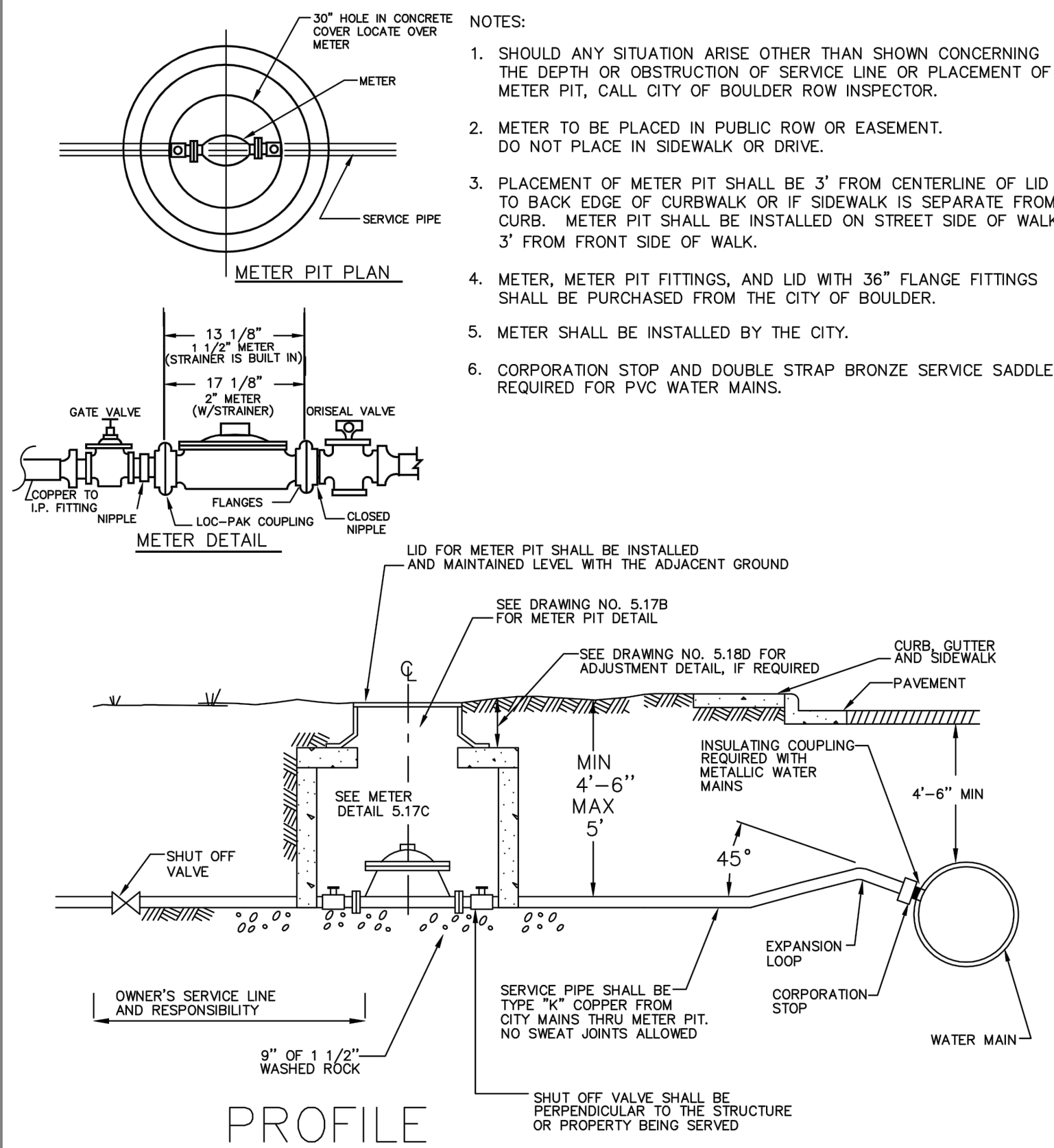
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**SANITARY SEWER & WATER PIPE BEDDING DETAIL**

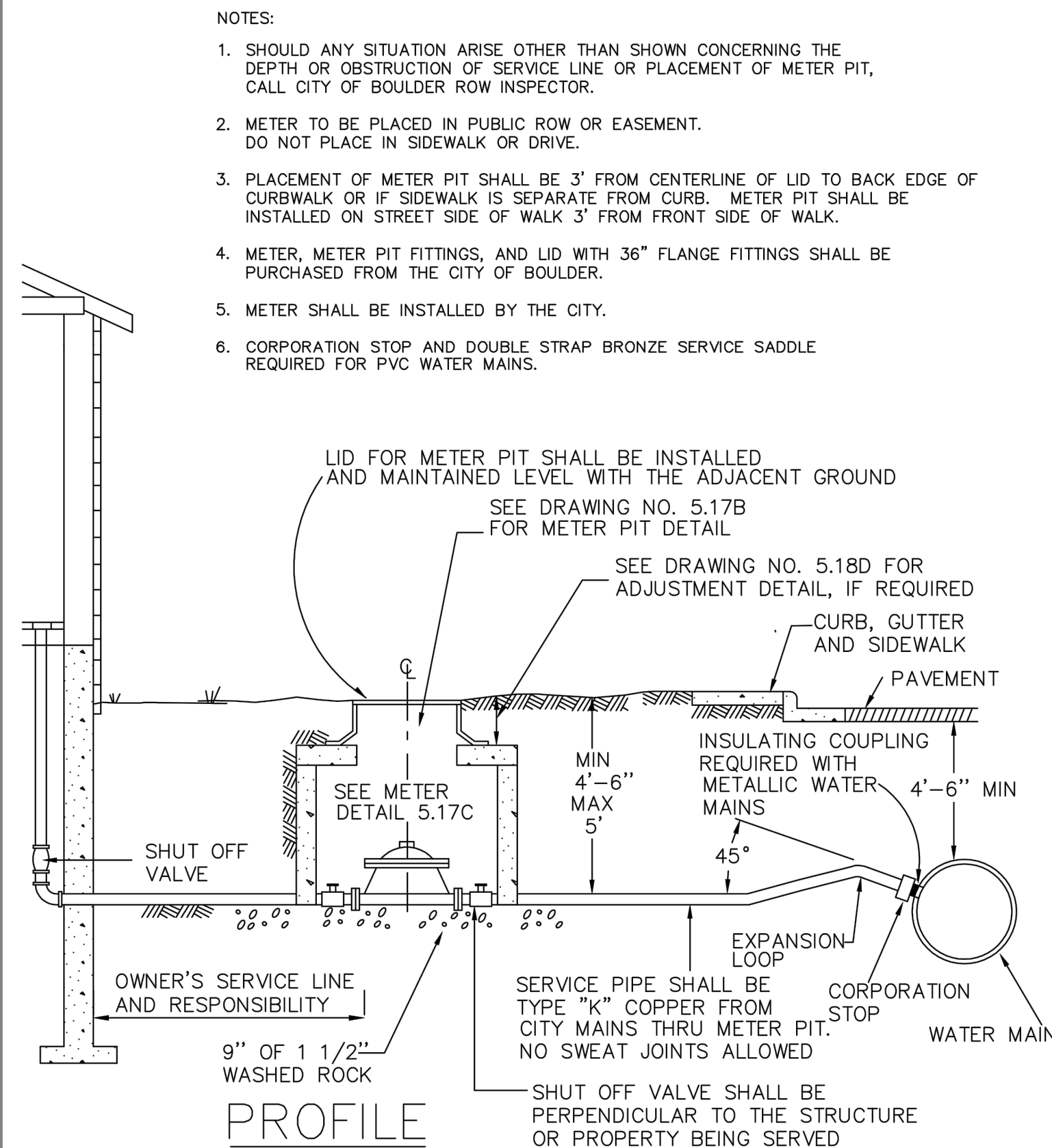


**SANITARY CLEANOUT DETAIL**



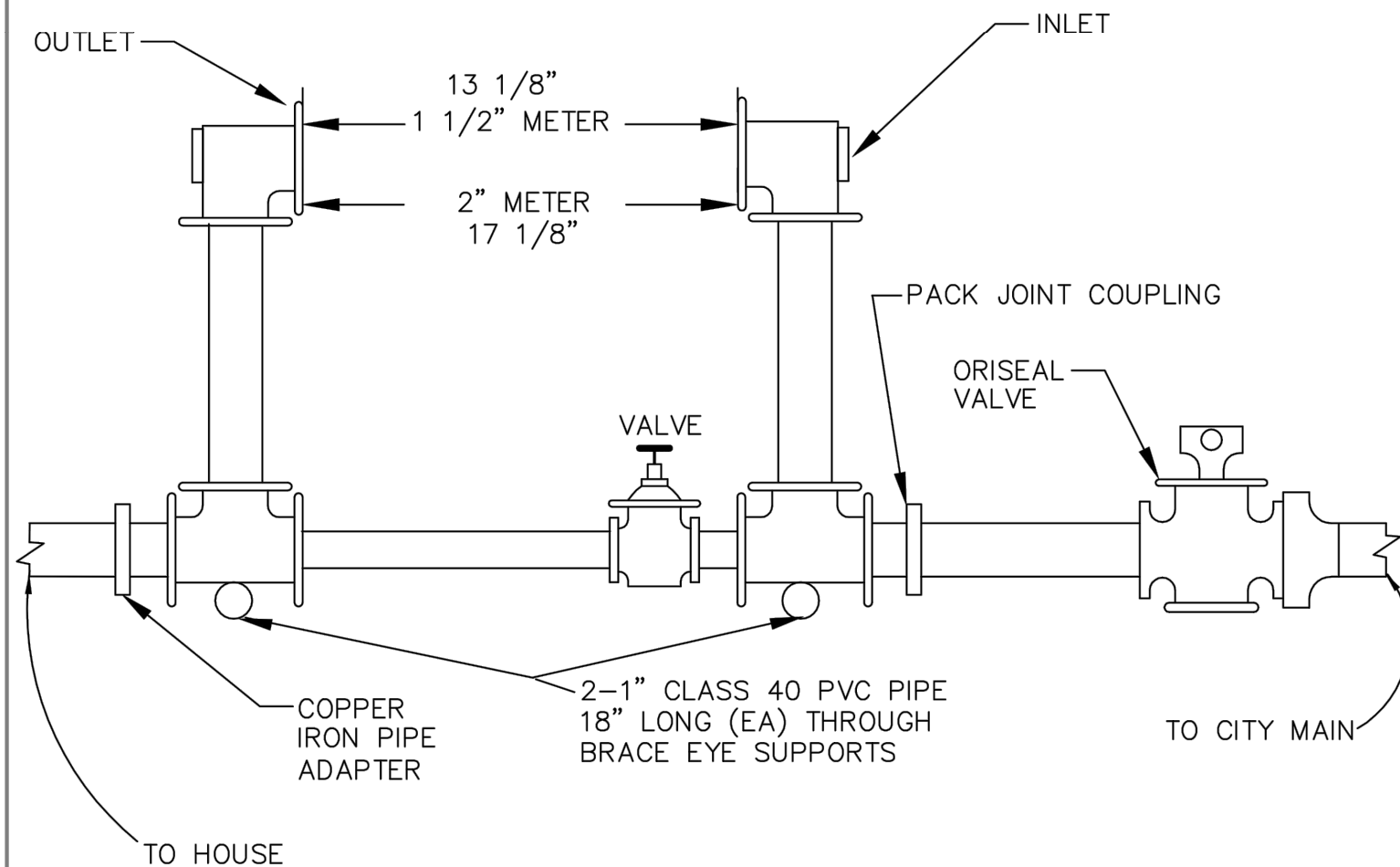
## PROFILE

DRAWN BY: CSM CHECKED BY: RJH  APPROVED BY: DIRECTOR OF PUBLIC WORKS	CITY OF BOULDER, COLORADO STANDARD 1 1/2" - 2" IRRIGATION SERVICE	ISSUED: JUNE 9, 2000 REVISED: OCT. 17, 2000  DRAWING NO. 5.17D
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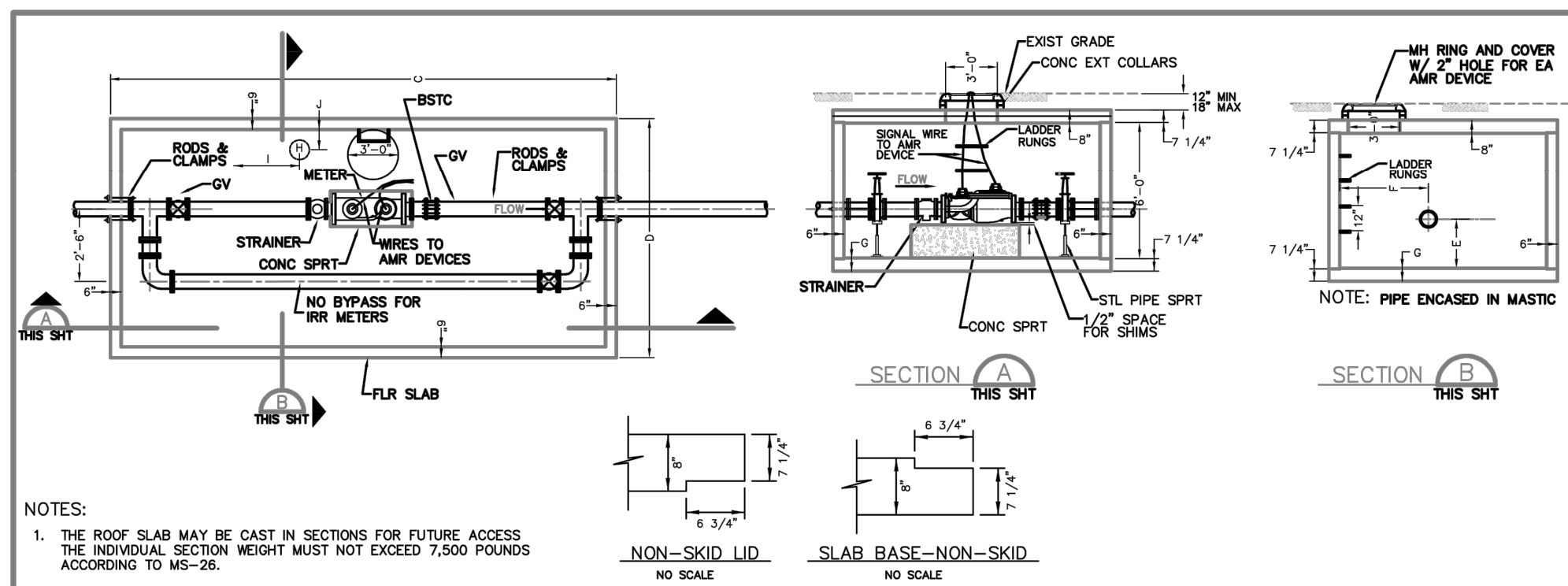
## PROFILE

DRAWN BY: JSH CHECKED BY: RJH  APPROVED BY: DIRECTOR OF PUBLIC WORKS	CITY OF BOULDER, COLORADO  STANDARD 1 1/2" - 2" SERVICE	ISSUED: JULY 2, 1998 REVISED: OCT. 17, 2000  DRAWING NO. 5.17A
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## METER DETAIL

DRAWN BY: JSH CHECKED BY: RJH  APPROVED BY: DIRECTOR OF PUBLIC WORKS	CITY OF BOULDER, COLORADO  STANDARD 1 1/2" - 2" METER SETTING	ISSUED: JULY 2, 1998 REVISED: OCT. 17, 2000
		DRAWING NO. 5.17C



NOTES:

1. THE ROOF SLAB MAY BE CAST IN SECTIONS FOR FUTURE ACCESS. THE INDIVIDUAL SECTION WEIGHT MUST NOT EXCEED 7,500 POUNDS ACCORDING TO MS-26.
2. THE DISTANCE BETWEEN RUNS, CLEATS AND STEPS SHALL NOT EXCEED 12 INCHES AND SHALL BE UNIFORM THROUGHOUT THE LENGTH OF THE LADDER.
3. EACH METER REQUIREMENT REQUIRES AN ELECTRONIC DIGITAL ENCODER OR MECHANICALLY ENCODED REGISTER WITH AMR DEVICES EXCEPT FOR MASTER METER DISTRIBUTORS. THE CITY OF BOLDER WILL DETERMINE THE TYPE OF AMR DEVICES AND LOCATION PRIOR TO VALVE INSTALLATION.
4. ALL VALVES MUST BE NON RISING STEM RIGHT HAND OPEN VALVES.
5. STRAINER TO BE USED ONLY ON TURBINE METERS.
6. ALL VALVES MUST HAVE STEEL PIPE SUPPORTS.

NOTE:  
VAULTS ARE PRECAST TO DIMENSION IN CHART

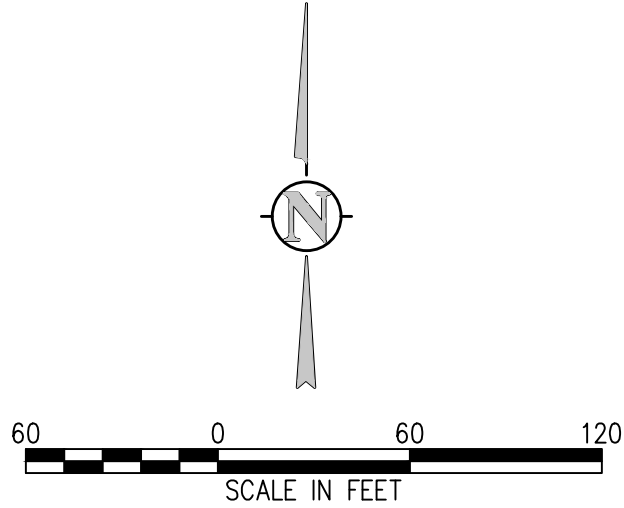
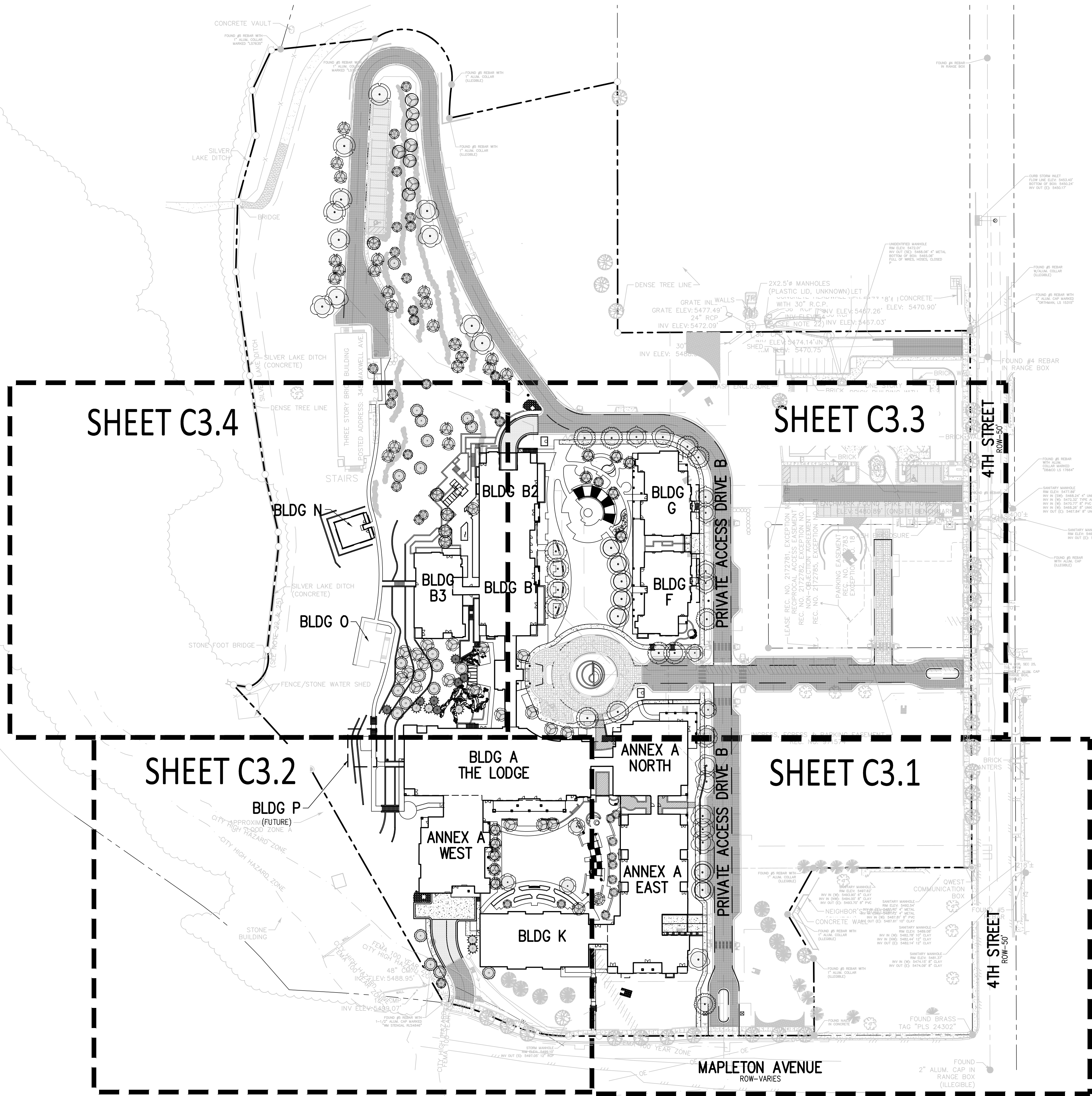
DRAWN BY: CSM CHECKED BY: RJH  APPROVED BY: DIRECTOR OF PUBLIC WORKS	CITY OF BOULDER, COLORADO LARGE METER IN PRECAST VAULT 3" OR LARGER	ISSUED: JULY 2, 1998 REVISED: June 1, 2019
		DRAWING NO. 5 18A

CITY OF BOULDER, COLORADO  
LARGE METER IN  
PRECAST VAULT  
3" OR LARGER

ISSUED: JULY 2, 1998  
REVISED: June 1, 2019

DRAWING NO.  
5.18A

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**HORIZONTAL CONTROL NOTES:**

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- CONTRACTOR TO REPAIR/REPLACE ALL DAMAGE TO EXISTING FLATWORK OR SITE FEATURES NOT INTENDED FOR DEMOLITION.
- REFER TO GRADING AND DRAINAGE PLAN FOR FURTHER INFORMATION PERTAINING TO CURB & GUTTER, CHASES, AND DRAINAGE PANS.

CITY OF BOULDER  
DEPARTMENT OF PUBLIC WORKS  
REVISOR  
ENGINEERING CONSTRUCTION DRAWING

ENGINEERING REVIEW MANAGER DATE  
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RECOMMENDATION FOR APPROVAL

WATER/SEWER \_\_\_\_\_  
TRANSPORTATION \_\_\_\_\_  
DRAINAGE \_\_\_\_\_

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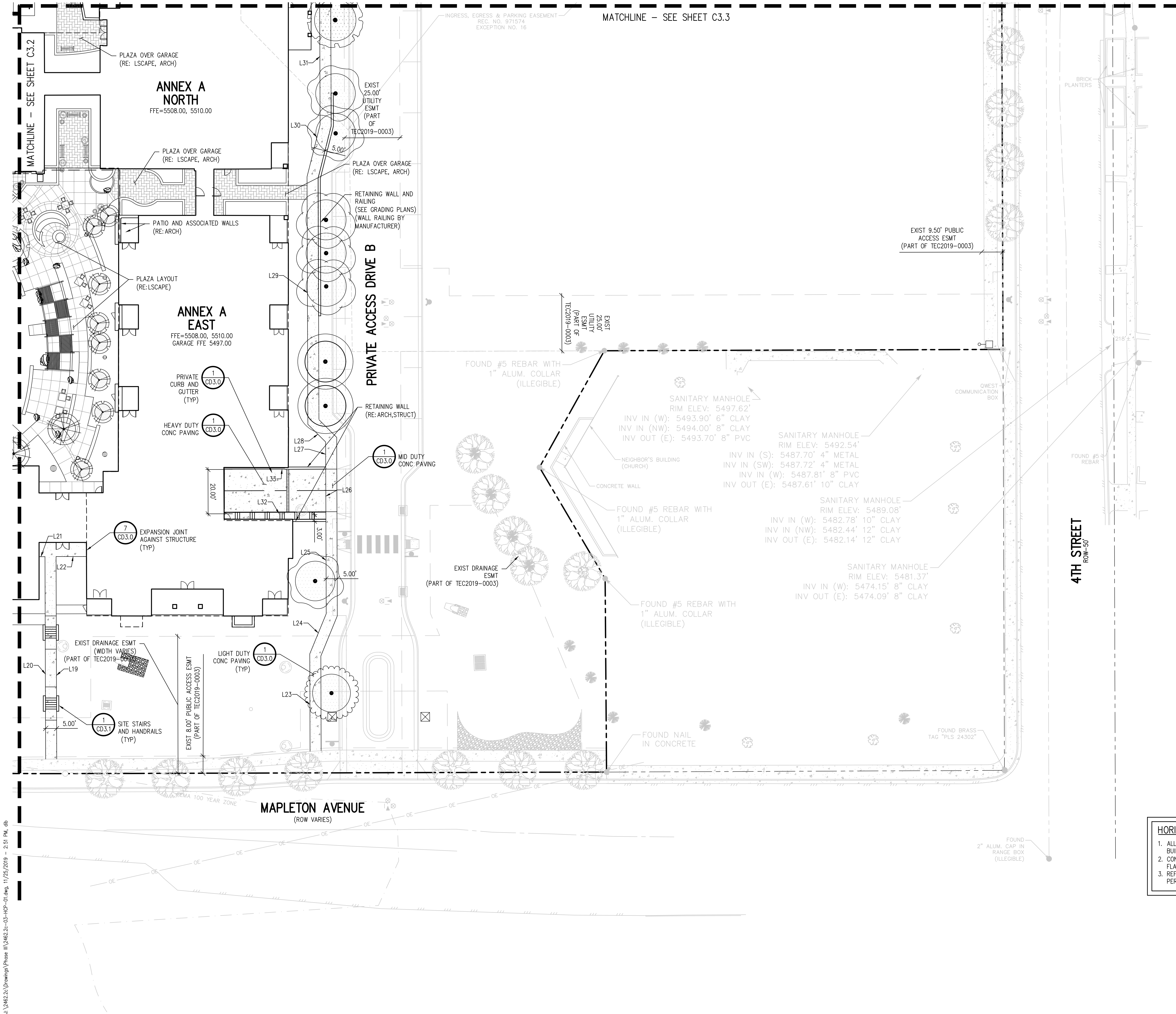
**THE ACADEMY  
ON MAPLETON HILL**  
311 MAPLETON AVENUE  
BOULDER, COLORADO 80304

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3	12/02/2019	THIRD SUBMITTAL

PROJECT NUMBER: 2462.2c  
AMP/WDD  
CHECKED BY: DIB  
DESCRIPTION:  
OVERALL HORIZONTAL  
CONTROL PLAN

**C3.0**



**THE ACADEMY  
ON MAPLETON HILL**  
311 MAPLETON AVENUE  
BOULDER, COLORADO 80304

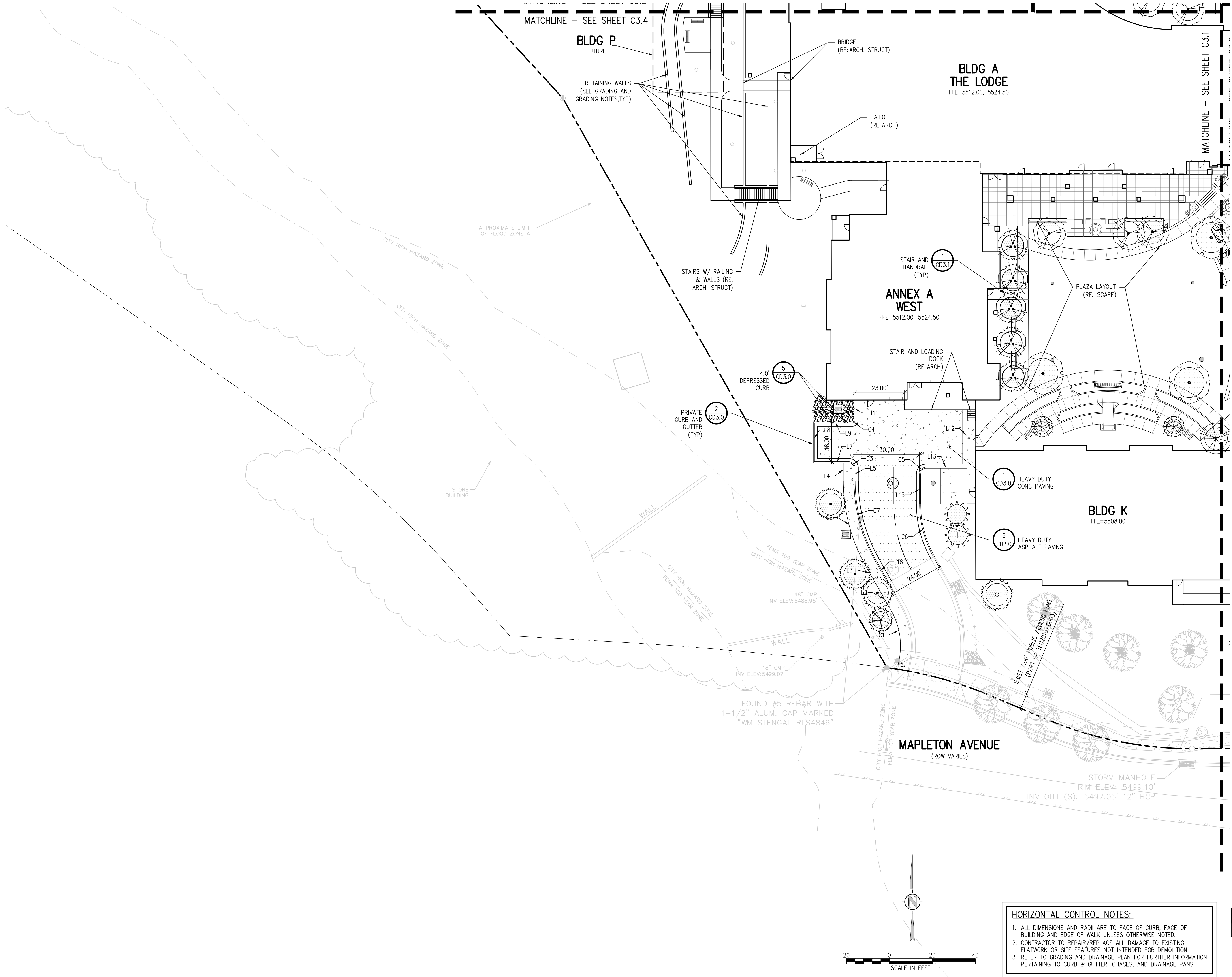
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PROJECT NUMBER: 2462.2c  
AMP/WDD  
CHECKED BY: DIB  
DESCRIPTION:  
DETAILED HORIZONTAL  
CONTROL PLAN

C3.1

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THE ACADEMY  
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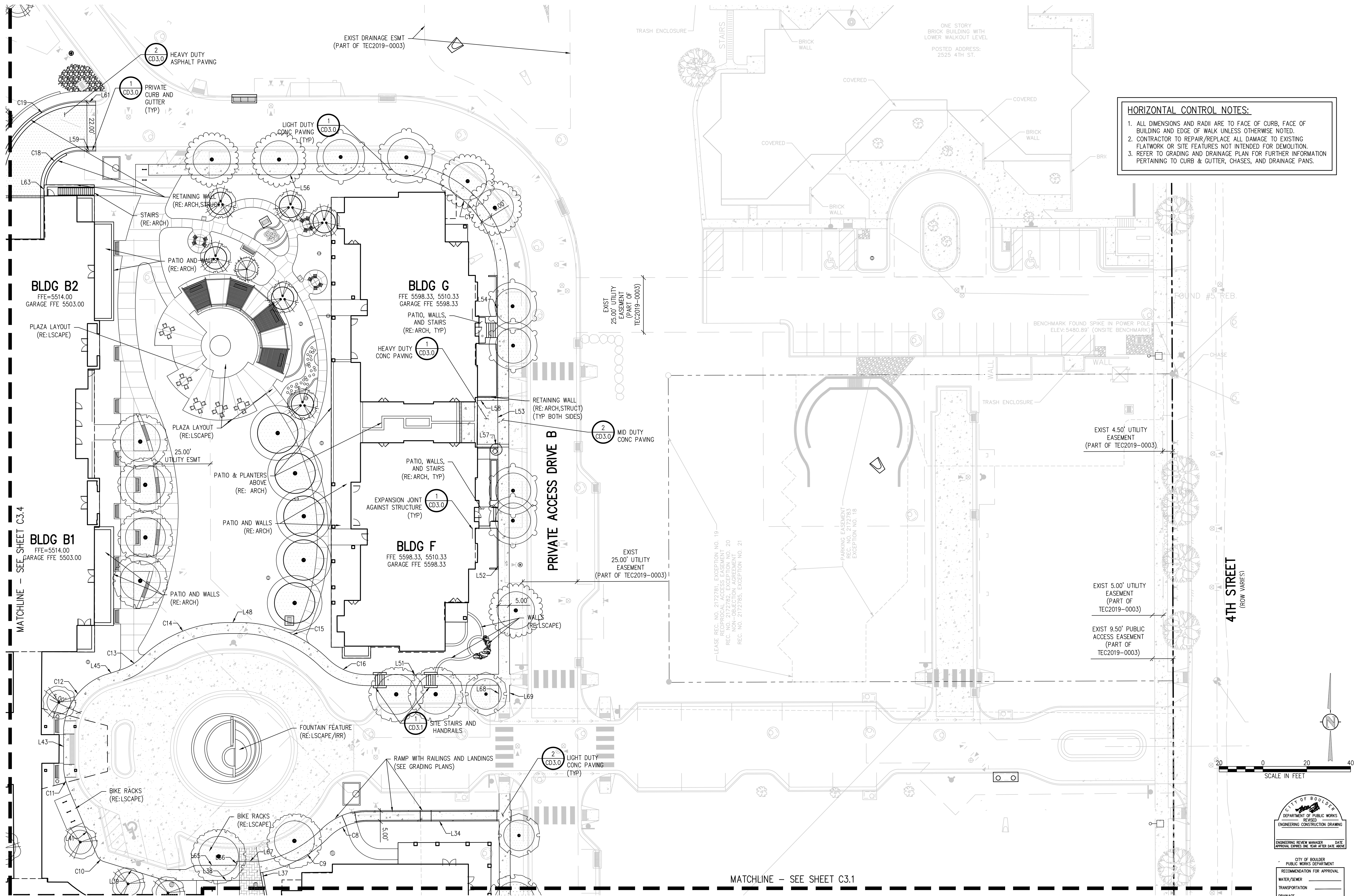
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PROJECT NUMBER: 2462.2c  
AMP/WDD  
CHECKED BY: DIB  
DESCRIPTION:  
DETAILED HORIZONTAL  
CONTROL PLAN

C3.2

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**HORIZONTAL CONTROL NOTES:**

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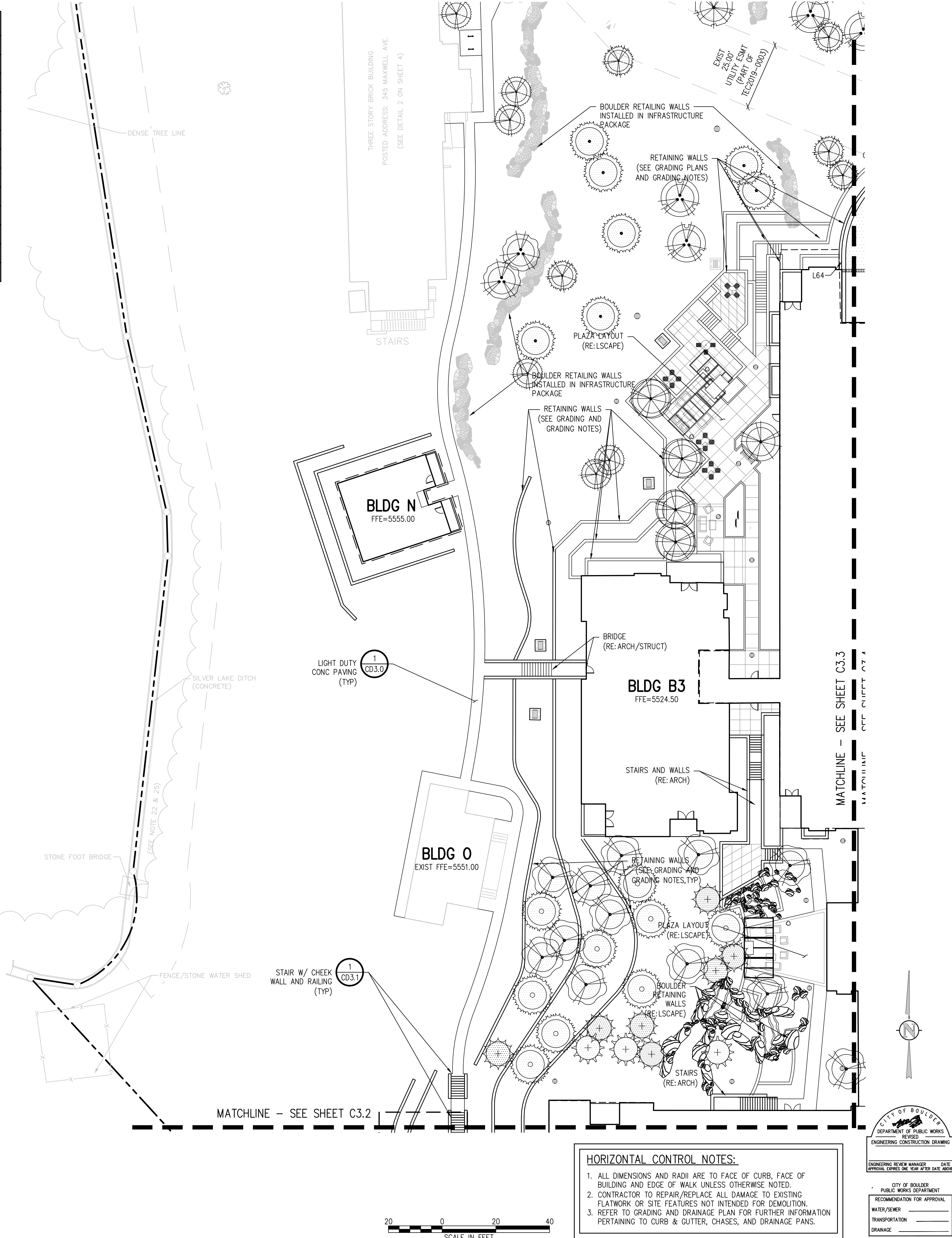
PROJECT NUMBER: 2462.2c  
AMP/WDD  
CHECKED BY: DIB  
DESCRIPTION:  
DETAILED HORIZONTAL  
CONTROL PLAN

LINE TABLE			
LINE	LENGTH	DIRECTION	START (N, E)
L1	3.51	S10° 29' 45"W	(1250467.77, 3057773.20)
L2	12.40	S29° 30' 00"E	(1250500.38, 3057763.41)
L3	12.18	S29° 30' 00"E	(1250510.98, 3057757.41)
L4	8.70	S0° 00' 00"E	(1250558.83, 3057747.10)
L5	6.20	S0° 00' 00"E	(1250556.33, 3057752.60)
L7	16.00	N90° 00' 00"E	(1250559.33, 3057733.60)
L8	18.00	S0° 00' 00"E	(1250577.33, 3057733.60)
L9	17.89	N90° 00' 00"W	(1250577.33, 3057751.49)
L11	9.68	S0° 00' 00"E	(1250588.01, 3057752.49)
L12	26.80	S0° 00' 00"E	(1250583.51, 3057804.21)
L13	18.60	N90° 00' 00"W	(1250556.71, 3057804.21)
L15	14.19	S0° 00' 00"E	(1250553.71, 3057782.60)
L18	12.18	S29° 30' 00"E	(1250513.69, 3057762.20)
L19	91.40	N0° 11' 47"W	(1250432.28, 3057939.99)
L20	91.43	N0° 11' 47"W	(1250432.25, 3057934.99)
L21	2.79	N89° 57' 11"W	(1250523.61, 3057934.68)
L22	13.80	S89° 57' 16"E	(1250523.68, 3057939.67)
L23	44.02	N0° 11' 47"W	(1250435.73, 3058054.32)
L24	19.60	N22° 18' 13"E	(1250479.74, 3058054.16)
L25	45.24	N0° 11' 47"W	(1250497.88, 3058061.60)

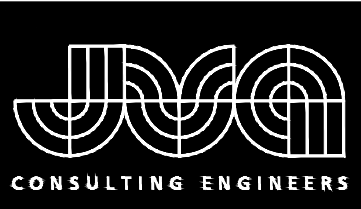
LINE TABLE			
LINE	LENGTH	DIRECTION	START (N, E)
L26	20.37	N0° 11' 47"W	(1250543.12, 3058061.45)
L27	11.88	N0° 11' 47"W	(1250563.49, 3058061.38)
L28	11.31	N45° 11' 47"W	(1250575.36, 3058061.34)
L29	111.73	N0° 11' 47"W	(1250583.34, 3058053.31)
L30	24.25	N14° 07' 40"E	(1250695.06, 3058052.93)
L31	84.28	N0° 11' 47"W	(1250718.58, 3058058.85)
L32	45.93	N89° 48' 13"E	(1250542.96, 3058015.52)
L33	45.86	N89° 48' 13"E	(1250562.96, 3058015.52)
L34	60.26	S89° 48' 13"W	(1250802.85, 3058058.56)
L37	3.60	S0° 11' 47"W	(1250779.44, 3057950.65)
L38	43.62	S89° 48' 13"W	(1250775.84, 3057950.66)
L39	28.67	N72° 52' 40"W	(1250775.91, 3057905.55)
L41	33.17	N23° 10' 06"W	(1250787.17, 3057875.03)
L43	19.00	N0° 03' 19"W	(1250826.43, 3057859.78)
L45	6.26	S72° 30' 36"W	(1250871.74, 3057885.54)
L48	5.00	S89° 48' 13"W	(1250893.45, 3057939.82)
L51	60.24	S89° 48' 13"W	(1250869.85, 3058058.33)
L52	104.99	S0° 11' 47"E	(1250974.84, 3058057.97)
L53	20.00	S0° 11' 47"E	(1250994.84, 3058057.90)
L54	56.82	S0° 11' 47"E	(1251051.66, 3058057.70)

LINE TABLE			
LINE	LENGTH	DIRECTION	START (N, E)
L56	112.47	N89° 48' 15"E	(1251097.62, 3057898.58)
L57	9.52	S89° 48' 13"W	(1250974.84, 3058057.97)
L58	9.46	S89° 48' 13"W	(1250994.84, 3058057.90)
L59	7.28	N89° 48' 15"E	(1251109.01, 3057867.21)
L61	6.28	N89° 48' 15"E	(1251131.01, 3057868.14)
L63	4.21	N0° 00' 00"E	(1251088.30, 3057850.76)
L64	5.22	N0° 00' 00"E	(1251088.30, 3057830.76)
L65	23.20	N89° 48' 13"E	(1250782.62, 3057915.44)
L66	1.79	N0° 11' 47"W	(1250782.70, 3057938.64)
L67	12.00	N89° 48' 13"E	(1250784.49, 3057938.63)
L68	7.51	S0° 11' 47"E	(1250864.85, 3058058.35)
L69	7.52	S0° 11' 47"E	(1250864.87, 3058063.34)

CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	CHORD	CHORD LEN
C1	22.58	32.50	39°48'05"	S9°35'57"E	22.13
C2	40.93	79.50	29°30'00"	S14°45'00"E	40.48
C3	4.71	3.00	90°00'00"	S45°00'00"E	4.24
C4	1.57	1.00	90°00'00"	S45°00'00"W	1.41
C5	4.71	3.00	90°00'00"	S45°00'00"W	4.24
C6	25.74	50.00	29°30'00"	S14°45'00"E	25.46
C7	38.10	74.00	29°30'00"	S14°45'00"E	37.68
C8	19.56	25.00	44°49'56"	S67°23'15"W	19.07
C9	34.50	67.50	34°22'46"	S62°09'40"W	33.99
C10	4.34	5.00	49°42'34"	N48°01'23"W	4.20
C11	9.08	28.50	18°15'06"	N14°02'33"W	9.04
C12	33.30	28.50	66°57'20"	S39°01'56"W	31.44
C13	11.44	25.00	26°12'28"	S59°24'22"W	11.34
C14	43.66	57.50	43°30'06"	S68°03'10"W	42.62
C15	45.01	57.50	44°50'45"	N67°46'25"W	43.87
C16	19.57	25.00	44°50'45"	N67°46'25"W	19.07
C17	73.04	46.50	89°59'58"	S45°11'46"E	65.76
C18	25.86	16.50	89°48'15"	N44°54'08"E	23.29
C19	58.78	37.50	89°48'15"	N44°54'08"E	52.94



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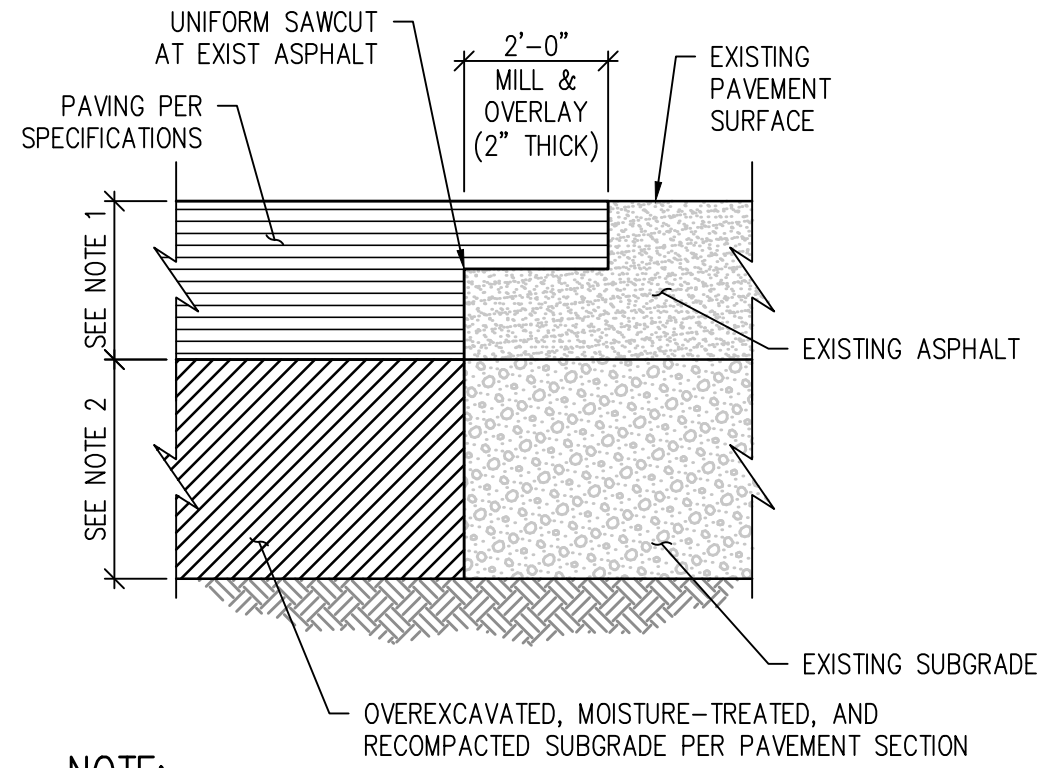
THE ACADEMY  
ON MAPLETON HILL  
311 MAPLETON AVENUE  
BOULDER, COLORADO 80304

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1	5/28/2019	FIRST SUBMITTAL
2	10/21/2019	SECOND SUBMITTAL
3	12/02/2019	THIRD SUBMITTAL

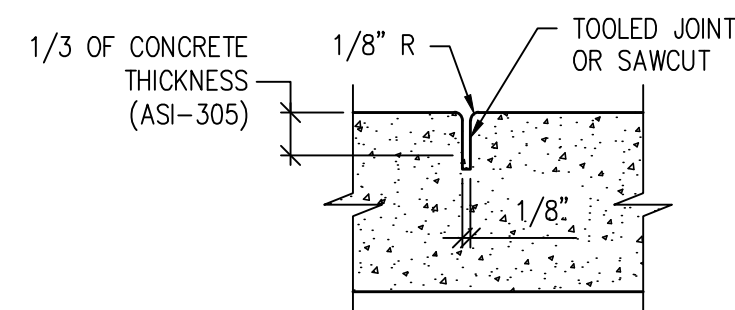
PROJECT NUMBER: 2462.2c  
AMP/WDD  
CHECKED BY: DIB  
DESCRIPTION:  
DETAILED HORIZONTAL  
CONTROL PLAN

J:\2462.2c Drawings\Phase III\2462.2c-03-HGP-HGP-BET-00.dwg, 11/25/2019 - 2:53 PM, ddb



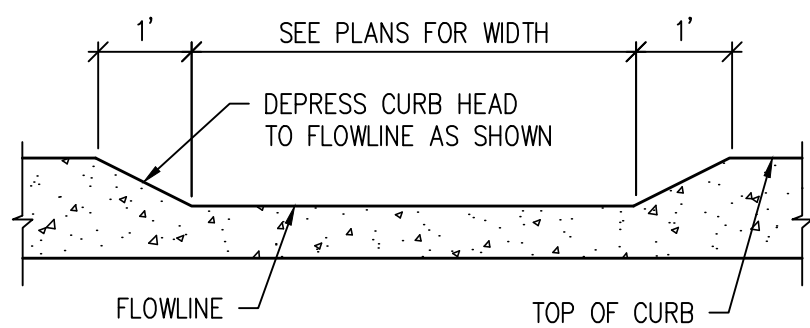
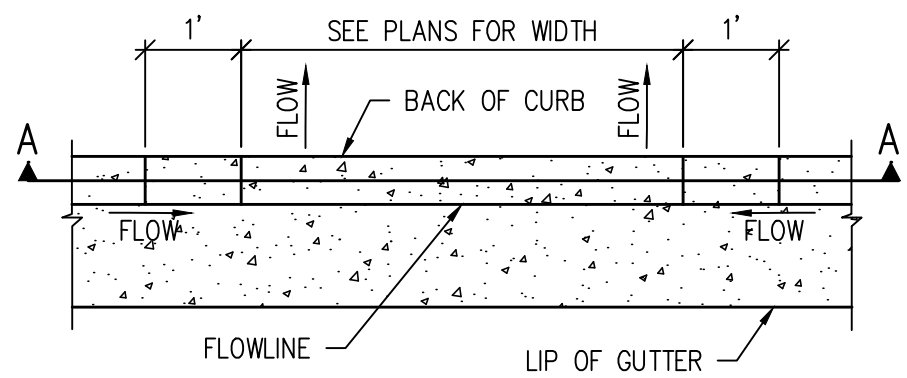
- NOTE:**
1. MATCH EXISTING DEPTH +1"
  2. MATCH EXIST SUBGRADE DEPTH UNLESS OTHERWISE SPECIFIED
  3. APPLY TACKIFIER AT SAWCUT AND MILL PRIOR TO PAVING.

**ASPHALT "T" PATCH DETAIL** 3  
NTS

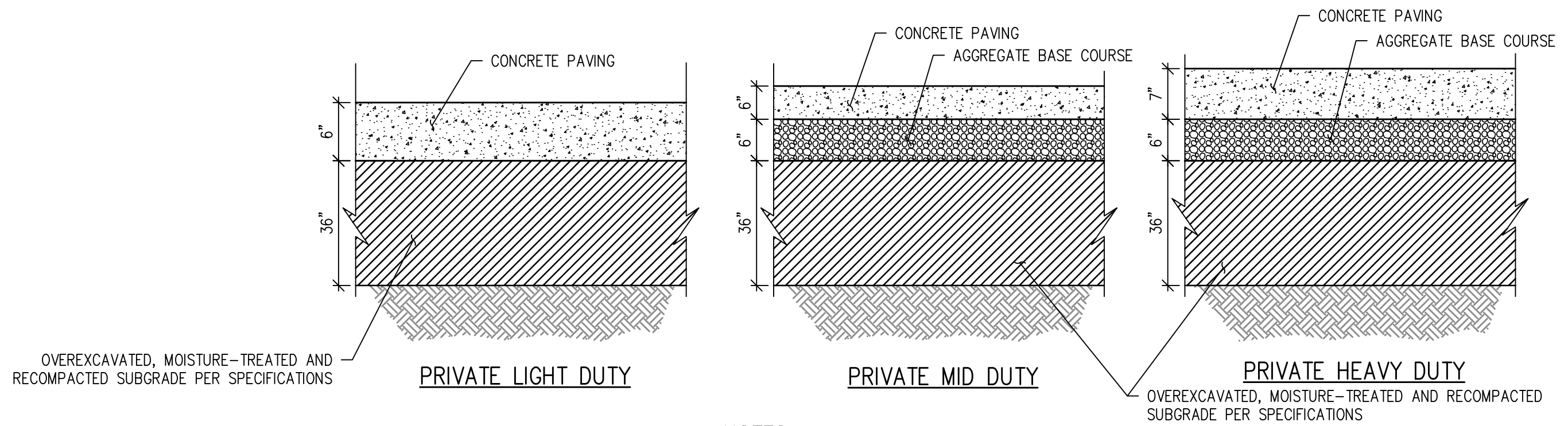


- NOTE:**
1. CONTRACTION JOINTS AT INTERVAL TO MATCH WIDTH OF SIDEWALK (TYP).

**CONTRACTION JOINT DETAIL** 4  
NTS REV DATE 01/2018

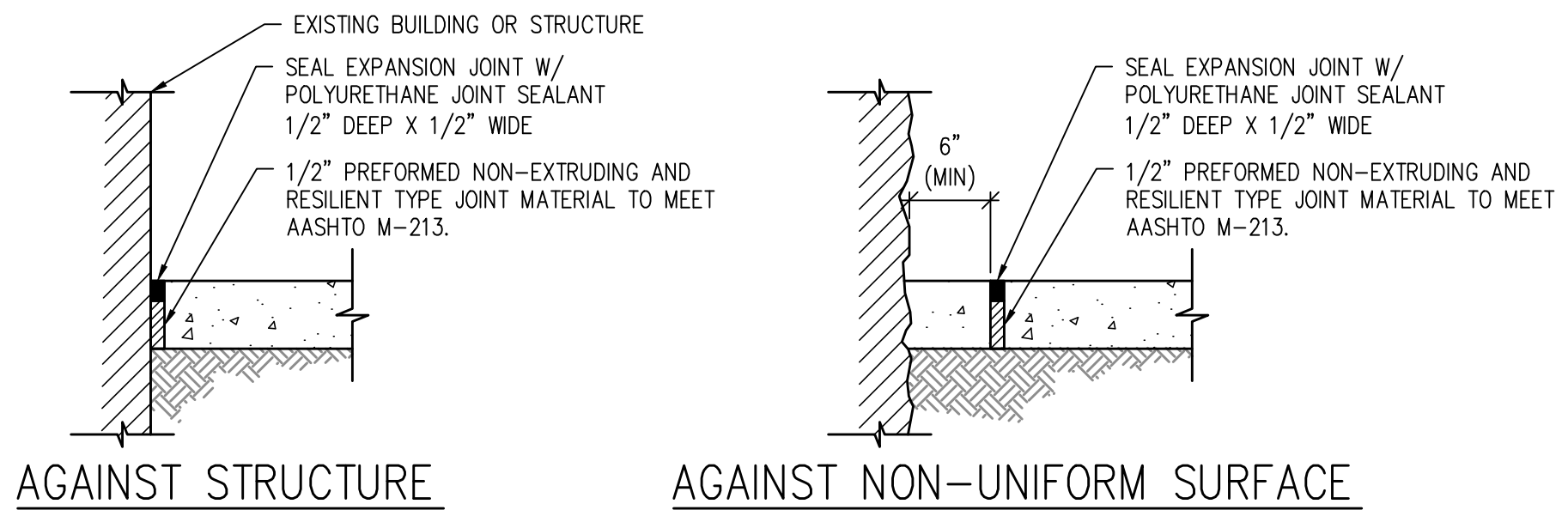


**DEPRESSED CURB DETAIL** 5  
NTS C3.1

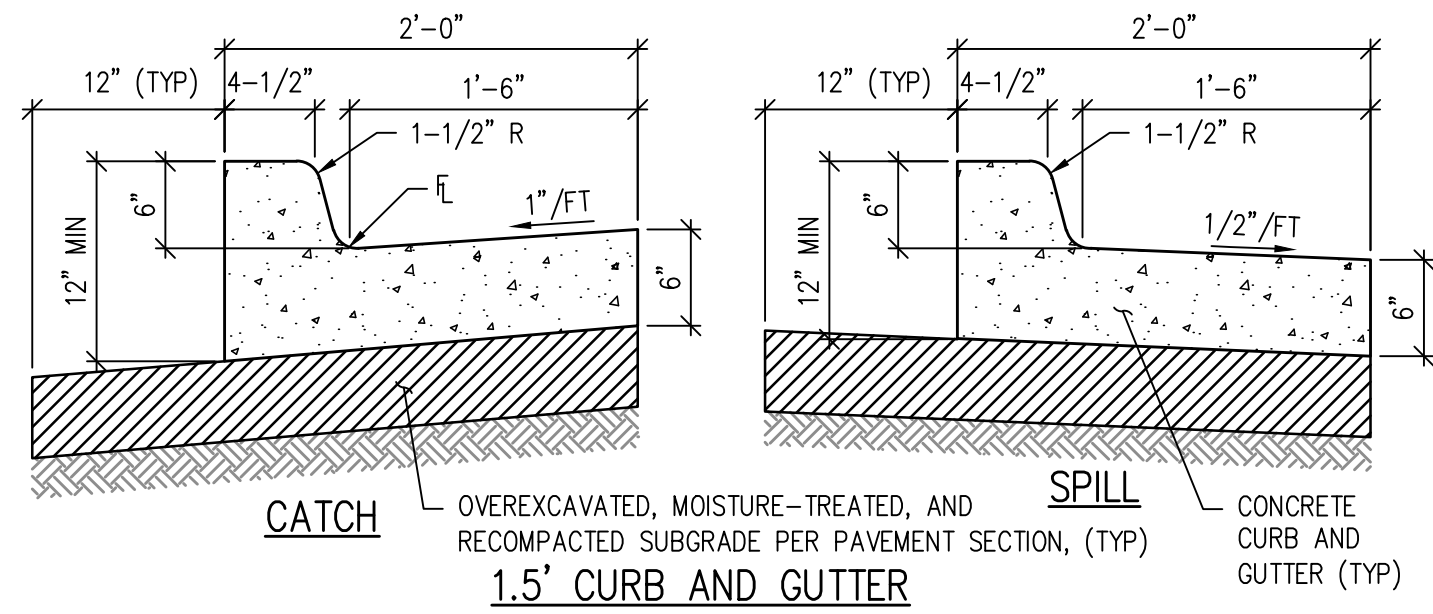


- NOTES:**
1. USE LIGHT DUTY CONCRETE SECTION FOR PEDESTRIAN WALKS
  2. USE MID DUTY CONCRETE SECTION FOR PARKING LOTS, DRIVE LANES, AND WALKS WITH VEHICLE LOADING
  3. USE HEAVY DUTY CONCRETE SECTION FOR HEAVY TRUCK TRAFFIC AREAS
  4. COMPACT SUBGRADE.
  5. SEE CONTRACTION JOINT AND EXPANSION JOINT DETAILS.

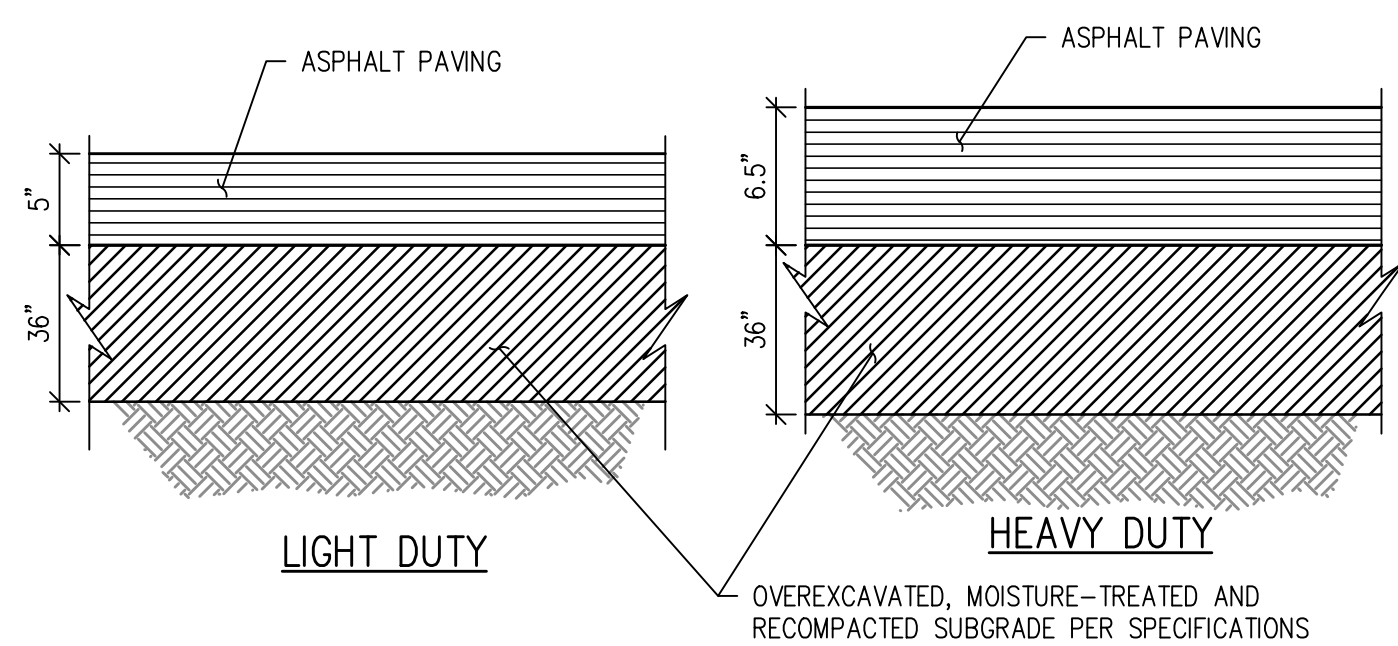
**COMPOSITE CONCRETE PAVING SECTION DETAIL** 1  
NTS C3.1



**CONTRACTION JOINT DETAIL** 2  
NTS C3.1

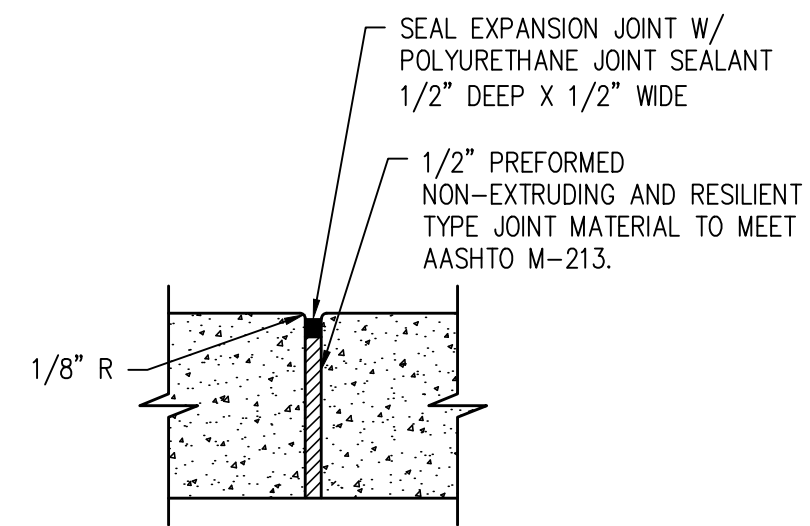


**PRIVATE CURB AND GUTTER DETAIL** 2  
NTS C3.1



- NOTES:**
1. USE HEAVY DUTY ASPHALT SECTION FOR DRIVE LANES
  2. USE LIGHT DUTY ASPHALT SECTION FOR CAR PARKING STALLS.

**FULL DEPTH ASPHALT PAVING SECTION DETAIL** 6  
NTS C3.1



**EXPANSION JOINT DETAIL** 7  
NTS C3.1

- NOTES:**
1. CURB EXPANSION JOINTS EVERY 100' MAX AND WHEREVER SIDEWALK ABUTS EXISTING & PROPOSED CONCRETE STRUCTURES (TYP) - SEE PLAN
  2. REMOVE PLASTIC FORMING MATERIAL ("ZIP STRIPS") FROM PREFORMED JOINT MATERIAL PRIOR TO PLACING SEALANT

**EXPANSION JOINT DETAIL** 7  
NTS C3.1

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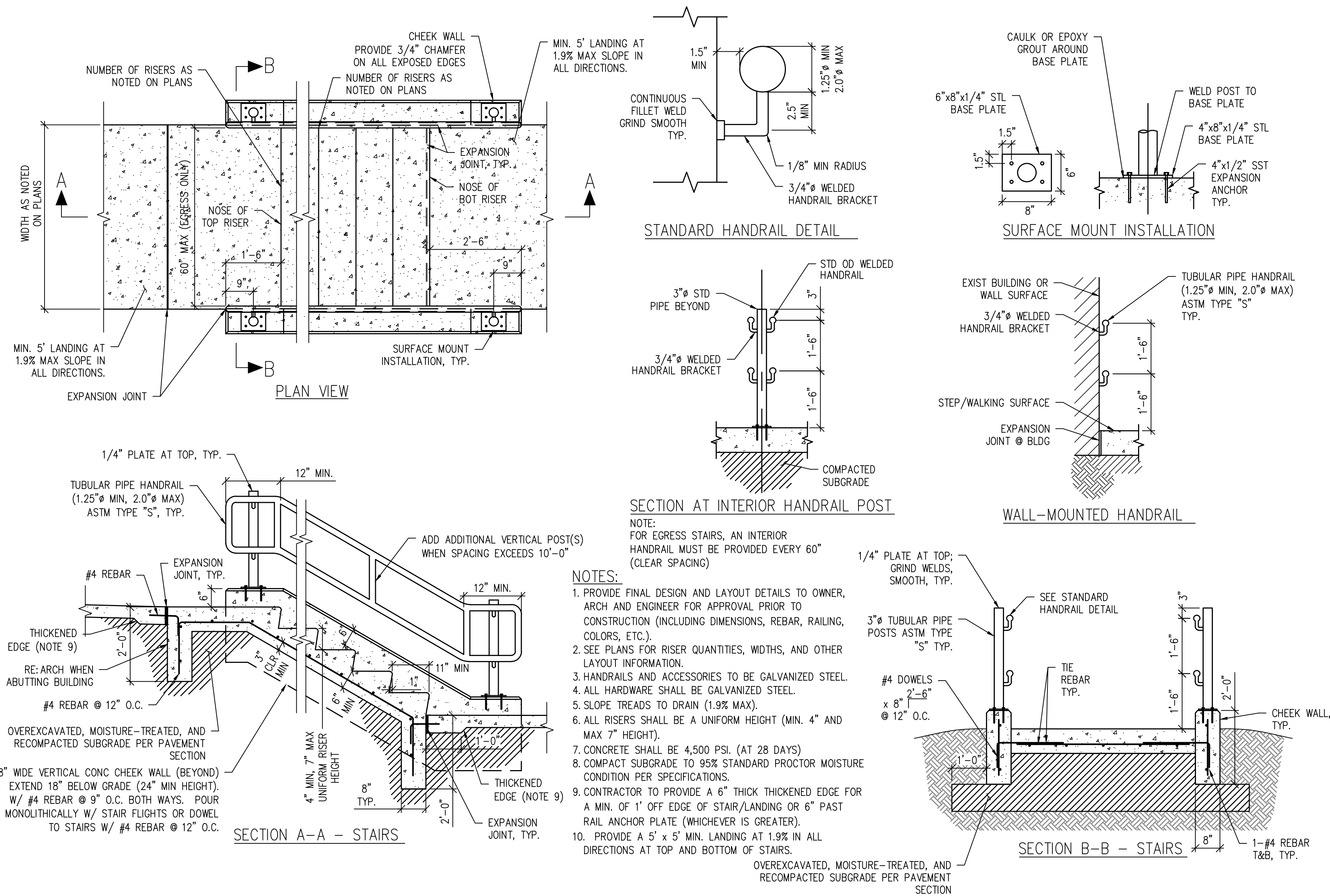
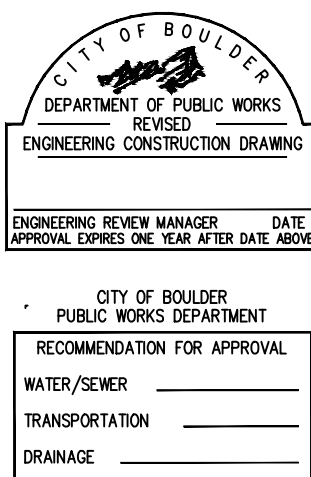
PROJECT NUMBER: 2462.2c  
AMP/WDD  
CHECKED BY: DIB  
DESCRIPTION:  
PRIVATE SITE DETAILS

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DESCRIPTION:
PRIVATE SITE DETAILS

## CD3.1



### PRIVATE STAIR W/ CHEEK WALL AND RAILING DETAIL

NTS

1  
C3.1