

I:_PROJECTS\2020\2032 HOUSA DWG\3 - CONSTRUCTION\BUILDING PERMIT SET\C1.0--NOTE.dwg 18Nov22 12:28:43 PM jmilliford © IFLAND ENGINEERS, INC.

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ABBREVIATIONS

AB	AGGREGATE BASE	IRR	IRRIGATION
ARV	AIR-RELEASE VALVE	JB	JUNCTION BOX
BFP	BACKFLOW PREVENTER	JT	JOINT TRENCH
BO	BLOW-OFF VALVE	LF	LINEAR FOOT
BRW	BOTTOM OF RETAINING WALL	LIP	LIP OF GUTTER
BSW	BACK OF SIDEWALK	LOG	LIMIT OF GRADING
BVC	BEGIN VERTICAL CURVE	LP	LOW POINT
BW	BOTTOM OF WALL	MFS	MECHANICAL FILTRATION SYSTEM
CATV	CABLE TELEVISION	MH	MANHOLE
CB	CATCH BASIN	N	NORTH
CI	CURB INLET	NE	NORTHEAST
CIP	CAST IRON PIPE	NW	NORTHWEST
CL	CENTERLINE	OH	OVERHEAD
CMP	CORRUGATED METAL PIPE	PCC	PORTLAND CEMENT CONCRETE
CMU	CONCRETE MASONRY UNIT	PE	POLYETHYLENE
CO	CLEANOUT	PERF.	PERFORATED
COMM	COMMERCIAL	PP	POWER POLE
CONC	CONCRETE	PL	PROPERTY LINE
COTG	CLEANOUT TO GRADE	PRC	POINT OF REVERSE CURVE
DIP	DUCTILE IRON PIPE	PIV	POST-INDICATOR VALVE
DOM	DOMESTIC	PV	PAVEMENT
DTL	DETAIL	PVC	POLYVINYL CHLORIDE PIPE
DWG	DRAWING	R	RADIUS
DWY	DRIVEWAY	RCP	REINFORCED CONCRETE PIPE
E	EAST, ELECTRICAL	ROW	RIGHT-OF-WAY
EG	EXISTING GROUND	RPPB	REDUCE PRESSURE PRINCIPLE BACKFLOW
EP	EDGE OF PAVEMENT	RW	RECYCLED WATER
(E)	EXISTING	S	SOUTH, SLOPE
EX	EXISTING	SD	STORM DRAIN
FC	FACE OF CURB	SE	SOUTHEAST
FDC	FIRE DEPARTMENT CONNECTION	SDMH	STORM DRAIN MANHOLE
FG	FINISH GRADE	SS	SANITARY SEWER
FF	FINISH FLOOR	SSMH	SANITARY SEWER MANHOLE
FH	FIRE HYDRANT	STA	STATION
FL	FLOWLINE	STD	STANDARD
FNC	FENCE	SW	SIDEWALK, SOUTHWEST
FO	FIBER OPTIC	T	TELEPHONE
FT	FOOT/FEET	TC	TOP OF CURB
FW	FIRE WATER	TRAN	TRANSFORMER
G	GAS	TRW	TOP OF RETAINING WALL
GB	GRADE BREAK	TW	TOP OF WALL
HT	HEIGHT	USA	UNDERGROUND SERVICE ALERT
HDPE	HIGH-DENSITY POLYETHYLENE	VG	VALLY GUTTER
HP	HIGH POINT	W	WEST, WATER
INT	INTERSECTION	WM	WATER METER
INV	INVERT	WV	WATER VALVE

LEGEND

DESCRIPTION

PROPOSED

AIR RELEASE VALVE



AREA DRAIN



BLOW-OFF VALVE



CATCH BASIN



CURB INLET



CLEANOUT STRUCTURE



FIRE HYDRANT



GUY ANCHOR



MANHOLE STRUCTURE



WATER THRUST BLOCK



WATER METER



WATER VALVE



COMMUNICATION LINE



ELECTRICAL LINE



FIBER OPTIC LINE



FIRE WATER LINE



GAS LINE



IRRIGATION LINE



JOINT TRENCH LINE



OVERHEAD LINE



RECYCLED WATER LINE



STORM DRAIN LINE



SANITARY SEWER LINE



TELEPHONE LINE



CABLE TV LINE



WATER LINE



CITY OF SANTA CRUZ GRADING NOTES

REGULATORY NOTES

- ALL GRADING WITHIN THE BOUNDARIES OF THE PARCEL SHALL BE DONE UNDER THE OBSERVATION OF THE SOILS ENGINEER. UPON COMPLETION OF CONSTRUCTION, A FINAL SOILS LETTER SHALL BE SUBMITTED TO THE PUBLIC WORKS DEPARTMENT BY THE SOILS ENGINEER STATING THAT THE CONSTRUCTION HAS BEEN PERFORMED IN GENERAL CONFORMANCE WITH THE REQUIREMENTS AND SPECIFICATIONS CONTAINED IN THE SOILS REPORT. THE LETTER SHALL INCLUDE LOCATIONS AND ELEVATIONS OF FIELD DENSITY TESTS, SUMMARIES OF FIELD AND LABORATORY TESTS, AND ANY OTHER SUBSTANTIATING DATA DEVELOPED BY THE SOILS ENGINEER.
- ALL GRADING SHALL BE DONE IN ACCORDANCE WITH THE LATEST CITY OF SANTA CRUZ MUNICIPAL CODE, CHAPTER 24.27.
- ALL CLEARING, SITE PREPARATION OR EARTH WORK SHALL BE PERFORMED UNDER OBSERVATION OF THE SOILS ENGINEER AND TO THE SATISFACTION OF THE SOILS ENGINEER.
- THE CONTRACTOR SHALL CONDUCT ALL GRADING OPERATIONS IN SUCH A MANNER AS TO PRECLUDE WIND BLOWN DIRT AND DUST, AND RELATED DAMAGE TO NEIGHBORING PROPERTIES. DUST CAUSED BY THE GRADING OPERATION SHALL BE CONTROLLED BY PROPER WATERING. THE CONTRACTOR SHALL ASSUME LIABILITY FOR CLAIMS RELATED TO WIND BLOWN MATERIALS.
- A GRADING PERMIT FROM THE CHIEF BUILDING OFFICIAL WILL BE REQUIRED PRIOR TO COMMENCEMENT OF WORK.
- A PRE-GRADING CONFERENCE AT THE SITE IS REQUIRED PRIOR TO THE START OF GRADING WITH THE FOLLOWING PEOPLE PRESENT: OWNER, CONTRACTOR, ENGINEER, SOILS ENGINEER, AND CITY INSPECTOR, OR THEIR REPRESENTATIVES.
- SAMPLES OF ANY PROPOSED IMPORTED FILL PLANNED FOR USE ON THIS PROJECT SHOULD BE SUBMITTED TO THE GEOTECHNICAL ENGINEER FOR APPROVAL AND APPROPRIATE TESTING NOT LESS THAN FOUR (4) WORKING DAYS BEFORE THE ANTICIPATED JOBSITE DELIVERY.
- NO FILL MATERIAL SHALL BE PLACED, SPREAD, OR ROLLED DURING UNFAVORABLE WEATHER CONDITIONS. WHEN THE WORK IS INTERRUPTED BY HEAVY RAINS, FILL OPERATIONS SHALL NOT RESUME UNTIL FIELD DENSITY TESTS TAKEN BY THE GEOTECHNICAL ENGINEER INDICATE THAT THE MOISTURE CONTENT AND DENSITY OF THE FILL MEET THE SPECIFIED REQUIREMENTS.
- IN THE EVENT THAT ANY UNUSUAL CONDITIONS, NOT COVERED IN THE GEOTECHNICAL REPORT, ARE ENCOUNTERED DURING GRADING OPERATIONS, THE GEOTECHNICAL ENGINEER SHALL BE IMMEDIATELY NOTIFIED FOR DIRECTIONS.

CONSTRUCTION NOTES

- UNLESS OTHERWISE NOTED, ALL SPOT ELEVATIONS SHOWN ARE TO FINISH GRADE.
- THE PLACEMENT AND SPREADING OF FILL MATERIALS AND ITS PROCESSING AND COMPACTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR; HOWEVER, COMPACTION OF FILL MATERIALS BY FLOODING, PONDING, OR JETTING SHALL NOT BE PERMITTED WITHOUT THE PRIOR APPROVAL OF THE GEOTECHNICAL ENGINEER.
- TRENCHING FOR UNDERGROUND PIPING, ELECTRICAL CONDUITS, ETC., SHALL BE DONE BY THE TRADE INSTALLING THE PIPE, CONDUITS, ETC. BACKFILL FOR UNDERGROUND UTILITIES PLACED ON THE SITE SHALL CONSIST OF THE APPROVED ON SITE, NEAR SURFACE SOILS OR OTHER GRANULAR SOILS SO AS TO MAINTAIN THE UPPER STRATUM SOIL AS UNIFORM AS POSSIBLE. BACKFILL WITHIN THE UTILITY TRENCHES SHALL BE COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 95% IN STREET AREAS, AND 90% IN OTHER LOCATIONS. WATER MAIN TRENCHES AREA PER S.C.W.D. DWG. NO. 3537B.
- THE EXISTING TOPSOIL, BUILDING DEBRIS, AND TREES, NOT USED FOR LANDSCAPING, SHALL BE REMOVED TO AN OFF SITE LOCATION UNLESS SPECIAL ARRANGEMENTS CAN BE PROVIDED FOR THEIR ON SITE DISPOSAL AS APPROVED BY THE GEOTECHNICAL ENGINEER.

CITY OF SANTA CRUZ WATER DEPARTMENT NOTES

- ALL WORK ON THE WATER SYSTEM MUST BE CONSTRUCTED IN CONFORMANCE WITH THE LATEST VERSION OF CITY OF SANTA CRUZ WATER DEPT (SCWD) STANDARD SPECIFICATIONS.
- A MINIMUM OF 2 WORKING DAYS NOTICE SHALL BE GIVEN TO THE SCWD BEFORE CONSTRUCTION ON ANY PORTION OF THE WATER SYSTEM. OBTAIN APPLICABLE WATER SYSTEM PERMITS AT THE SCWD. CALL 831-420-5210 FOR INFORMATION AND TO SCHEDULE WATER SERVICE, FIRE HYDRANT AND BACKFLOW ASSEMBLY INSPECTIONS.
- MINIMUM SEPARATIONS FROM OTHER PARALLEL AND CROSSING UTILITIES MUST BE MAINTAINED PER CURRENT STANDARD TECHNICAL SPECIFICATIONS.
- UTILITY LOCATIONS ARE APPROXIMATE. VERIFICATION OF ACTUAL UTILITIES AND LOCATIONS IS THE RESPONSIBILITY OF THE CONTRACTOR CALL UNDERGROUND SERVICE ALERT AT LEAST TWO WORKING DAYS BEFORE DIGGING AT 800-227-2600.
- CONTRACTOR SHALL PROVIDE A MINIMUM OF TWO WORKING DAYS NOTICE TO SCWD FOR INSPECTION OF SERVICES THAT ARE TO BE RETIRED, MODIFIED OR RELOCATED. CONTRACTOR SHALL EXPOSE CORPORATION STOPS FOR SCWD STAFF TO OPERATE. AN ACTIVE WATER METER MAY BE RELOCATED UP TO 8' HORIZONTALLY USING THE PIPE FREEZE METHOD OR BY TEMPORARILY CLOSING THE CORPORATION STOP. RETIRED METER BOXES ARE TO BE REMOVED BY CONTRACTOR AND ALL SIDEWALK AND PAVING RESTORED. SERVICE LINES SHALL NOT BE CRIMPED AS A METHOD OF RETIREMENT OR SERVICE LINE MODIFICATION OR RELOCATION.
- APPROVAL BY THE SCWD FOR THE FIRE SERVICE INSTALLATION SHALL BE FOR THE SERVICE LINE LOCATION AND THE CONNECTION TO THE CITY WATER SYSTEM. THE FIRE SERVICE SIZE AND DESIGN APPROVAL ARE THE RESPONSIBILITY OF THE LOCAL FIRE PROTECTION AGENCY.
- TEMPORARY REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY INSTALLATION(S) PER SCWD STANDARDS ARE REQUIRED FOR ALL CONSTRUCTION WATER USE.

CITY OF SANTA CRUZ SANITATION DEPARTMENT NOTES

- ALL CONSTRUCTION SHALL COMPLY WITH APPLICABLE REQUIREMENTS IN THE CURRENT EDITION OF THE CITY OF SANTA CRUZ STANDARD PLANS AND SPECIFICATIONS.
- ALL FIGURE (FIG.) REFERENCES, UNLESS OTHERWISE SPECIFIED, REFER TO STANDARD DRAWINGS IN THE CURRENT EDITION OF THE CITY OF SANTA CRUZ STANDARD PLANS AND SPECIFICATIONS..
- NO CHANGES IN THE APPROVED IMPROVEMENT PLANS SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE DEPARTMENT OF PUBLIC WORKS.
- THE DIRECTOR OF PUBLIC WORKS OR HIS AUTHORIZED REPRESENTATIVE SHALL HAVE THE AUTHORITY TO "STOP WORK" IF THE WORK IS NOT BEING DONE IN ACCORDANCE WITH THE APPROVED IMPROVEMENT PLANS.
- THE CONTRACTOR SHALL NOTIFY THE CITY CONSTRUCTION ENGINEER 24 HOURS PRIOR TO START OF CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY THE SANITATION INSPECTOR BEFORE 9:00 A.M. AT LEAST 24 HOURS PRIOR TO THE CONNECTION OF ANY BUILDING SEWER TO THE SEWER LATERAL.
- BACKFLOW PREVENTION DEVICES SHALL BE INSTALLED ON ALL LATERALS WHERE THE FINISHED FLOOR ELEVATION IS LESS THAN ONE FOOT ABOVE THE RIM ELEVATION OF THE NEAREST UPSTREAM MANHOLE OR CLEANOUT. THE VALVES SHALL BE LOCATED IN SUCH A WAY AS TO PREVENT ANY DAMAGE TO ADJACENT PROPERTY AS A RESULT OF SEWAGE RELEASED FROM THE DEVICE.
- UNDERGROUND UTILITY LOCATIONS SHOWN ARE COMPILED FROM INFORMATION SUPPLIED BY THE APPROPRIATE UTILITY AGENCY. CONTRACTOR SHALL VERIFY LOCATION OF AFFECTED UTILITY LINES AND POTHOLE THOSE AREAS WHERE POTENTIAL CONFLICTS ARE LIKELY OR DATA IS OTHERWISE INCOMPLETE.
- ANY EXISTING UTILITIES THAT ARE REQUIRED TO BE RELOCATED AS A PART OF THIS CONSTRUCTION SHALL BE RELOCATED AT THE DEVELOPER'S EXPENSE.
- WATER SERVICE FOR THE SITE SHALL BE INSTALLED BY THE CONTRACTOR ACCORDING TO CITY OF SANTA CRUZ WATER DEPARTMENT REQUIREMENTS PER DETAILS BY ENGINEER.

IFLAND ENGINEERS STANDARD NOTES

- ALL GRADING WORK AND CONSTRUCTION OF IMPROVEMENTS SHALL BE DONE IN ACCORDANCE WITH RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT PREPARED BY ROCK SOLID ENGINEERING. THE GEOTECHNICAL ENGINEER SHALL INSPECT THE COMPLETED PROJECT AND VERIFY IN WRITING THAT ALL GRADING AND COMPACTION OPERATIONS HAVE BEEN CONSTRUCTED IN CONFORMANCE WITH THE GEOTECHNICAL REPORT.
- ALL ORGANIC MATERIAL COVERING THE SITE SHALL BE STRIPPED AND STOCKPILED. THE STRIPPINGS SHALL BE USED TO BACKFILL ALL ROUGH GRADED MOUND AREAS OR LANDSCAPE PLANTERS AS APPROVED BY THE LANDSCAPE ARCHITECT, TO WITHIN 0.1' OF GRADES SHOWN. EXCESS STRIPPINGS AND EXCAVATED MATERIALS SHALL BE REMOVED FROM THE SITE BY THE GRADING CONTRACTOR IF EARTHWORK BALANCE CANNOT BE ACHIEVED.
- COMPACTION TO BE DETERMINED USING THE LATEST EDITION OF ASTM D1557.
- THE TYPES, LOCATIONS, SIZES, AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THE IMPROVEMENT PLANS WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS, AND DEPTHS OF SUCH UNDERGROUND UTILITIES. (A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES). HOWEVER, THE ENGINEER CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF THE DELINEATION OF SUCH UNDERGROUND UTILITIES WHICH MAY BE ENCOUNTERED, BUT WHICH ARE NOT SHOWN ON THESE DRAWINGS. CONTRACTOR TO CONTACT USA AT 811 PRIOR TO START OF WORK.
- CONTRACTOR TO VERIFY ALL EXISTING INVERT ELEVATIONS FOR STORM DRAIN AND SANITARY SEWER CONNECTION PRIOR TO ANY SITE WORK. ALL WORK FOR STORM AND SANITARY INSTALLATION SHALL BEGIN AT THE DOWNSTREAM CONSTRUCTION POINT. ALLOW FOR ANY NECESSARY ADJUSTMENTS TO BE MADE PRIOR TO THE INSTALLATION OF THE ENTIRE LINE.
- SHOULD DISCREPANCIES EXIST BETWEEN THE ACTUAL ELEVATIONS AND LOCATIONS OF EXISTING UTILITY CONNECTIONS AND THOSE AS SHOWN ON THESE PLANS, THE CONTRACTOR SHALL NOTIFY IFLAND ENGINEERS BEFORE ADJUSTING THE UTILITY DESIGN.
- CONTRACTOR SHALL UNCOVER AND EXPOSE ALL EXISTING UTILITY LINES WHERE THEY ARE TO BE CROSSED ABOVE OR BELOW BY THE NEW UTILITY LINE BEING CONSTRUCTED IN ORDER TO VERIFY THE GRADES AND CLEARANCES. IF ASSISTANCE IS REQUIRED, CONTRACTOR SHALL ARRANGE FOR A SURVEY CREW TO VERIFY THE ELEVATIONS AT THE CROSSINGS. PIPE SHALL NOT BE STRUNG NOR TRENCHING COMMENCED UNTIL ALL CROSSINGS HAVE BEEN VERIFIED FOR CLEARANCE.
- CONTRACTOR SHALL SET HIS STRING OR WIRE THROUGH AT LEAST THREE GRADE STAKES TO VERIFY THE UTILITY GRADES. IF THE STAKES DO NOT PRODUCE A UNIFORM GRADE, NOTIFY THE ENGINEER IMMEDIATELY AND HAVE THE GRADES CHECKED PRIOR TO TRENCHING.
- ALL UTILITY STRUCTURES TO REMAIN, INCLUDING BUT NOT LIMITED TO MANHOLES, CATCH BASINS, WATER VALVES, FIRE HYDRANTS, TELEPHONE AND ELECTRICAL VAULTS, AND PULL BOXES THAT REMAIN WITHIN AREAS AFFECTED BY THE CONSTRUCTION WORK ON THIS PROJECT SHALL BE ADJUSTED TO GRADE BY THE CONTRACTOR OR THE RESPECTIVE UTILITY COMPANY WHETHER SHOWN ON THESE PLANS OR NOT. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH ALL PUBLIC OR PRIVATE UTILITY COMPANIES.
- STORM DRAIN PIPES DESIGNATED AS "SD" FROM 4" TO 24" IN DIAMETER SHALL BE SDR-35 P.V.C. OR APPROVED ALTERNATIVE, HDPE STORM DRAIN PIPE WITH SMOOTH INTERIOR AND ANNULAR EXTERIOR CORRUGATIONS, MEETING AASHTO M252, TYPE S, AASHTO M294, TYPE S, OR ASTM F2306 SPECIFICATIONS, WITH WATER-TIGHT INTEGRATED BELL JOINTS PER ASTM D3212 OR APPROVED ALTERNATIVE WITH CLASS 1 BACKFILL, OR D.I.P. (DUCTILE IRON PIPE) IF SPECIFIED ON THE PLANS. NO MATERIAL SUBSTITUTION SHALL BE ALLOWED FOR DUCTILE IRON PIPE IF DESIGNATED ON THE PLANS. HDPE AND PVC PIPES SHALL ONLY BE USED IF DESIGNATED ON THE PLANS. NO OTHER PIPE MATERIALS MAY BE USED UNLESS APPROVED BY THE ENGINEER.
- ALL AREAS TO BE GRADED ACCORDING TO THE GRADES SHOWN ON THESE PLANS. A 1% MINIMUM SLOPE FOR DRAINAGE SHALL BE APPLIED IF NO GRADES ARE SHOWN, SUBJECT TO THE APPROVAL OF THE PROJECT ENGINEER. FLOWLINE OF CURBS AND VALLEY GUTTERS MAY BE GRADED AT LESS THAN 1% IF SLOPES ARE DESIGNATED ON THESE PLANS.
- CONTRACTOR SHALL GRADE EVENLY BETWEEN SPOT ELEVATIONS.
- PROPOSED SPOT GRADES (ELEVATIONS) SHOWN HEREON ARE FINISHED PAVEMENT GRADES OR FINISHED SURFACE GRADES, NOT TOP OF CURB GRADES, UNLESS NOTED OTHERWISE.
- WHEN A GRADING PERMIT IS ISSUED ON THIS PROJECT, THE AGENCY APPROVAL APPLIES ONLY TO GRADING. THE CONTRACTOR IS RESPONSIBLE FOR SECURING ALL OTHER NECESSARY PERMITS TO CONSTRUCT THE PROPOSED SITE WORK.
- ESTIMATED EARTHWORK QUANTITIES SHOWN WITHIN THIS PLAN SET ARE APPROXIMATE ONLY AND SHOWN FOR THE PURPOSES OF CALCULATING GRADING PERMIT FEES. CONTRACTOR IS RESPONSIBLE FOR VERIFYING INDEPENDENTLY BOTH CUT AND FILL QUANTITIES. IFLAND ENGINEERS ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THESE NUMBERS.
- CONTRACTOR SHALL VERIFY THE REQUIRED CRAWLSPACE HEIGHT WITH THE ARCHITECTURAL AND STRUCTURAL PLANS PRIOR TO COMMENCEMENT OF GRADING OPERATIONS.
- ALL GRADING, TRENCHING, SHORING, PAVING, AND CONSTRUCTION WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE O.S.H.A. REGULATIONS.
- CONSTRUCTION STAKING SHALL BE PROVIDED BY THE CONTRACTOR. ALL STAKING REQUESTS SHALL REQUIRE 48-HOUR PRIOR NOTICE.
- CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF THE CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONNEL AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. CONTRACTOR AGREES TO DEFEND, INDEMNIFY, AND HOLD DESIGN PROFESSIONALS AND CITY REPRESENTATIVES HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.
- CONTRACTOR TO DESIGNATE A "DISTURBANCE COORDINATOR" TO RESPOND TO CITIZEN COMPLAINTS AND INQUIRIES REGARDING CONSTRUCTION NOISE AND DUST. THE NAME, PURPOSE, AND TELEPHONE NUMBER OF THE DISTURBANCE COORDINATOR SHALL BE POSTED ON A SIGN EASILY VISIBLE FROM OFF-SITE DURING THE ENTIRE TIME PROJECT GRADING AND CONSTRUCTION OCCURS. THE DISTURBANCE COORDINATOR SHALL INVESTIGATE THE CONCERN AND TAKE REMEDIAL ACTION, IF NECESSARY, WITHIN 24 HOURS OF RECEIVING A COMPLAINT OR AN INQUIRY.
- NO CHANGES ON THESE PLANS SHALL BE MADE WITHOUT PRIOR APPROVAL OF IFLAND ENGINEERS AND THE CITY ENGINEER.
- THE CONTRACTOR SHALL APPLY WATER TO ALL EXPOSED EARTH SURFACES AT INTERVALS SUFFICIENT TO PREVENT AIRBORNE DUST FROM LEAVING THE PROJECT SITE. ALL EXPOSED EARTH SHALL BE WATERED DOWN AT THE END OF THE WORK DAY.
- WHILE IN TRANSIT TO AND FROM THE PROJECT SITE, ALL TRUCKS TRANSPORTING FILL MATERIAL SHALL BE COVERED WITH TARPS.
- ANY PERSON EXERCISING A DEVELOPMENT PERMIT OR BUILDING PERMIT WHO, AT ANY TIME IN THE PREPARATION FOR OR PROCESS OF EXCAVATING OR OTHERWISE DISTURBING EARTH, DISCOVERS ANY HUMAN REMAINS OF ANY AGE OR ANY ARTIFACT OR ANY OTHER OBJECT WHICH REASONABLY APPEARS TO BE EVIDENCE OF AN ARCHAEOLOGICAL/CULTURAL RESOURCE OR PALEONTOLOGICAL RESOURCE, SHALL:
 - IMMEDIATELY CEASE ALL FURTHER EXCAVATION, DISTURBANCE, AND WORK ON THE PROJECT SITE;
 - CAUSE STAKING TO BE PLACED AROUND THE AREA OF DISCOVERY BY VISIBLE STAKES NOT MORE THAN TEN FEET APART FORMING A CIRCLE HAVING A RADIUS OF NOT LESS THAN ONE HUNDRED FEET FROM THE POINT OF DISCOVERY; PROVIDED, THAT SUCH STAKING NEED NOT TAKE PLACE ON ADJOINING PROPERTY UNLESS THE OWNER OF THE ADJOINING PROPERTY AUTHORIZES SUCH STAKING;
 - NOTIFY THE SANTA CRUZ COUNTY SHERIFF-CORONER AND THE CITY OF SANTA CRUZ PLANNING DIRECTOR OF THE DISCOVERY UNLESS NO HUMAN REMAINS HAVE BEEN DISCOVERED, IN WHICH CASE THE PROPERTY OWNER SHALL NOTIFY ONLY THE PLANNING DIRECTOR;
 - GRANT PERMISSION TO ALL DULY AUTHORIZED REPRESENTATIVES OF THE SHERIFF-CORONER AND THE PLANNING DIRECTOR TO ENTER ONTO THE PROPERTY AND TO TAKE ALL ACTIONS CONSISTENT WITH THIS SECTION.
- THE DIRECTOR OF PUBLIC WORKS, OR HIS AUTHORIZED REPRESENTATIVE, SHALL HAVE THE AUTHORITY TO "STOP WORK" IF THE WORK IS NOT BEING DONE IN ACCORDANCE WITH THE APPROVED PLANS.
- THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER 24 HOURS PRIOR TO START OF CONSTRUCTION.
- THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO, OR USES OF, THESE PLANS. ALL CHANGES MUST BE IN WRITING AND MUST BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
- EROSION CONTROL PLANS SHALL BE PERMITTED AND FILED WITH THE APPLICABLE AGENCIES PRIOR TO ANY CONSTRUCTION OR GRADING OPERATIONS.
- CONSTRUCTION REQUEST FOR INFORMATION (RFI) SHALL BE SUBMITTED TO ENGINEER IN WRITING AND ALLOW FOR A MINIMUM OF 3 WORKING DAYS FOR RESPONSE TIME.

UNDERGROUND FIRE PROTECTION NOTES

- THE UNDERGROUND FIRE PROTECTION SYSTEM SHOWN ON THESE PLANS IS SCHEMATIC ONLY AND IS NOT INTENDED TO BE AN INSTALLATION DRAWING. THIS DRAWING SHALL NOT BE USED AS A BASE SHEET FOR SHOP DRAWINGS WITHOUT WRITTEN APPROVAL FROM IFLAND ENGINEERS.
- THE UNDERGROUND FIRE PROTECTION SYSTEM INSTALLER SHALL PREPARE SHOP DRAWINGS SHOWING ALL INFORMATION REQUIRED BY NFPA 13, 24, AND THE LOCAL FIRE MARSHAL. THE SHOP DRAWINGS SHALL ALSO COMPLY WITH ALL OTHER NFPA REQUIREMENTS IN ADDITION TO LOCAL AND STATE REGULATIONS AND CODES.
- SHOP DRAWINGS SHALL BE SUBMITTED TO THE LOCAL FIRE MARSHAL FOR REVIEW AND APPROVAL, THE RATING AGENCY, AND THE ARCHITECT.
- THE UNDERGROUND FIRE PROTECTION SYSTEM INSTALLER SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVALS PRIOR TO START OF WORK.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF COMPLIANCE OF SHOP DRAWINGS TO ALL PLANS AND SPECIFICATIONS IN ADDITION TO CITY OR AGENCY STANDARD DETAILS AND SPECIFICATIONS.
- GENERAL CONTRACTOR AND UNDERGROUND FIRE PROTECTION SYSTEM INSTALLER IS RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS AND EQUIPMENT LOCATIONS IN ADDITION TO SPACE CONSTRAINTS, REQUIRED PAD AREAS, AND CLEARANCES FROM OTHER UTILITIES, TREES, OR PERMANENT STRUCTURES.
- PROVISIONS SHALL BE MADE IN THE SHOP DRAWINGS FOR MONITORING ALL VALVES AS REQUIRED BY THE LOCAL FIRE MARSHAL. SHOP DRAWINGS PREPARED BY THE UNDERGROUND FIRE PROTECTION SYSTEM INSTALLER SHALL COORDINATE WITH THE ELECTRICAL DESIGNER FOR INSTALLATION OF ALL ALARM SYSTEMS AS REQUIRED BY THE LOCAL FIRE MARSHAL.
- CONTRACTOR SHALL OBTAIN A PERMIT FROM THE LOCAL FIRE MARSHAL PRIOR TO INSTALLATION.

ACCESSIBILITY NOTES

- ALL NEW WORK SHALL CONFORM TO TITLE 24 OF THE CALIFORNIA ADMINISTRATIVE CODE AND THE AMERICANS WITH DISABILITIES ACT (ADA).
- NEW CURB RAMPS SHALL NOT EXCEED A SLOPE OF 1:12 (8.33%).
- ALL NEW ENTRANCE WALKS TO BUILDINGS SHALL NOT EXCEED A SLOPE OF 1:20 (5%) LONGITUDINALLY UNLESS RAILINGS ARE PROVIDED IN WHICH CASE THE SLOPE SHALL NOT EXCEED 1:12 (8.33%). SEE ARCHITECTURAL OR LANDSCAPE PLANS FOR RAILING REQUIREMENTS IF NOT IN THE SCOPE OF THE CIVIL PLANS.
- LANDINGS SHALL BE PROVIDED AT BUILDING ENTRANCES DESIGNATED AS ACCESSIBLE WITH A 2% MAXIMUM SLOPE IN ALL DIRECTIONS. CONTRACTOR SHALL VERIFY THAT ALL LANDINGS AT NEW BUILDING ENTRANCES COMPLY WITH CBC 2013 SECTION 11B-404.
- RAMPS ARE DEFINED AS ANY WALKWAY WITH A LONGITUDINAL SLOPE BETWEEN 1:20 (5%) AND 1:12 (8.33%). RAMPS SHALL HAVE A MINIMUM WIDTH OF 48" AND A MAXIMUM CROSS-SLOPE OF 2%. RAMPS EXCEEDING 30" VERTICAL DROP SHALL HAVE INTERMEDIATE (2% MAXIMUM SLOPE) LANDINGS HAVING A MINIMUM LENGTH IN THE DIRECTION OF TRAVEL OF 60". LANDINGS AT THE BOTTOM OF A RAMP OR CHANGES IN RAMP DIRECTION SHALL HAVE A MINIMUM LENGTH OF 72".
- MAXIMUM CROSS-SLOPE ON ANY SIDEWALK OR RAMP SHALL BE 2%. MAXIMUM SLOPE IN ANY DIRECTION WITHIN PARKING STALLS DESIGNATED AS ACCESSIBLE PARKING STALLS SHALL BE 2%.
- ANY CATCHBASINS OR DRAINAGE INLETS LOCATED WITHIN DESIGNATED ACCESSIBLE PATHS OF TRAVEL SHALL BE INSTALLED WITH HEEL PROOF GRATES.
- CONTRACTOR SHALL ENSURE AND CONSTRUCT ALL IMPROVEMENTS WITH ADA COMPLIANCE. THIS SHALL INCLUDE BUT NOT LIMITED TO PATHWAYS, RAMPS, BUILDING ENTRANCES, ROADWAYS, ETC.

GEOTECHNICAL ENGINEER

GEOTECHNICAL INVESTIGATIVE REPORT FOR THIS PROJECT WAS OBTAINED FROM ROCK SOLID ENGINEERING, PROJECT NO. 21064, DATED FEBRUARY 8, 2022.

SURVEY INFORMATION

THE EXISTING PROPERTY BOUNDARY AND TOPOGRAPHIC DATA SHOWN HEREON WAS OBTAINED BY A UAV AND SITE SURVEY CONDUCTED BY IFLAND SURVEY, JOB NO. G19055, DATED 01/06/2020.

BENCHMARK

THE ELEVATIONS SHOWN ON THIS SURVEY ARE BASED ON NAVD88 DATUM DERIVED FROM GPS OBSERVATIONS AND COMPUTED USING GEOID12B.

LOCAL BASIS OF BEARINGS – MAG NAIL AND SHINER IN TOP BACK OF CURB – ELEVATION = 72.97'

BASIS OF BEARINGS

THE BASIS OF BEARINGS FOR THIS SURVEY IS BETWEEN STANDARD SANTA CRUZ CITY STREET MONUMENTS FOUND ALONG NATURAL BRIDGES DRIVE AS SHOWN ON THE RECORD OF SURVEY MAP FILED FOR RECORD IN VOLUME 80 OF MAPS, AT PAGE 51, SANTA CRUZ COUNTY RECORDS. THE BEARINGS SHOWN ON THIS SURVEY IS BASED ON NAD83 BASED ON GPS OBSERVATIONS. ROTATE BEARINGS COUNTER-CLOCKWISE 000°53'40" TO OBTAIN RECORD BEARINGS AS SHOWN ON SAID RECORD OF SURVEY MAP.

BASIS OF BEARINGS: S03°53'00"E NAD83 (S04°46'40"E 80M51)

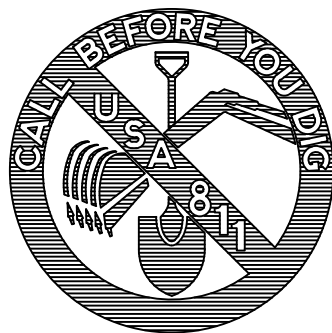
INDEX OF CIVIL SHEETS

SHEET NO.

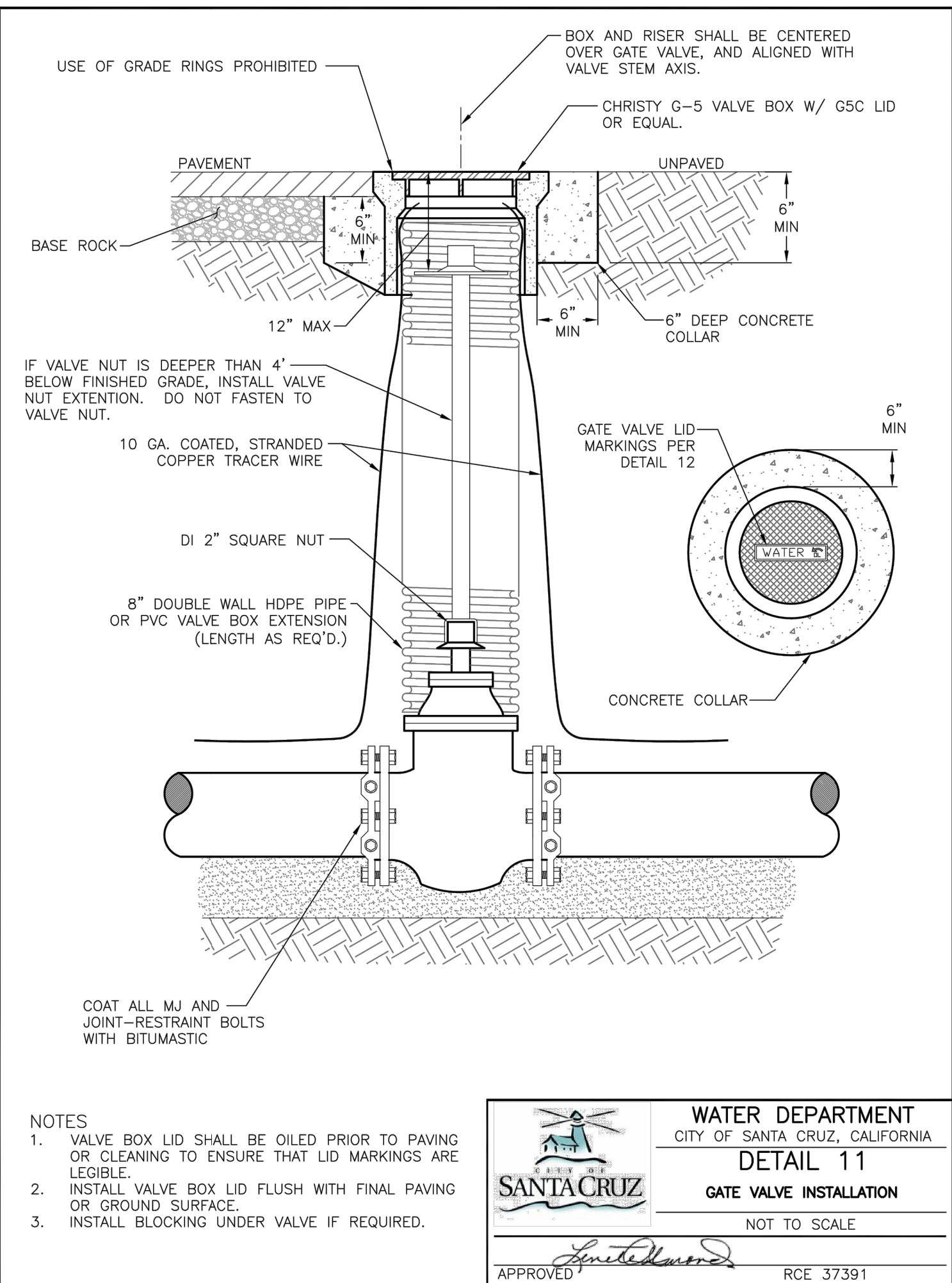
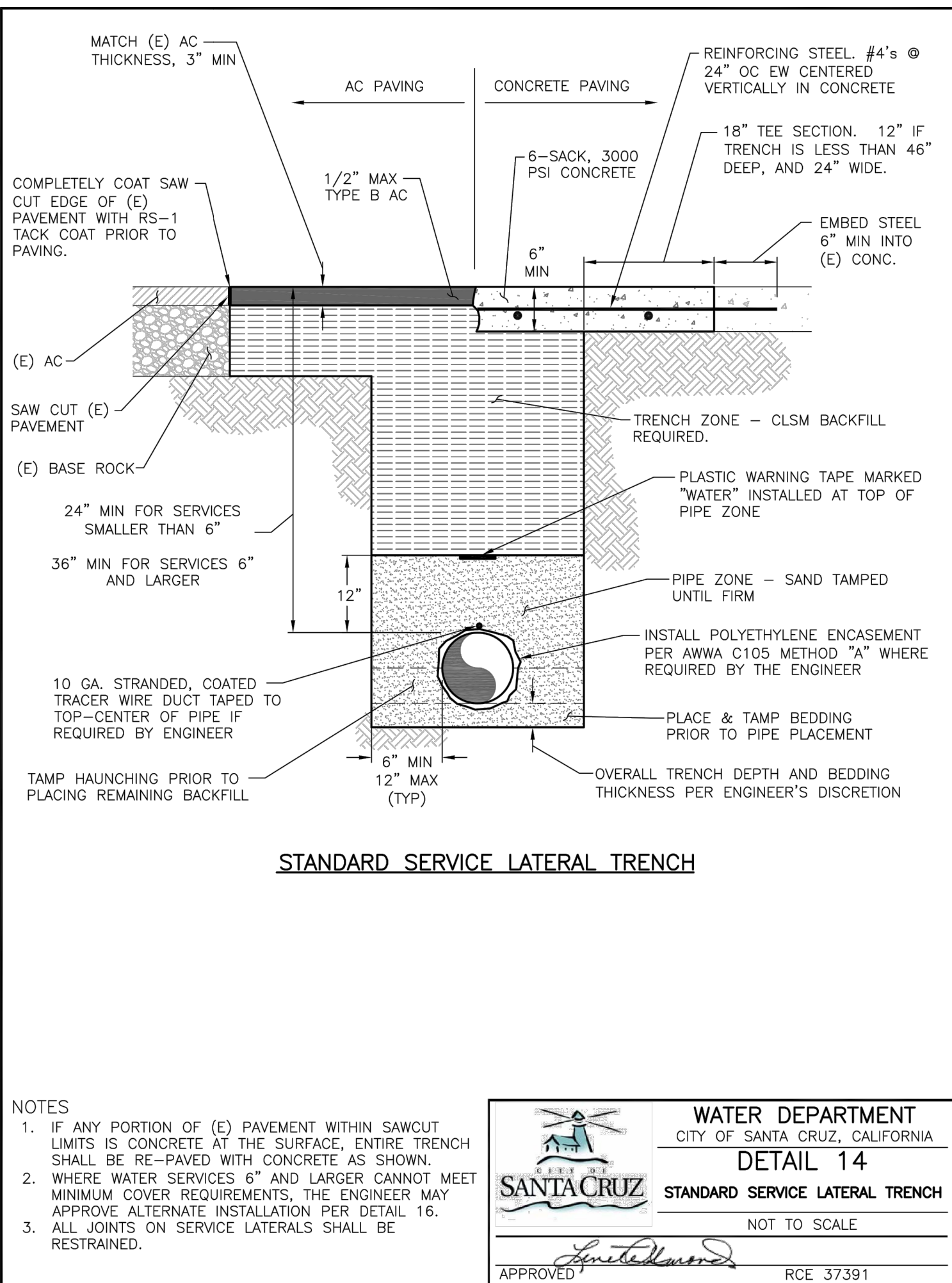
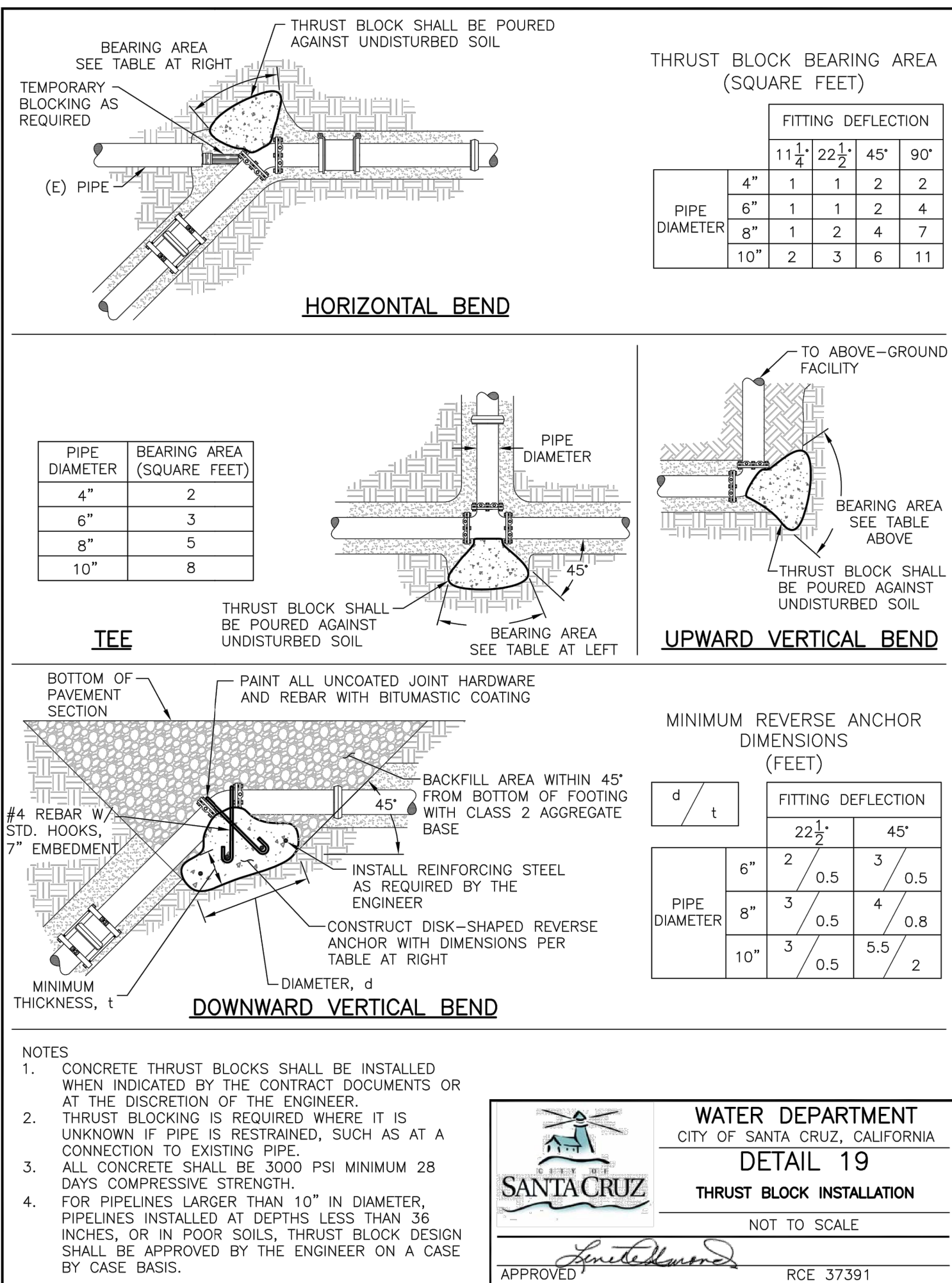
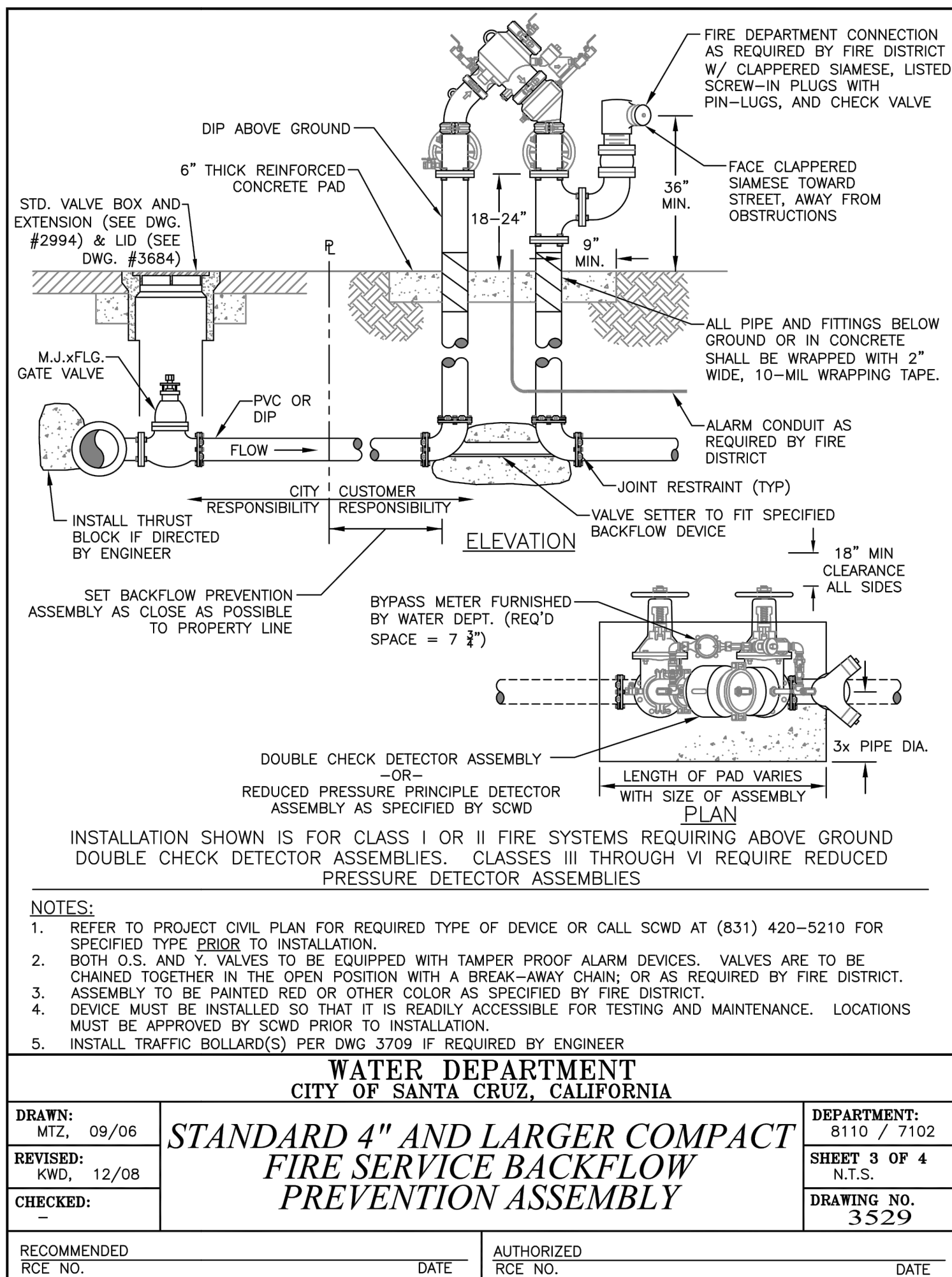
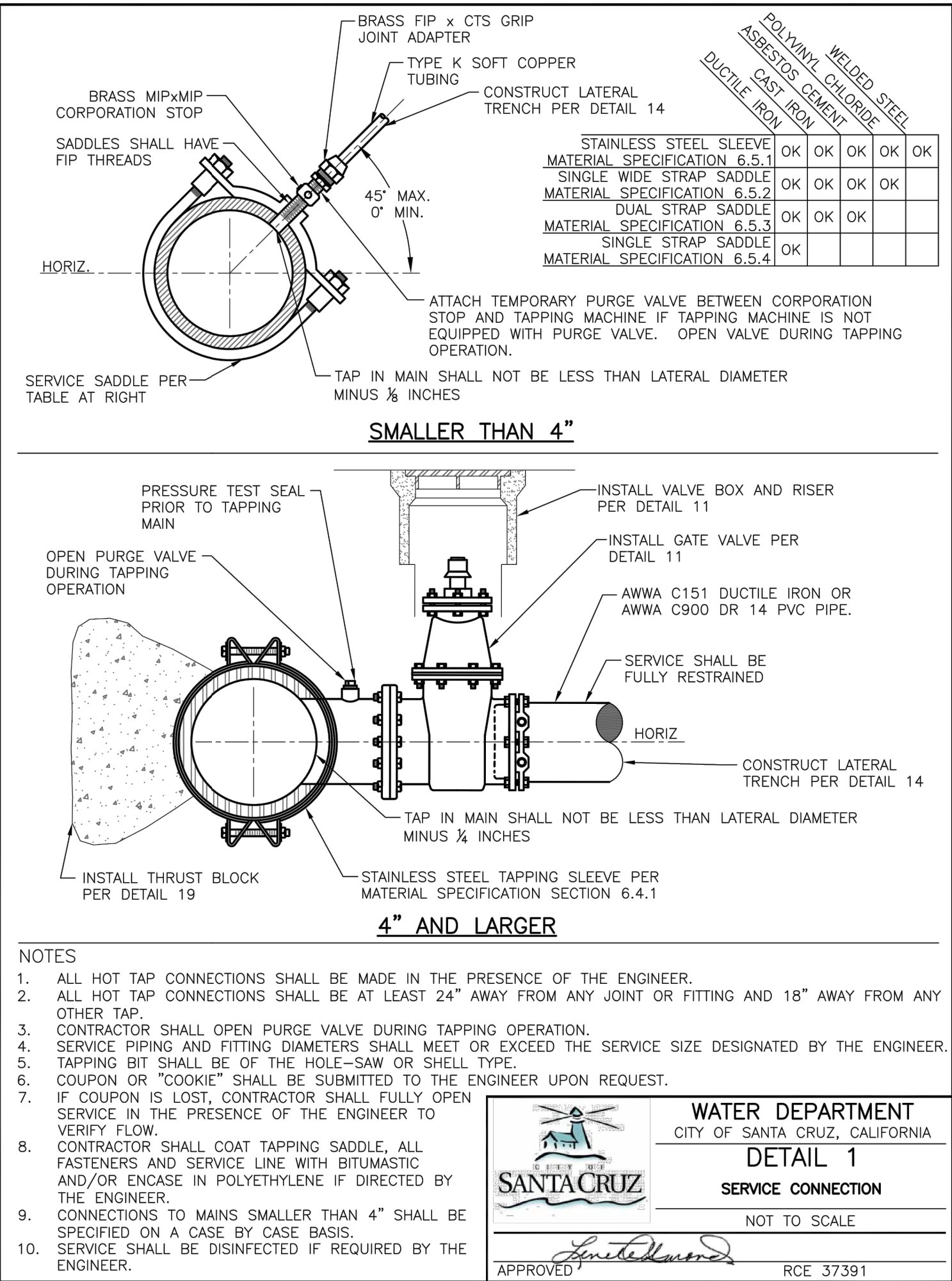
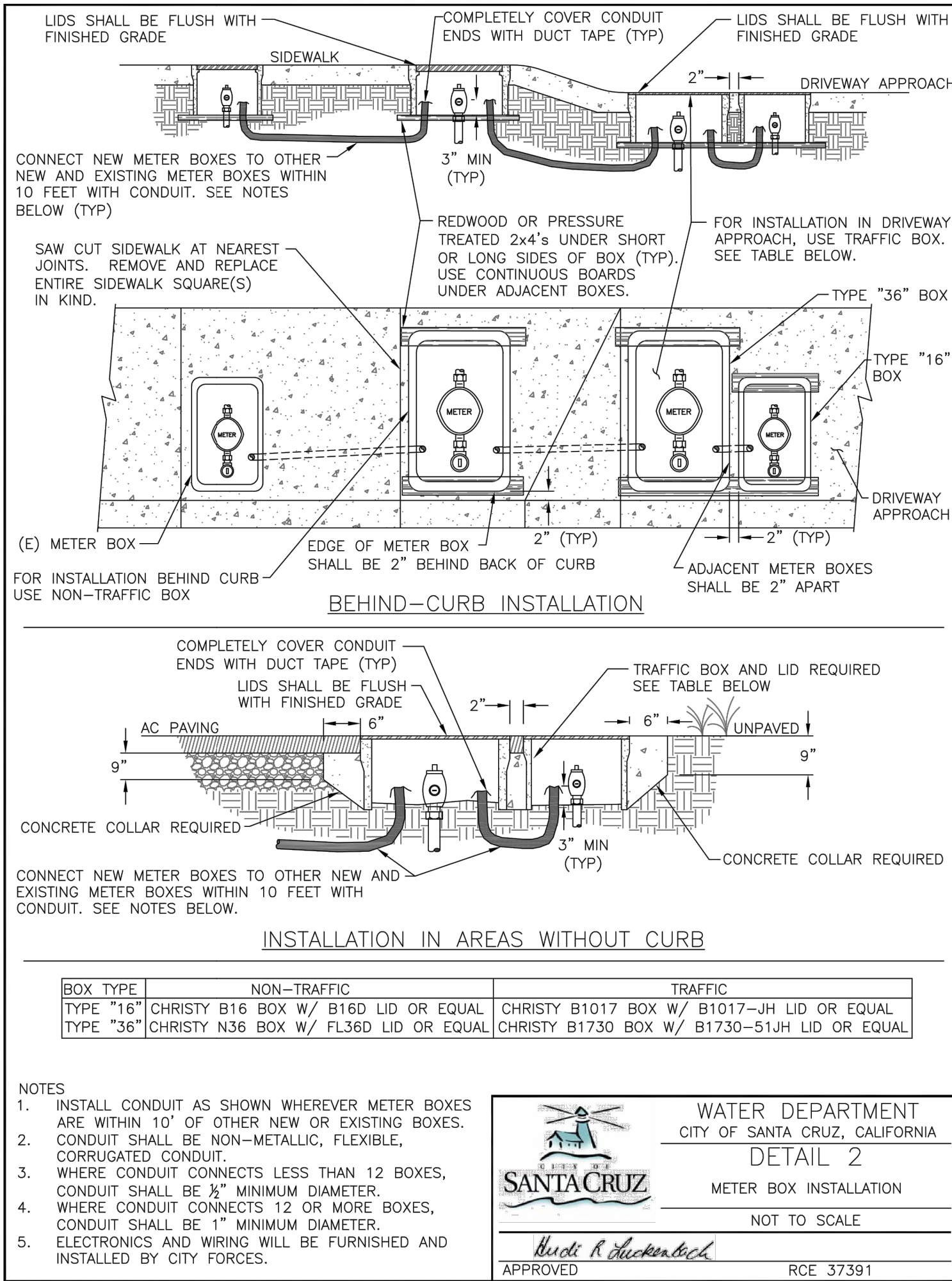
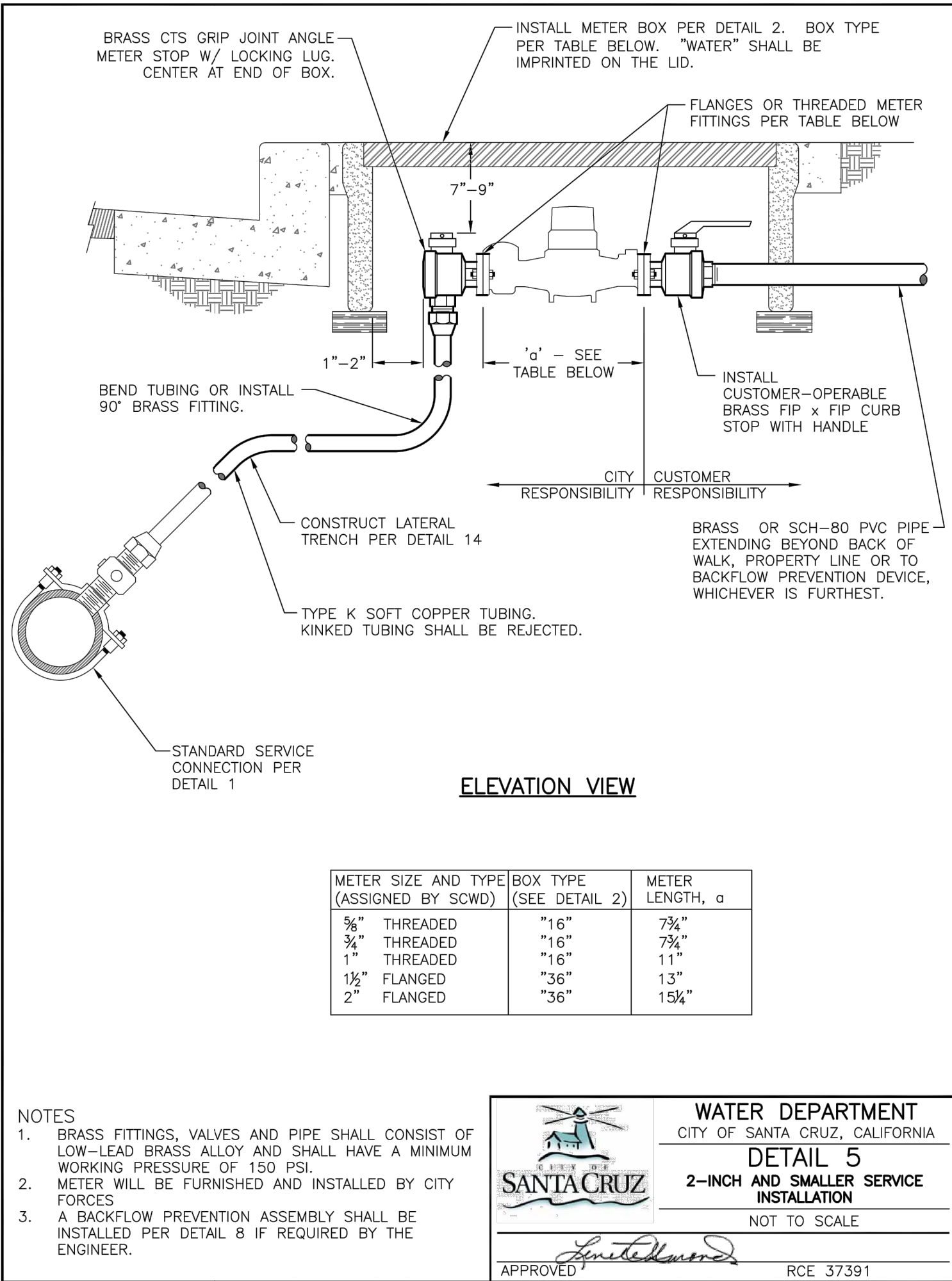
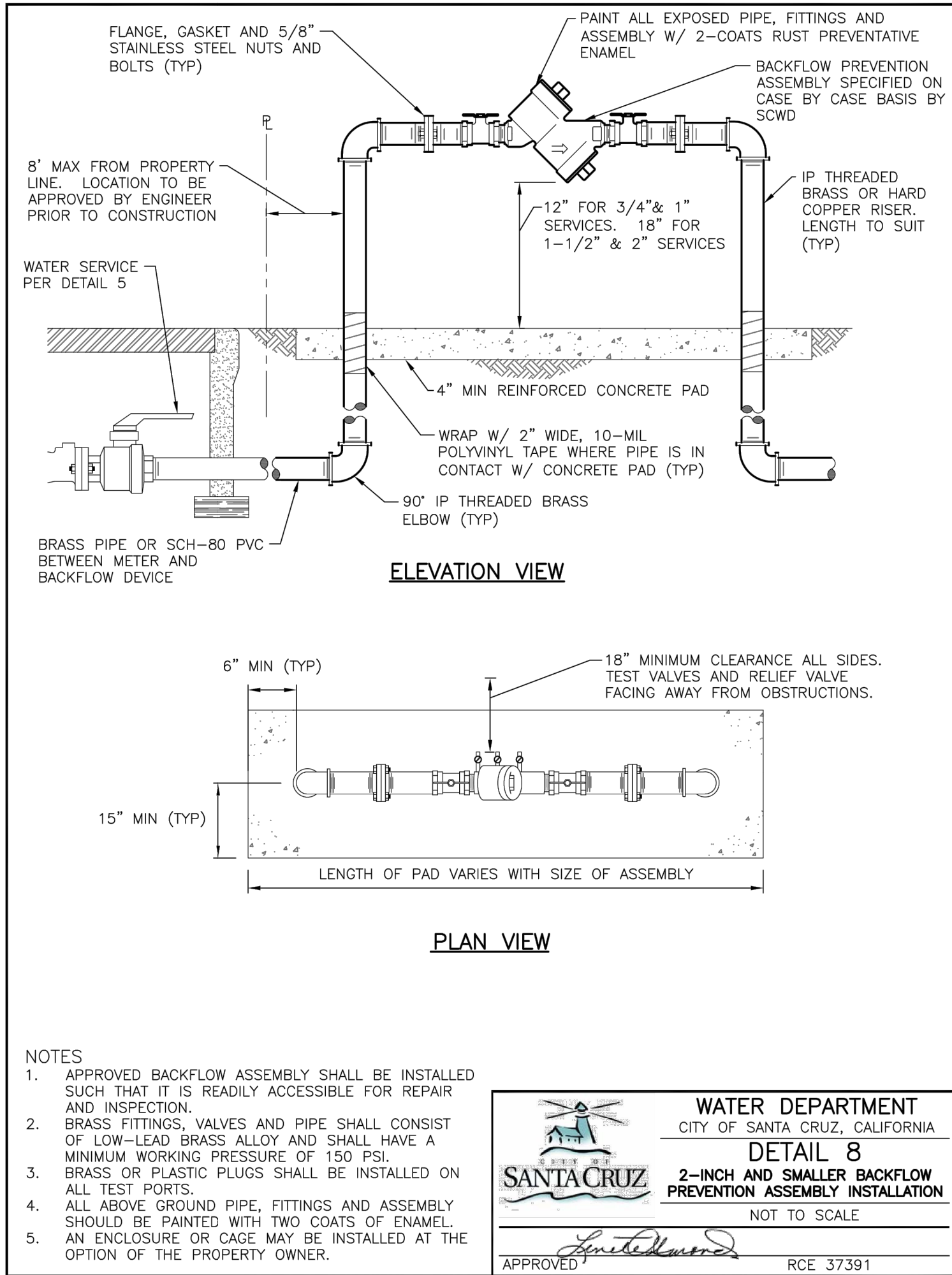
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C6.1
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C7.1

DESCRIPTION

GENERAL NOTES, ABBREVIATIONS & LEGEND
AGENCY STANDARD DETAILS
ON-SITE DETAILS
GRADING & DRAINAGE PLAN
UTILITY PLAN
PAVING PLAN
EROSION CONTROL NOTES & DETAILS
EROSION CONTROL PLAN
STORMWATER CONTROL DETAILS
STORMWATER CONTROL PLAN



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REVISION	
STAFF	
BY	
ROUND 1 PLAN CHECK COMMENTS	
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GENERAL NOTES, ABBREVIATIONS & LEGEND HOUSING AUTHORITY OF SANTA CRUZ COUNTY 415 NATURAL BRIDGES, SANTA CRUZ, CALIFORNIA	
APN 003-011-06 CONSTRUCTION DOCUMENT PHASE	DRAWN STAFF
DATE 08/01/2022	DESIGN JPI
SHEET C1.0	
JOB NO. 20032	



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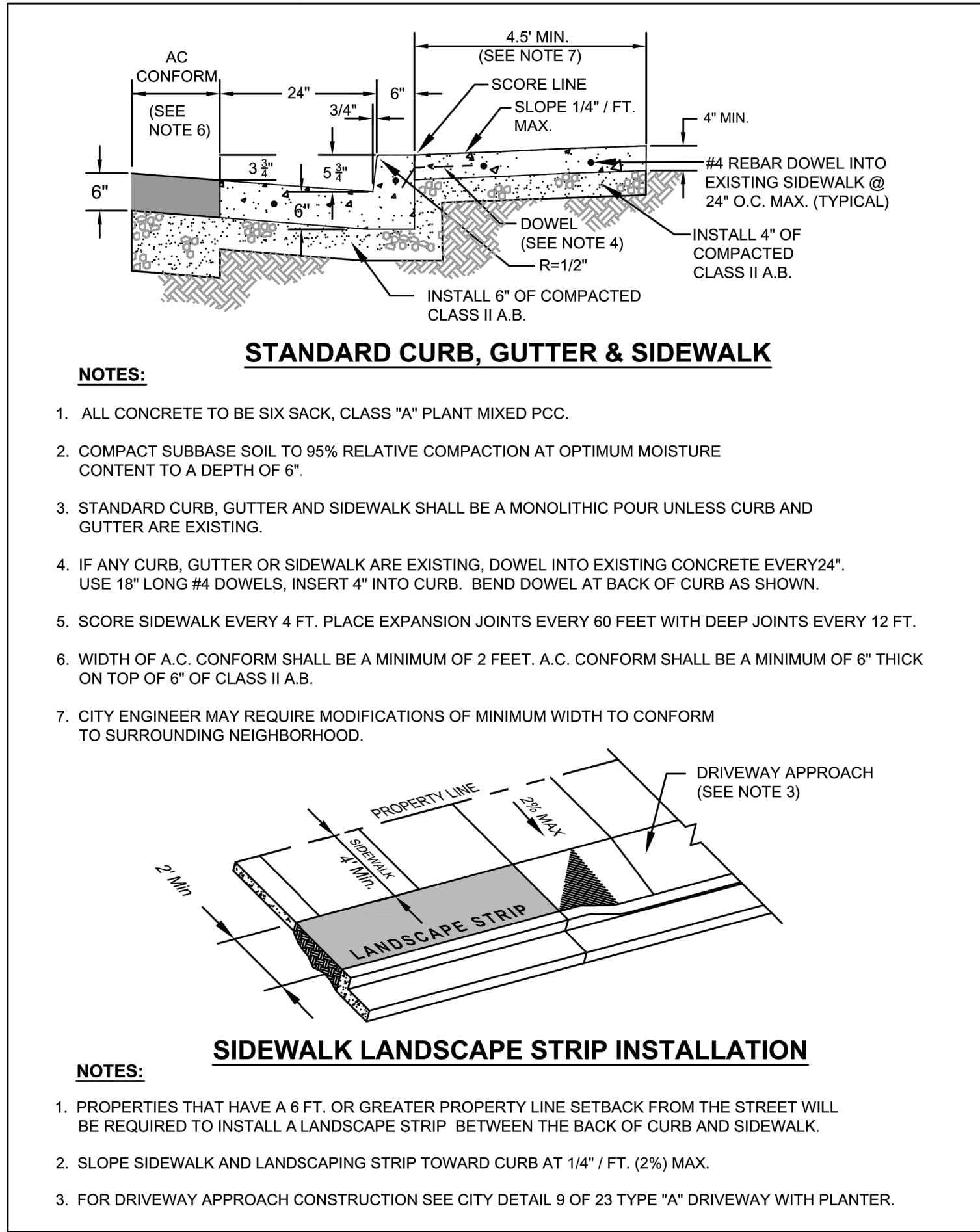
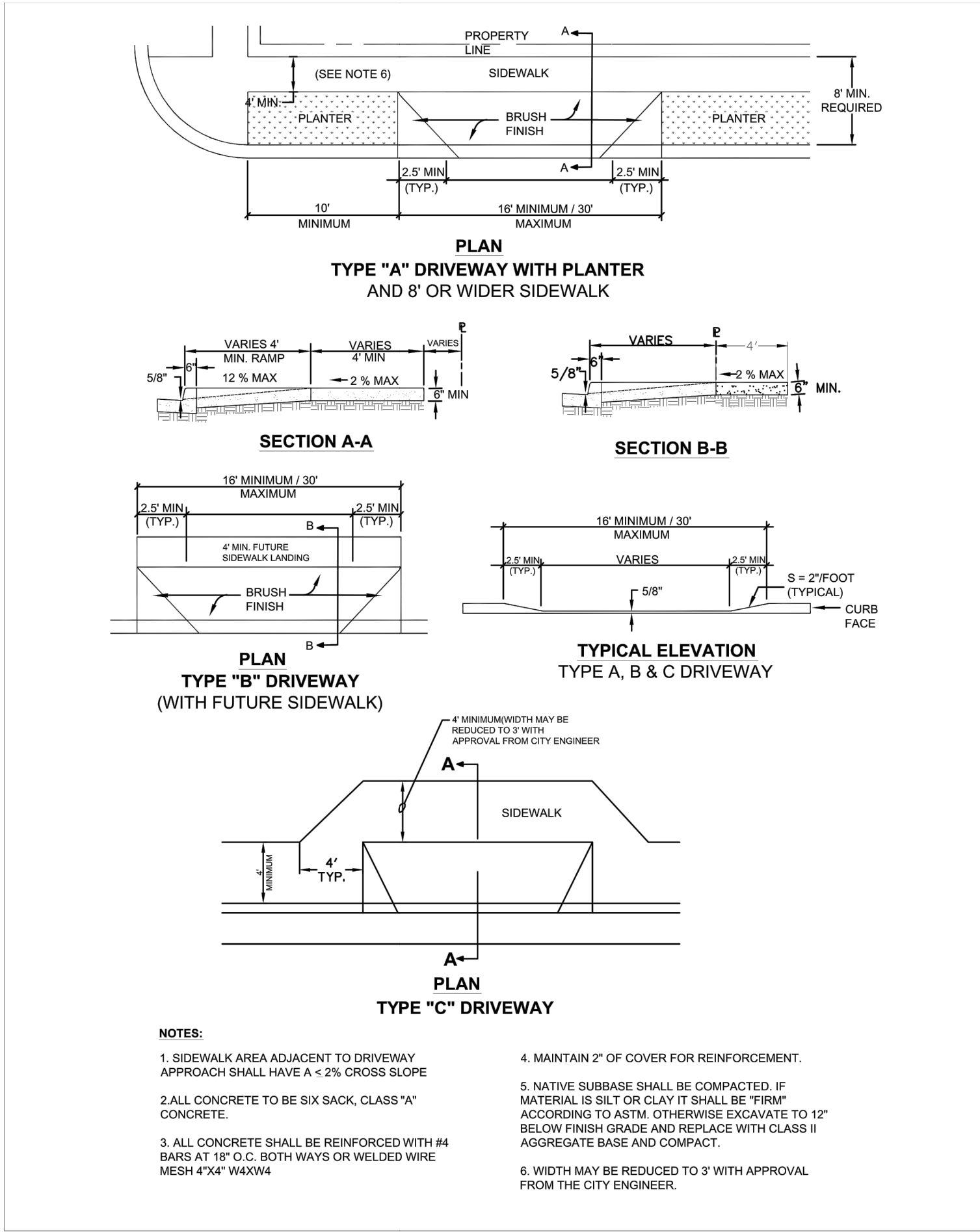
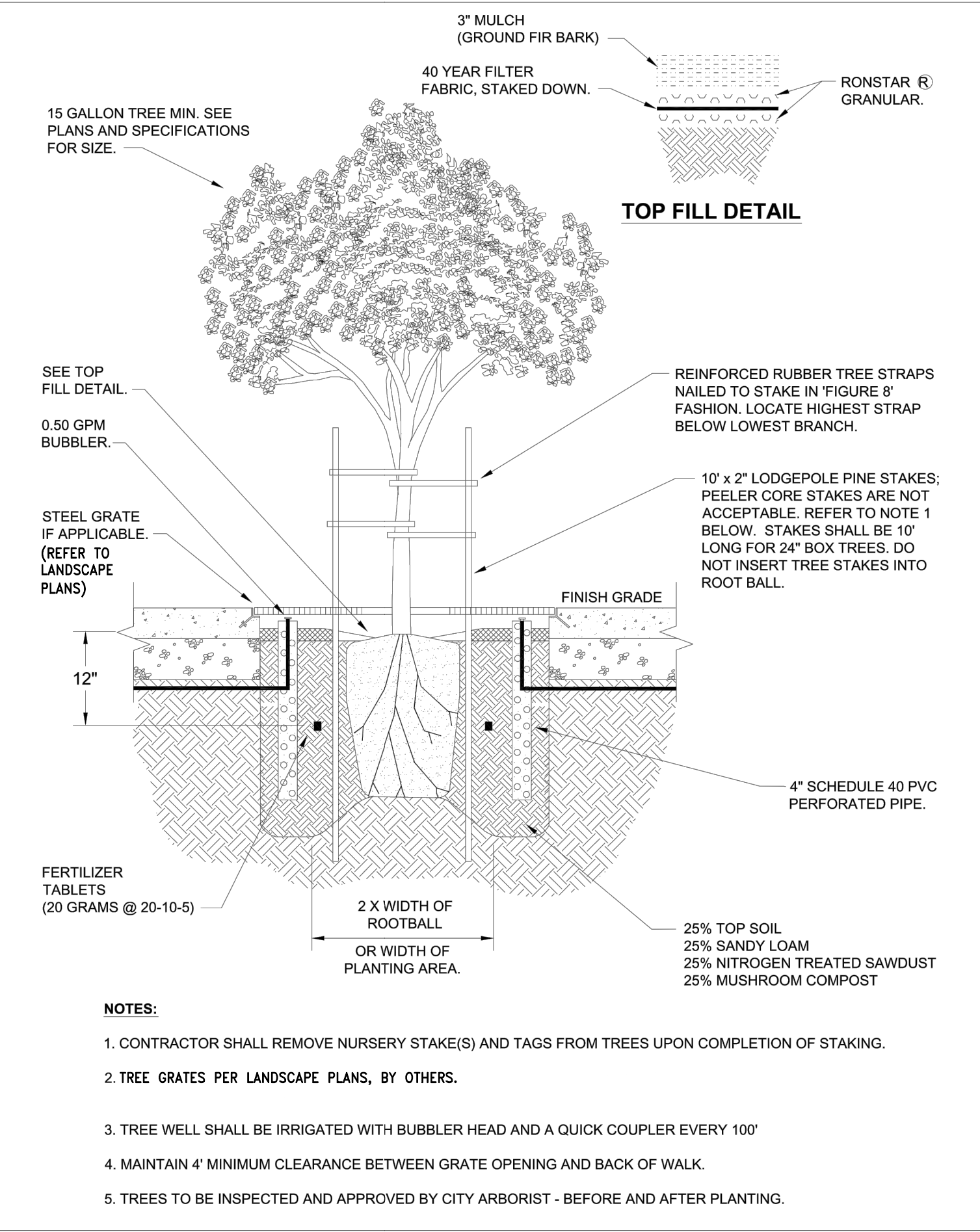
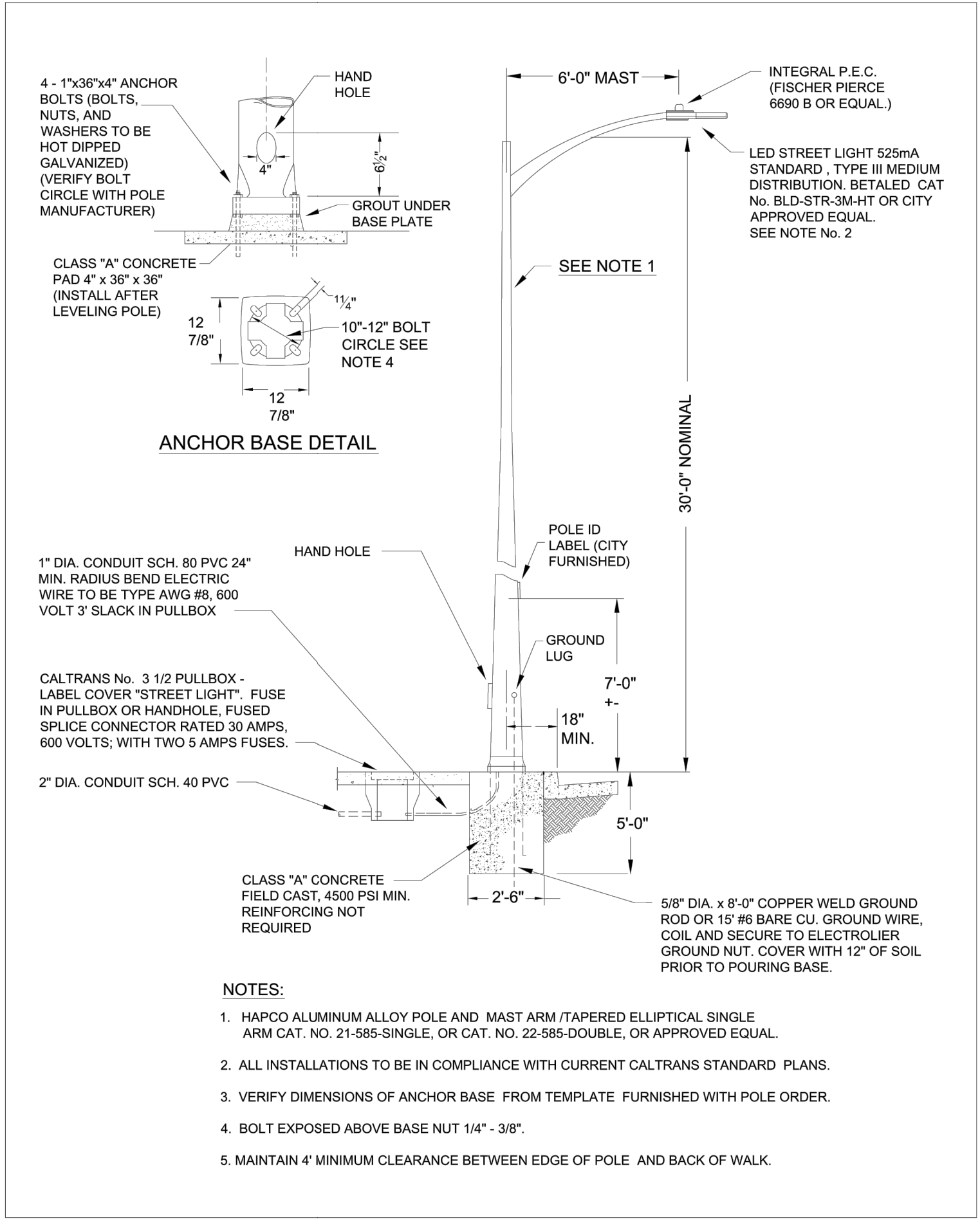
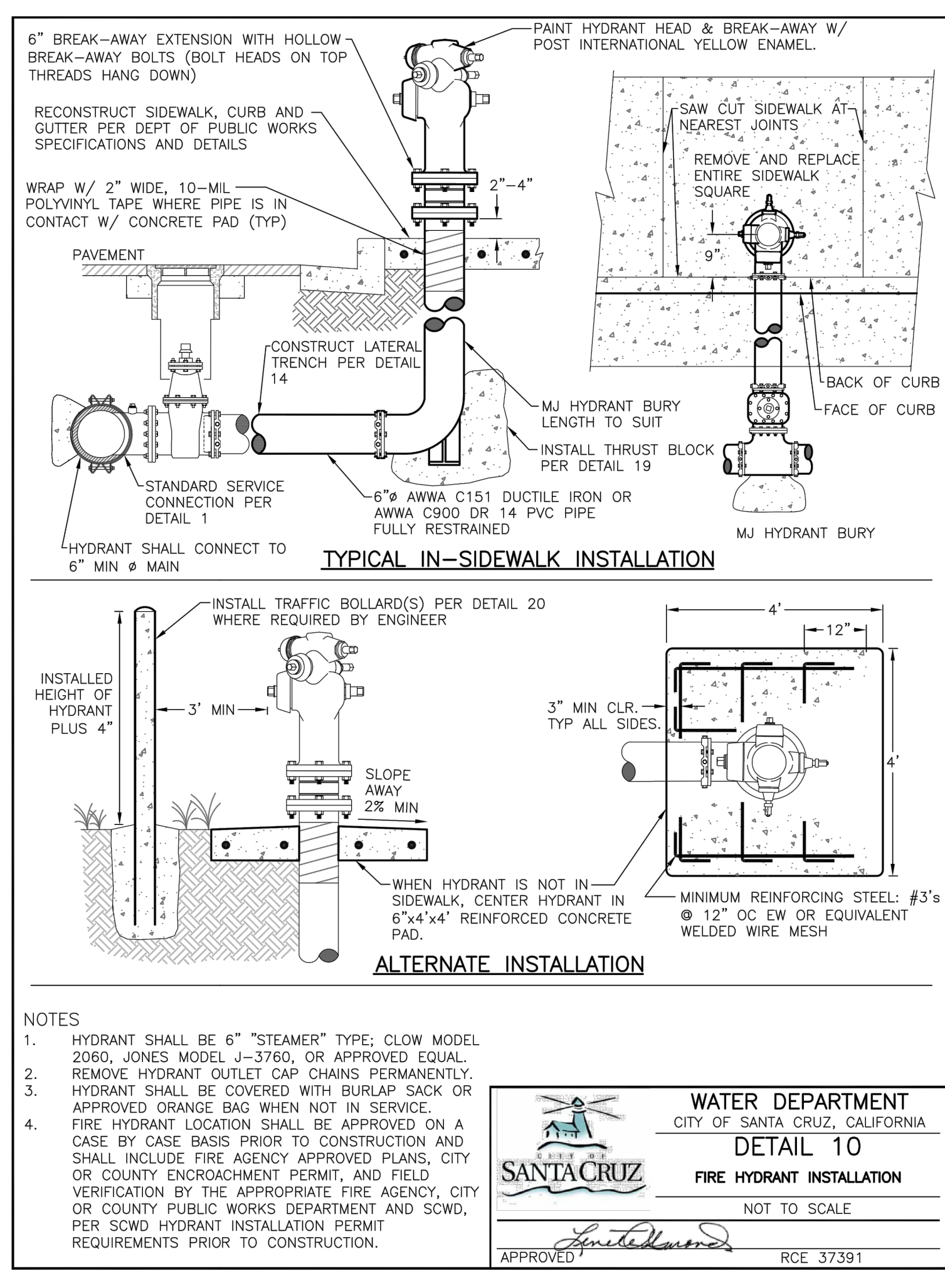
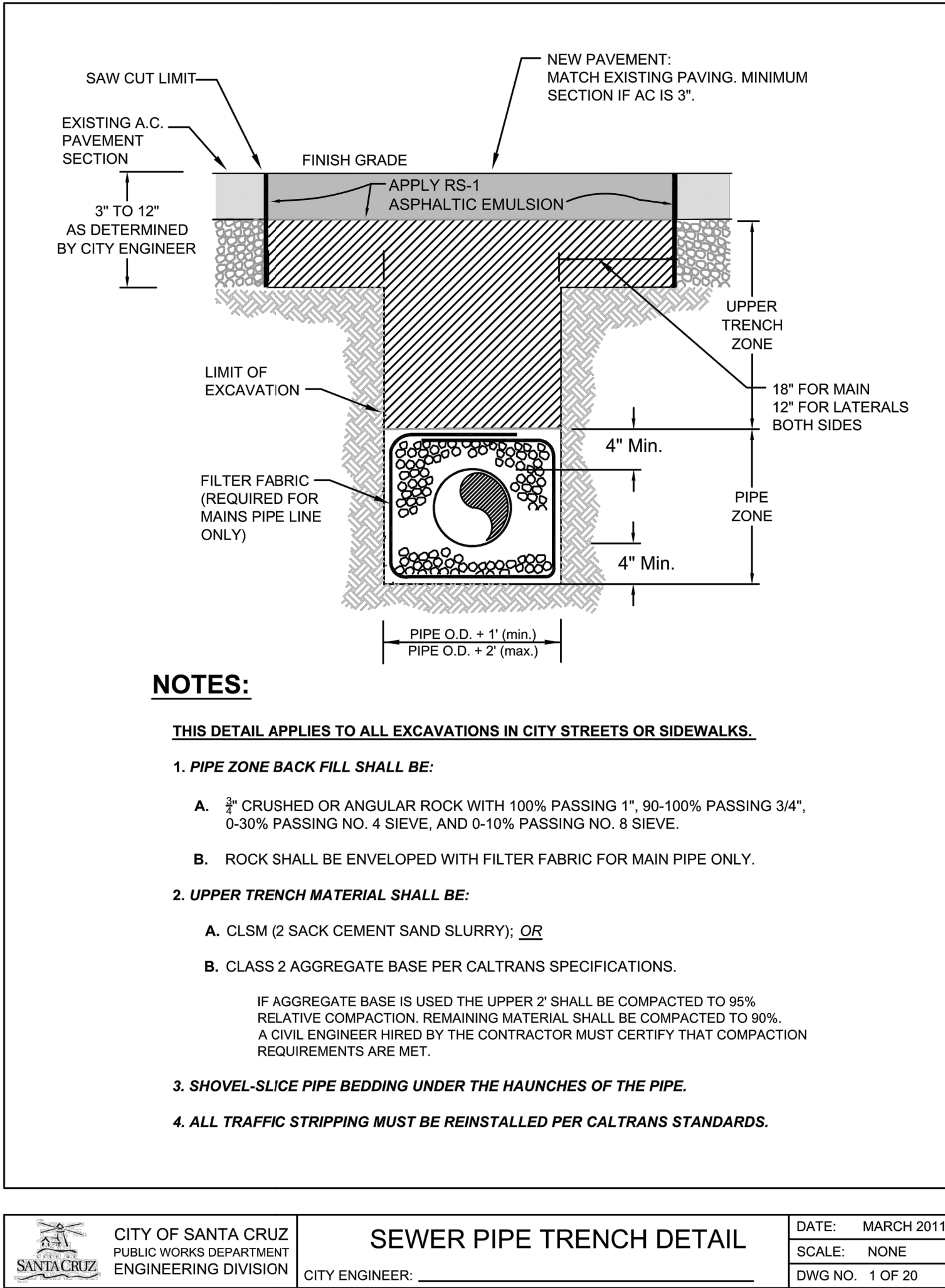
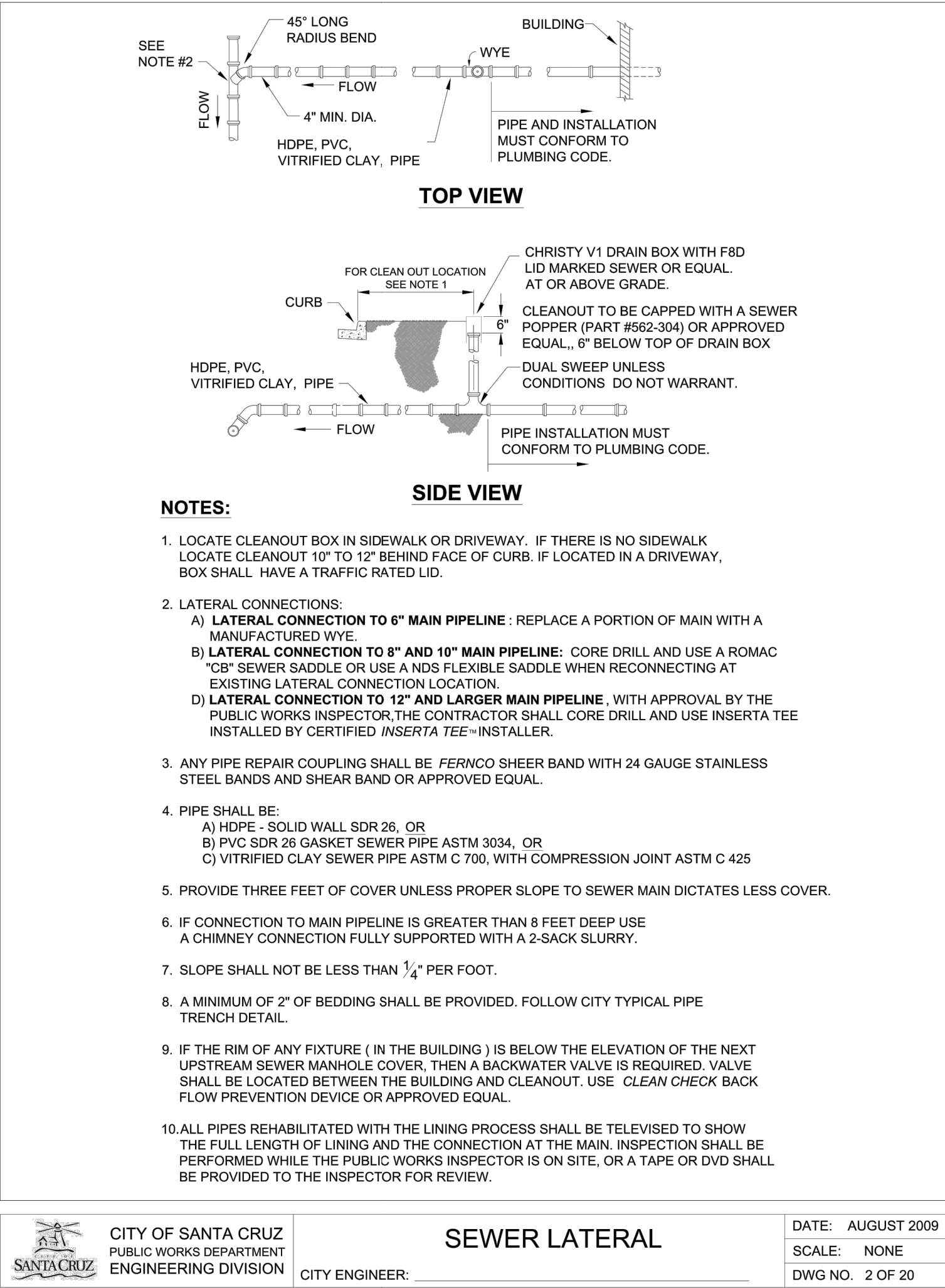
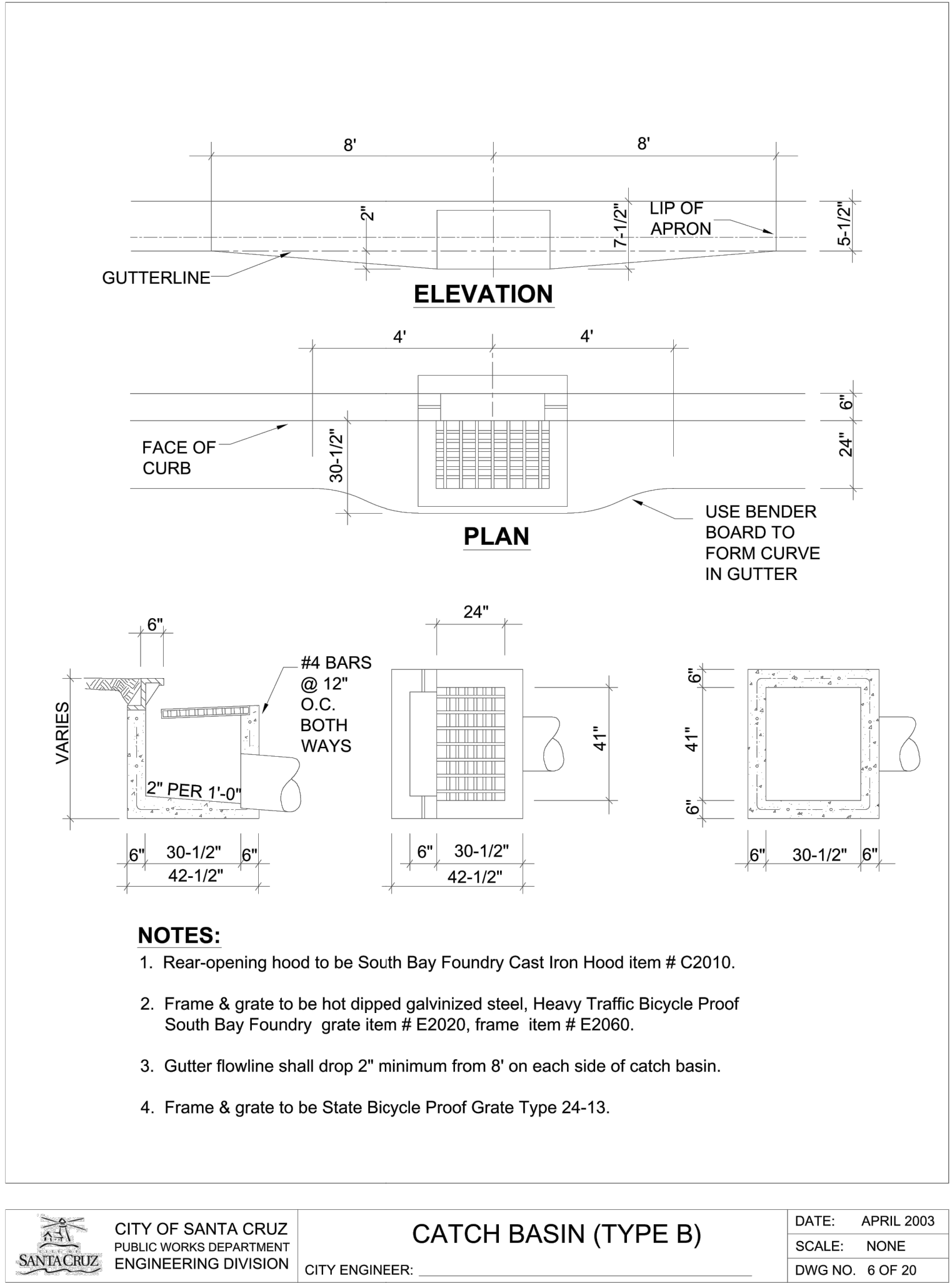
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AGENCY STANDARD DETAILS
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415 NATURAL BRIDGES, SANTA CRUZ, CALIFORNIA

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DATE: 08/01/2022

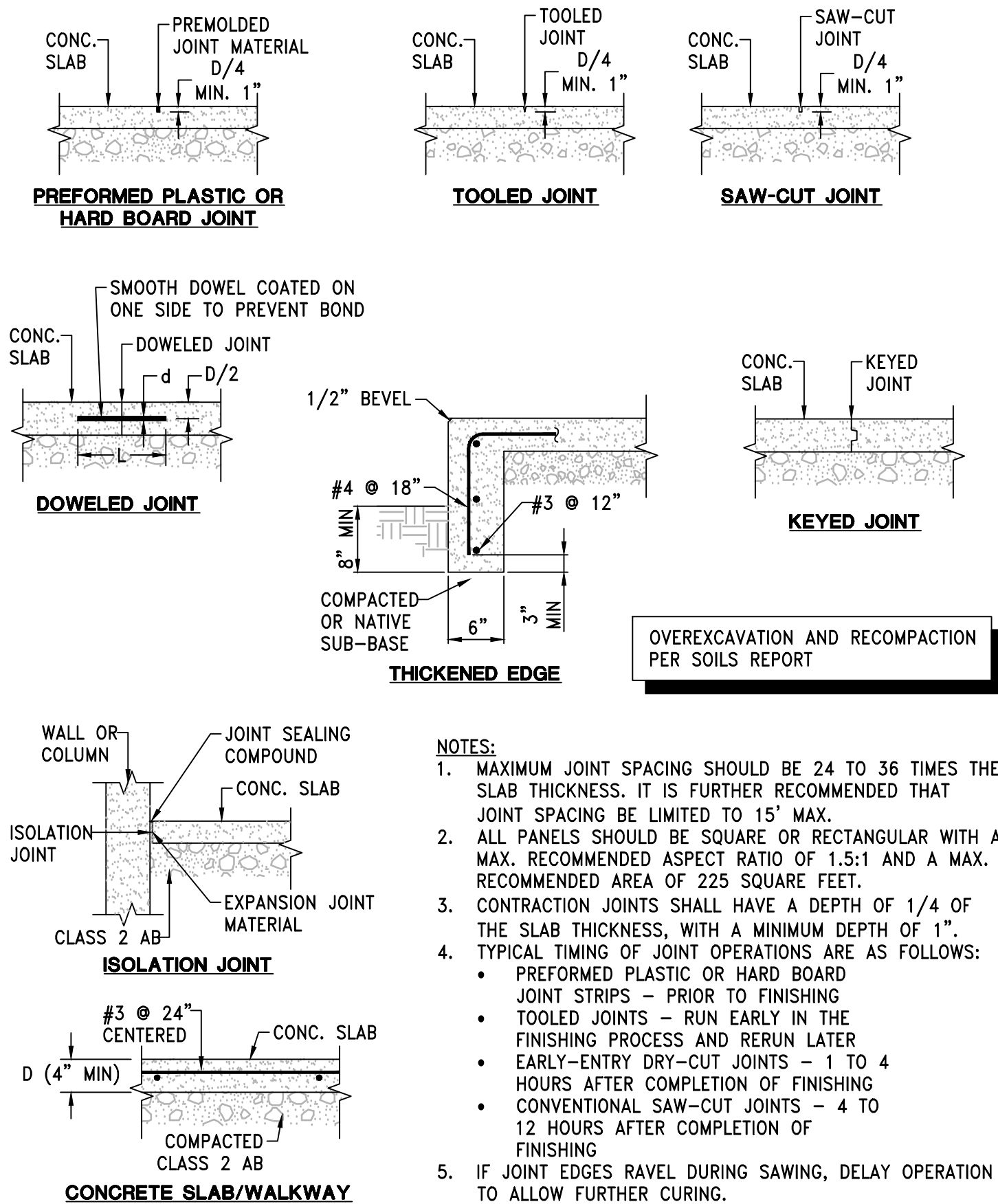
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JOB NO. 20032



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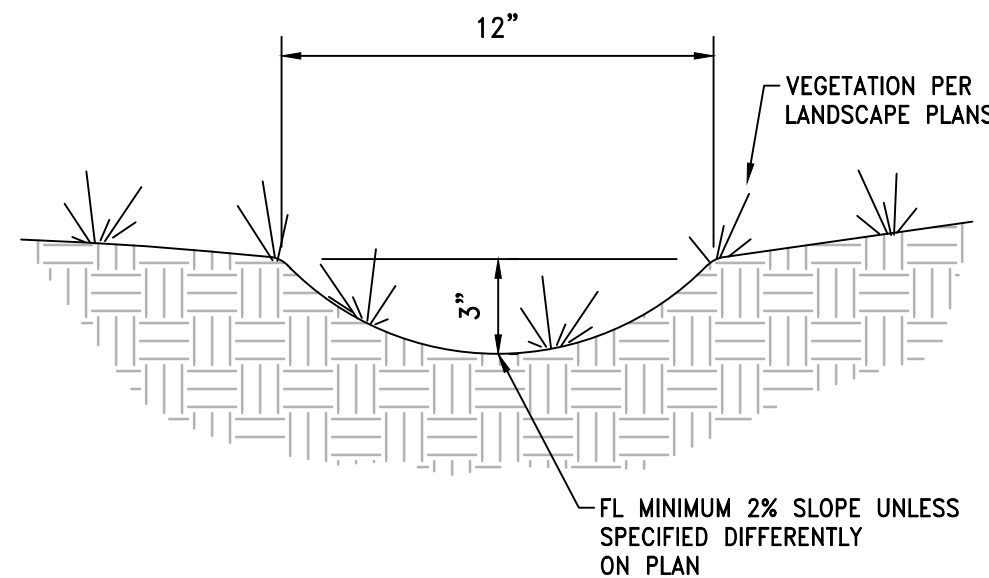


CONCRETE WALKWAYS

NTS

- NOTES:**
1. MAXIMUM JOINT SPACING SHOULD BE 24 TO 36 TIMES THE SLAB THICKNESS. IT IS FURTHER RECOMMENDED THAT JOINT SPACING BE LIMITED TO 15' MAX.
 2. ALL PANELS SHOULD BE SQUARE OR RECTANGULAR WITH A MAX. RECOMMENDED ASPECT RATIO OF 1.5:1 AND A MAX. RECOMMENDED AREA OF 225 SQUARE FEET.
 3. CONTRACTION JOINTS SHALL HAVE A DEPTH OF 1/4 OF THE SLAB THICKNESS, WITH A MINIMUM DEPTH OF 1".
 4. TYPICAL TIMING OF JOINT OPERATIONS ARE AS FOLLOWS:
 - PREFORMED PLASTIC OR HARD BOARD JOINT STRIPS – PRIOR TO FINISHING
 - TOOLED JOINTS – RUN EARLY IN THE FINISHING PROCESS AND RERUN LATER
 - EARLY-ENTRY DRY-CUT JOINTS – 1 TO 4 HOURS AFTER COMPLETION OF FINISHING
 - CONVENTIONAL SAW-CUT JOINTS – 4 TO 12 HOURS AFTER COMPLETION OF FINISHING
 5. IF JOINT EDGES RAVEL DURING SAWING, DELAY OPERATION TO ALLOW FURTHER CURING.

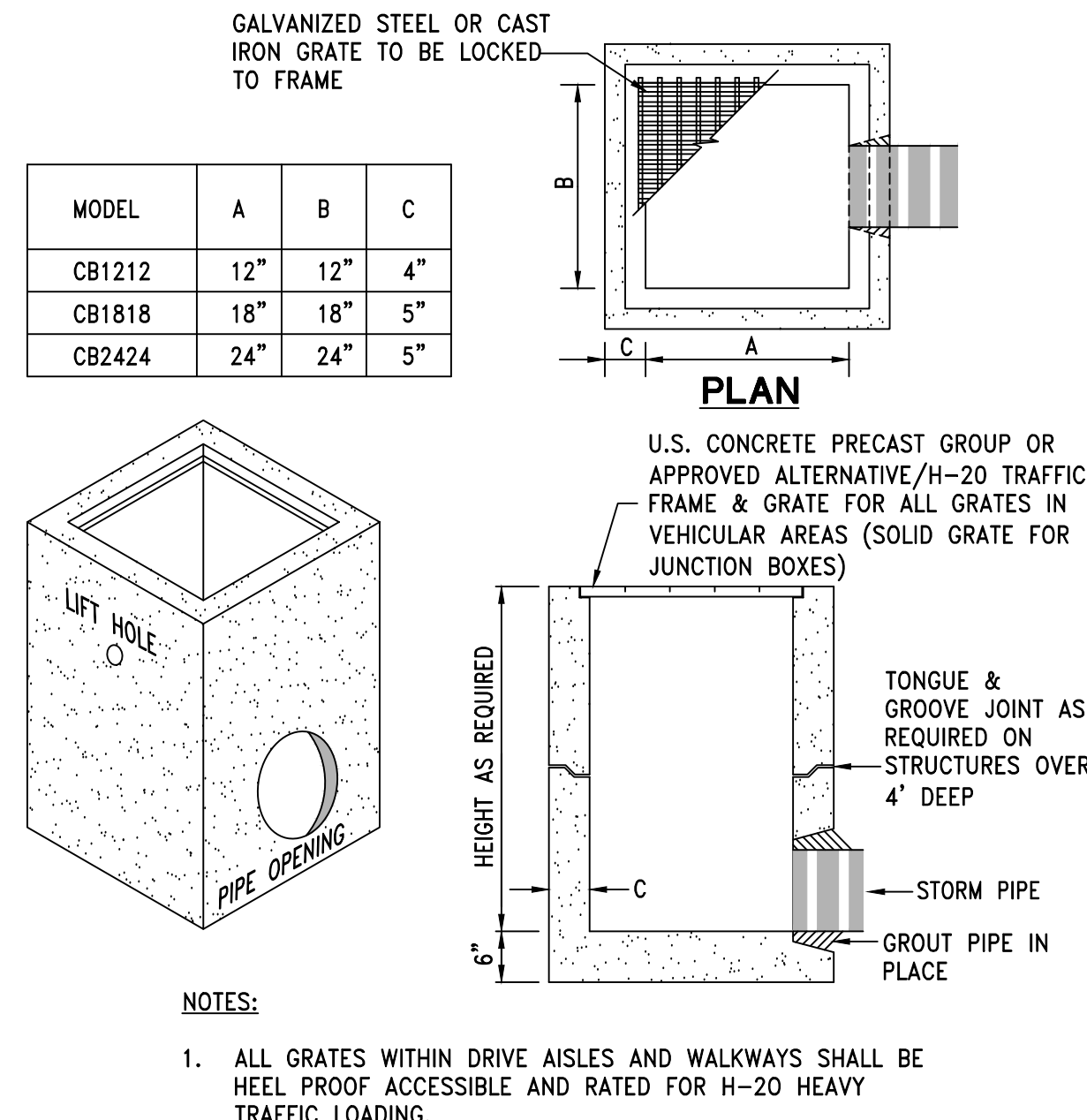
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SWALE - GRADED

NTS

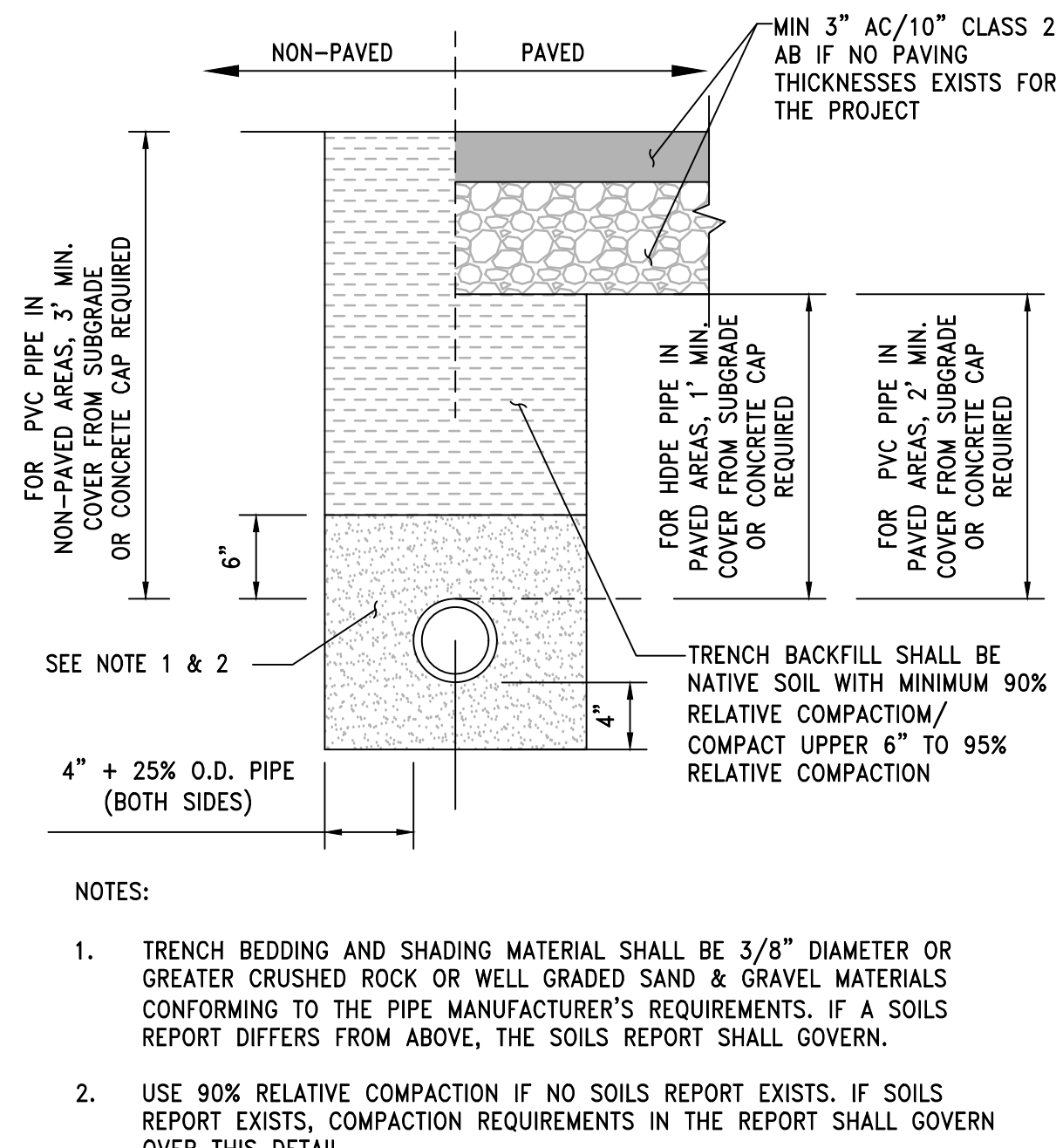
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CATCH BASIN

NTS

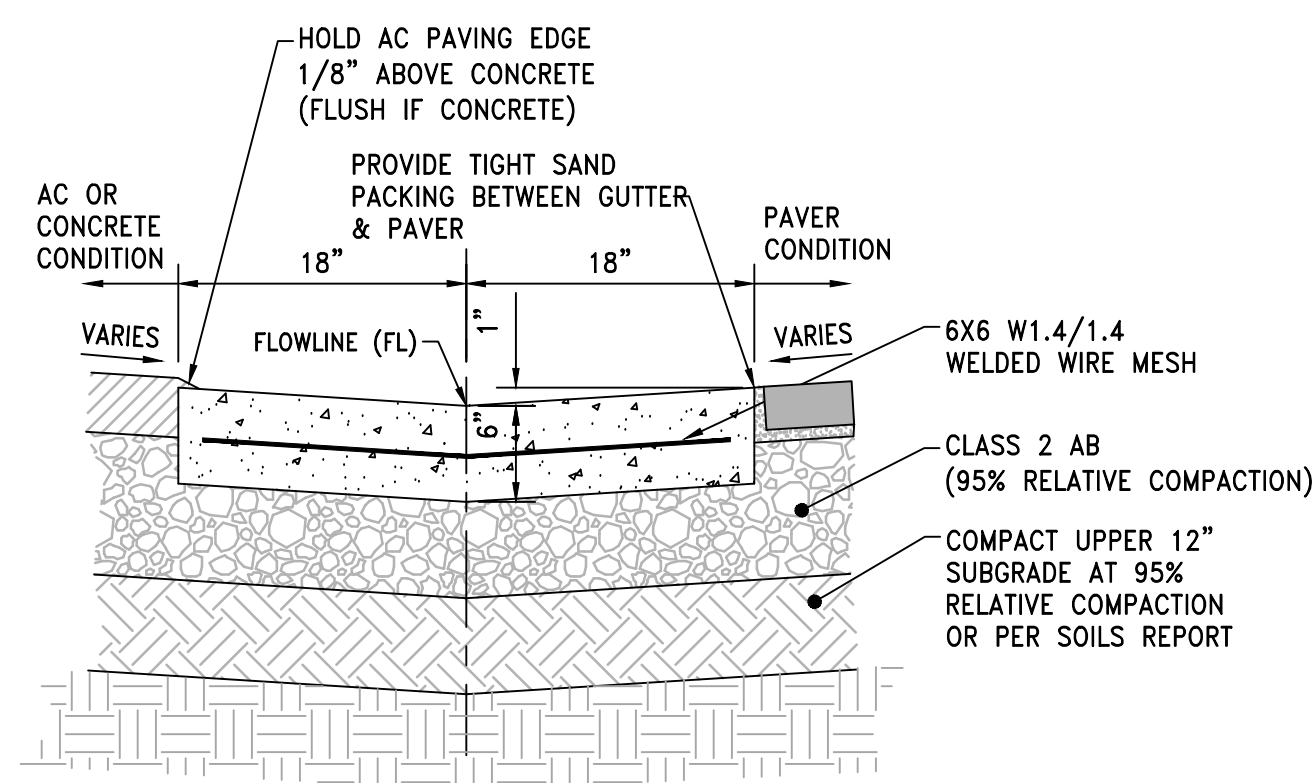
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TRENCH DETAIL

NTS

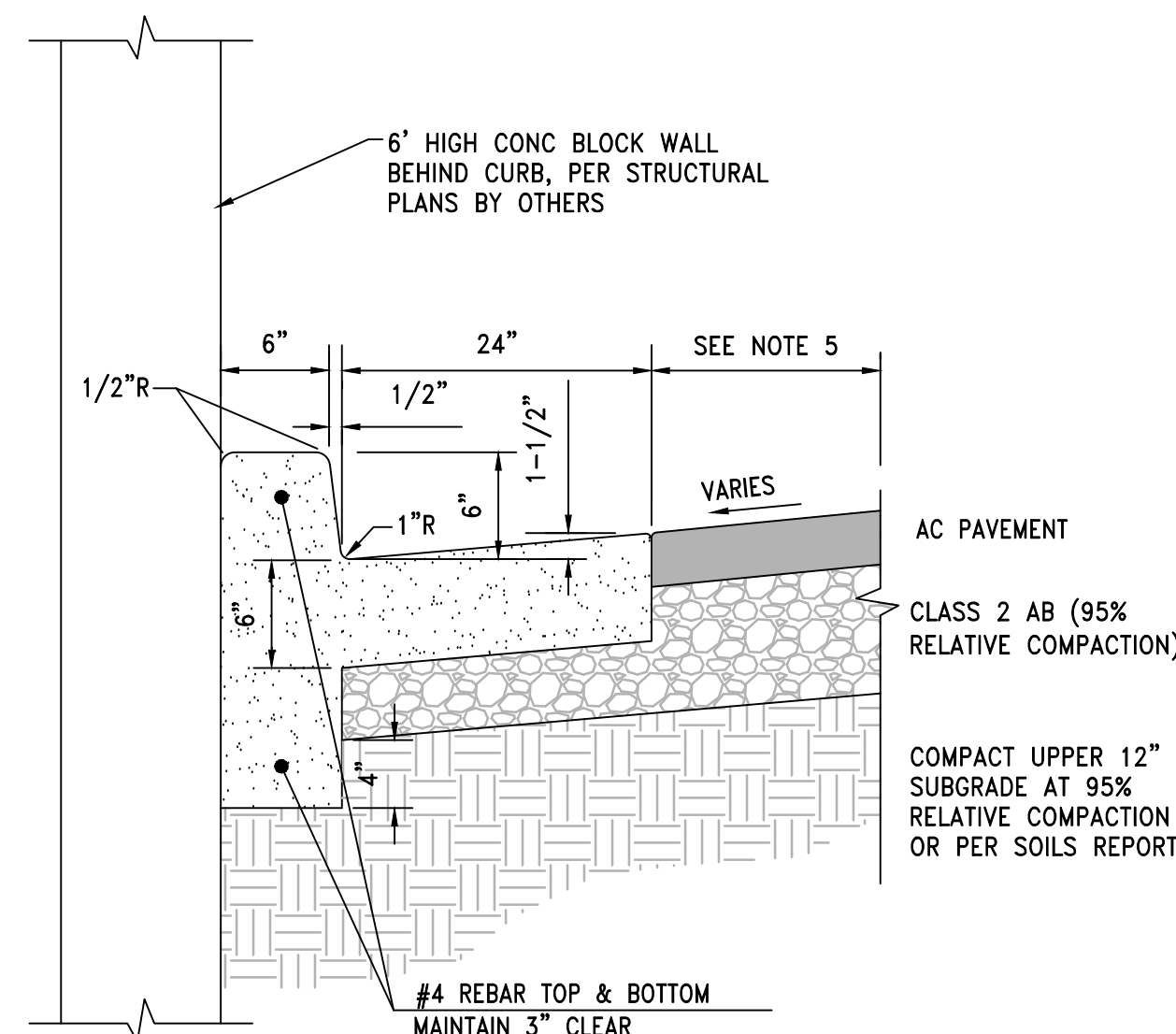
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VALLEY GUTTER

NTS

- NOTES:**
1. USE PORTLAND CEMENT CONCRETE CONTAINING NOT LESS THAN 564 LBS. OF TYPE 1 OR 1/II PORTLAND CEMENT PER CUBIC YARD WITH A COMPRESSIVE STRENGTH OF NOT LESS THAN 3,000 PSI. AT 28 DAYS, WITH A MEDIUM BROOM FINISH.
 2. INSTALL 3/8" ASPHALT IMPREGNATED FIBER EXPANSION JOINTS AT 60' O.C. AND AT ALL CHANGE IN DIRECTION.
 3. SEE SOILS REPORT FOR COMPACTION REQUIREMENTS BENEATH GUTTER IF DIFFERENT FROM DETAIL.
 4. SUBGRADE CONSTRUCTION AND COMPACTION SHALL BE PERFORMED UNDER THE SUPERVISION OF THE SOILS ENGINEER.

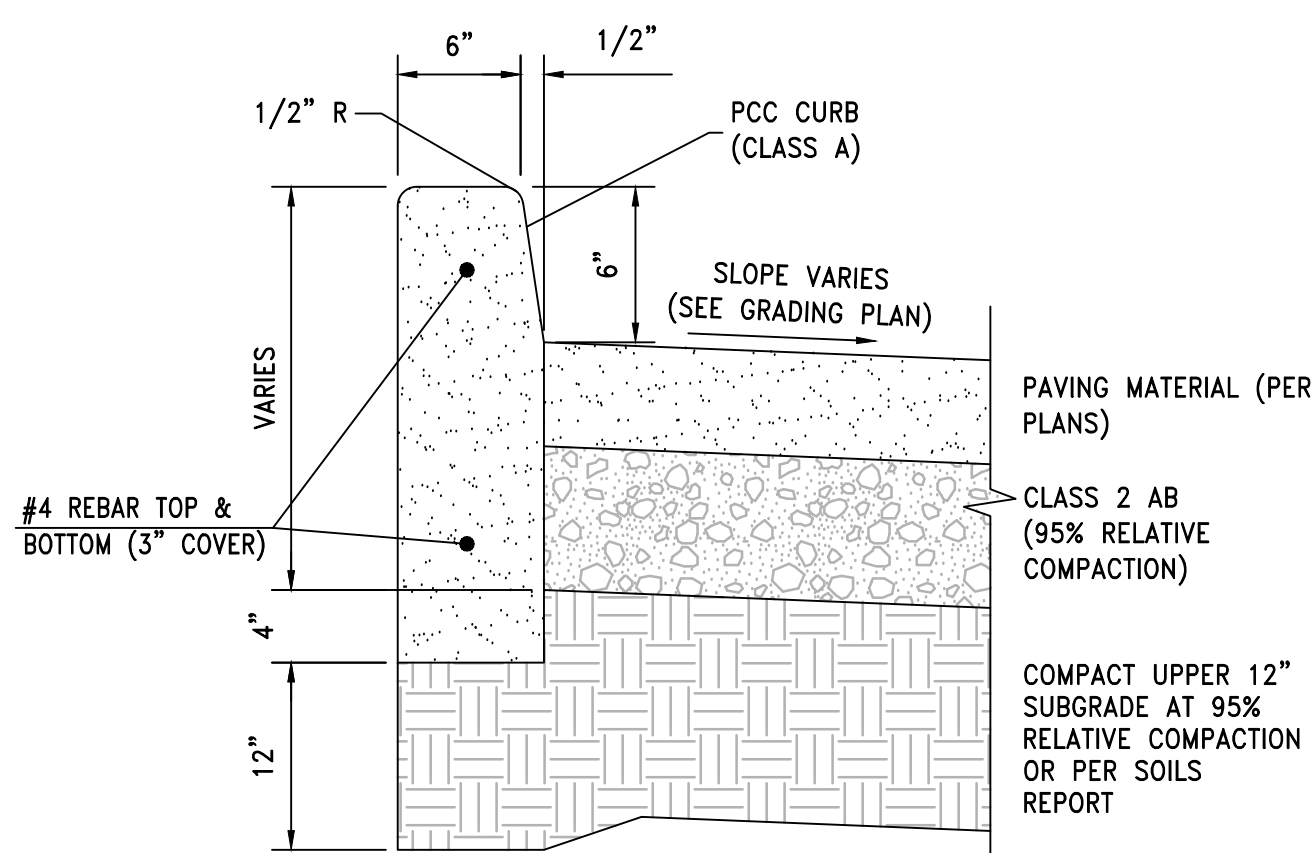


CURB AND GUTTER

NTS

- NOTES:**
1. PROVIDE 1" DEPTH WEAKENED PLANE JOINTS AT 10' O.C.. INSTALL 3/8" ASPHALT IMPREGNATED FIBER EXPANSION JOINTS AT 60' O.C. AND AT ALL CURB RETURNS AND CHANGE IN DIRECTION.
 2. TOP AND FRONT OF CURB AND GUTTER TO BE FINE BRUSH FINISH AFTER TROWELING, BRUSHING TO BE PARALLEL TO LINE OF CURB.
 3. SEE SOILS REPORT FOR COMPACTION REQUIREMENTS BENEATH CURB IF DIFFERENT FROM DETAIL.
 4. SUBGRADE CONSTRUCTION AND COMPACTION SHALL BE PERFORMED UNDER THE SUPERVISION OF THE SOILS ENGINEER.
 5. FOR AREAS NEXT TO EXISTING ROADWAY, ROAD SECTION MAY BE SUBSTITUTED WITH EITHER (6" MIN AC DEEPLIFT) OR (FULL AC DEEPLIFT TO EXISTING SUBGRADE) WHICHEVER IS GREATER.

7

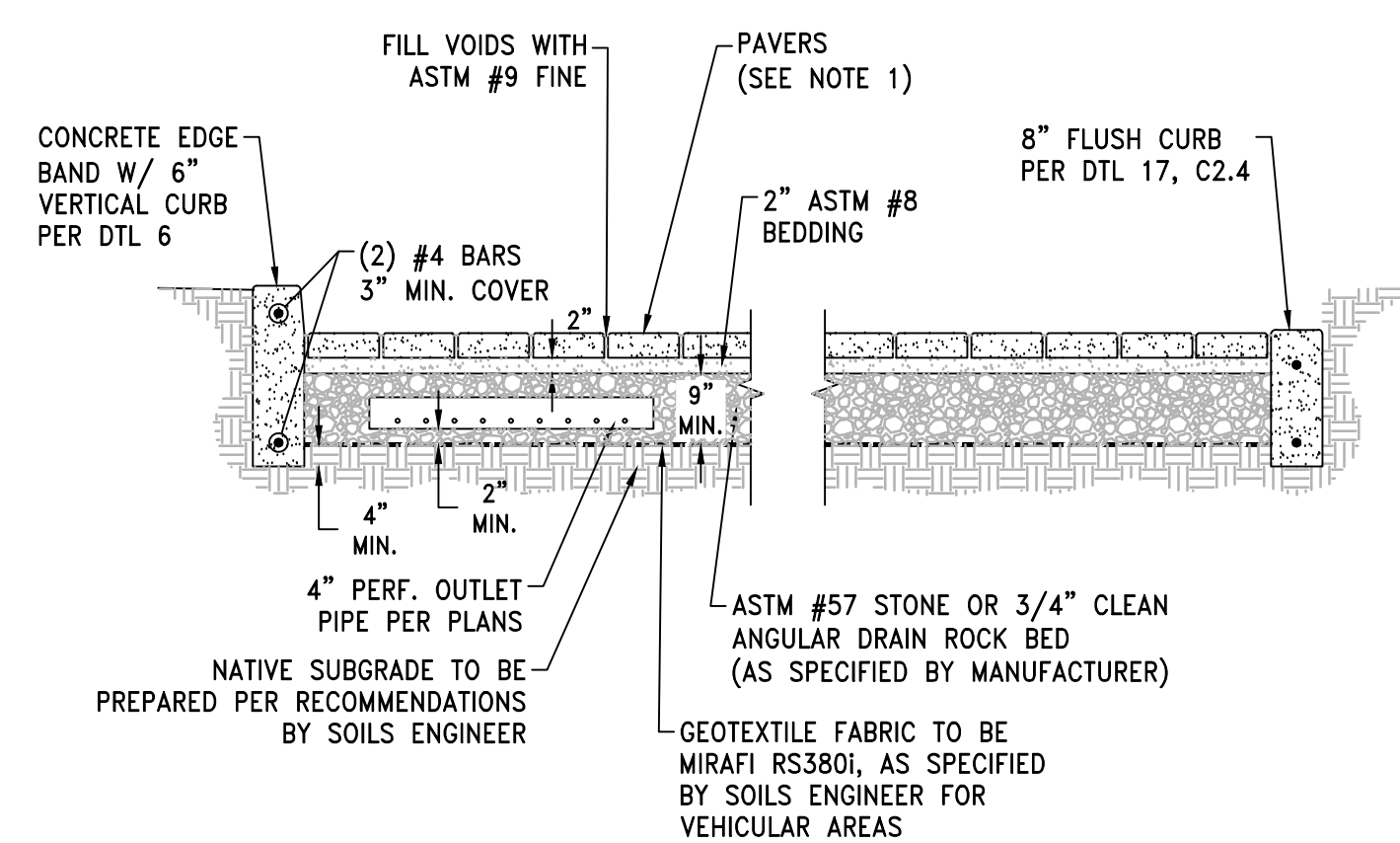


VERTICAL CURB

NTS

- NOTES:**
1. PROVIDE 1" DEPTH WEAKENED PLANE JOINTS AT 10' O.C.. INSTALL 3/8" ASPHALT IMPREGNATED FIBER EXPANSION JOINTS AT 60' O.C. AND AT ALL CURB RETURNS AND CHANGE IN DIRECTION.
 2. TOP AND FRONT OF CURB AND GUTTER TO BE FINE BRUSH FINISH AFTER TROWELING, BRUSHING TO BE PARALLEL TO LINE OF CURB.
 3. SEE SOILS REPORT FOR COMPACTION REQUIREMENTS BENEATH CURB IF DIFFERENT FROM DETAIL.
 4. SUBGRADE CONSTRUCTION AND COMPACTION SHALL BE PERFORMED UNDER THE SUPERVISION OF THE SOILS ENGINEER.
 5. FOR AREAS NEXT TO EXISTING ROADWAY, ROAD SECTION MAY BE SUBSTITUTED WITH EITHER (6" MIN AC DEEPLIFT) OR (FULL AC DEEPLIFT TO EXISTING SUBGRADE) WHICHEVER IS GREATER.

6



PERVIOUS PAVERS

NTS

- NOTE:**
1. CONCRETE PAVERS SHALL HAVE THE FOLLOWING SPECIFICATIONS:
 - 3 1/8" THICKNESS IN VEHICULAR APPLICATION
 - 4.1% OPEN AREA (GAP SPACING)
 - JOINT MATERIAL CONFORMING TO ASTM D448
 - 190 INCH PER HOUR INITIAL INFILTRATION RATE
 - COLOR AND SPECIFICATIONS SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT AND OWNER PRIOR TO CONSTRUCTION
 2. ALTERNATE PAVES SYSTEMS MAY BE USED BUT ARE SUBJECT TO REVIEW & APPROVAL BY THE PROJECT CIVIL ENGINEER, SOILS ENGINEER & APPROPRIATE STORMWATER REVIEW AGENCY. ALTERNATE SYSTEM MUST MEET THE ABOVE PERFORMANCE SPECIFICATIONS.

5

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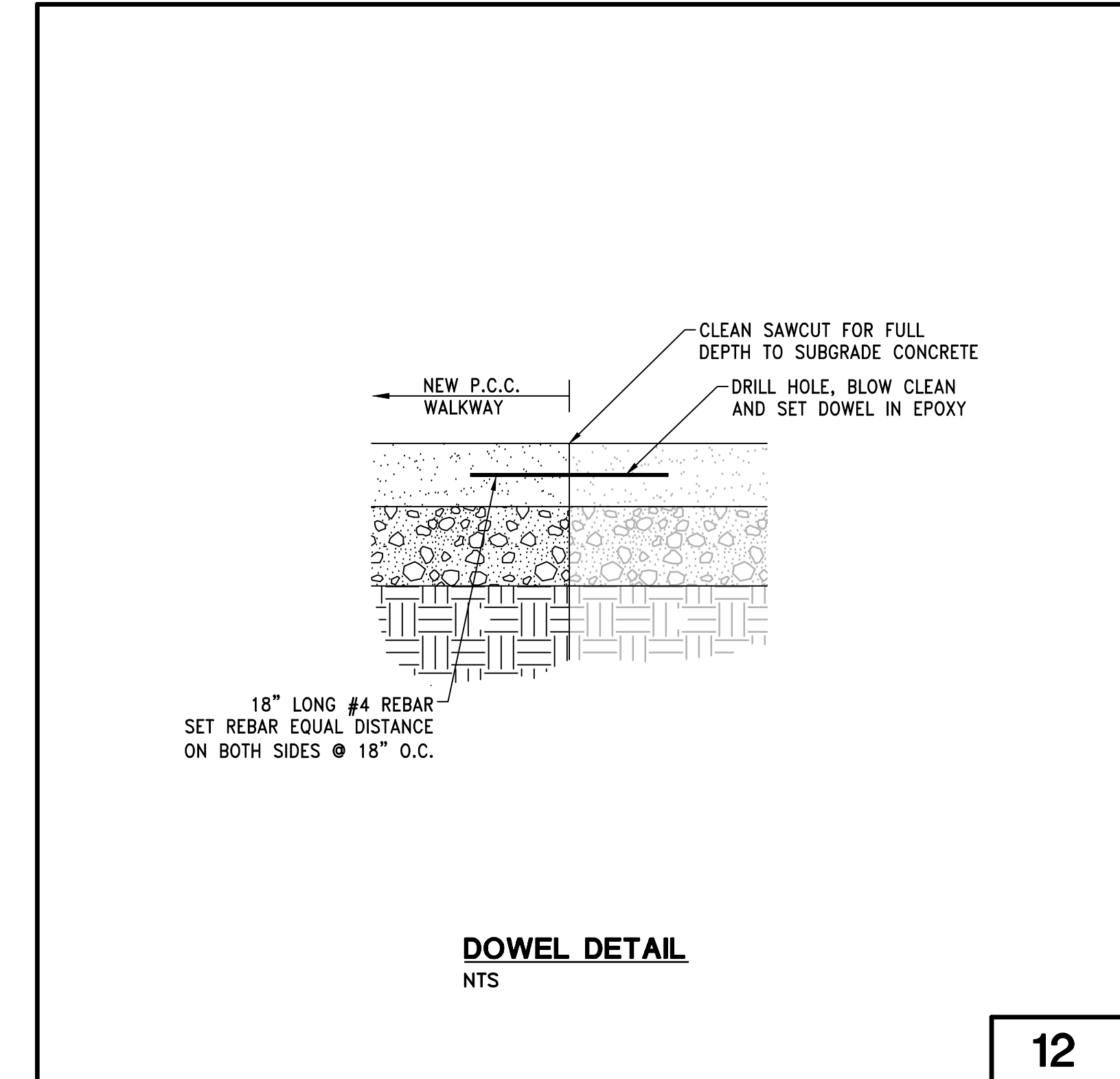
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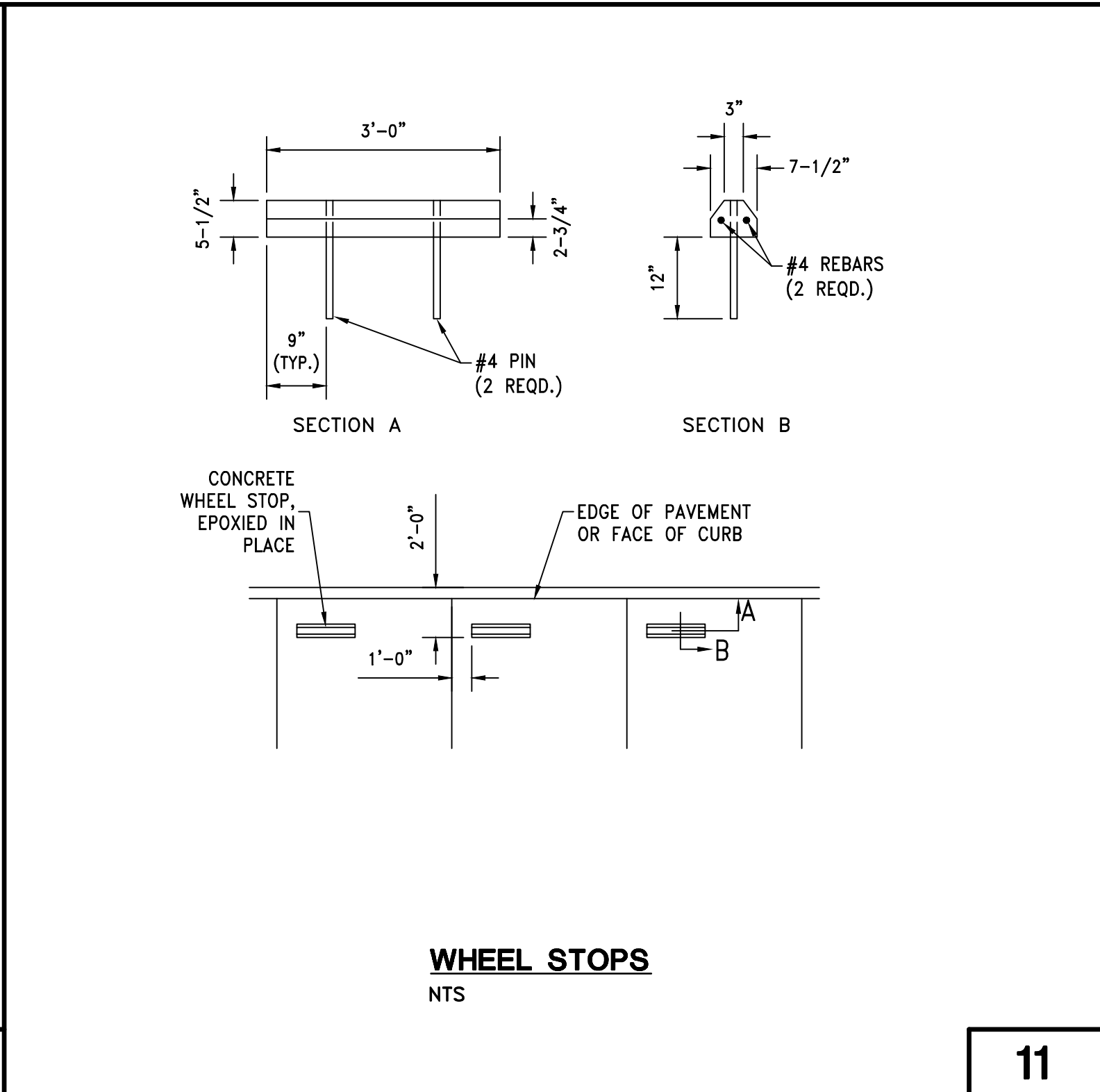
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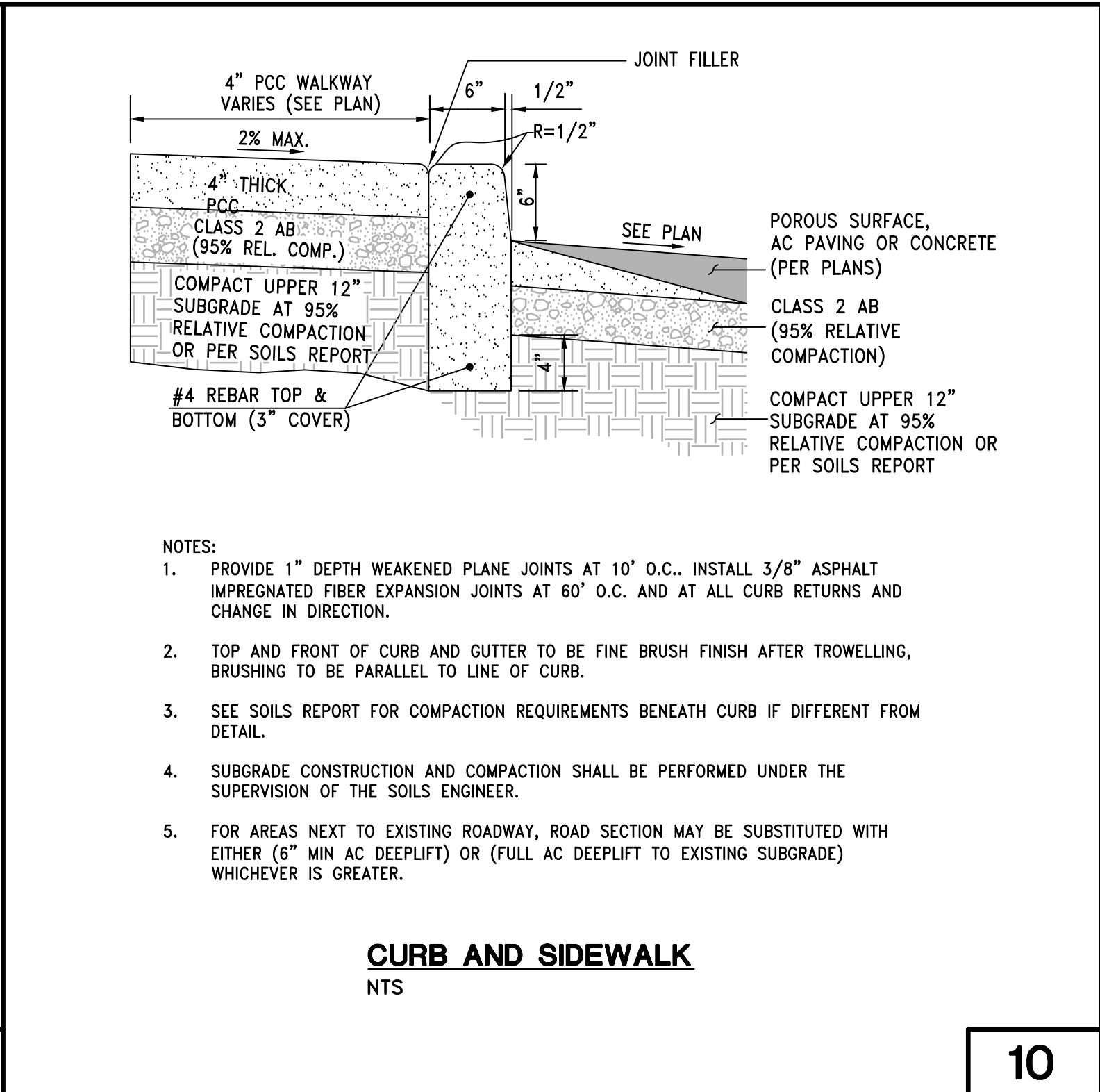
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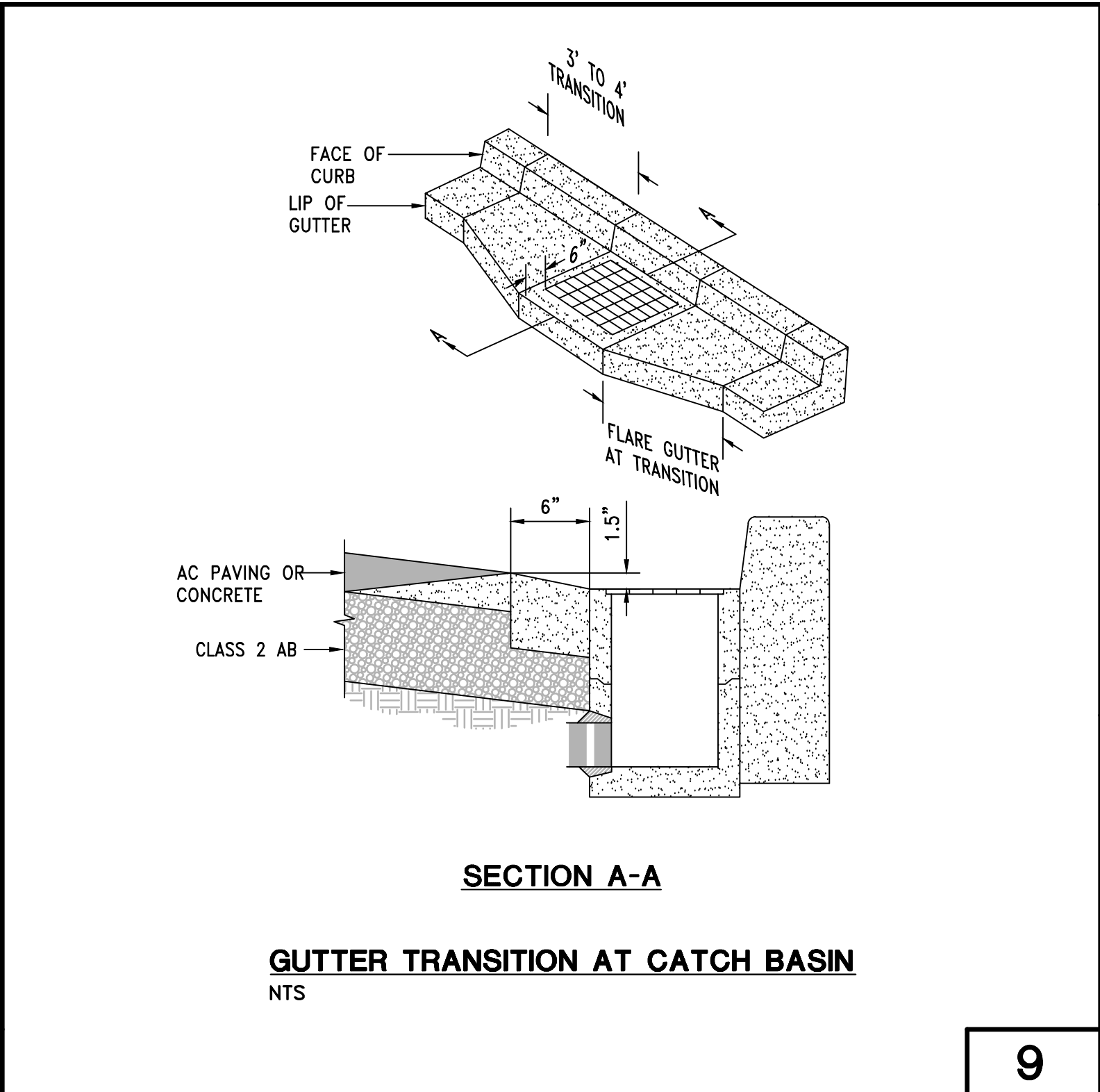
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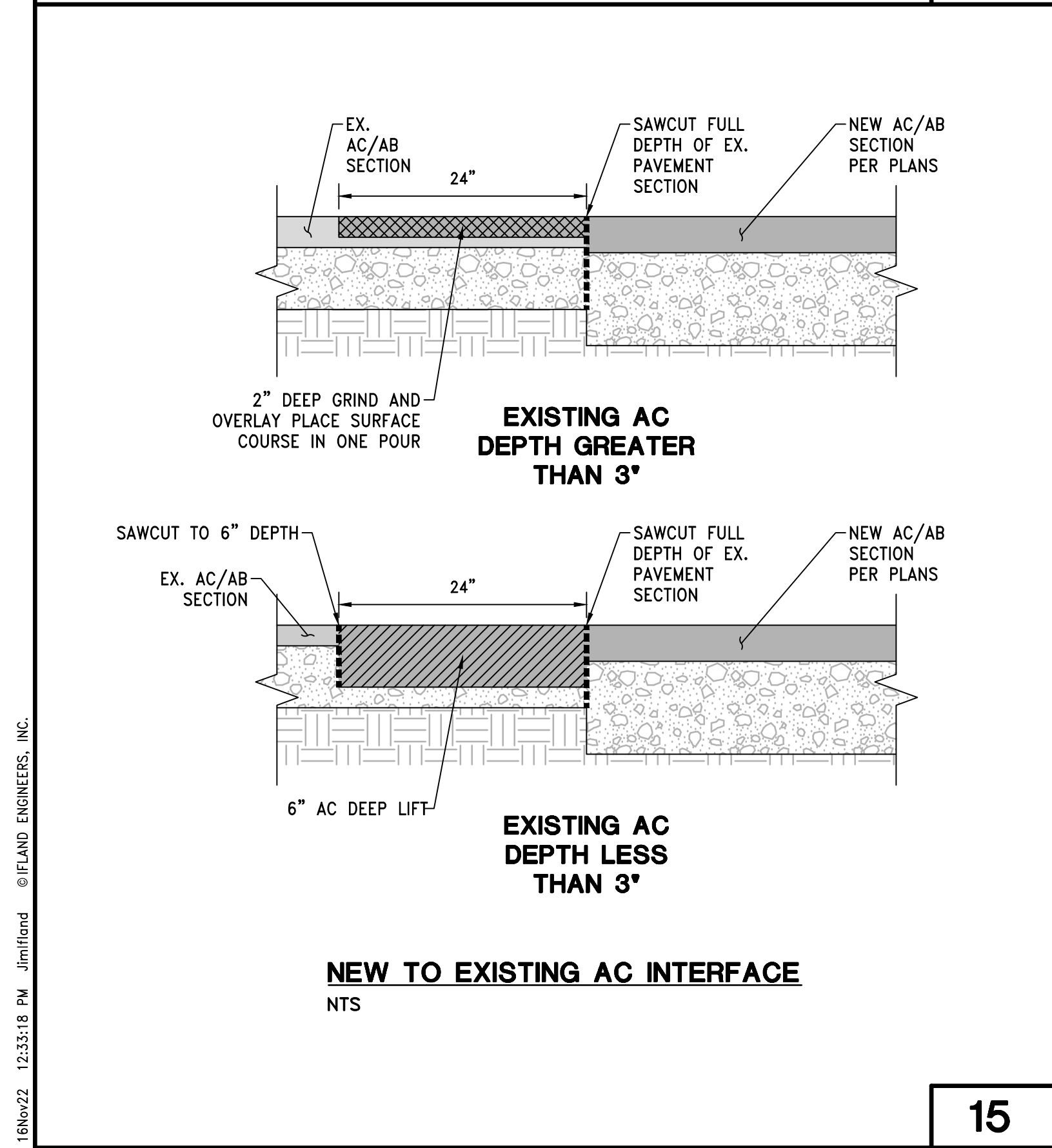
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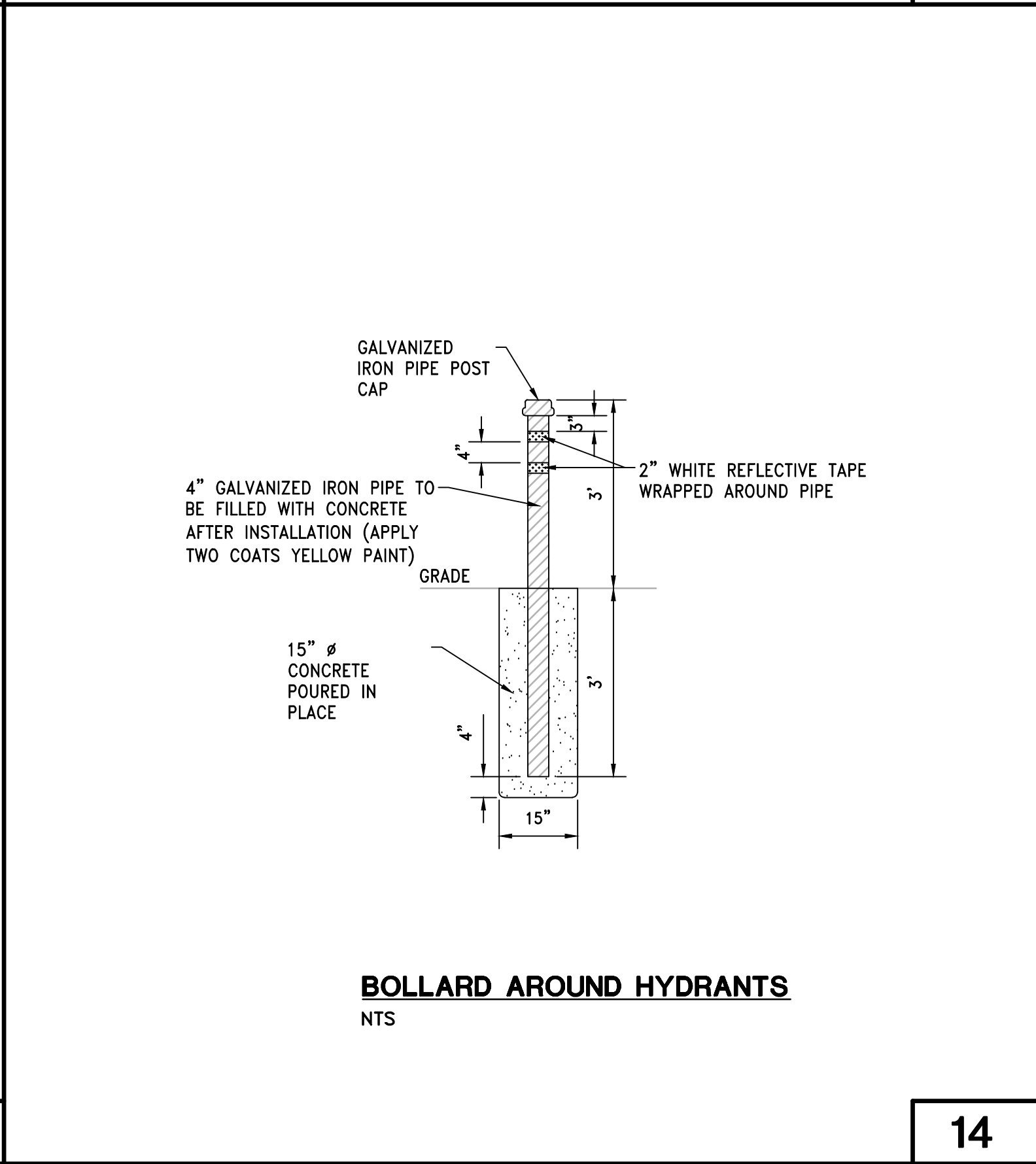
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1

BIORETENTION SOIL SPECIFICATIONS

SOILS FOR BIOTREATMENT OR BIORETENTION AREAS SHALL MEET TWO OBJECTIVES:

- BE SUFFICIENTLY PERMEABLE TO INFILTRATE RUNOFF AT A MINIMUM RATE OF 5" PER HOUR DURING THE LIFE OF THE FACILITY, AND
- HAVE SUFFICIENT MOISTURE RETENTION TO SUPPORT HEALTHY VEGETATION.

SOIL SPECIFICATIONS:

- GENERAL REQUIREMENTS – BIORETENTION SOIL SHALL:
 - ACHIEVE A LONG-TERM, IN-PLACE FILTRATION RATE OF AT LEAST 5 INCHES PER HOUR.
 - SUPPORT VIGOROUS PLANT GROWTH.
 - CONSIST OF THE FOLLOWING MIXTURE OF FINE SAND AND COMPOST, MEASURED ON A VOLUME BASIS:
 - 60% – 70% SAND
 - 30% – 40% COMPOST
- SAND FOR BIORETENTION SOIL
 - SAND SHALL BE FREE OF WOOD, WASTE, COATING SUCH AS CLAY, STONE DUST, CARBONATE, ETC., OR ANY OTHER DELETERIOUS MATERIAL. ALL AGGREGATE PASSING THE NO. 200 SIEVE SIZE SHALL BE NONPLASTIC.
 - SAND FOR BIORETENTION SOILS SHALL BE ANALYZED BY AN ACCREDITED LAB USING #200, #100, #40, #30, #16, #8, #4, AND 3/8 INCH SIEVES (ASTM D 422 OR AS APPROVED BY MUNICIPALITY), AND MEET THE FOLLOWING GRADATION:

PERCENT PASSING (BY WEIGHT)		
SIEVE SIZE	MIN	MAX
3/8 INCH	100	100
NO. 4	90	100
NO. 8	70	100
NO. 16	40	95
NO. 30	15	70
NO. 40	5	55
NO. 100	0	15
NO. 200	0	5

NOTE: ALL SANDS COMPLYING WITH ASTM C33 FOR FINE AGGREGATE COMPLY WITH THE ABOVE GRADATION REQUIREMENTS.

- COMPOST MATERIAL
 - COMPOST SHALL BE A WELL DECOMPOSED, STABLE, WEED FREE ORGANIC MATTER, SOURCE DERIVED FROM WASTE MATERIALS INCLUDING YARD DEBRIS, WOOD WASTES OR OTHER ORGANIC MATERIALS NOT INCLUDING MANURE OR BIOSOLIDS MEETING THE STANDARDS DEVELOPED BY THE US COMPOSTING COUNCIL (USCC). THE PRODUCT SHALL BE CERTIFIED THROUGH THE USCC SEAL OF TESTING ASSURANCE (STA) PROGRAM (A

COMPOST TESTING AND INFORMATION DISCLOSURE PROGRAM).

4. COMPOST FOR BIORETENTION SOIL TEXTURE

COMPOST FOR BIORETENTION SOILS SHALL BE ANALYZED BY AN ACCREDITED LAB USING #200, 1/4 INCH, 1/2 INCH, AND 1 INCH SIEVES (ASTM D 422 OR AS APPROVED BY MUNICIPALITY), AND MEET THE FOLLOWING GRADATION:

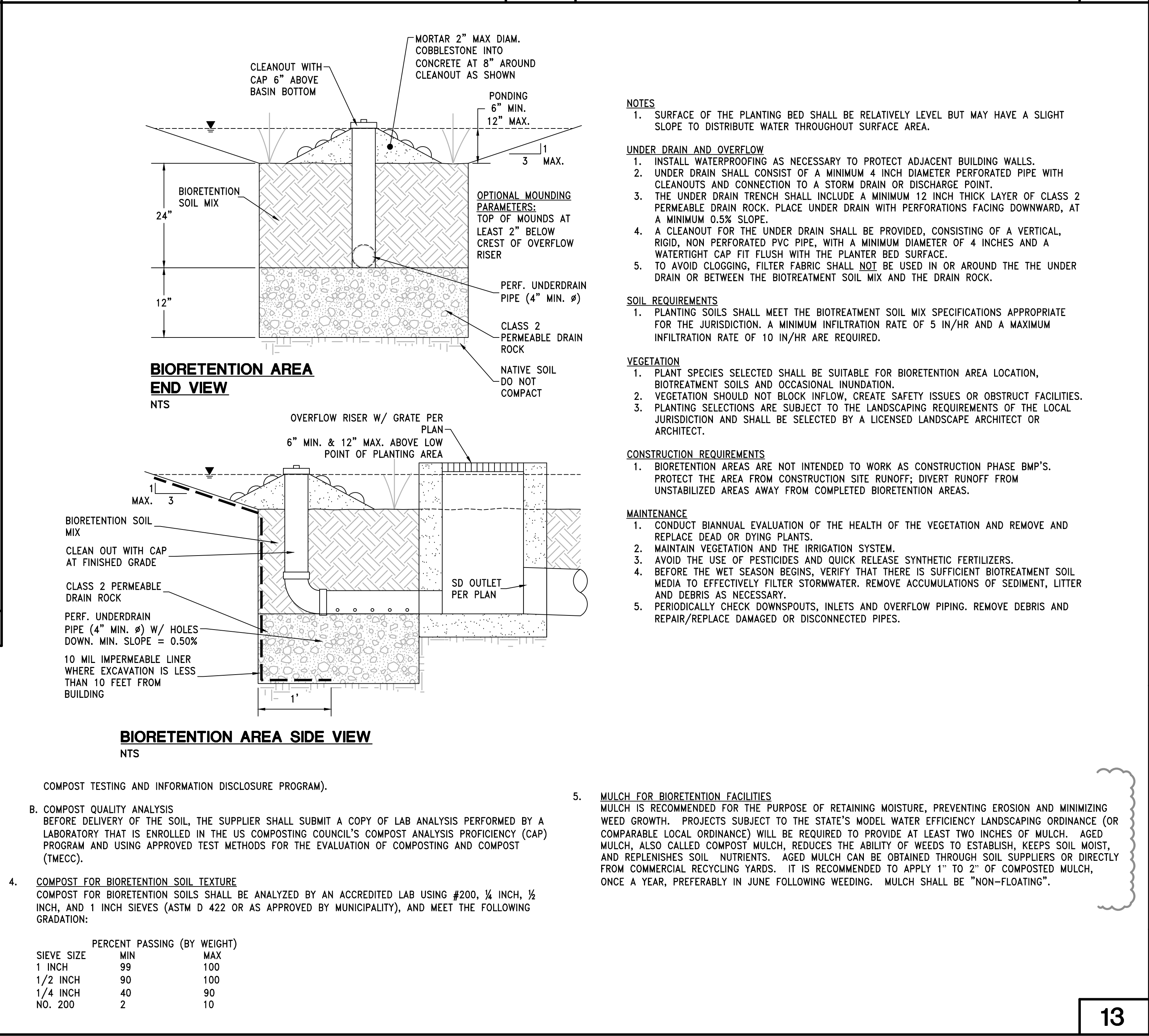
PERCENT PASSING (BY WEIGHT)		
SIEVE SIZE	MIN	MAX
1 INCH	99	100
1/2 INCH	90	100
1/4 INCH	40	90
NO. 200	2	10

5. MULCH FOR BIORETENTION FACILITIES

MULCH IS RECOMMENDED FOR THE PURPOSE OF RETAINING MOISTURE, PREVENTING EROSION AND MINIMIZING WEED GROWTH. PROJECTS SUBJECT TO THE STATE'S MODEL WATER EFFICIENCY LANDSCAPING ORDINANCE (OR COMPARABLE LOCAL ORDINANCE) WILL BE REQUIRED TO PROVIDE AT LEAST TWO INCHES OF MULCH. AGED MULCH, ALSO CALLED COMPOST MULCH, REDUCES THE ABILITY OF WEEDS TO ESTABLISH, KEEPS SOIL MOIST, AND REPLENISHES SOIL NUTRIENTS. AGED MULCH CAN BE OBTAINED THROUGH SOIL SUPPLIERS OR DIRECTLY FROM COMMERCIAL RECYCLING YARDS. IT IS RECOMMENDED TO APPLY 1" TO 2" OF COMPOSTED MULCH, ONCE A YEAR, PREFERABLY IN JUNE FOLLOWING WEEDING. MULCH SHALL BE "NON-FLOATING".

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13

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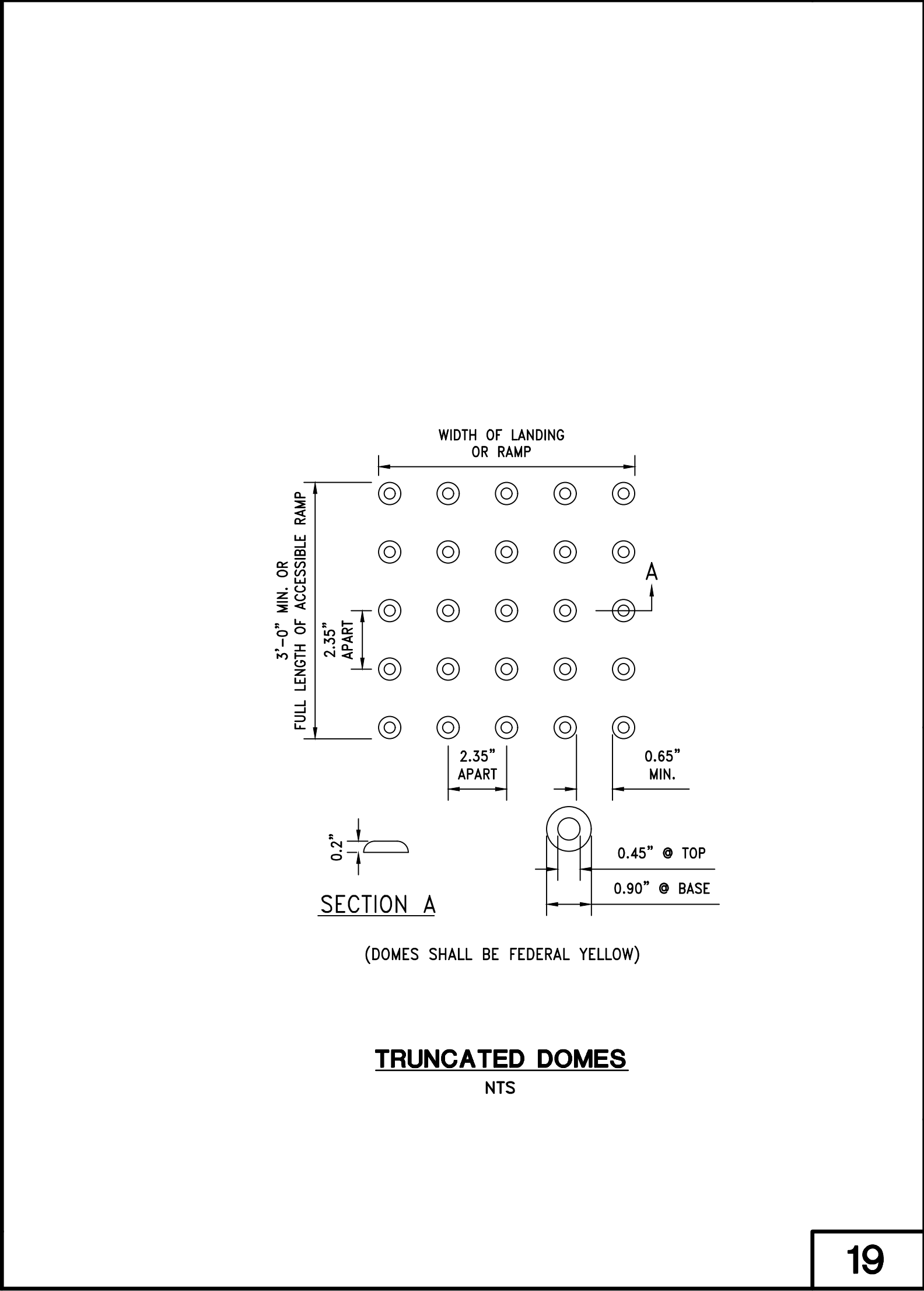
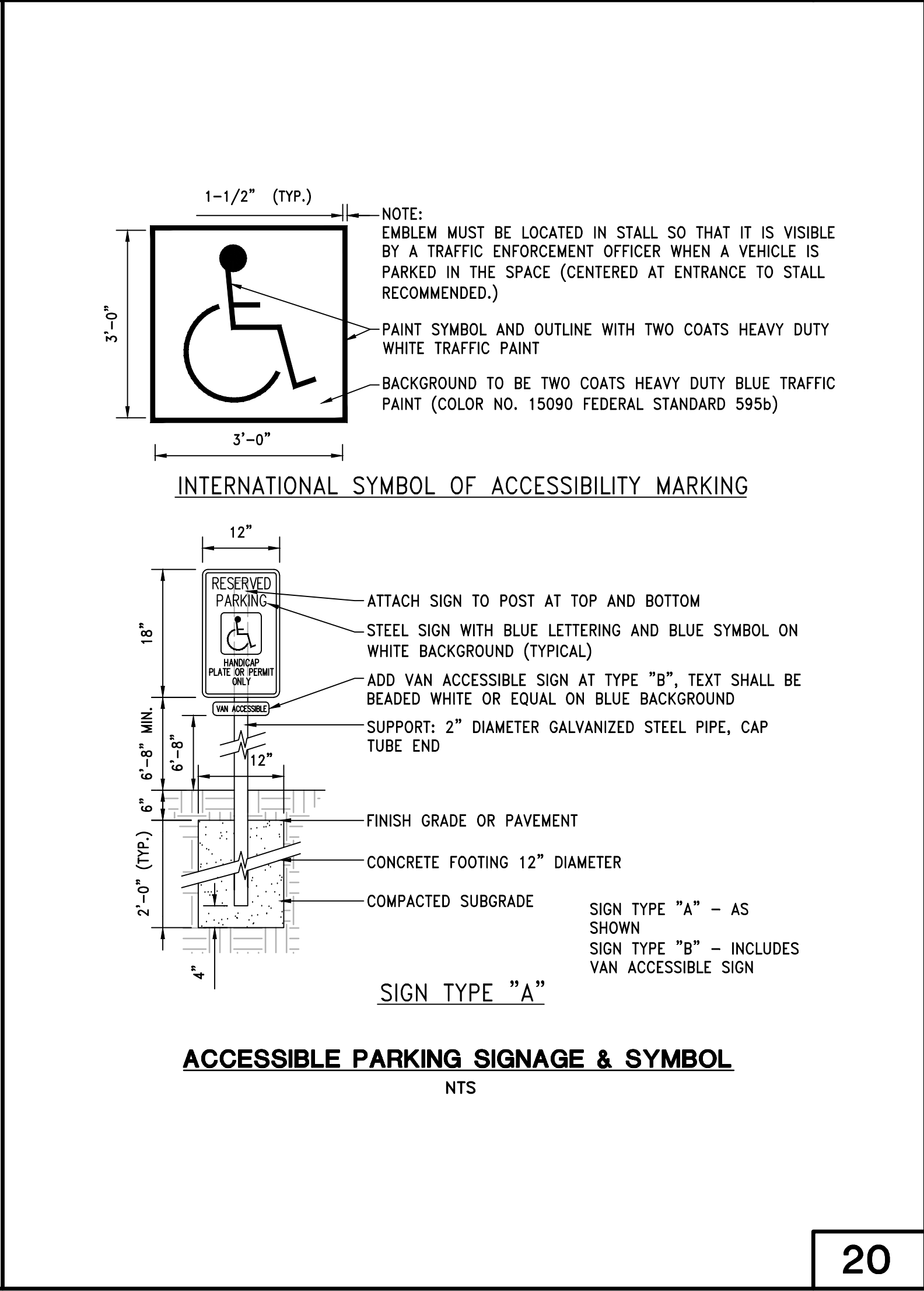
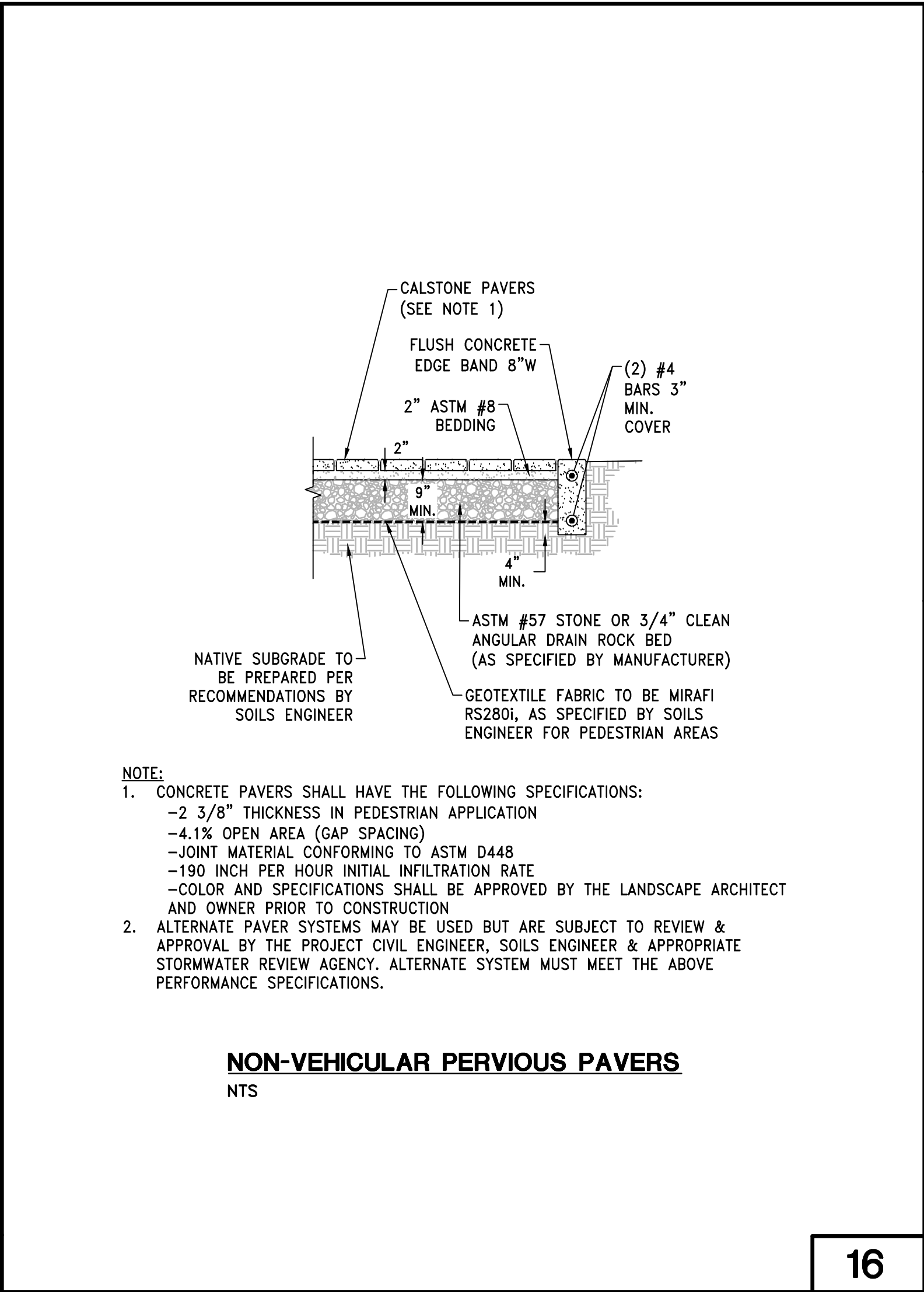
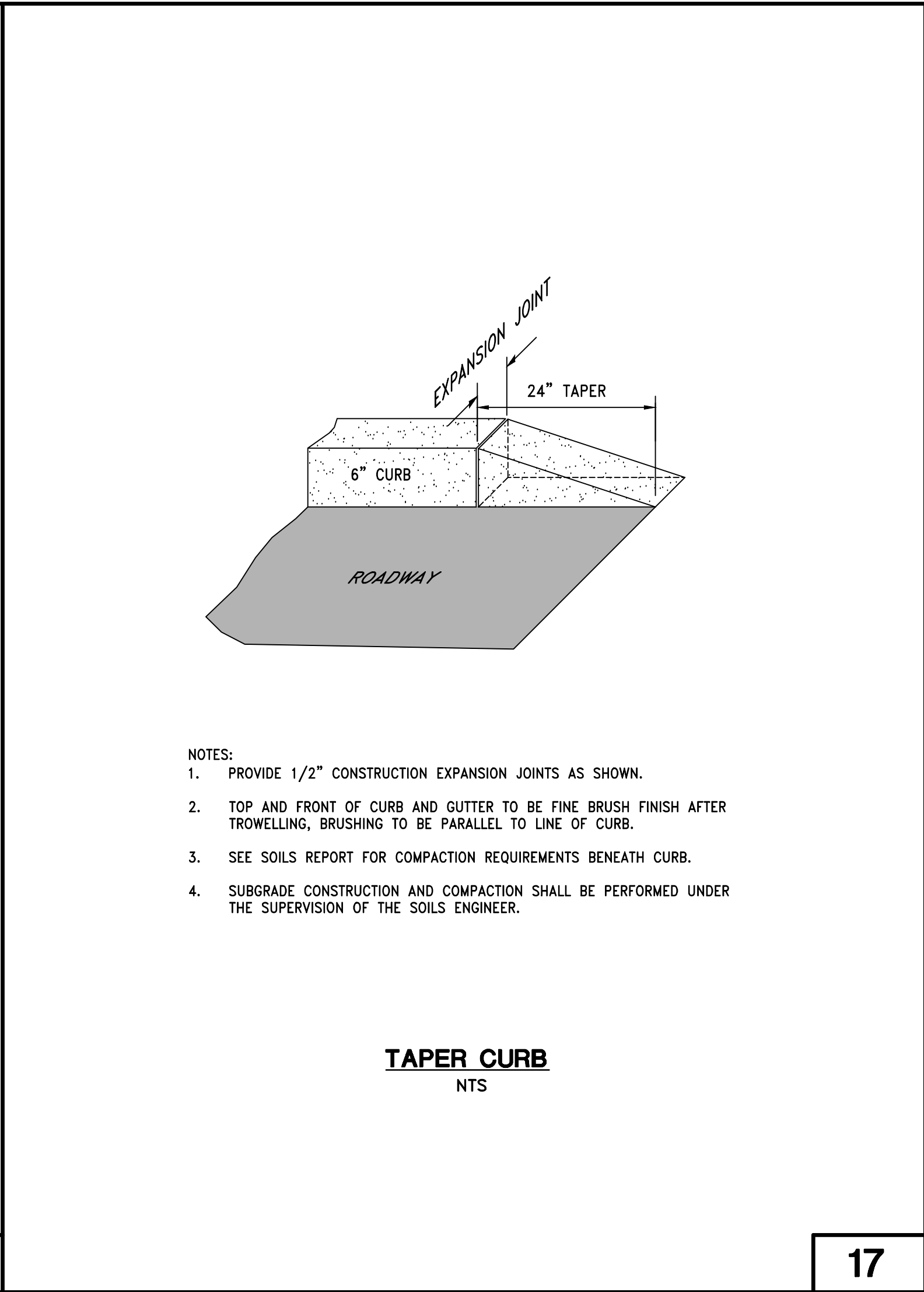
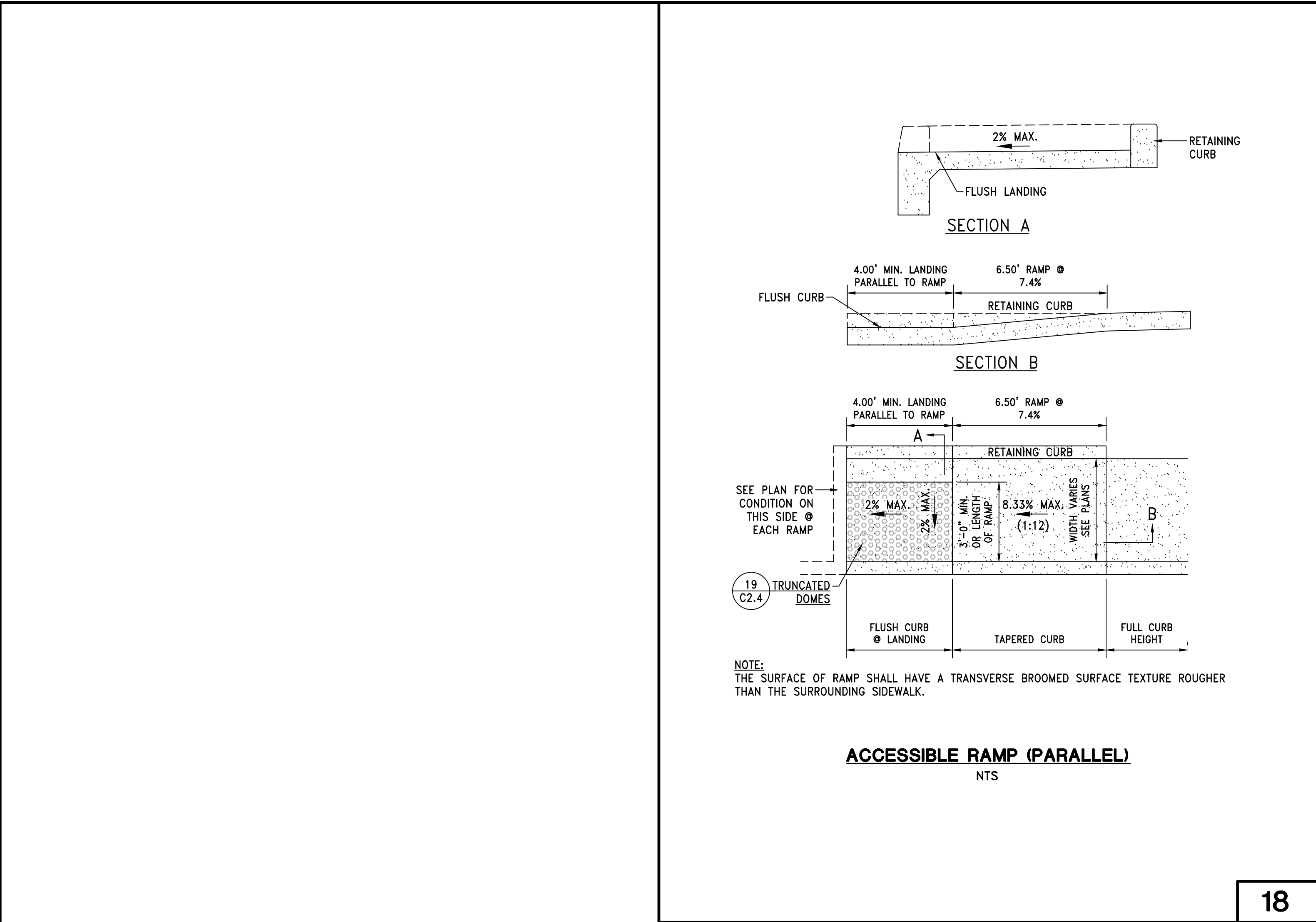
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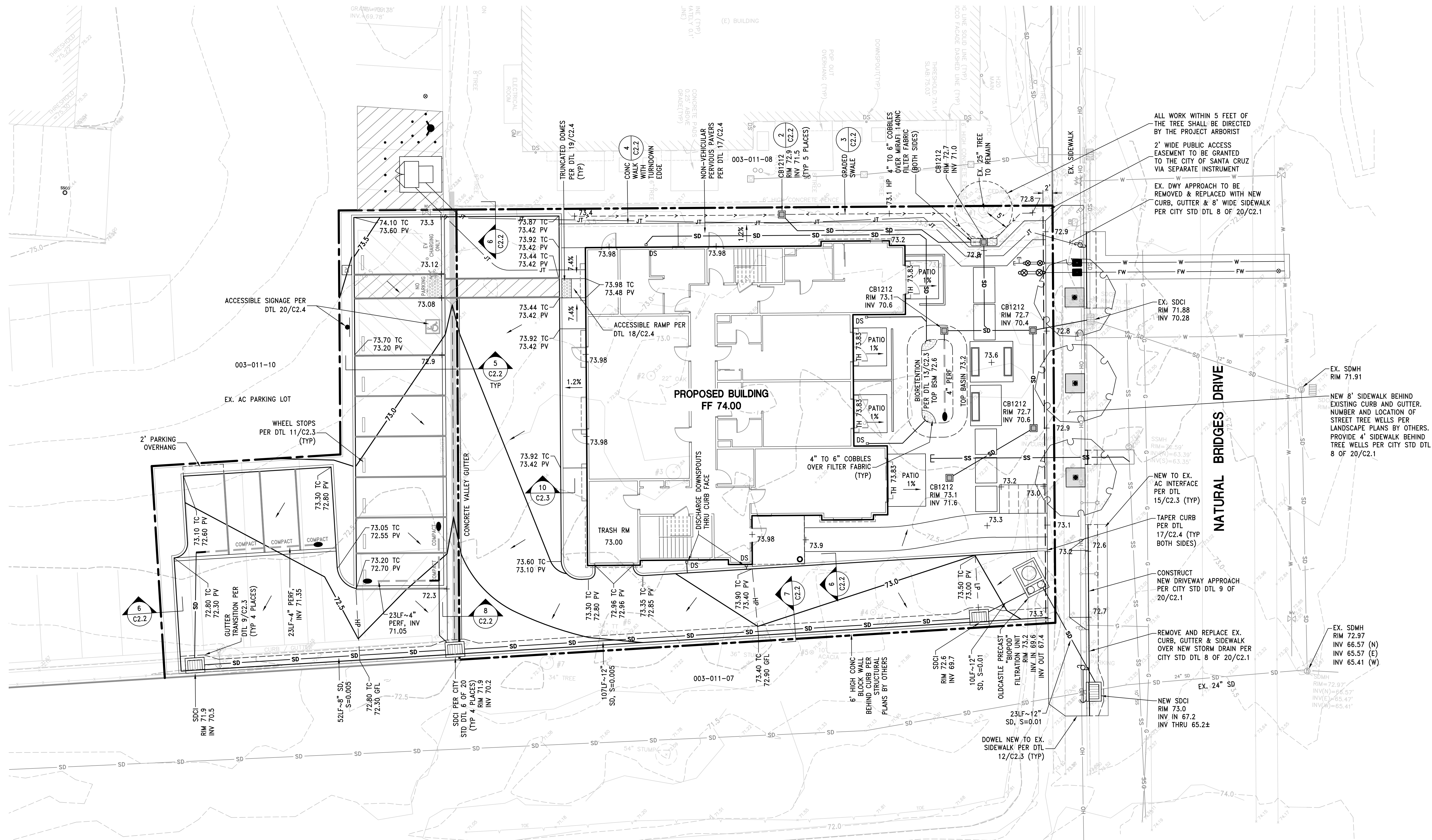
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ESTIMATED EARTHWORK QUANTITIES

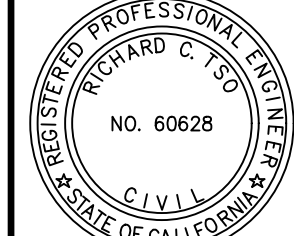
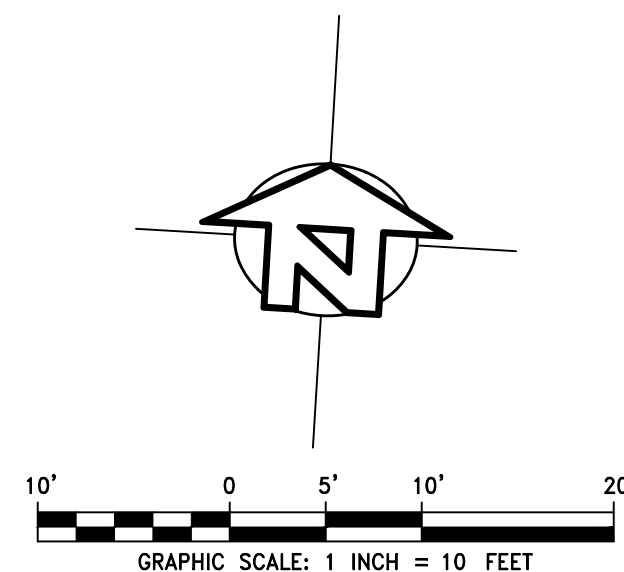
260	CUBIC YARDS CUT
170	CUBIC YARDS FILL
90	CUBIC YARDS EXPORT

NOTES:

- ESTIMATE DOES NOT INCLUDE BUILDING OR RETAINING WALL FOUNDATIONS, UTILITY TRENCH VOLUMES OR ANY OVEREXCAVATION, IF REQUIRED BY SITE CONDITIONS.
- ESTIMATE ASSUMES A 15% COMPACTION FACTOR ON ALL FILL MATERIAL AND A 0% EXPANSION FACTOR ON ALL CUT MATERIAL.
- PRIOR TO COMMENCEMENT OF WORK CONTRACTOR SHALL CONFIRM THAT ESTIMATES ARE CORRECT.

NOTES:

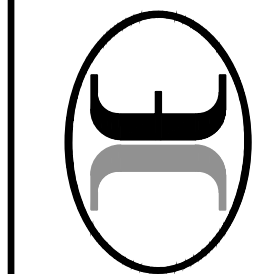
- ALL COMPACTION AND GRADING SHALL BE PERFORMED UNDER THE STRICT SUPERVISION OF THE GEOTECHNICAL ENGINEER.
- CONTRACTOR TO VERIFY WITH THE GEOTECHNICAL REPORT AND ANY SUBSEQUENT ADDENDUM LETTERS FOR FINAL THICKNESS AND COMPACTION OF THE BUILDING PAD PRIOR TO CONSTRUCTION.
- CONTRACTOR TO VERIFY THE STRUCTURAL SECTION FOR SLAB ON GRADE FLOORS WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO CONSTRUCTION.
- SEE SHEET C7.1 FOR STORMWATER MITIGATION NOTES.
- ALL STORM DRAIN PIPING SHALL BE 8 INCH DIAMETER UNLESS NOTED OTHERWISE.
- ALL CATCH BASINS SHALL BE 18"x18" UNLESS NOTED OTHERWISE.
- FINISH GRADE AROUND CATCH BASINS IN LANDSCAPED AREAS SHALL BE 3" BELOW THE CATCH BASIN RIM TO PROMOTE PONDING AND INFILTRATION.
- AT ALL TIMES DURING SITE PREPARATION AND CONSTRUCTION, ALL WORK SHALL FOLLOW THE RECOMMENDATIONS OF THE ARBORIST REPORT PREPARED BY MAUREEN HAMB, DATED JUNE 2021. TREES TO BE REMOVED AND/OR RETAINED SHALL BE AS DIRECTED BY THE ARBORIST AND APPROVED BY THE CITY ARBORIST.
- RED CURBS SHALL BE PAINTED AS DIRECTED BY THE PUBLIC WORKS TRAFFIC ENGINEERING DEPARTMENT PRIOR TO BUILDING OCCUPANCY.
- THE GEOTECHNICAL ENGINEER SHOULD OBSERVE EXCAVATIONS AFTER TREES ARE REMOVED AND PROVIDE RECOMMENDATIONS FOR BACKFILLING THE EXCAVATION.



DATE	REVISION	BY	STAFF
10/21/2022			

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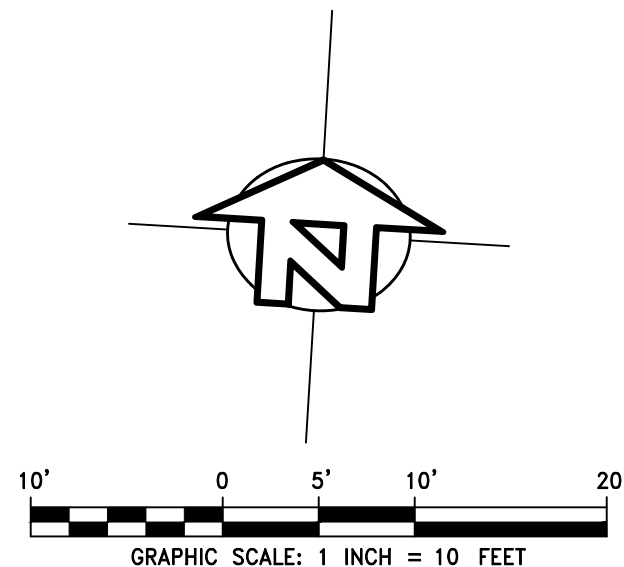


GRADING & DRAINAGE PLAN
HOUSING AUTHORITY OF SANTA CRUZ COUNTY
415 NATURAL BRIDGES, SANTA CRUZ, CALIFORNIA

APN 003-011-06
CONSTRUCTION DOCUMENT PHASE
DATE 08/01/2022
DESIGN JPI
DRAWN STAFF

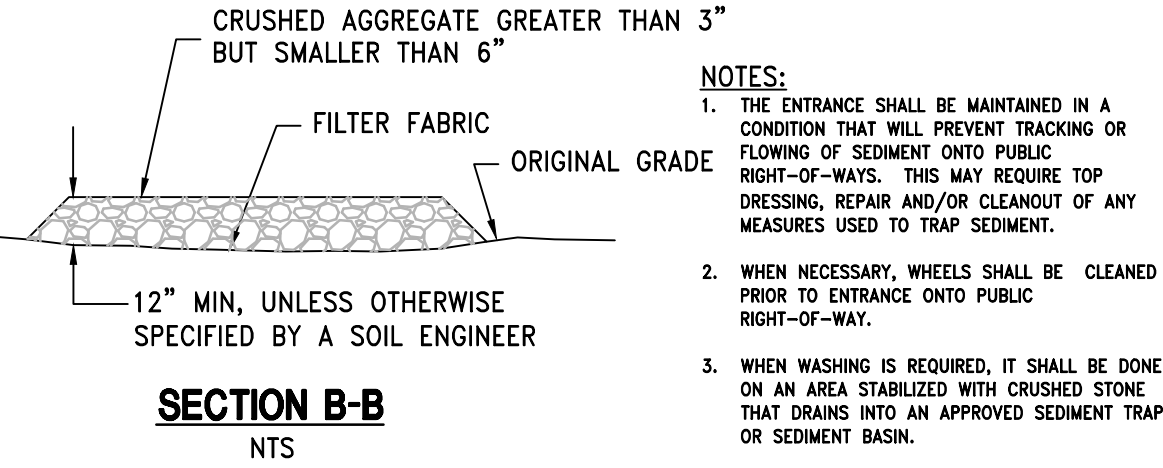
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JOB NO. 20032



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STABILIZED CONSTRUCTION ENTRANCE

NTS

RUMBLE STRIPS MAY BE USED AS AN ALTERNATIVE SUBJECT TO THE APPROVAL OF THE CITY PRIOR TO INSTALLATION

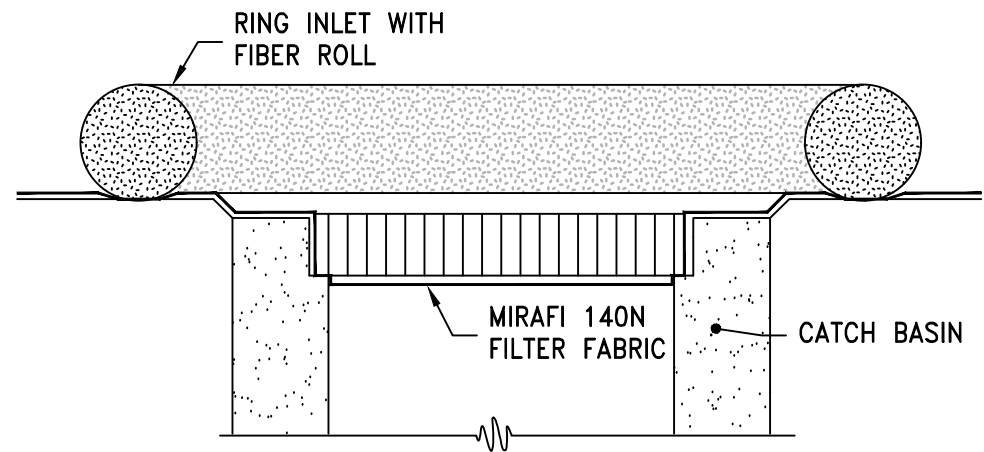
CONSTRUCTION SPECIFICATIONS:

1. THE AGGREGATE SIZE FOR CONSTRUCTION OF THE PAD SHALL BE 2-3 INCH (50-75 MM) STONE. PLACE THE GRAVEL TO THE SPECIFIC GRADE AND DIMENSIONS SHOWN ON THE PLANS, AND SMOOTH IT.
2. THE THICKNESS OF THE PAD SHALL NOT BE LESS THAN 6 INCHES (152 MM). USE GEOTEXTILE FABRICS, IF NECESSARY, TO IMPROVE STABILITY OF THE FOUNDATION IN LOCATIONS SUBJECT TO SEEPAGE OR HIGH WATER TABLE.
3. THE WIDTH OF THE PAD SHALL NOT BE LESS THAN THE FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS AND IN ANY CASE SHALL NOT BE LESS THAN 12 FEET (3.6 M) WIDE.
4. THE LENGTH OF THE PAD SHALL BE AS REQUIRED, BUT NOT LESS THAN 50 FEET (15.2 M).
5. LOCATE CONSTRUCTION ENTRANCES AND EXITS TO LIMIT SEDIMENT LEAVING THE SITE AND TO PROVIDE FOR MAXIMUM UTILITY BY ALL CONSTRUCTION VEHICLES. AVOID ENTRANCES WHICH HAVE STEEP GRADES AND ENTRANCES AT CURVES IN PUBLIC ROADS.
6. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR MAINTENANCE OF ANY MEASURES USED TO TRAP SEDIMENT.
7. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY.
8. PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP OR OTHER SUITABLE OUTLET.
9. WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. SEE SEDIMENT BASIN BMP.
10. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE THROUGH USE OF SAND BAGS, GRAVEL, STRAW BALES, OR OTHER APPROVED METHODS.

INSPECTION AND MAINTENANCE:

11. MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE.
12. REPLACE GRAVEL MATERIAL WHEN SURFACE VOIDS ARE VISIBLE.
13. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY.
14. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS. REMOVE ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS WITHIN 24 HOURS.

4



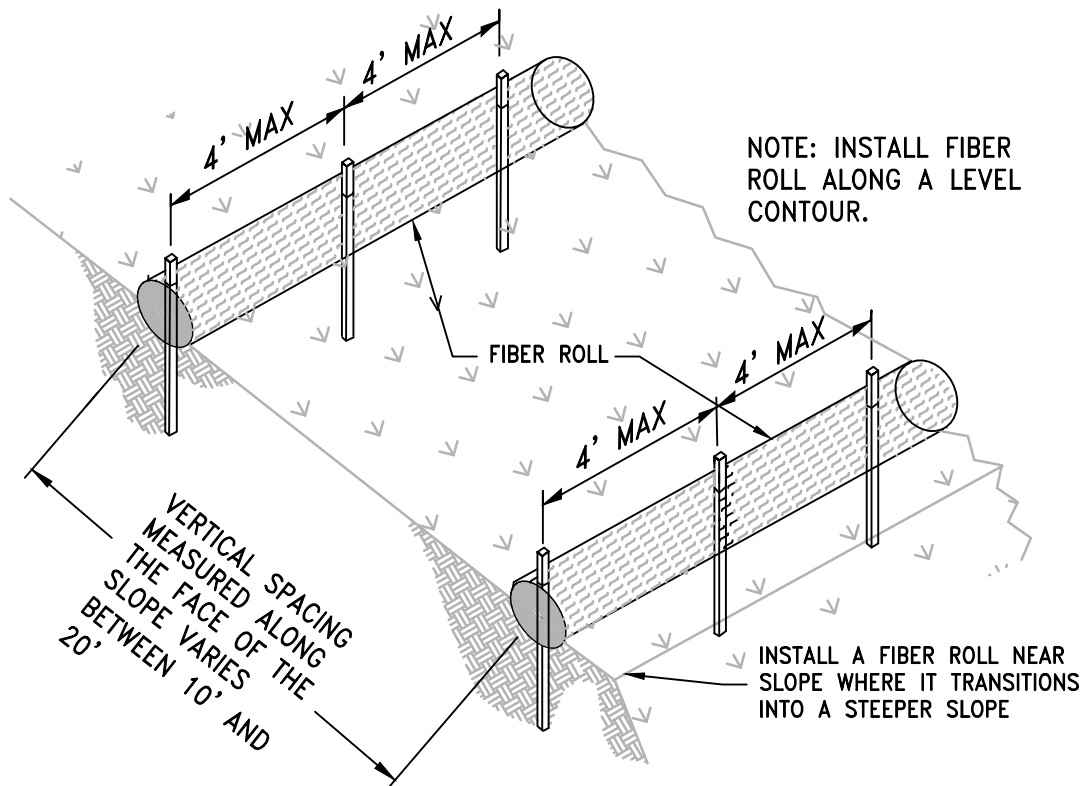
INSPECTION AND MAINTENANCE:

1. FILTER FABRIC BARRIERS SHALL BE INSPECTED WEEKLY AFTER EACH SIGNIFICANT STORM - 1 INCH RAINFALL (25.4 MM) IN 24 HOUR PERIOD. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
2. SEDIMENT SHOULD BE REMOVED WHEN IT REACHES 3" MAXIMUM HEIGHT. AT THAT TIME INSPECT THE FILTER MATERIAL FOR TEARS AND CLEAN OR REPLACE AS REQUIRED.
3. THE REMOVED SEDIMENT SHALL BE DISTRIBUTED EVENLY ACROSS AREAS ON-SITE, CONFORM WITH THE EXISTING GRADE AND BE REVEGETATED OR OTHERWISE STABILIZED PER EROSION CONTROL NOTES.

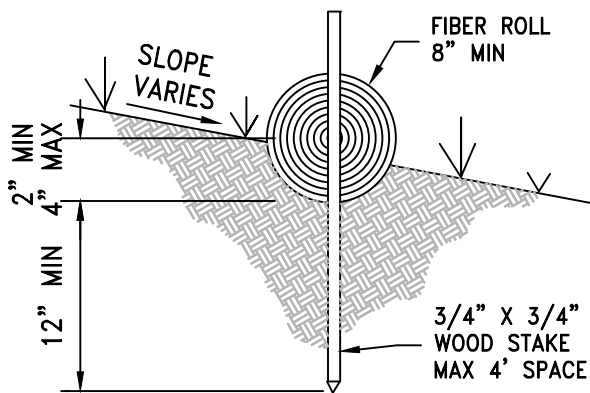
CATCH BASIN PROTECTION

NTS

2



TYPICAL INSTALLATION



ENTRENCHMENT DETAIL

FIBER ROLLS

NTS

SLOPE INSTALLATION TABLE	
SLOPE	MAX FIBER ROLL SPACING (FT)
4:1 (OR FLATTER)	20
4:1 TO 2:1	15
GREATER THAN 2:1	10

CONSTRUCTION SPECIFICATIONS

1. PREPARE SLOPE BEFORE THE FIBER ROLL PROCEDURE IS STARTED. SHALLOW GULLIES SHOULD BE SMOOTHED AS WORK PROGRESSES.
2. DIG SMALL TRENCHES ACROSS SLOPE ON CONTOUR, TO PLACE FIBER ROLLS IN. THE TRENCH SHOULD BE DEEP ENOUGH TO ACCOMMODATE HALF THE THICKNESS OF THE FIBER ROLL. WHEN THE SOIL IS LOOSE AND UNCOMPACTED, THE TRENCH SHOULD BE DEEP ENOUGH TO BURY THE FIBER ROLL 2/3 OF ITS THICKNESS BECAUSE THE GROUND WILL SETTLE. IT IS CRITICAL THAT FIBER ROLLS ARE INSTALLED PERPENDICULAR TO WATER MOVEMENT, PARALLEL TO THE SLOPE CONTOUR.
3. START BUILDING TRENCHES AND INSTALL FIBER ROLLS FROM THE BOTTOM OF THE SLOPE AND WORK UP.
4. CONSTRUCT TRENCHES AT CONTOUR INTERVALS OF THREE TO EIGHT FEET APART DEPENDING ON STEEPNESS OF SLOPE. THE STEEPER THE SLOPE, THE CLOSER TOGETHER THE TRENCHES.
5. LAY THE FIBER ROLL ALONG THE TRENCHES FITTING IT SNUGLY AGAINST THE SOIL. MAKE SURE NO GAPS EXIST BETWEEN THE SOIL AND THE FIBER ROLL. USE A STRAIGHT BAR TO DRIVE HOLES THROUGH THE FIBER ROLL AND INTO THE SOIL FOR THE WOODEN STAKES.
6. DRIVE THE STAKE THROUGH THE PREPARED HOLE INTO THE SOIL. LEAVE ONLY ONE OR TWO INCHES OF STAKE EXPOSED ABOVE FIBER ROLL. IF USING WILLOW STAKES REFER TO USDA SOIL CONSERVATION SERVICE TECHNICAL GUIDE, BIOENGINEERING, FOR GUIDELINES TO PREPARING LIVE WILLOW MATERIAL.
7. INSTALL STAKES AT LEAST EVERY FOUR FEET APART THROUGH FIBER ROLL. ADDITIONAL STAKES MAY BE DRIVEN ON THE DOWNSLOPE SIDE OF THE TRENCHES ON HIGHLY EROSION OR VERY STEEP SLOPES.

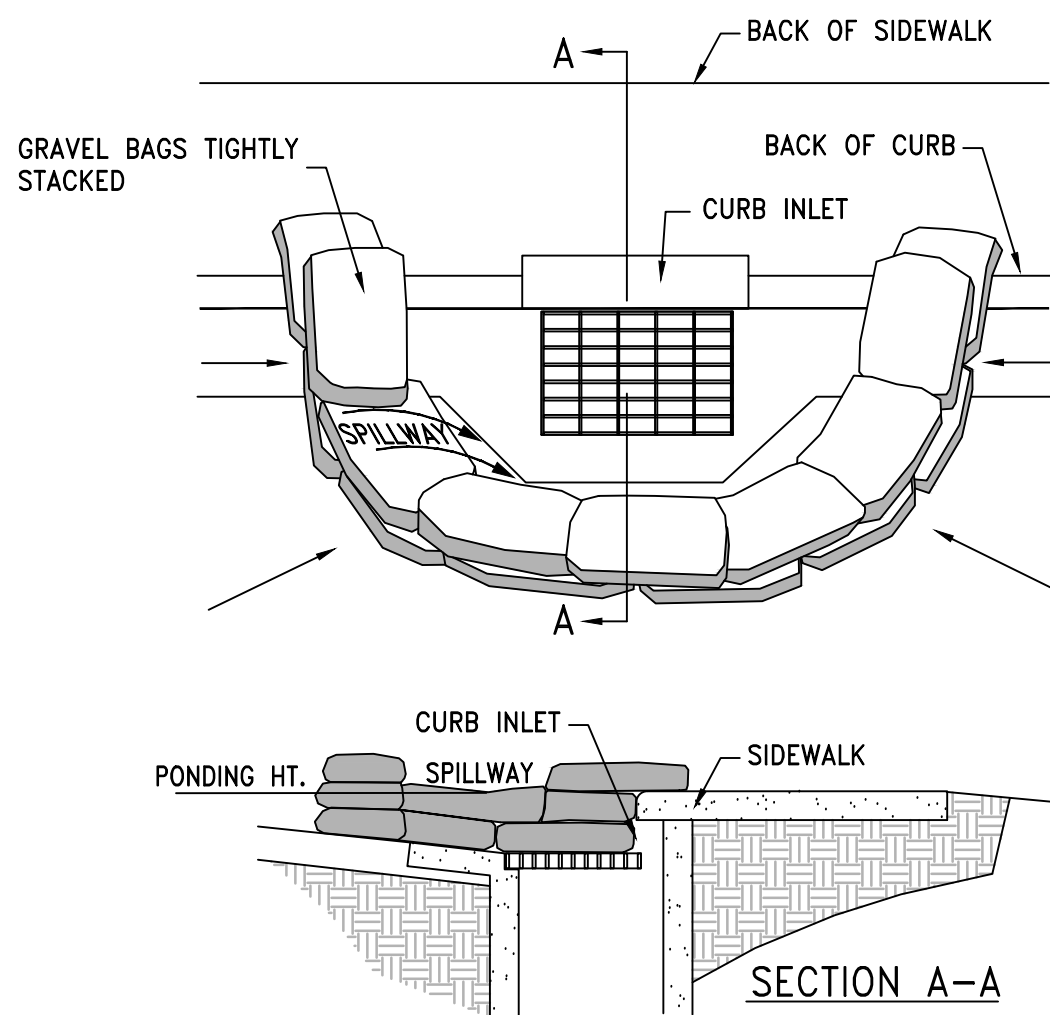
INSTALLATION AND MAINTENANCE

8. INSPECT THE FIBER ROLL AND THE SLOPES AFTER SIGNIFICANT STORMS. MAKE SURE THE FIBER ROLLS ARE IN CONTACT WITH THE SOIL.
9. REPAIR ANY RILLS OR GULLIES PROMPTLY.
10. RESEED OR REPLANT VEGETATION IF NECESSARY UNTIL THE SLOPE IS STABILIZED.

1

EROSION CONTROL NOTES

1. THE EROSION CONTROL PLANS IN THIS SET SHALL BE REVIEWED AND IMPLEMENTED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF WORK. ADDITIONAL DIRECTION, DETAILS, AND REQUIREMENTS ARE INCLUDED IN THE SWPPP. CONTRACTOR SHALL WORK WITH THE PROJECT'S QUALIFIED SWPPP PRACTITIONER (QSP) THROUGHOUT CONSTRUCTION TO ENSURE THE SITE IS PROPERLY PROTECTED FROM POSSIBLE POLLUTANTS. THE QSP HAS AUTHORIZATION TO ADD OR REMOVE BMP MEASURES THROUGHOUT CONSTRUCTION AS SPECIFIED IN THE SWPPP DOCUMENT.
2. THE QSP SHALL ENSURE ALL MONITORING AND INSPECTIONS ARE PERFORMED AS REQUIRED BY THE SWPPP AND ALL RECORDS ARE RETAINED ONSITE THROUGHOUT CONSTRUCTION.
3. NO LAND CLEARING, GRADING OR EXCAVATION SHALL BE DONE BETWEEN OCTOBER 1ST AND APRIL 30TH. ANY DEVIATION FROM THIS CONDITION REQUIRES REVIEW AND APPROVAL OF A SEPARATE WINTER EROSION CONTROL PLAN BY ENVIRONMENTAL PLANNING PRIOR TO BEGINNING CONSTRUCTION. THE DEVELOPER SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING SITE EROSION CONTROL AT ALL TIMES.
4. IT SHALL BE THE RESPONSIBILITY OF THE OWNER AND THE PERMITEE TO ENSURE THAT EROSION DOES NOT OCCUR FROM ANY ACTIVITY DURING OR AFTER PROJECT CONSTRUCTION. ADDITIONAL MEASURES, BEYOND THOSE SPECIFIED, MAY BE REQUIRED BY THE PLANNING DIRECTOR AS DEEMED NECESSARY TO CONTROL ACCELERATED EROSION.
5. PRIOR TO ANY FORECAST RAIN AND ANYTIME BETWEEN OCTOBER 1ST AND APRIL 30TH, AT THE END OF EACH WORKDAY, AT THE END OF EACH WORKWEEK, THE DEVELOPER SHALL IMPLEMENT ALL TEMPORARY MEASURES NECESSARY TO PREVENT EROSION AND SILTATION, UNTIL THE PROJECT HAS BEEN FINALIZED. THESE MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, DIRECT SEEDING OF THE AFFECTED AREAS, STRAW MULCHING, AND/OR INSTALLATION OF STRAW BALES DAMS/SILT FENCES.
6. DURING CONSTRUCTION, NO TURBID WATER SHALL BE PERMITTED TO LEAVE THE SITE. USE OF SILT AND GREASE TRAPS, FILTER BERMS, OR SILT FENCES SHALL BE USED TO PREVENT SUCH DISCHARGE.
7. ALL AREAS ON- AND OFF-SITE EXPOSED DURING CONSTRUCTION ACTIVITIES, IF NOT PERMANENTLY LANDSCAPED PER PLAN, SHALL BE PROTECTED BY MULCHING AND/OR SEEDING WITH ANNUAL WINTER BARLEY.
8. ALL EXCAVATED MATERIAL SHALL BE REMOVED TO AN APPROVED DISPOSAL SITE OR DISPOSED OF ON-SITE IN A MANNER THAT WILL NOT CAUSE EROSION.
9. ANY MATERIAL STOCKPILED, FOR LONGER THAN 14 DAYS, DURING CONSTRUCTION SHALL BE COVERED WITH PLASTIC.
10. UPON COMPLETION OF CONSTRUCTION, ALL REMAINING EXPOSED SOILS SHALL BE PERMANENTLY REVEGETATED PER LANDSCAPING PLAN. THE PROTECTION REQUIRED BY SECTION 16.19.140 SHALL BE INSTALLED PRIOR TO CALLING FOR FINAL APPROVAL OF THE PROJECT AND AT ALL TIMES BETWEEN OCTOBER 1ST AND APRIL 30TH. SUCH PROTECTION SHALL BE MAINTAINED FOR AT LEAST ONE WINTER UNTIL PERMANENT PROTECTION IS ESTABLISHED.
11. EXPOSED SOIL ON SLOPES GREATER THAN 20% SHALL BE SEEDED, COVERED WITH 2 INCHES OF STRAW, AND AN EROSION CONTROL BLANKET. THE EROSION CONTROL BLANKET SHALL BE STAKED IN PLACE.
12. IT IS THE DEVELOPER'S RESPONSIBILITY TO SEE THAT ADDITIONAL MEASURES, NECESSARY TO CONTROL SITE EROSION AND PREVENT SEDIMENT TRANSPORT OFF-SITE ARE IMPLEMENTED.
13. ALL SPILLS AND/OR LEAKS SHALL BE IMMEDIATELY CLEANED UP AND MITIGATED PER THE SPILL RESPONSE REQUIREMENTS SPECIFIED IN THE SWPPP DOCUMENT AND THE CONTRACTORS Q&M STANDARDS.



CURB INLET PROTECTION

NTS

CONSTRUCTION SPECIFICATIONS:

1. PLACE THE BARRIERS ON GENTLY SLOPING STREETS WHERE WATER CAN POND.
2. THE BARRIERS MUST ALLOW FOR OVERFLOW FROM A SEVERE STORM EVENT. SLOPE RUNOFF SHALL BE ALLOWED TO FLOW OVER BLOCKS AND GRAVEL AND NOT BE BYPASSED OVER THE CURB. A SPILLWAY SHALL BE CONSTRUCTED WITH THE SANDBAG STRUCTURES TO ALLOW OVERFLOW.
3. THE SANDBAG SHOULD BE OF WOVEN-TYPE GEOTEXTILE FABRIC.
4. THE SANDBAGS SHALL BE FILLED WITH 3/4 INCH (19 MM) DRAIN ROCK OR 1/4 INCH (6 MM) PEA GRAVEL.
5. THE SANDBAGS SHALL BE PLACED IN A CURVED ROW FROM THE TOP OF CURB AT LEAST 3 FEET (0.9 M) INTO THE STREET. THE ROW SHOULD BE CURVED AT THE ENDS, POINTING UPHILL.
6. SEVERAL LAYERS OF BAGS SHOULD BE OVERLAPPED AND PACKED TIGHTLY.
7. LEAVE A ONE-SANDBAG GAP IN THE TOP ROW TO ACT AS A SPILLWAY.

FOR BLOCK AND GRAVEL TYPE BARRIERS:

8. PLACE TWO CONCRETE BLOCKS ON THEIR SIDES PERPENDICULAR TO THE CURB AT EITHER END OF THE INLET OPENING. THESE WILL SERVE AS SPACER BLOCKS.
9. PLACE CONCRETE BLOCKS ON THEIR SIDES ACROSS THE FRONT OF THE INLET AND ABUTTING THE SPACER BLOCKS. THE OPENINGS IN THE BLOCKS SHOULD FACE OUTWARD, NOT UPWARD.
10. CUT A 2 BY 4 INCH (51 BY 102 MM) STUD THE LENGTH OF THE CURB INLET PLUS THE WIDTH OF THE TWO SPACER BLOCKS. PLACE THE STUD THROUGH THE OUTER HOLE OF EACH SPACER BLOCK TO HELP KEEP THE FRONT BLOCKS IN PLACE.
11. PLACE WIRE MESH OVER THE OUTSIDE VERTICAL FACE (OPEN ENDS) OF THE CONCRETE BLOCKS TO PREVENT STONE FROM BEING WASHED THROUGH THE BLOCKS.
12. USE CHICKEN WIRE, HARDWARE CLOTH WITH 1/2 INCH (13 MM) OPENINGS, OR FILTER FABRIC. REFER TO APPENDIX - GEOTEXTILES/GEOSYNTHETICS.
13. PLACE 3/4 - 1 1/2 INCH (19-34 MM) GRAVEL AGAINST THE WIRE TO THE TOP OF THE BARRIER.

INSPECTION AND MAINTENANCE:

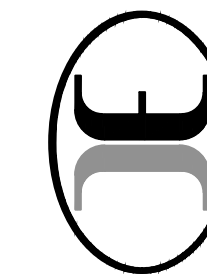
14. INSPECT AND CLEAN BARRIER DURING AND AFTER EACH SIGNIFICANT STORM AND REMOVE SEDIMENT FROM BEHIND SANDBAG STRUCTURE AFTER EVERY STORM.
15. ANY SEDIMENT AND GRAVEL SHALL BE IMMEDIATELY REMOVED FROM THE TRAVELED WAY OF ROADS.
16. THE REMOVED SEDIMENT SHALL BE PLACED WHERE IT CANNOT ENTER A STORM DRAIN, STREAM, OR BE TRANSPORTED OFF SITE.
17. IF THE GRAVEL BECOMES CLOGGED WITH SEDIMENT, IT MUST BE CAREFULLY REMOVED FROM THE INLET AND EITHER CLEARED OR REPLACED.



DATE	REVISION
10/21/2022	1. ROUND 1 PLAN CHECK COMMENTS
BY	STAFF

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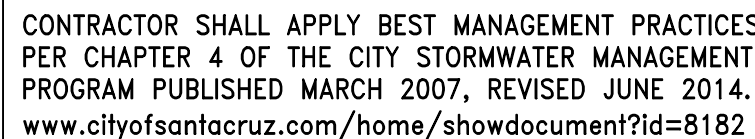
EROSION CONTROL NOTES & DETAILS
HOUSING AUTHORITY OF SANTA CRUZ COUNTY
415 NATURAL BRIDGES, SANTA CRUZ, CALIFORNIA

APN 003-011-06	DRAWN
CONSTRUCTION DOCUMENT PHASE	STAFF
DATE	DESIGN
08/01/2022	JPI

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JOB NO. 20032



BMP'S SHOWN HEREON SELECTED DUE TO THE FACT THE SITE IS VERY GENTLY SLOPING (<2%) AND WILL NOT CONTAIN HILLSIDES DENUDED BY SITE STRIPPING OR GRADING ACTIVITIES. DURING CONSTRUCTION, IF ADDITIONAL MEASURES ARE FELT NECESSARY THEY WILL BE IMPLEMENTED BY THE PROJECT ENGINEER.

APPLICABLE PERMITS REQUIRED PRIOR TO START OF GRADING ACTIVITIES. OPERATOR MUST PROVIDE EVIDENCE TO THE CITY OF SANTA CRUZ PRIOR TO COMMENCING WORK.

1. DEMOLITION PERMIT FROM CITY OF SANTA CRUZ
2. ENCROACHMENT PERMIT FROM CITY OF SANTA CRUZ
3. BUILDING PERMIT FROM CITY OF SANTA CRUZ
(APPLICATION NO. B22-0396)

ALL PERMITS LISTED HERE ARE PENDING CITY APPROVAL

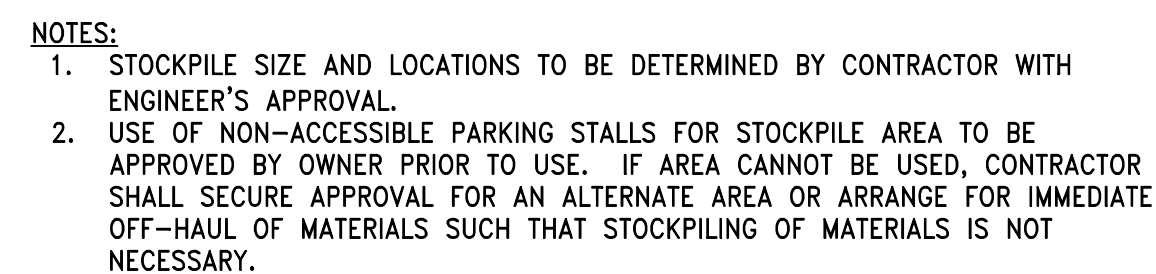
ON-SITE AREA OF DISTURBANCE = 38,560 S.F.
OFF-SITE AREA OF DISTURBANCE* = 877 S.F.
TOTAL AREA OF DISTURBANCE = 44,790 S.F.

*OFF-SITE AREAS CONSIST OF FRONTAGE IMPROVEMENTS

PROJECT CONSTRUCTION AND DEMOLITION ACTIVITIES SHALL COMPLY WITH THE CITY'S STORM WATER BEST MANAGEMENT PRACTICES FOR CONSTRUCTION.

www.cityofsantacruz.com/home/showdocument?id=6031

- 1. THE CONTRACTOR SHALL CONTACT ERIC DHAKNI, AT EDHAKNI@CITYOFSAFNTACRUZ.COM OR 831-420-5169, FOR THE FOLLOWING INSPECTIONS:
- DURING INSTALLATION OF ANY REQUIRED STORM WATER LID (LOW IMPACT DEVELOPMENT) FEATURES AND BEST MANAGEMENT PRACTICES ("BMP'S") SUCH AS INSTALLATION OF PERMEABLE ASPHALT, PERMEABLE ASPHALT, BIOSWALES, BIOTRETENTION AREAS AND RETENTION/INFILTRATION FACILITIES.
- DURING INSTALLATION OF ANY REQUIRED STORM WATER QUALITY TREATMENT UNITS SUCH AS BIO-PLANTERS, BIOFILTRATION TREE UNITS, PERM FILTERS, CUDOS, STORM WATER DETENTION BASINS, ETC.
- FINAL INSPECTION FOR STORM WATER ONCE THE WORK IS COMPLETED AS PART OF THE PERMIT "SIGN OFF" PROCESS. ALL EXPLODED SOILS/DIRT SHALL BE PROTECTED BY MULCHING AND/OR SEEDING, IF NOT PERMANENTLY LANDSCAPED PER LANDSCAPE PLANS. ADDITIONALLY, ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S, SUCH AS FIBER ROLLS, WATTLES, AND SODS, MUST BE REMOVED. THESE ITEMS SHALL BE COMPLETED PRIOR TO CALLING FOR FINAL INSPECTION OF THE PROJECT.



NTS

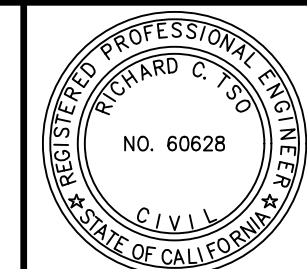
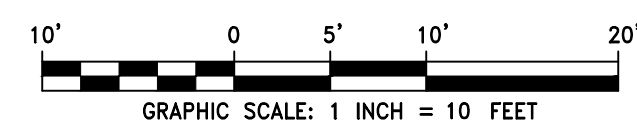


Legend:

- FIBER ROLLS PER NOTE 1
- DIRT STOCKPILE LOCATION PER NOTE 1
- PORTABLE TOILET

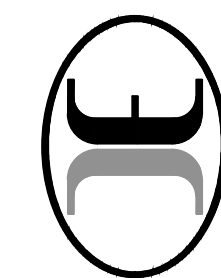
CATCH BASIN PROTECTION
PER NOTE 1

CURB INLET PROTECTION
PER NOTE 1

STABILIZED CONSTRUCTION
ENTRANCE PER NOTE 1[illegible]

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IFLAND ENGINEERS



EROSION CONTROL PLAN

HOUSING AUTHORITY OF SANTA CRUZ COUNTY

415 NATURAL BRIDGES, SANTA CRUZ, CALIFORNIA

APN 003-011-06

DRAWN
STAFF

DATE 08/01/2022

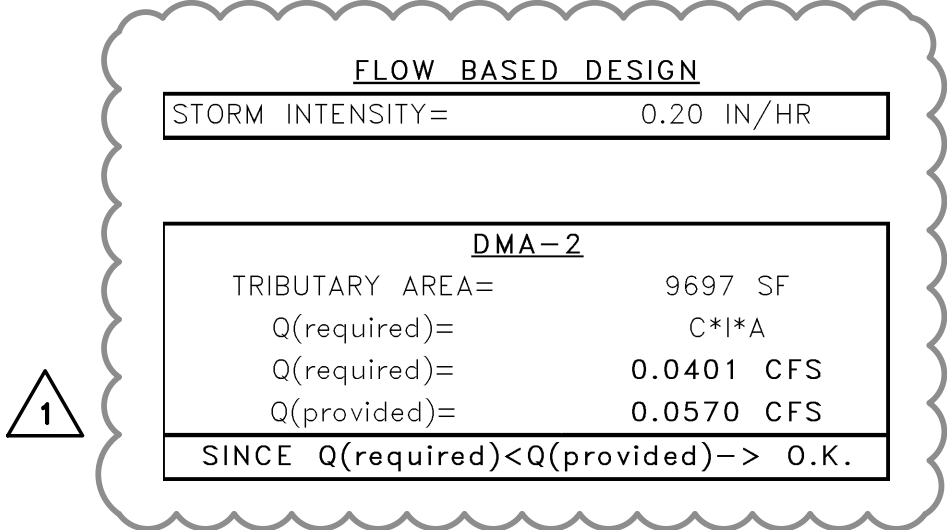
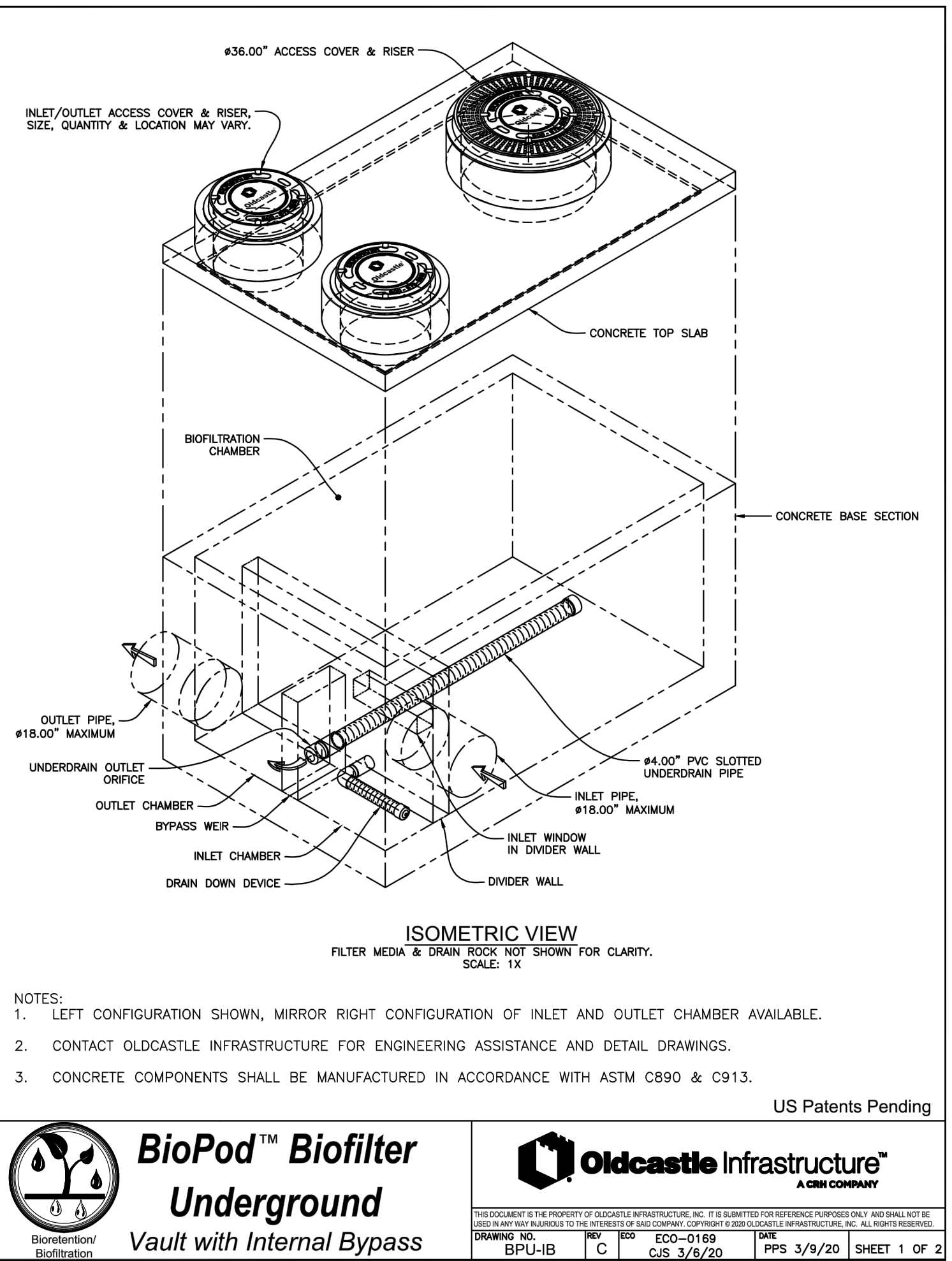
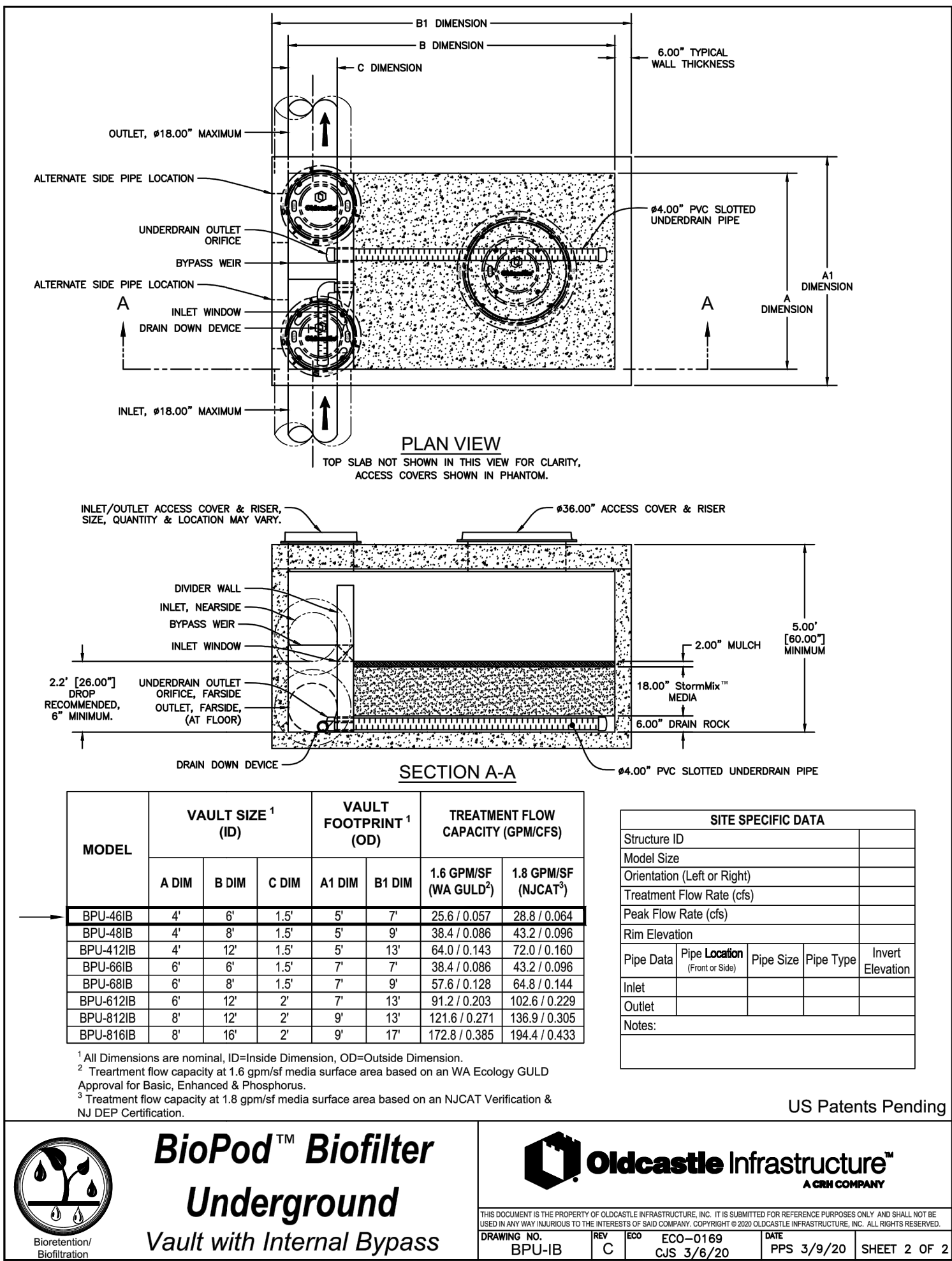
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JOB NO. 20032

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REGISTERED PROFESSIONAL ENGINEER
RICHARD C. JO
NO. 60628
CIVIL
STATE OF CALIFORNIA

10/21/2022
DATE

10/21/2022
REVISION

10/21/2022
BY

10/21/2022
STAFF

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IFLAND ENGINEERS
CIVIL ENGINEERING ■ LAND PLANNING ■ STRUCTURAL DESIGN

STORMWATER CONTROL DETAILS
HOUSING AUTHORITY OF SANTA CRUZ COUNTY
415 NATURAL BRIDGES, SANTA CRUZ, CALIFORNIA

APN 003-011-06
CONSTRUCTION DOCUMENT PHASE
DATE 08/01/2022
DESIGN JPI
DRAWN STAFF

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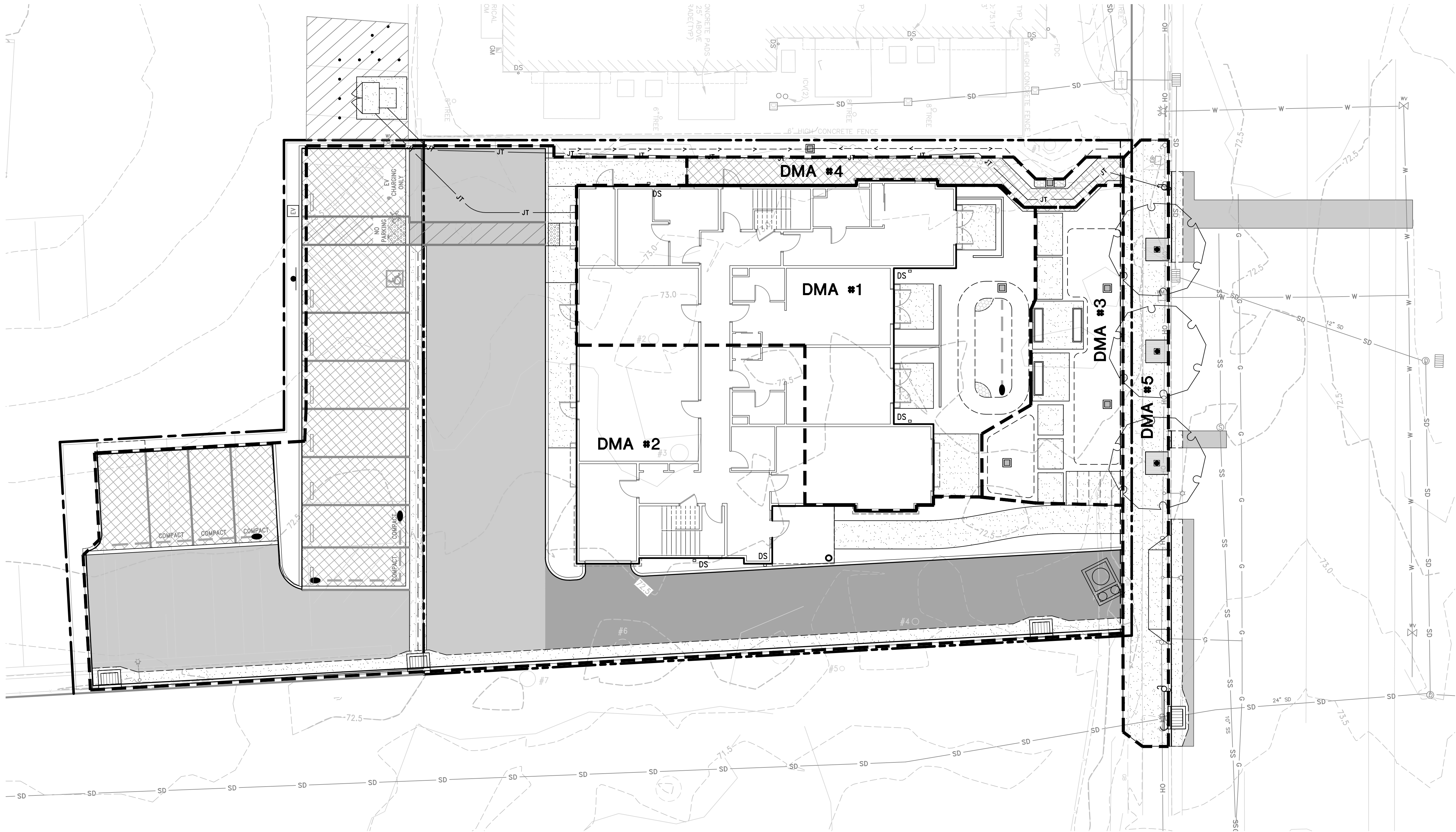
JOB NO. 20032

TREATMENT CONTROL MEASURE SUMMARY TABLE								
DMA	DRAINAGE AREA (SF)	PERVIOUS SURFACE (SF)	TYPE OF PERVIOUS SURFACE	IMPERVIOUS SURFACE (SF)	TYPE OF IMPERVIOUS SURFACE	WATER QUANTITY (SF/CFS)		PROPOSED TREATMENT CONTROL
						REQUIRED	PROVIDED	
DMA #1	3,264	774	BIOFILTRATION	2,250 240	ROOF PATIO	103	116	SCM-1 BIOFILTRATION
DMA #2	9,697	1,943	LANDSCAPE/ PAVERS	7,754	ROOF AC/CONC	SEE C7.0		SCM-2 BIOPOD FILTRATION UNIT
DMA #3	987	469	LANDSCAPE	518	CONCRETE	*	*	SELF-RETAINING
DMA #4	367	367	PAVERS	N/A	N/A	**	**	SELF-RETAINING
DMA #5	844	0	N/A	844	CONCRETE	0.0035 CFS	0.0169 CFS	SCM-2 BIOPOD FILTRATION UNIT

* VOLUME BASED DESIGN		
85TH PERCENTILE STORM=	1.25 IN	
Q(required)=	C*I*A	
DMA-3		
TRIBUTARY AREA	987 SF	
4% AREA=	39.5 SF	
WOV REQUIRED=	92.5 CF	
SCM-3		
	VOIDS	VOLUME
TREATMENT AREA	469 SF	-
PONDING	3.00 IN	1 117.3 CF
TOTAL PROVIDED VOLUME=		117.3 CF
INFILTRATION RATE AT DEPTH OF 12 INCHES = 1.3"/HR		
DRAWDOWN TIME = 3 / 1.3 = 2.3 HOURS		

** VOLUME BASED DESIGN		
85TH PERCENTILE STORM=	1.25 IN	
Q(required)=	C*I*A	
DMA-4		
TRIBUTARY AREA	367 SF	
4% AREA=	14.7 SF	
WOV REQUIRED=	34.4 CF	
SCM-4		
	VOIDS	VOLUME
TREATMENT AREA	367 SF	-
PONDING	9.00 IN	0.4 110.1 CF
TOTAL PROVIDED VOLUME=		110.1 CF
INFILTRATION RATE AT DEPTH OF 12 INCHES = 1.3"/HR		
DRAWDOWN TIME = 9 / 1.3 = 6.9 HOURS		

FLOW BASED DESIGN		
STORM INTENSITY=	0.20 IN/HR	
DMA-5		
TRIBUTARY AREA=	844 SF	
Q(required)=	C*I*A	
Q(required)=	0.0035 CFS	
Q(provided)=	0.0169 CFS	
0.0169 IS EXCESS FROM DMA-2		
SINCE Q(required)<Q(provided)-> 0.K.		

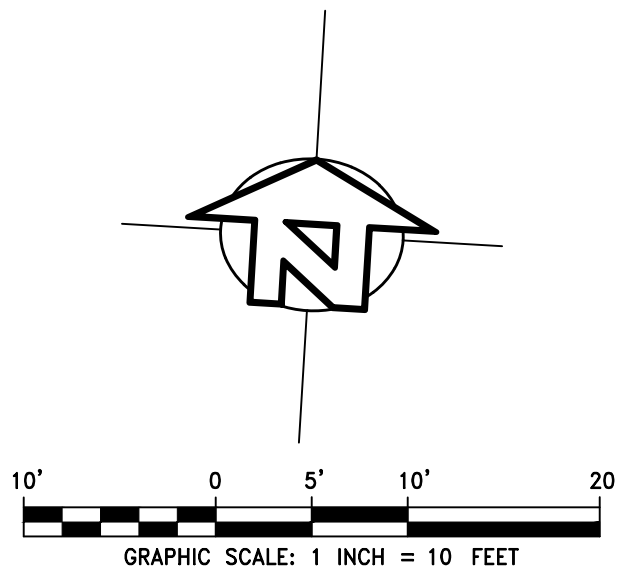


NOTES:

- THE PROJECT HAS LESS THAN 15,000 SF OF NEW OR REPLACED IMPERVIOUS SURFACES AND THEREFORE QUALIFIES AS A TIER 2 PROJECT, REQUIRING RUNOFF REDUCTION AND WATER QUALITY TREATMENT PRIOR TO DISCHARGE FROM THE SITE.
- RUNOFF REDUCTION WILL BE PROVIDED VIA THE USE PER PERVIOUS PAVEMENT OR PAVERS IN THE PARKING STALLS AND SELECT PORTIONS OF PEDESTRIAN WALKWAYS (DMA #4).
- TREATMENT WILL BE PROVIDED FOR THE NORTH AND NORTHEASTERLY ROOF AREAS, PATIOS, AND LANDSCAPING (DMA #1) VIA A RAINGARDEN LOCATED BETWEEN THE BUILDING AND THE STREET, SIZED AT 4% OF THE TRIBUTARY AREA.
- TREATMENT WILL BE PROVIDED FOR THE REMAINDER OF THE ROOF AREA, DRIVE AISLES, AND PARKING AREAS (DMA #2) VIA A "BIOPOD" FILTRATION UNIT LOCATED ALONG THE SOUTHERLY END OF THE PARKING LOT.
- AREA DRAINS IN CONCAVE LANDSCAPED AREAS SHALL HAVE RIMS SET 3 INCHES ABOVE ADJACENT GRADES IN ORDER TO PROMOTE PONDING AND INFILTRATION OF RAINFALL (DMA #3).

REQUIREMENT CRITERIA

- TIER 1. RUNOFF REDUCTION
- SITE IMPERVIOUS SURFACE IS OPTIMIZED
- TIER 2. WATER QUALITY TREATMENT
- BIOFILTRATION AREA IS PROVIDED FOR DMA #1
 - BIOPOD FILTRATION UNIT FOR DMA #2
 - DMA'S #3 AND #4 ARE SELF-RETAINING
- TIER 3. RETENTION REQUIREMENT
- NOT APPLICABLE
- TIE 4. PEAK FLOW MANAGEMENT
- NOT APPLICABLE



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STORMWATER CONTROL PLAN
HOUSING AUTHORITY OF SANTA CRUZ COUNTY
415 NATURAL BRIDGES, SANTA CRUZ, CALIFORNIA

APN 003-011-06
CONSTRUCTION DOCUMENT PHASE
DATE 08/01/2022
DESIGN JPI
DRAWN STAFF

SHEET
C7.1

JOB NO. 20032

STAFF
BY
10/21/2022
DATE
REVISION
COMMENTS
PLAN CHECK
1. ROUND

I:\PROJECTS\2020\20032 HOUSA DWG\3 - CONSTRUCTION\BUILDING PERMIT SET\C7.1-SWCP.dwg 1/6/2022 12:42:31 PM jifland © IFLAND ENGINEERS, INC.

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