

(MARINE LUMBER CO.)

DOC. NO. 2006-083653
(TUALATIN YARDS, LLC)

Architectural Review: Hedges D is a proposed new one-story building "shell" intended for a high-tech industrial tenant with a possible mezzanine addition by TI permit. Project uses include office, light manufacturing, and warehouse. A Certificate of Occupancy first requires a separate permit for TI work. The building will be a steel roof structure with concrete walls and slab-on-grade floor construction. A future mezzanine would be steel and concrete composite construction.

Project Statistics and Notes:
ZONING DISTRICT: GENERAL MANUFACTURING (MG)
INDUSTRIAL BUSINESS PARK OVERLAY
TAX PARCEL NO.: R 219850, R 219851 Property ID
251278A-00800 Map Tax Lot

LEGAL DESCRIPTION:
Lot 12, Franklin Business Park No. 6, in the City of Tualatin, County of Washington and State of Oregon, a subdivision recorded August 24, 2016, Recording no. 2016-067801. Together with access rights over and across private road as described in Declaration of Access Easement recorded July 8, 2011, Recording no. 2011-047430.

STATISTICS:

BUILDING AREAS:	OSSC Bldg. Gross Area	Gross Floor Area
1 st Floor-N. Wing	35,988sf	35,048sf
1 st Floor-S. Wing	26,212	25,452
Loading Area	4,687	4,647
Mezzanine (as TI)	0	11,725 (projected for calculations)
Total	66,887sf	76,872sf

MIXED USE PERCENTAGE (SECTION 69.065): (gross floor area)
Manufacturing: 60,000sf (78%)
Office: 16,872sf (22%)

SITE: 4.998 Acre Lot 12 (Developable portion of site)
4.449 Acre Tract D (Sensitive Area / Vegetated Corridor)
9.447 Acre Total (411,511sf)
Bldg. Coverage 16.3%

PARKING:
REQUIRED: (use gross floor area)
Manufacturing 60,000 x 1.6/1,000 = 96 minimum
Commercial Office 16,872 x 2.7/1,000 = 46 minimum
PROVIDED: 275 Stalls (3,521,000sf - no maximum in manuf.)
REQUIRED ADA: 6
PROVIDED ADA: 7

REQUIRED VAN POOL: 142 req'd / 25 = 5.68
PROVIDED VAN POOL: 7

BIKE PARKING: (use gross floor area)
REQUIRED: 76,872sf x 0.1/1,000 = 7.69 (5 covered)
PROVIDED: 8 (all covered)

TRASH ENCLOSURE AREA CALCULATIONS: (use gross leasable floor area)
REQUIRED:
Basic Minimum: 10sf
Industrial: 60,000sf x 6/1,000 = 360sf
Office: 16,872sf x 4/1,000 = 67sf
Total Required = 427sf
PROVIDED: 600sf (two enclosures @ 300sf)

LANDSCAPE CALCULATIONS:
REQUIRED: minimum is 12.5% of area to be developed:
12.5% x 217,713sf (Lot 12) = 27,214sf minimum
PROVIDED: 29,716sf on Lot 12 (plus 193,799sf on Tract D)

Project Team:

Owner / Developer: Hedges D, an LLC
PO Box 15523
Seattle, WA 98115
Contact: Mac Martin
Phone: (206) 399-6676

Shell Architect / Entitlement Permit Coordination: Lance Mueller & Associates / Architects
130 Lakeside Ave., Suite 250
Seattle, WA 98122
Contact: Bob Wells
Phone: (206) 325-2553 x 120

Civil Engineer: Mackenzie
P O Box 15523
Portland, OR 97239
Contact: Greg Mino
Phone: (503) 224-9560

Structural Engineer: VLAK Engineering + Design
3533 SW Kelly Avenue
Portland, OR 97239
Contact: Trent Nagle
Phone: (503) 222-4453

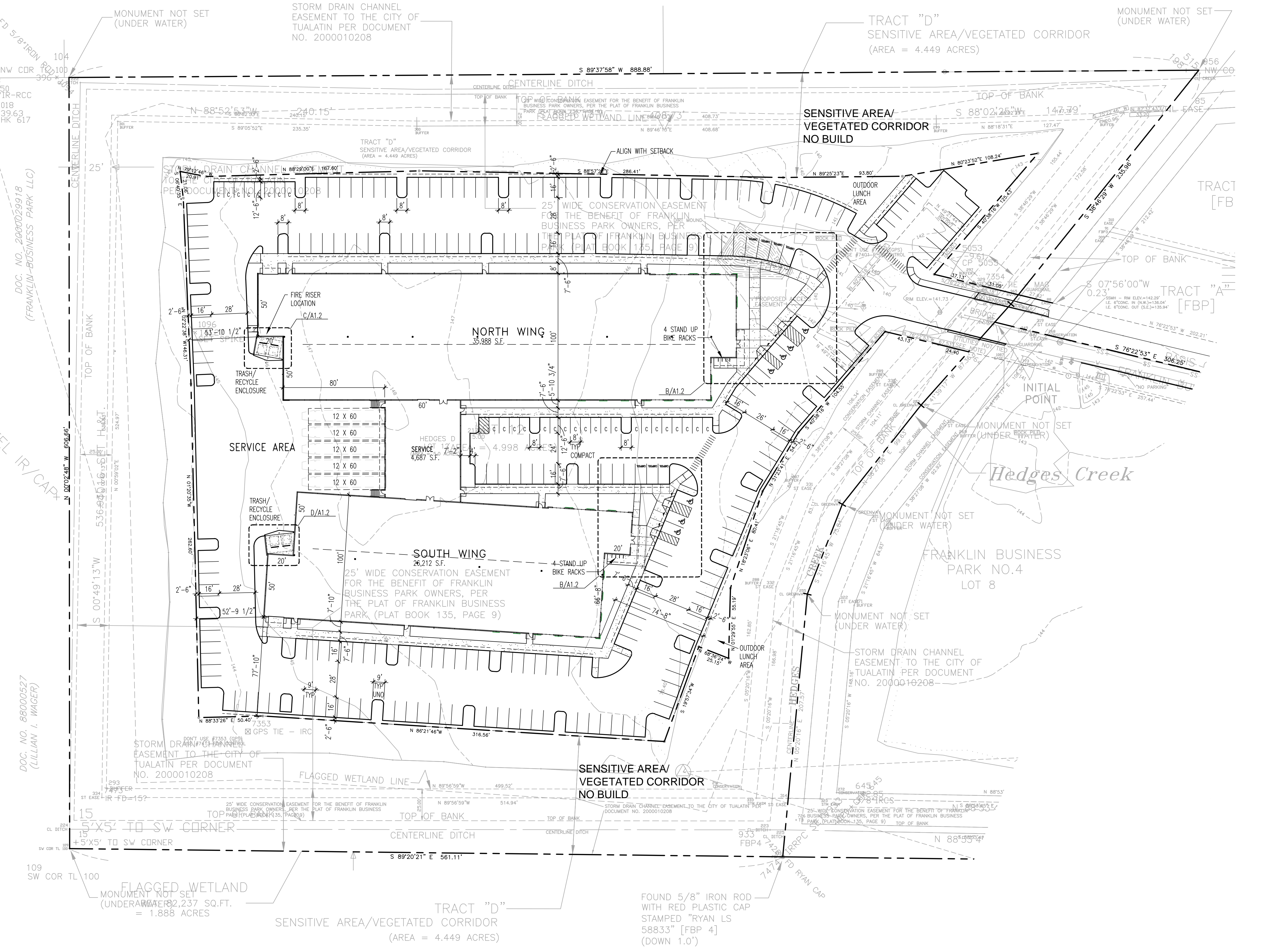
Landscaper: Otten Landscape Architects
3933 SW Kelly Ave., Suite B
Portland, OR 97239
Contact: Janet Otten
Phone: (503) 972-0311

Geotechnical Engineer: GeoEngineers
1200 NW Naito Parkway, Suite 180
Portland, OR 97209
Contact: Greg Landau
Phone: (503) 624-9274

Jurisdiction: City of Tualatin
PO Box 363
18676 SW Martinazzi Ave.
Tualatin, OR 97062

SHEET INDEX

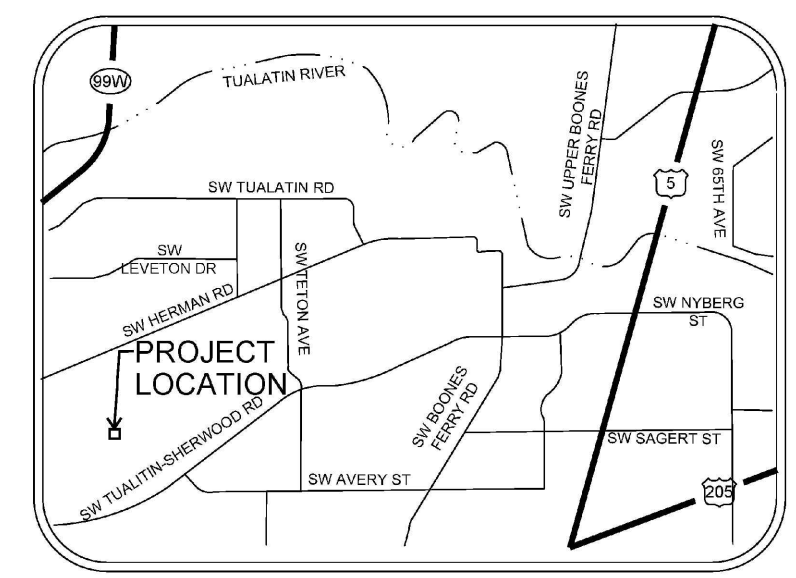
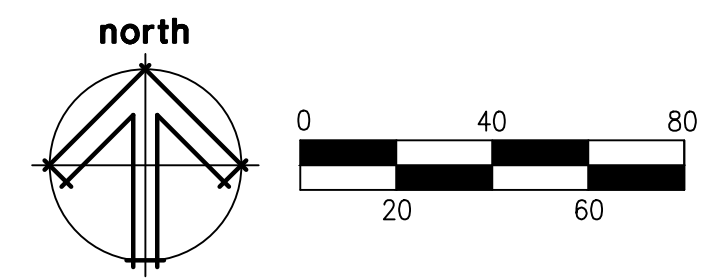
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SITE PLAN

SCALE: 1" = 40'

NOTE:
REFER TO LIGHTING CALCULATION SHEET 1 OF 2 FOR SITE LIGHTING.



DATE	REVISION	NO.
12-16-19		
4-12-18		

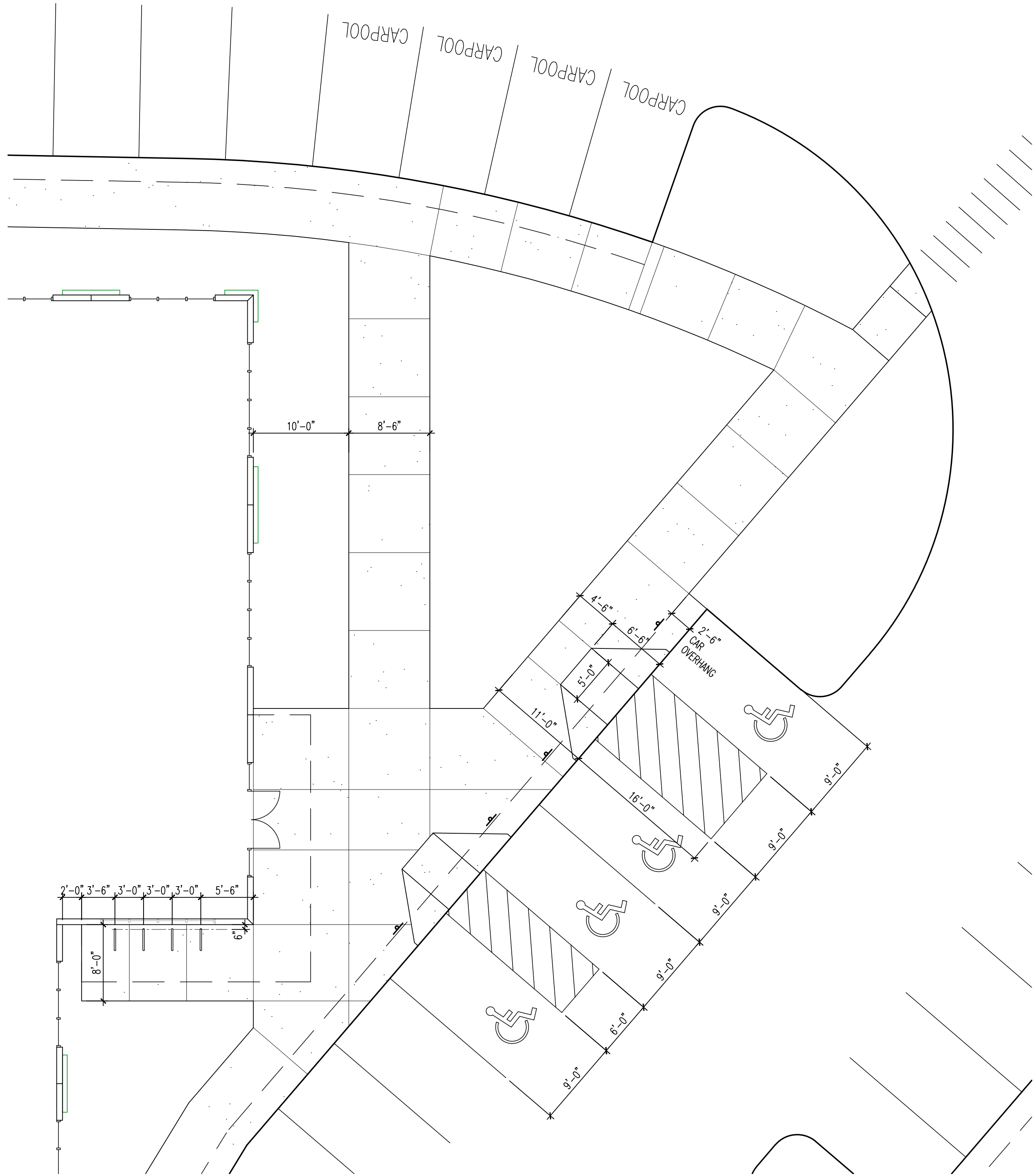
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LANCE MUELLER
SEATTLE, WA
STATE OF OREGON

HEDGES D
SW 115TH STREET
TUALATIN, OREGON

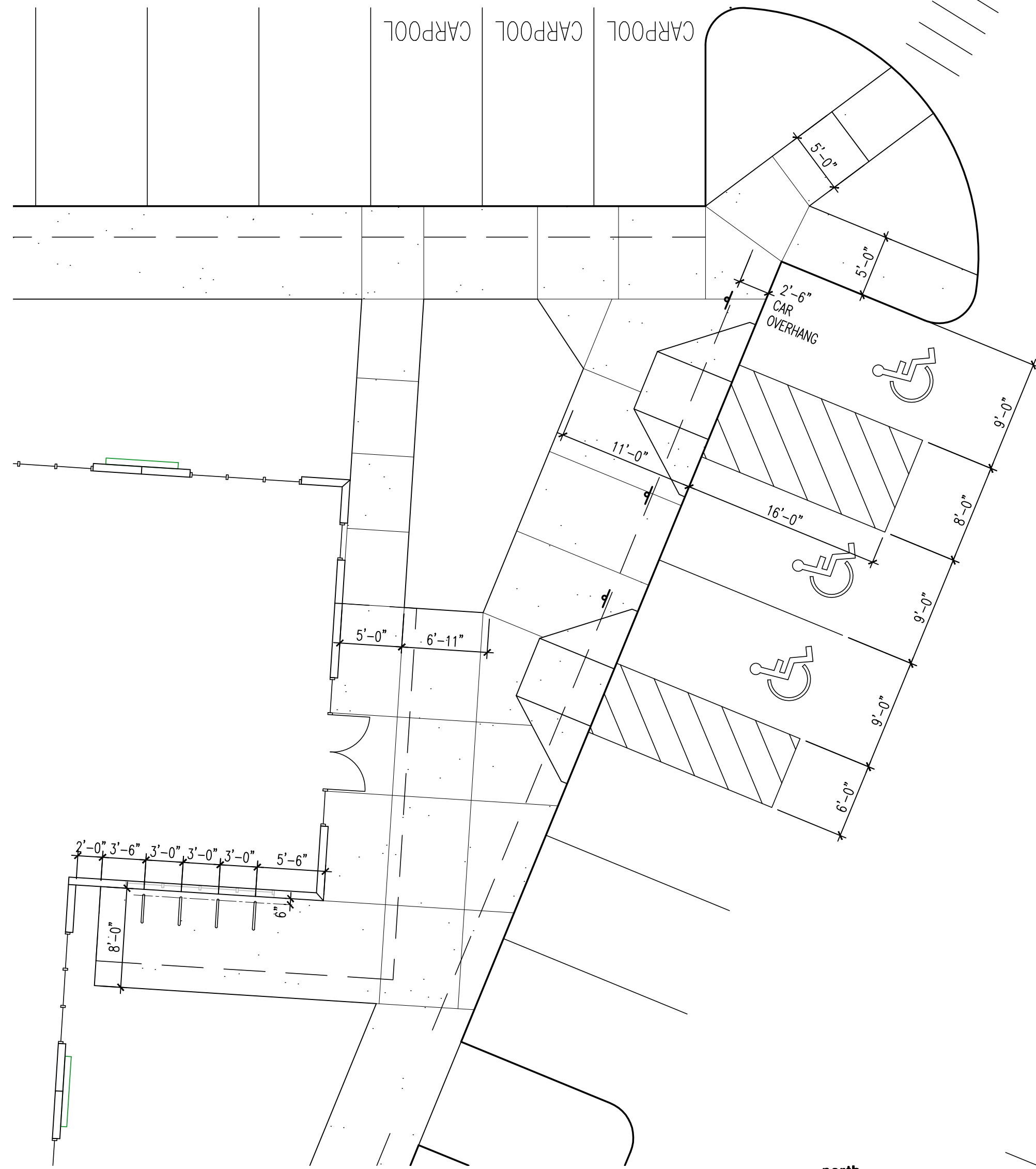
SITE PLAN & NOTES
LANDE MUELLER & ASSOCIATES
ARCHITECTS
130 LAKESIDE • SUITE 250 • SEATTLE, WA 98122 • (206) 325-2553

sheet
A1.1

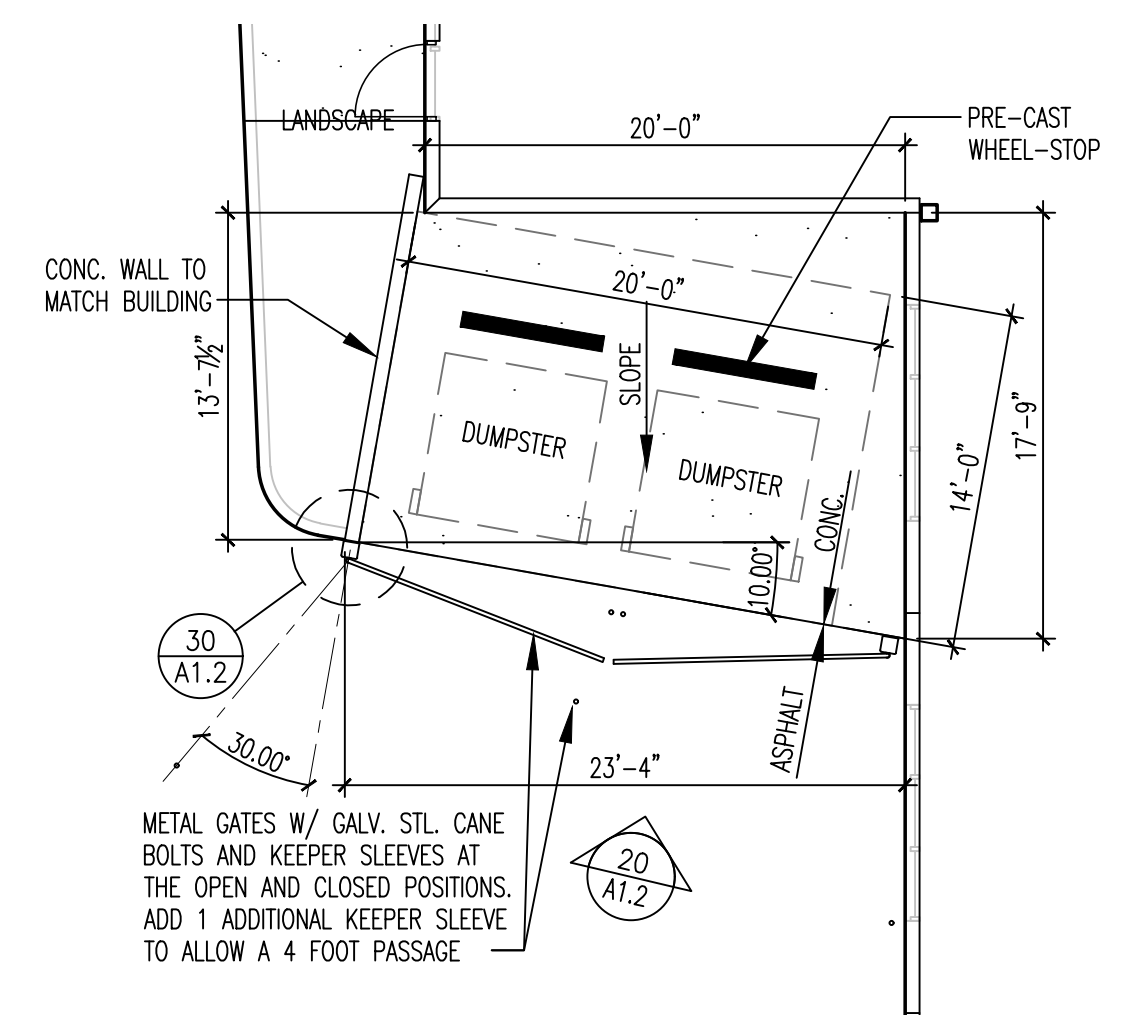
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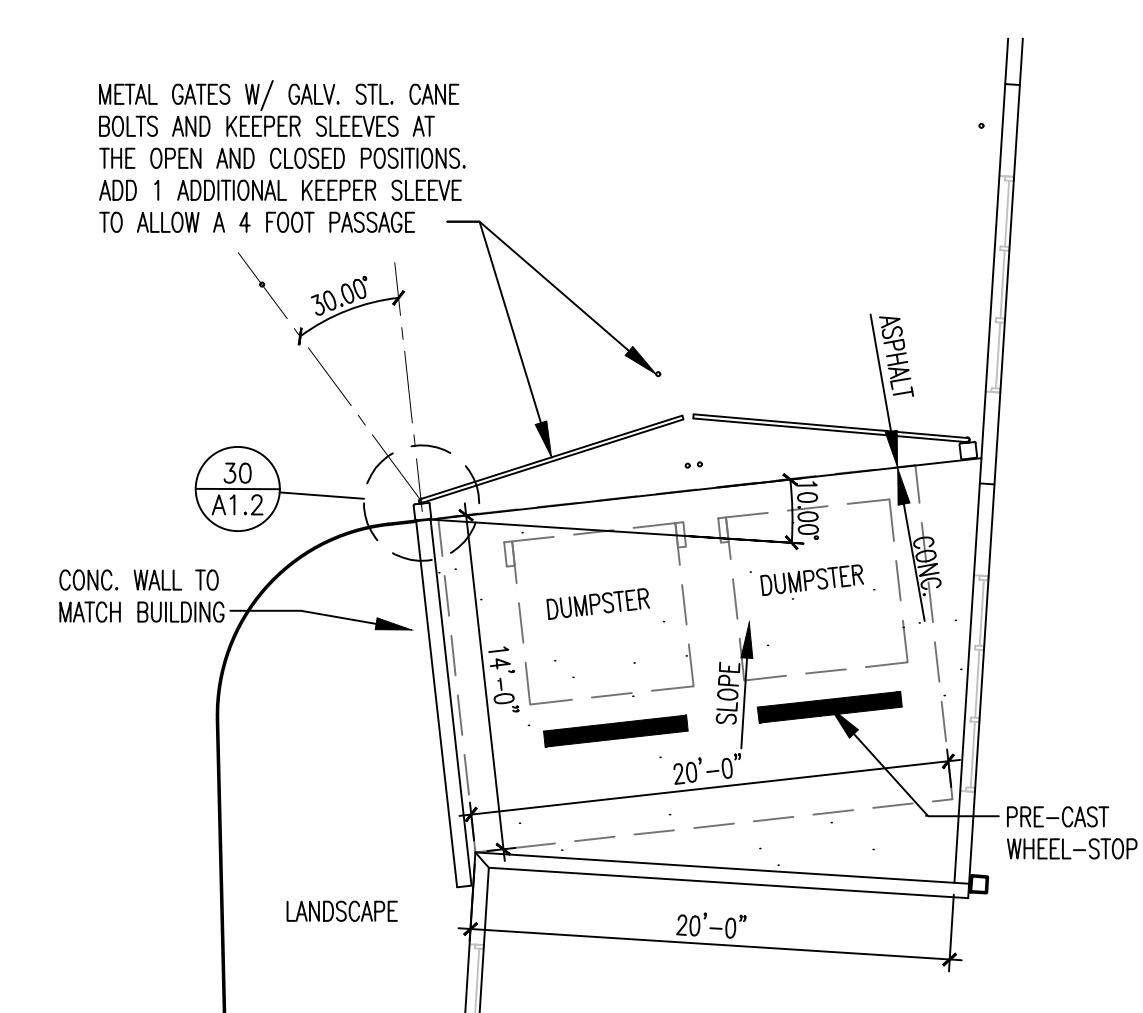
A ENLARGED PLAN
SCALE: 1/8" = 1'-0"



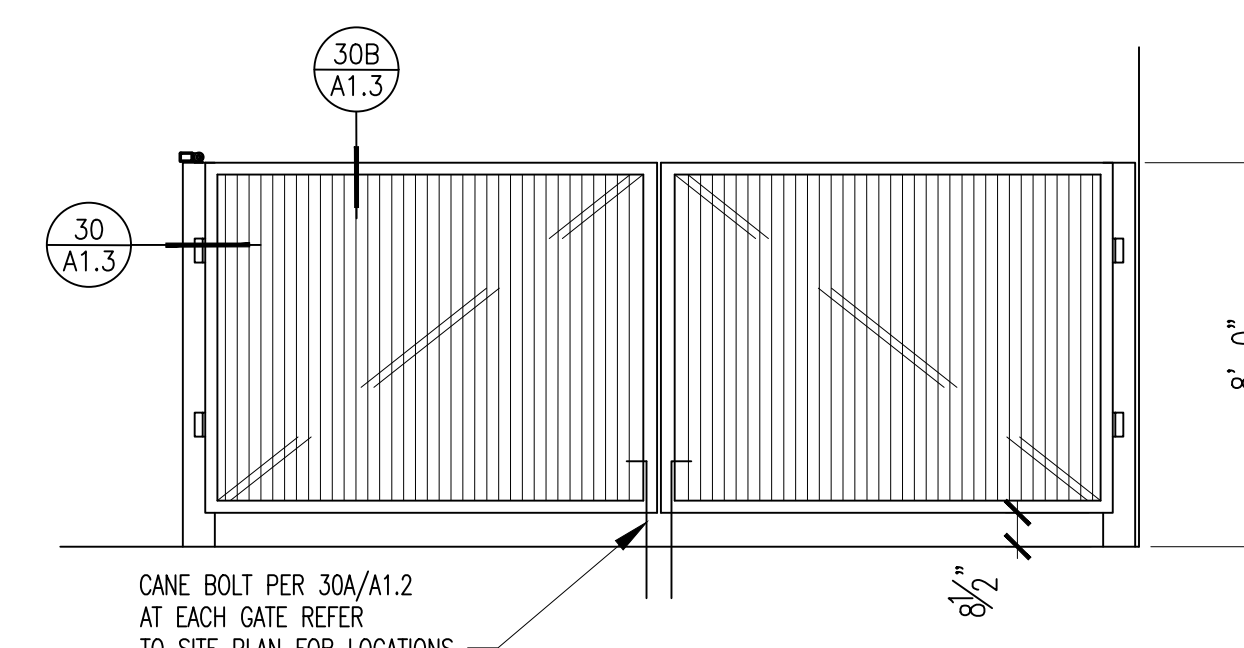
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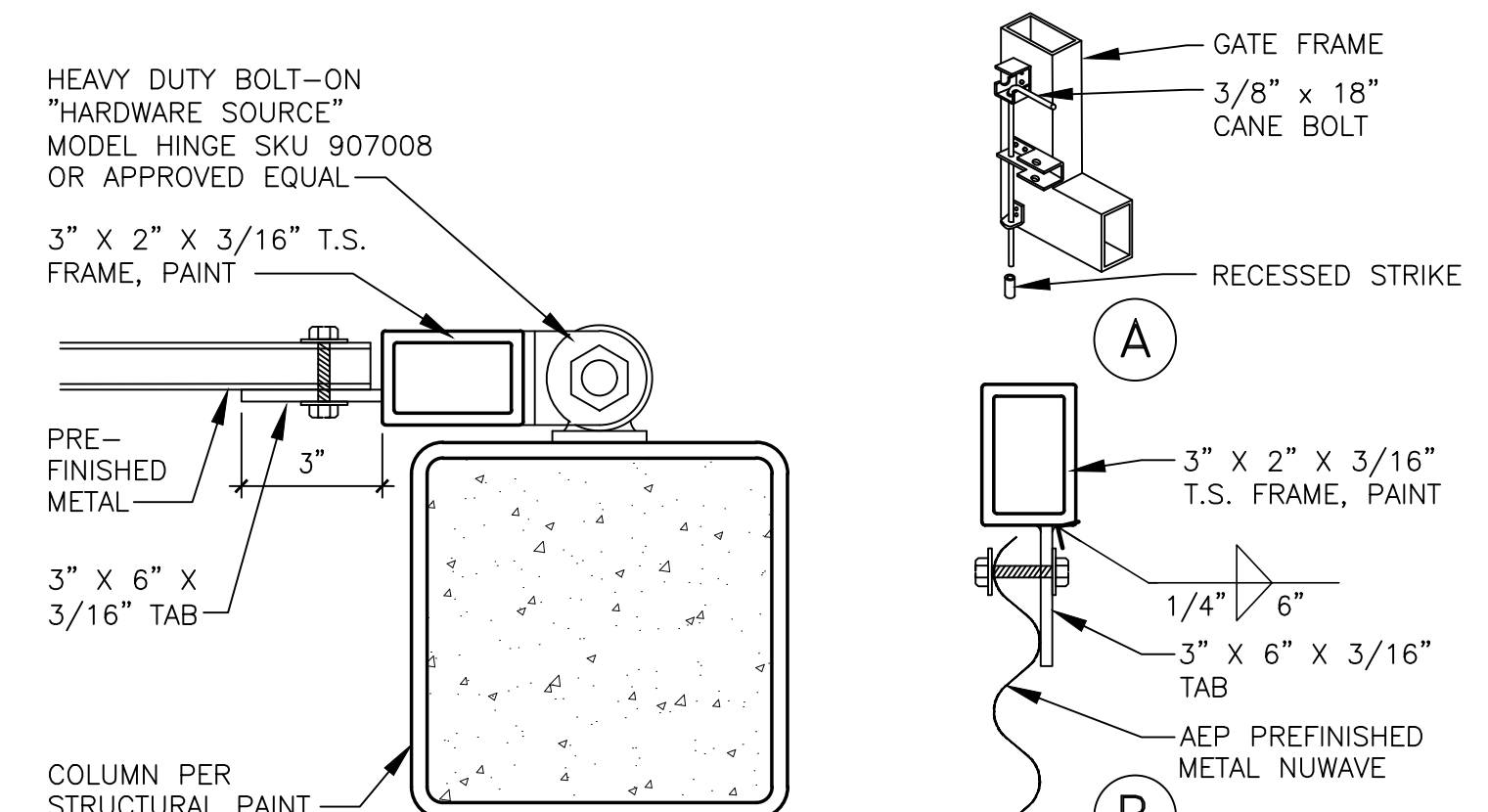
C ENLARGED DUMPSTER PLAN
SCALE: 1/8" = 1'-0"



D ENLARGED DUMPSTER PLAN
SCALE: 1/8" = 1'-0"



20 GATE ELEVATION
SCALE: 1/4" = 1'-0"



30 GATE DETAILS
SCALE: 3" = 1'-0"

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18-002	job no.		checked	12-16-19	date
	drawn				
				no.	revision

REGISTERED ARCHITECT
LANDE MUELLER
SEATTLE, WA
1981

STATE OF OREGON

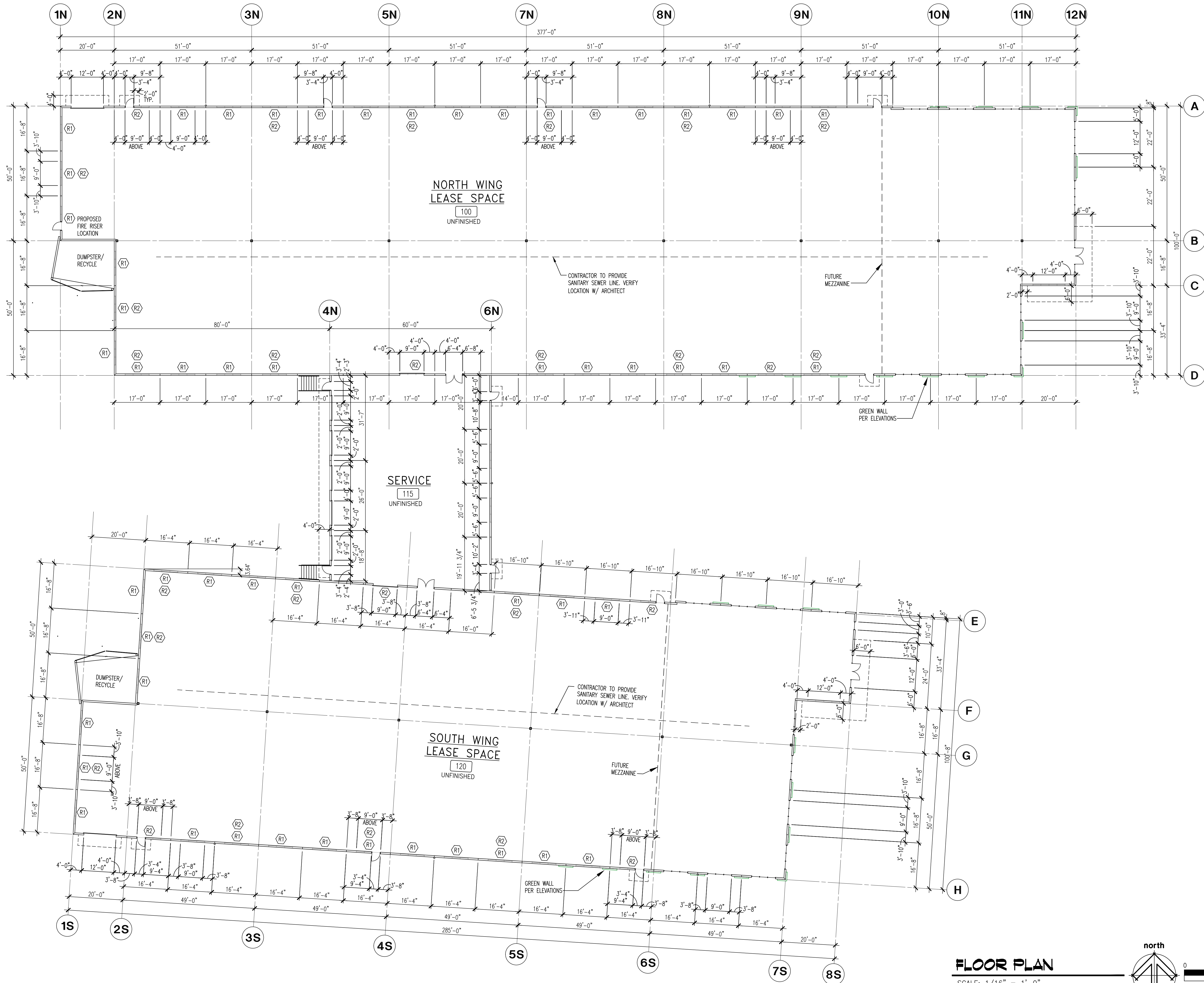
HEDGES D
SW 115TH STREET
TUALATIN, OREGON

ENLARGED PLANS AND DETAILS

LANDE MUELLER & ASSOCIATES

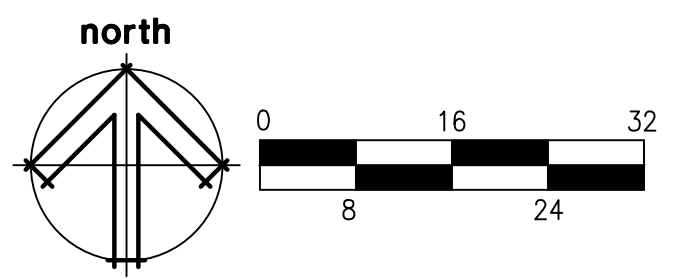
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FLOOR PLAN

SCALE: 1/16" = 1'-0"



18-002	job no.	12-16-19	date
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	revision		
REGISTERED ARCHITECT		STATE OF OREGON	
LANCE MUELLER		SEATTLE, WA 98101	
130 LAKESIDE • SUITE 250 • SEATTLE, WA 98122 • (206) 325-2553		12-16-19	
HEDGES D		12-16-19	
12XX SW 115TH STREET		12-16-19	
TUALATIN, OREGON 97062		12-16-19	

HEDGES D
12XX SW 115TH STREET
TUALATIN, OREGON 97062

FLOOR PLAN

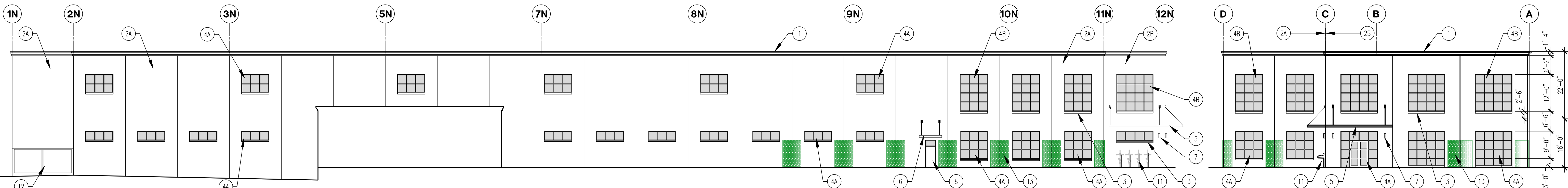
LANCE MUELLER & ASSOCIATES

ARCHITECTS

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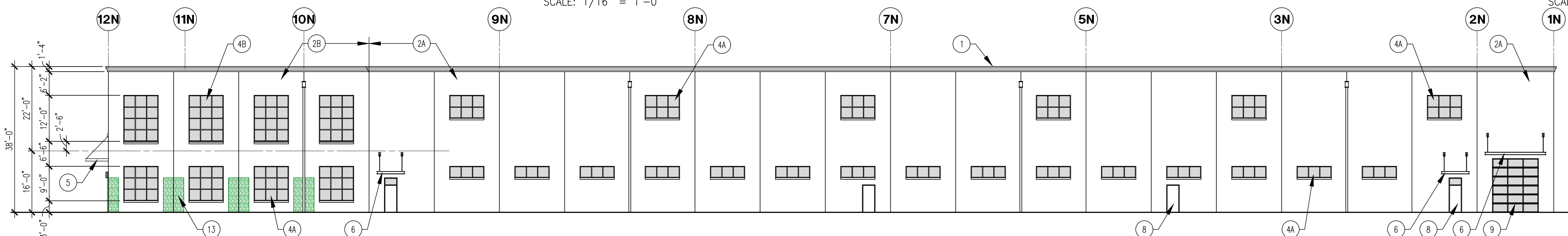


SOUTH ELEVATION - NORTH WING

EAST ELEVATION - NORTH WING

SCALE: 1/16" = 1'-0"

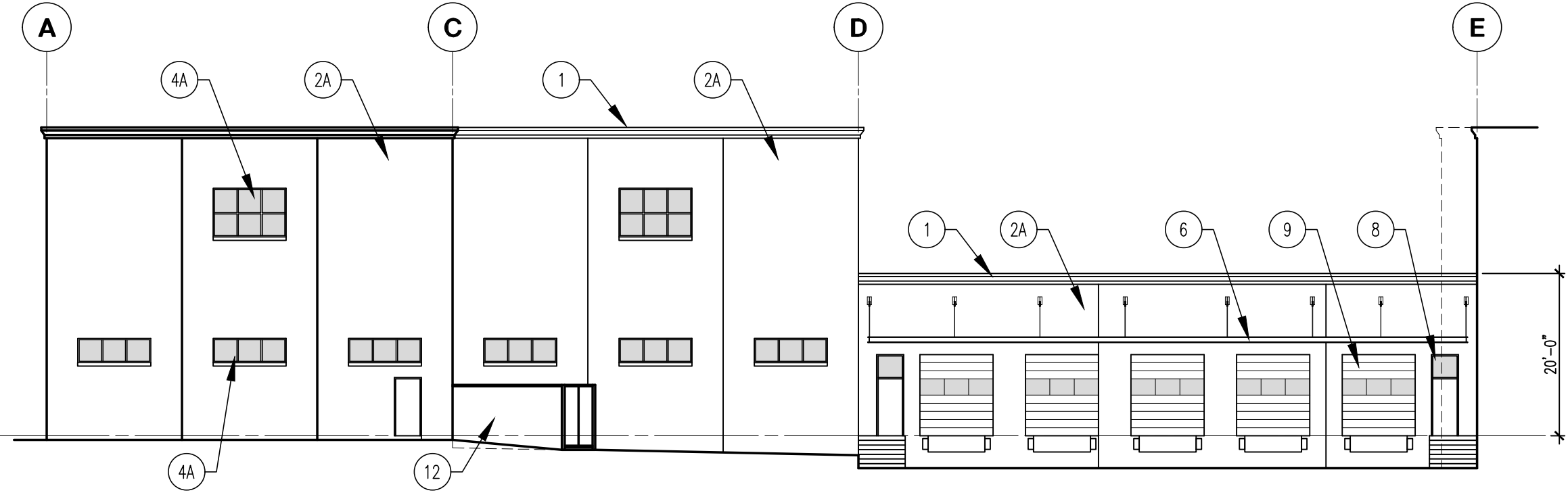
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NORTH ELEVATION - NORTH WING

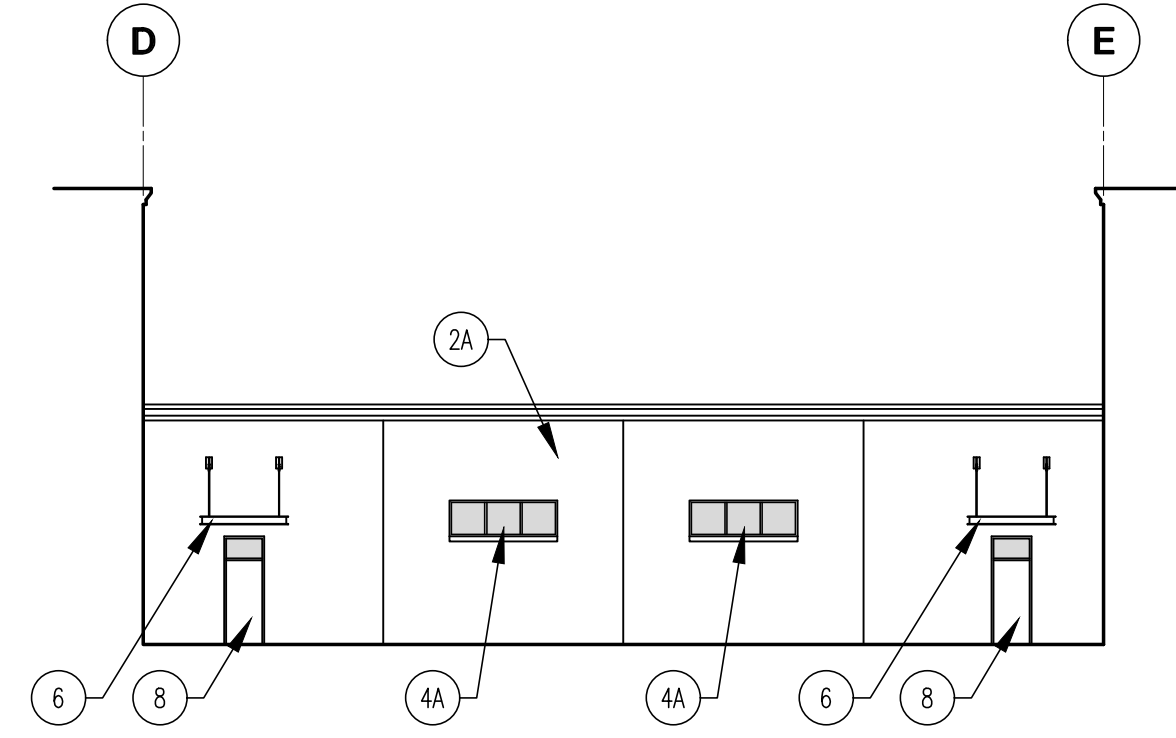
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EXTERIOR MATERIALS & FINISHES			
MARK	ITEM:	DESCRIPTION	REMARKS:
1	COPING	PREFINISHED GALVANIZED METAL	SILVER COLOR
2A	CONCRETE WALL	TILT CONCRETE PANEL - STAINED LIGHT	
2B	CONCRETE WALL	TILT CONCRETE PANEL - STAINED DARK	
3	PRECAST SILL	PRECAST CONCRETE - STAIN LIGHT	
4A	STOREFRONT	2" X 4.5" ALUMINUM WITH THERMAL BREAK WITH SLOPED CONCRETE SILL	CLEAR ANODIZED
4B	STOREFRONT	2" X 4.5" ALUMINUM WITH THERMAL BREAK WITH PRECAST CONCRETE SILL	CLEAR ANODIZED
5	MAIN CANOPY	STEEL FRAME, PAINTED	
6	OTHER CANOPIES	STEEL FRAME, PAINTED	
7	SCONCE	TECH LIGHTING - TURBO LED WALL SCONCE	
8	MAN DOOR	INSULATED METAL DOOR, PAINTED	
9	OH DOCK DOOR	INSULATED OVERHEAD DOOR, PAINTED	
10	OH DRIVE-IN DOOR	INSULATED GLASS OVERHEAD DOOR	
11	BIKE RACKS	STAND-UP FLOOR MOUNT	BIKERACK.COM STANDUP-IG-XX
12	TRASH / RECYCLE	CONCRETE ENCLOSURE WITH METAL GATE	
13	GREEN WALL	STEEL FRAME WITH CABLE	



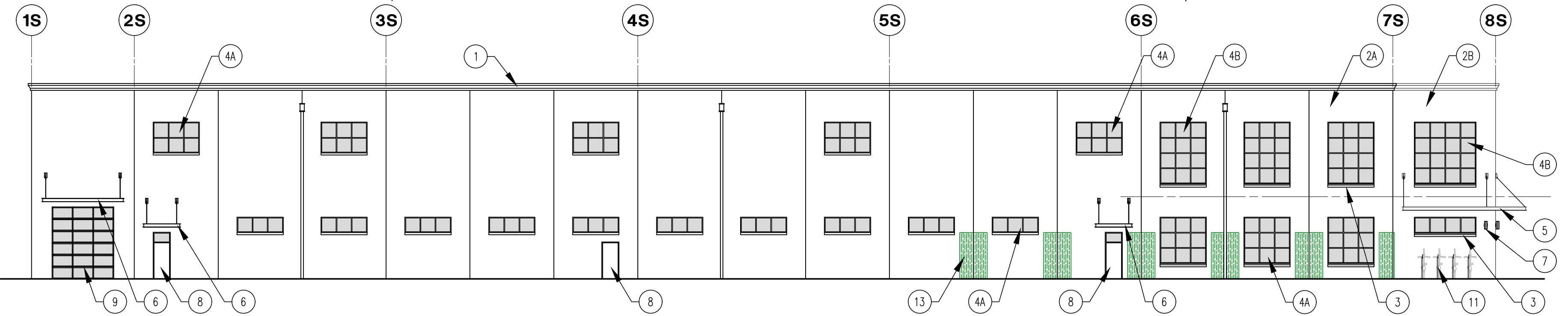
WEST ELEVATION - NORTH WING

SCALE: 1/16" = 1'-0"



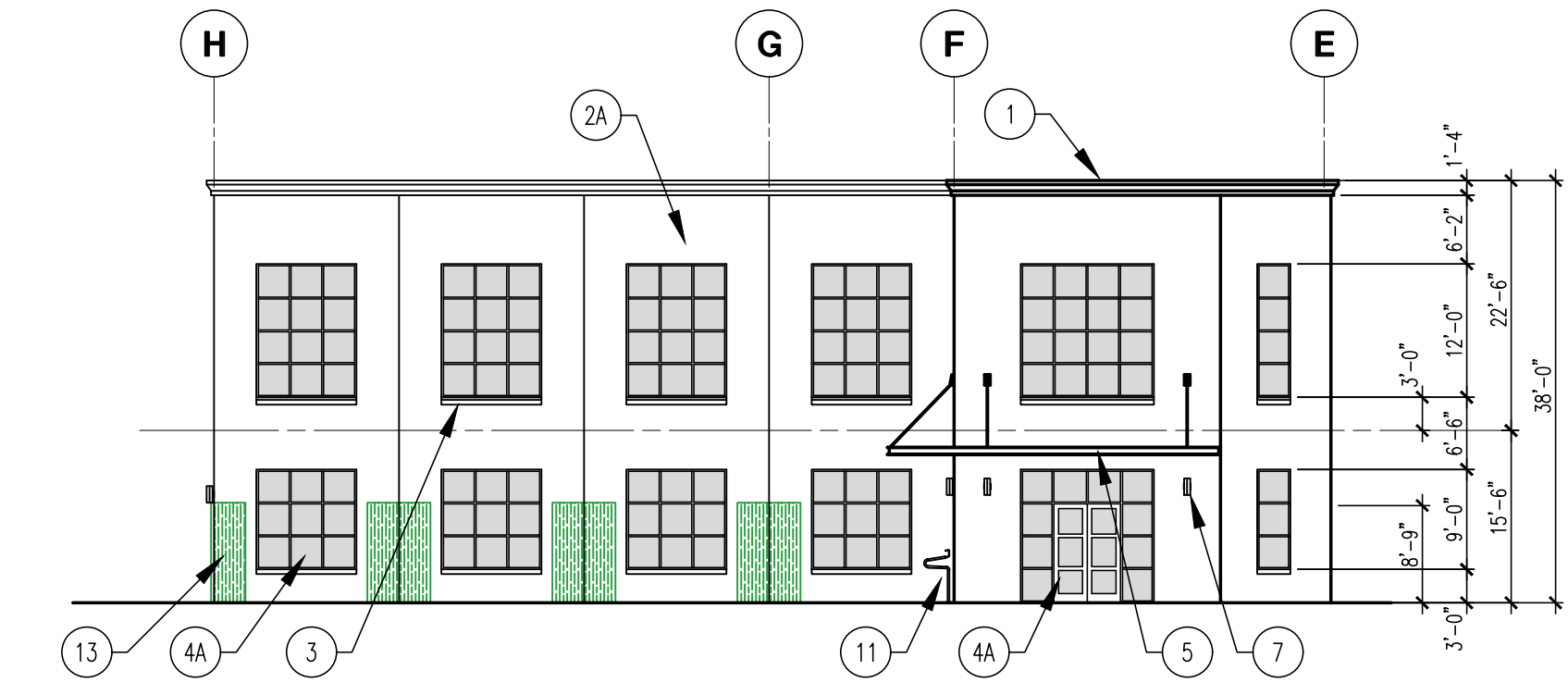
EAST ELEVATION - LOADING

SCALE: 1/16" = 1'-0"



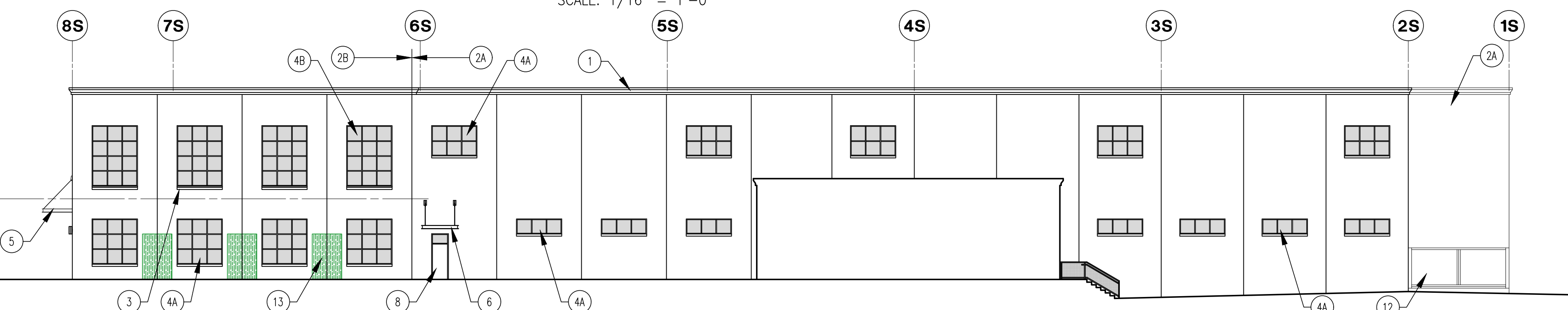
SOUTH ELEVATION - SOUTH WING

SCALE: 1/16" = 1'-0"



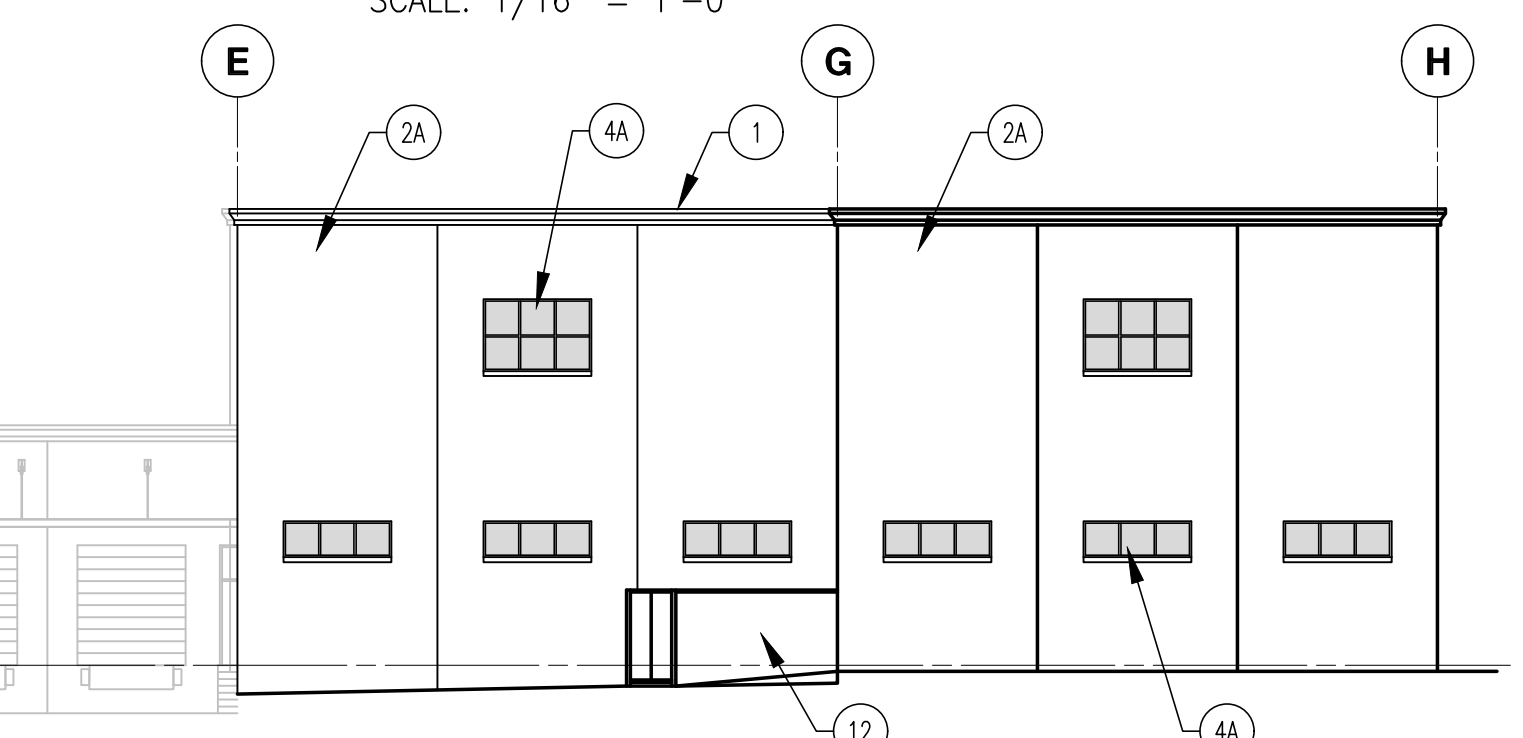
EAST ELEVATION - SOUTH WING

SCALE: 1/16" = 1'-0"



NORTH ELEVATION - SOUTH WING

SCALE: 1/16" = 1'-0"



WEST ELEVATION - SOUTH WING

SCALE: 1/16" = 1'-0"

REGISTERED ARCHITECT
 LANCE MUELLER
 SEATTLE, WA
 1981

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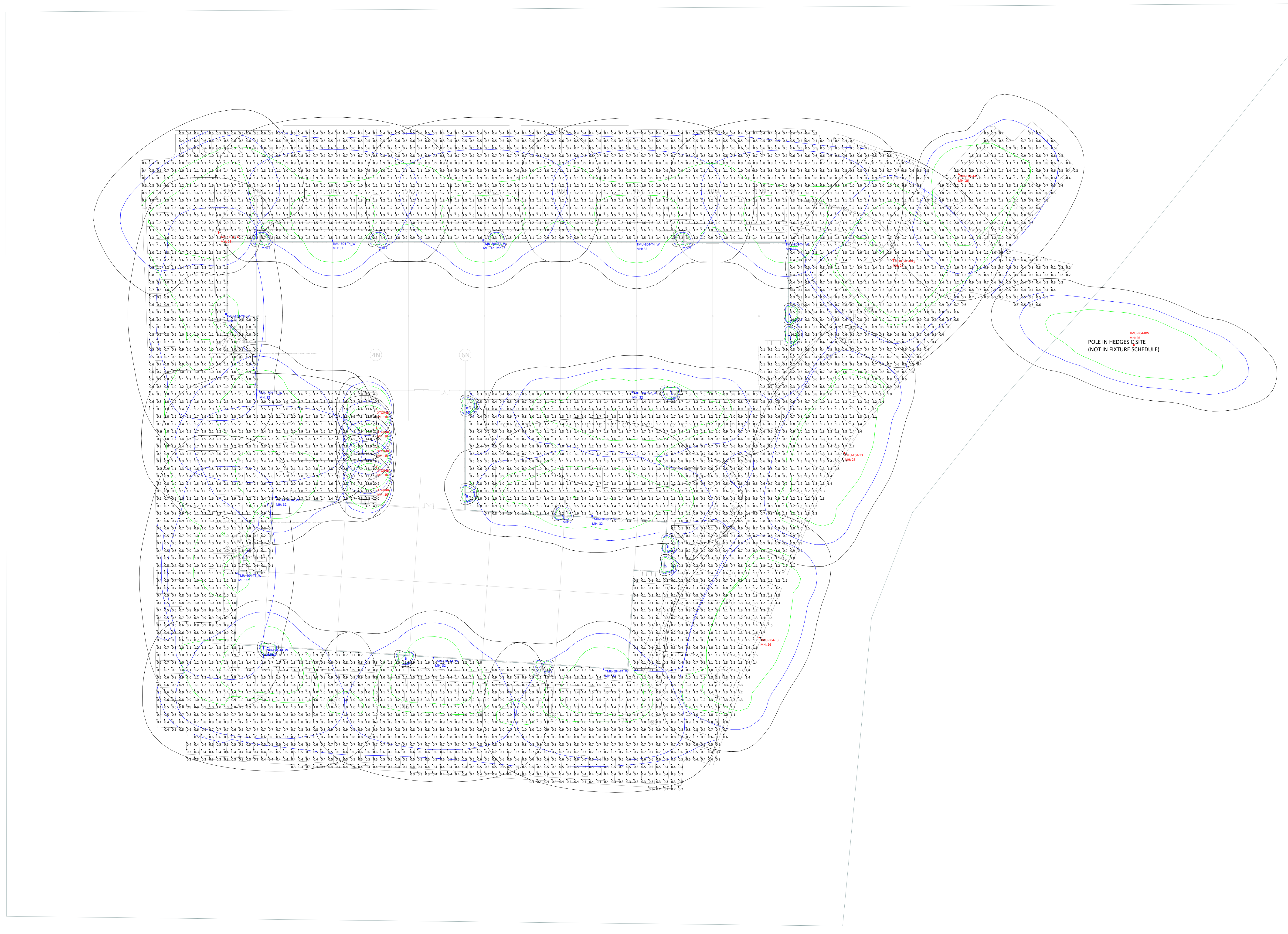
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HEDGES D
 12XXX SW 115TH STREET
 TUALATIN, OREGON 97062

EXTERIOR ELEVATIONS
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 ARCHITECTS
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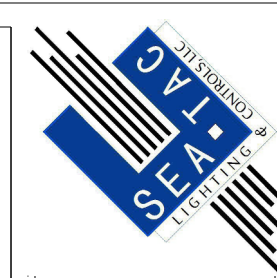
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Scale: 1 inch = 30 Ft.

Standard Luminaire Schedule											
Project: Project 1											
Symbol	Qty	Label	Manufacturer	Part # Description	LLF	Arm	Arrangement	Arr. Lum. Lumens	Arr. Watts	Filename	BUG Rating
15	15	B	GENERATION BRANDS	700WTUR18SCC401201	0.900	0	SINGLE	571	15.3	102171228CH-029 GB 700WTUR18S12-G0	
1	1	TMU-E04-SM2	EATON - STREETWORKS (FORMER COOPER LIGHTING)	TMU-E04-LED-E-U-SM2	0.900	0.66725	SINGLE	12085	97.2	TMU-E04-LED-E-U-SM2.ies	B2-U0-G2
2	2	TMU-E04-SK2	WEATON - STREETWORKS (FORMER COOPER LIGHTING)	TMU-E04-LED-E-U-SL2-WM	0.900	0.66725	SINGLE	12231	97.2	TMU-E04-LED-E-U-SL2.ies	B2-U0-G2
2	2	TMU-E04-T3	WEATON - STREETWORKS (FORMER COOPER LIGHTING)	TMU-E04-LED-E-U-T3-WM	0.900	0.66725	SINGLE	12336	97.2	TMU-E04-LED-E-U-T3.ies	B2-U0-G3
2	2	TMU-E04-T3	EATON - STREETWORKS (FORMER COOPER LIGHTING)	TMU-E04-LED-E-U-T3	0.900	0.66725	SINGLE	12336	97.2	TMU-E04-LED-E-U-T3.ies	B3-U0-G3
9	9	TMU-E04-T4	WEATON - STREETWORKS (FORMER COOPER LIGHTING)	TMU-E04-LED-E-U-T4-WM	0.900	0.66725	SINGLE	12088	97.2	TMU-E04-LED-E-U-T4.ies	B2-U0-G2
2	2	TMU-E04-T4	EATON - STREETWORKS (FORMER COOPER LIGHTING)	TMU-E04-LED-E-U-T4	0.900	0.66725	SINGLE	12088	97.2	TMU-E04-LED-E-U-T4.ies	B2-U0-G2
5	5	XTOR4B	EATON - LUMARK (FORMER COOPER LIGHTING)	XTOR4B	0.900	0	SINGLE	4269	37.7	XTOR4B.ies	B2-U0-G0

NOTES:
 1. LIGHT LOSS FACTOR APPLIED, INITIAL VALUES WILL BE HIGHER
 2. FIXTURE HEIGHT: NOTED
 3. POLE HEIGHT: FIXTURE HEIGHT LESS BASE
 4. STANDARD REFLECTANCE USED: 20% GROUND EQUAL TO ASPHALT
 5. CALCULATION POINTS LOCATED ON GROUND

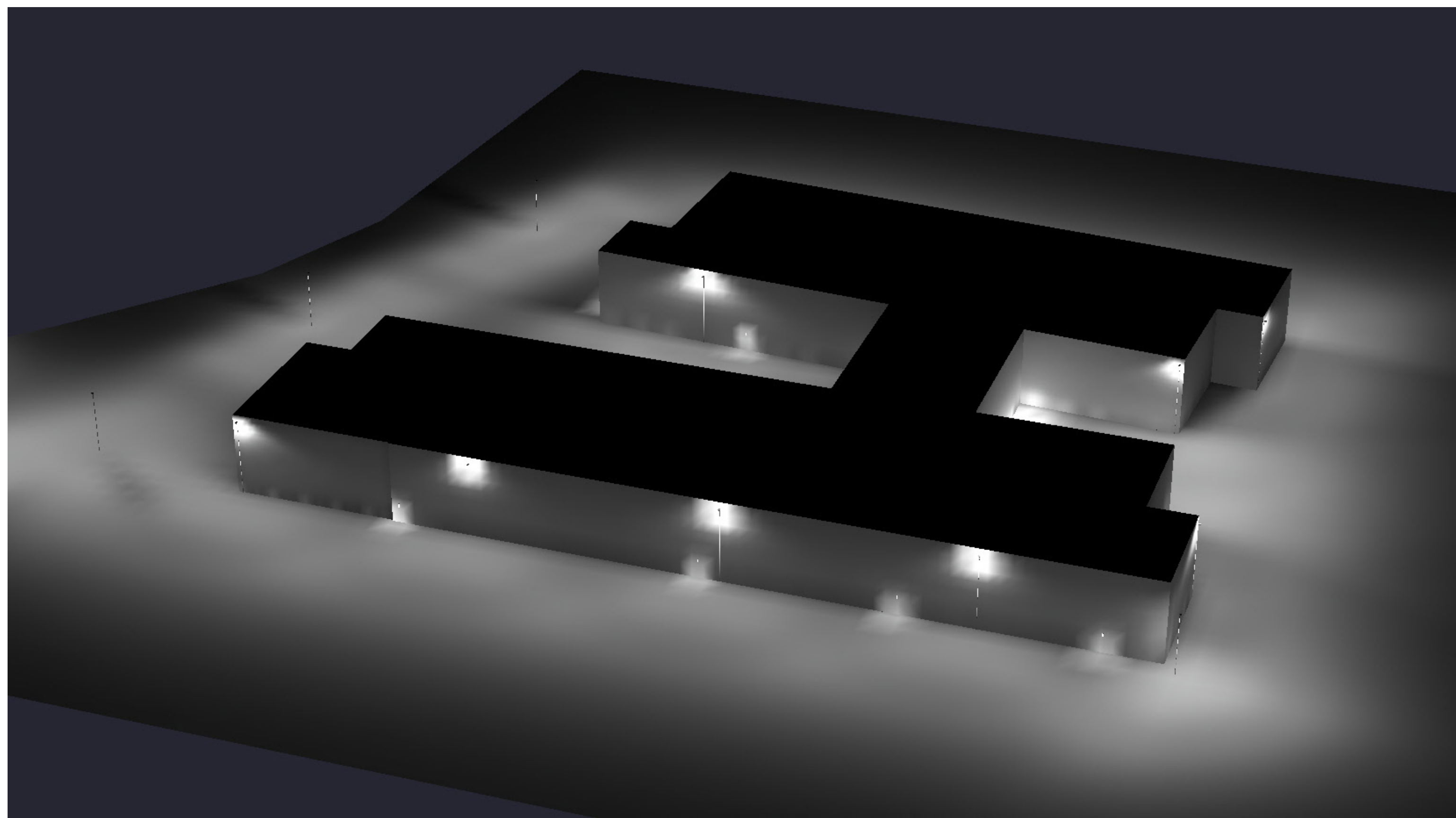
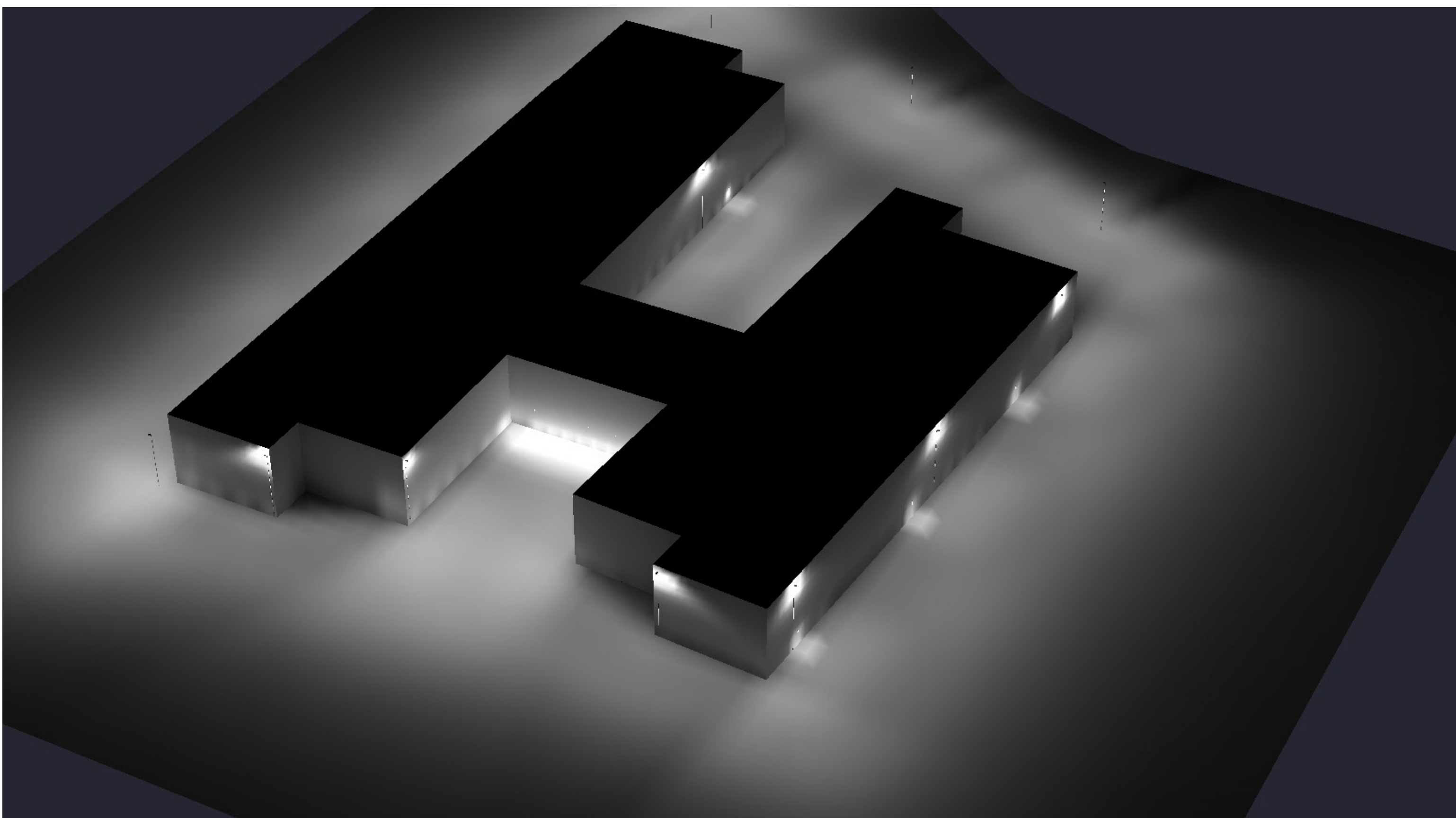
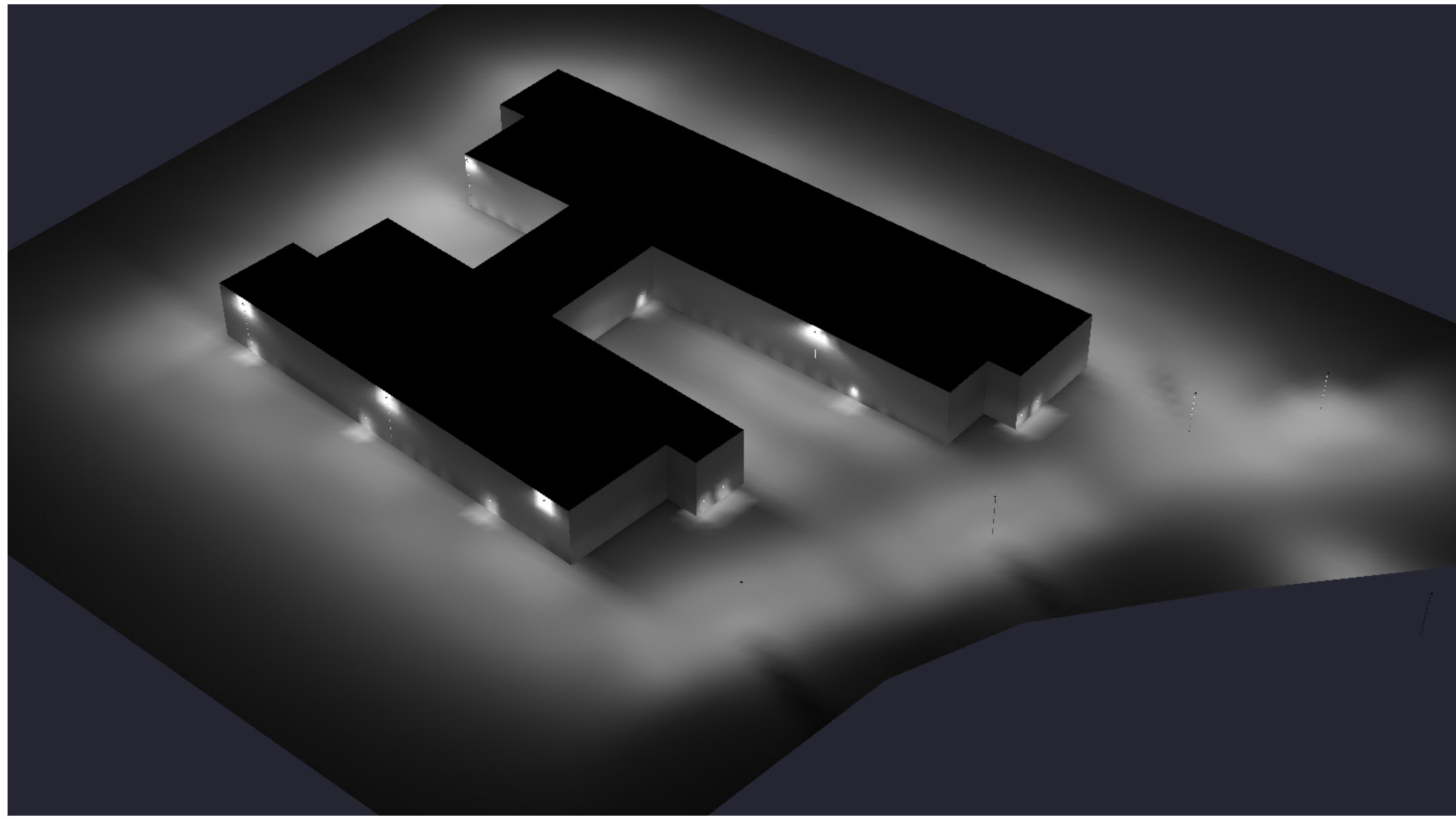
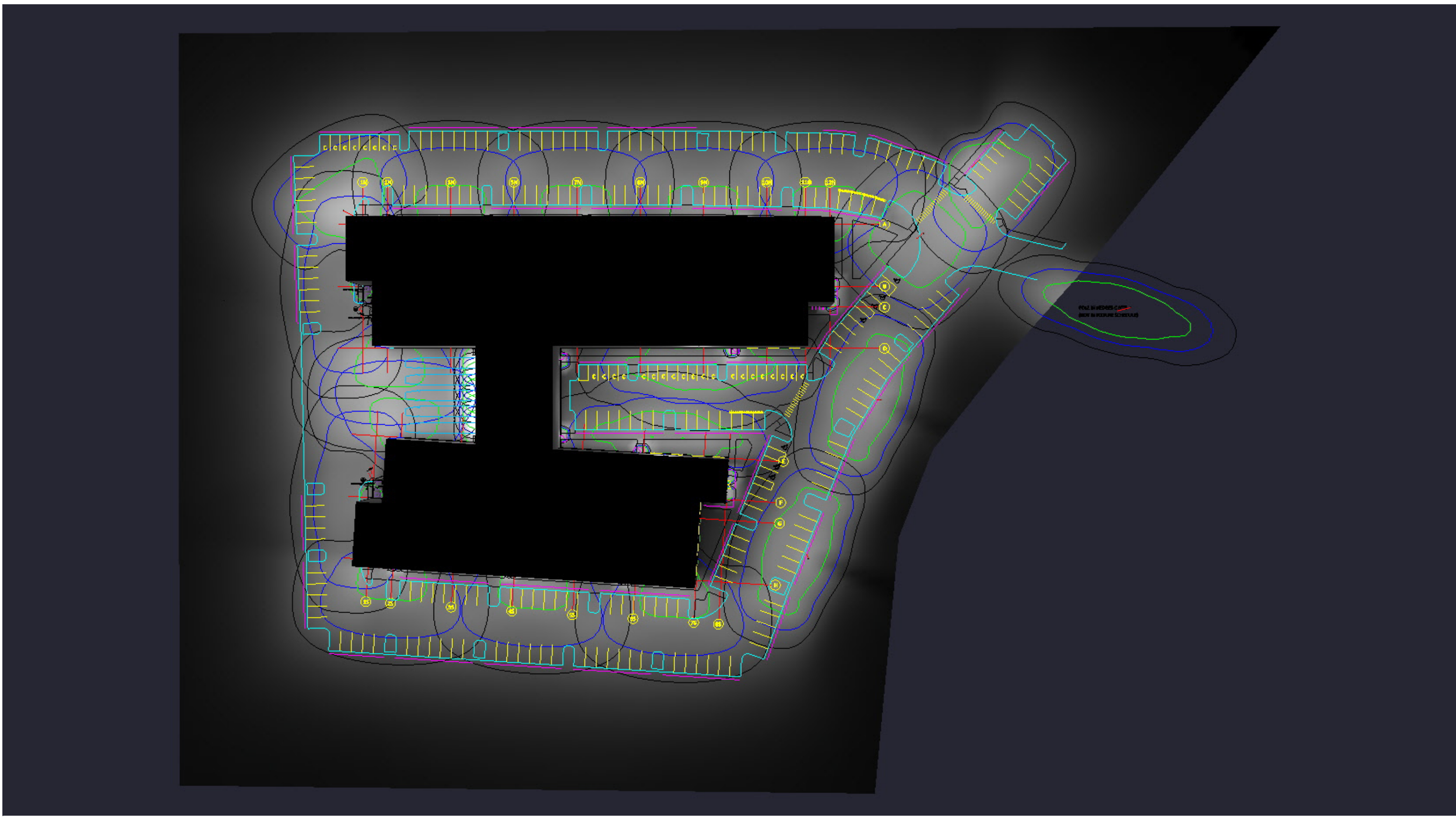


SEATAC LIGHTING & CONTROLS, LLC
 15455 - 53rd Ave. S.
 Tukwila, WA 98188
 FOR ALL DRAWING INQUIRIES PLEASE CONTACT
 SEATAC LIGHTING 206-575-6665

TITLE
 LIGHTING CALCULATION

PROJECT NAME
 HEDGES D
 LOCATION
 TULATIN, OREGON

DATE
 12/13/2019
 DRAWN BY
 JWILLIAMS
 SCALE
 NOTED
 SHEET NO.
 Page 2 of 2



TOPOGRAPHIC SURVEY HEDGES C AND D

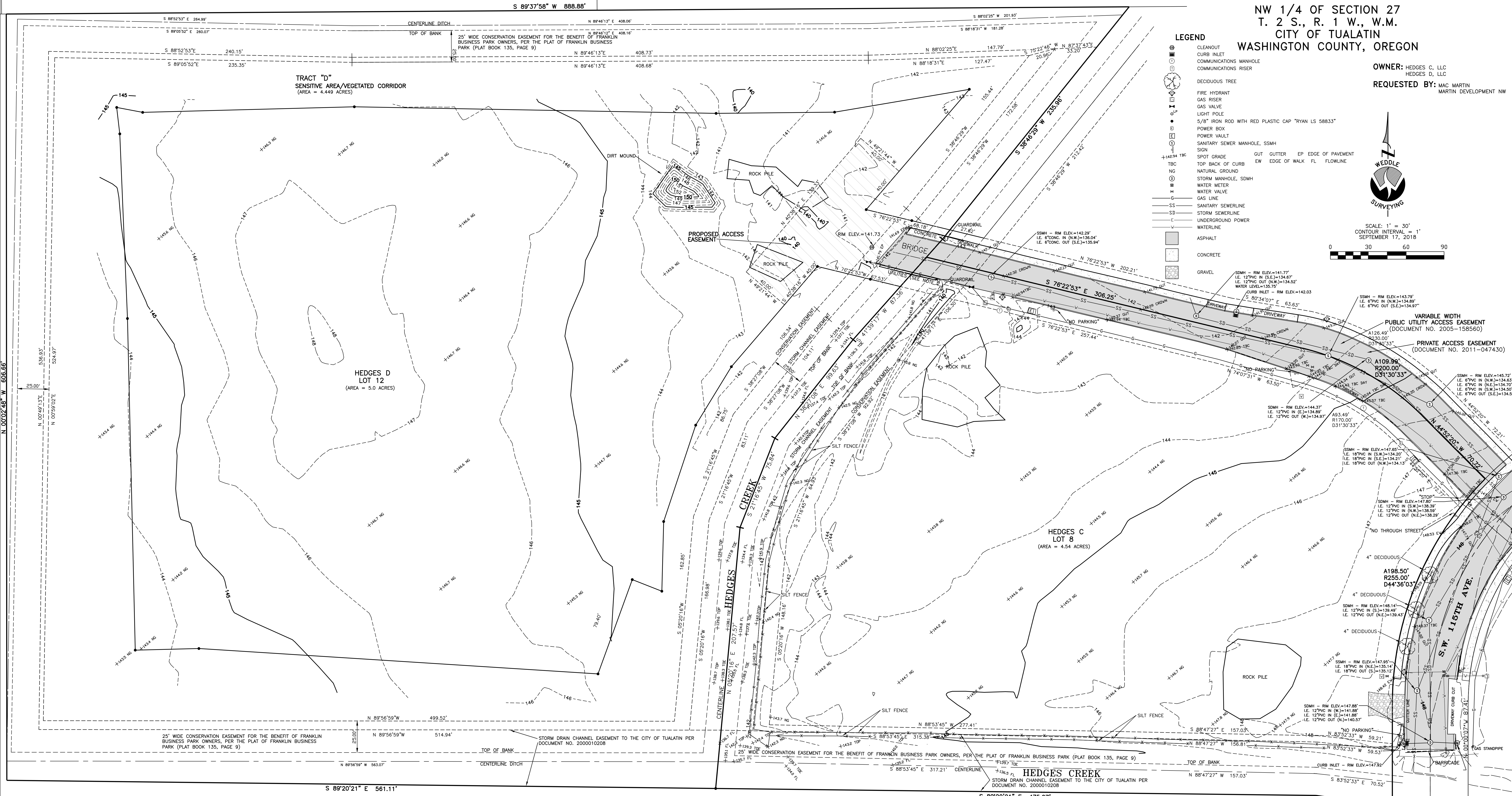
LOT 8, "FRANKLIN BUSINESS PARK" NO. 4 &
LOT 12, "FRANKLIN BUSINESS PARK" NO. 6
NW 1/4 OF SECTION 27
T. 2 S., R. 1 W., W.M.
CITY OF TUALATIN
WASHINGTON COUNTY, OREGON

OWNER: HEDGES C, LLC
HEDGES D, LLC
REQUESTED BY: MAC MARTIN
MARTIN DEVELOPMENT NW

- LEGEND**
- CLEANOUT
 - CURB INLET
 - COMMUNICATIONS MANHOLE
 - COMMUNICATIONS RISER
 - DECIDUOUS TREE
 - FIRE HYDRANT
 - GAS RISER
 - GAS VALVE
 - LIGHT POLE
 -
 - POWER BOX
 - POWER VAULT
 - SANITARY SEWER MANHOLE, SSMH
 - SIGN
 - SPOT GRADE
 - TBC
 - NG
 - STORM MANHOLE, SDMH
 - WATER METER
 - WATER VALVE
 - GAS LINE
 - SS - SANITARY SEWERLINE
 - SD - STORM SEWERLINE
 - UNDERGROUND POWER
 - WATERLINE
 - ASPHALT
 - CONCRETE
 - GRAVEL



SCALE: 1" = 30'
CONTOUR INTERVAL = 1'
SEPTEMBER 17, 2018



BASIS OF ELEVATIONS
WEDDLE CONTROL POINTS WITH ELEVATIONS DERIVED FROM WASHINGTON COUNTY BENCHMARK NO. 89, A BRASS CAP IN MONUMENT BOX MARKING THE QUARTER CORNER BETWEEN SECTIONS 26 & 35, T.2S., R.1E., AT THE INTERSECTION OF IBACH ROAD AND BOONES FERRY ROAD.
ELEVATION = 276.48' (NGVD '29) (MONUMENT HAS BEEN DESTROYED. RELATIVE ELEVATIONS HAVE BEEN PERPETUATED.)

- SURVEYOR'S NOTES**
- UTILITIES SHOWN HEREON ARE PER ABOVE GROUND EVIDENCE AS BUILT MAPPING FROM THE CITY OF TUALATIN AND NORTHWEST NATURAL GAS AND UTILITY LOCATE SERVICE POINT. THE SURVEYOR MAKES NO GUARANTEE AS TO THE EXACT LOCATION, OR EXTENT OF UNDERGROUND UTILITIES. CALL 811 BEFORE DIGGING.
 - MULTIPLE UNMARKED UTILITIES CROSSING NEXT TO BRIDGE.
 - THE BASIS OF BEARINGS FOR THIS SURVEY IS THE PLAT OF "FRANKLIN BUSINESS PARK", WASHINGTON COUNTY PLAT RECORDS.
 - EASEMENTS ARE SHOWN PER THE PLAT OF FRANKLIN BUSINESS PARK NO. 4 AND 6.
 - NOT ALL SURVEY MONUMENTS ARE NOT SHOWN. REFER TO THE PLAT OF FRANKLIN BUSINESS PARK NO. 4 AND 6 FOR MONUMENT LOCATIONS.

- REVISIONS/UPDATES**
- 09/17/18 EXPANDED TOPOGRAPHY TO SOUTH AND WEST (TOWARD CREEK) OVER HEDGES 'C' SITE, DUE TO RECENT CLEARING, GRADING AND BRUSH REMOVAL.
 - 09/24/18 ADDED SPOT ELEVATIONS OF CREEK TO SOUTH AND WEST OF HEDGES 'C' SITE, DUE TO RECENT BRUSH REMOVAL.

REGISTERED PROFESSIONAL LAND SURVEYOR
ANTHONY B. RYAN
58833
RENEWAL: DECEMBER 31, 2018



GENERAL NOTES

- ALL WORK SHALL CONFORM TO THE CURRENT STANDARD SPECIFICATIONS AND REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION AND THE CURRENT AMERICAN PUBLIC WORKS ASSOCIATION STANDARDS FOR PUBLIC WORKS CONSTRUCTION
- THE SURVEY INFORMATION SHOWN AS A BACKGROUND SCREEN IS BASED ON A SURVEY BY OTHERS AND IS SHOWN FOR REFERENCE ONLY. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS WITH ITS OWN RESOURCES PRIOR TO START OF ANY CONSTRUCTION
- CONTRACTOR MUST COMPLY WITH LOCAL AND STATE REQUIREMENTS TO NOTIFY ALL UTILITY COMPANIES FOR LINE LOCATIONS SEVENTY-TWO (72) HOURS (MINIMUM) PRIOR TO START OF WORK. DAMAGE TO UTILITIES SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE
- CONTRACTOR SHALL ADJUST ALL STRUCTURES IMPACTED BY CONSTRUCTION IMPROVEMENTS TO NEW FINISH GRADES
- REQUEST BY THE CONTRACTOR FOR CHANGES TO THE PLANS MUST BE APPROVED BY THE ENGINEER.
- ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY REQUIRES A PUBLIC WORKS PERMIT
- CONTRACTOR SHALL PROVIDE THE ENGINEER OF RECORD WITH AS-BUILT PLANS AT LEAST 2 WEEKS PRIOR TO REQUESTING AGENCY SIGN OFF ON PERMITS FOR OCCUPANCY
- CONTRACTOR SHALL PERFORM ALL THE WORK SHOWN ON THE DRAWINGS AND ALL INCIDENTAL WORK NECESSARY TO COMPLETE THE PROJECT

DEMOLITION NOTES

- INSTALL EROSION CONTROL MEASURES AND TEMPORARY FENCING PRIOR TO ANY DEMOLITION ACTIVITIES
- DEMOLISH AND REMOVE ALL STRUCTURES AND ASSOCIATED FEATURES (APPURTENANCES), AS SHOWN
- DEMOLISH ALL PAVED AREAS ON SITE AS SHOWN, DOWN TO NATIVE SUBGRADE
- ALL VEGETATION AND DELETERIOUS MATERIALS WITHIN THE LIMITS OF WORK SHALL BE STRIPPED AND REMOVED FROM THE SITE PRIOR TO GRADING WORK, UNLESS NOTED OTHERWISE (E.G. PROTECTED TREES)
- PROTECT ALL EXISTING LANDSCAPING AT AND BEYOND LIMITS OF WORK
- PROTECT ALL UNDERGROUND UTILITY SERVICES AND CONDUIT UNLESS NOTED OTHERWISE
- WHERE APPLICABLE, VERIFY DISCONNECT OF GAS AND ELECTRIC WITH UTILITY. CUT/CAP UTILITY SERVICES (STORMWATER AND SANITARY WITHIN 5 FEET OF EDGE OF R.O.W.) CAP WATERLINE ON OWNER'S SIDE OF METER AND PERFORM OTHER DEMOLITION TASKS AS REQUIRED. ADDITIONAL REMOVALS MAY BE REQUIRED BY THE AUTHORITIES HAVING JURISDICTION AND THE CONTRACTOR SHALL CONFIRM ACCORDINGLY PRIOR TO BID

GRADING NOTES

- ROUGH GRADING:** ROUGH GRADE TO ALLOW FOR DEPTH OF BUILDING SLABS, PAVEMENTS, BASE COURSES, AND TOPSOIL PER DETAILS AND SPECIFICATIONS
- FINISH GRADING:** BRING ALL FINISH GRADES TO LEVELS INDICATED. WHERE GRADES ARE NOT OTHERWISE INDICATED, HARDSCAPE FINISH GRADES ARE TO BE THE SAME AS ADJACENT SIDEWALKS, CURBS, OR THE OBVIOUS GRADE OF ADJACENT STRUCTURE. SOFTSCAPE GRADES (INCLUDING ADDITIONAL DEPTH OF TOPSOIL) SHALL BE SET 6 INCHES BELOW BUILDING FINISHED FLOORS WHERE ABUTTING BUILDINGS, 1-2 INCHES WHERE ABUTTING WALKWAYS OR CURBS, OR MATCHING OTHER SOFTSCAPE GRADES. GRADE TO UNIFORM LEVELS OR SLOPES BETWEEN POINTS WHERE GRADES ARE GIVEN. ROUND OFF SURFACES, AVOID ABRUPT CHANGES IN LEVELS. AT COMPLETION OF JOB AND AFTER BACKFILLING BY OTHER TRADES HAS BEEN COMPLETED, REFILL AND COMPACT AREAS WHICH HAVE SETTLED OR ERODED TO BRING TO FINAL GRADES

- EXCAVATION:** EXCAVATE FOR SLABS, PAVING, AND OTHER IMPROVEMENTS TO SIZES AND LEVELS SHOWN OR REQUIRED. ALLOW FOR FORM CLEARANCE AND FOR PROPER COMPACTION OF REQUIRED BACKFILLING MATERIAL. DAMAGE TO UTILITIES SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE
- EFFECTIVE EROSION PREVENTION AND SEDIMENT CONTROL IS REQUIRED. EROSION CONTROL DEVICES MUST BE INSTALLED AND MAINTAINED MEETING THE LOCAL AGENCY AND STATE AGENCY REQUIREMENTS. THE AUTHORITIES HAVING JURISDICTION MAY, AT ANY TIME, ORDER CORRECTIVE ACTION AND STOPPAGE OF WORK TO ACCOMPLISH EFFECTIVE EROSION CONTROL
- DRAINAGE SHALL BE CONTROLLED WITHIN THE WORK SITE AND SHALL BE ROUTED SO THAT ADJACENT PRIVATE PROPERTY, PUBLIC PROPERTY, AND THE RECEIVING SYSTEM ARE NOT ADVERSELY IMPACTED. THE ENGINEER AND/OR AUTHORITIES HAVING JURISDICTION MAY, AT ANY TIME, ORDER CORRECTIVE ACTION AND STOPPAGE OF WORK TO ACCOMPLISH EFFECTIVE DRAINAGE CONTROL
- SITE TOPSOIL, STOCKPILED DURING CONSTRUCTION AND USED FOR LANDSCAPING SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT
- CONTRACTOR TO REVIEW AND CONFIRM GRADES AT JOIN POINTS, SUCH AS AT DAYLIGHT LIMITS AND BUILDING ENTRANCES, PRIOR TO CONSTRUCTION
- ACCESSIBLE PARKING SPACES AND LOADING ZONES SHALL BE CONSTRUCTED AT 2% MAXIMUM SLOPE IN ALL DIRECTIONS
- PEDESTRIAN SIDEWALK CONNECTIONS BETWEEN PUBLIC R.O.W. AND BUILDING ENTRANCES SHALL BE CONSTRUCTED AT AND 2% MAXIMUM CROSS SLOPE AND 5% MAXIMUM LONGITUDINAL SLOPE (8.33% FOR DESIGNATED RAMPS)

SITE WORK NOTES

- ALL CURB RADII TO BE 3 FEET UNLESS NOTED OTHERWISE
- STAIR RISERS AND TREADS SHALL BE CONFORMANT WITH THE REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION AND THE CURRENT EDITION OF THE STATE BUILDING CODE (E.G. INTERNATIONAL BUILDING CODE, CHAPTER 10, SECTION 1011.5)
- WHEREVER A PEDESTRIAN WALKING PATH IS WITHIN 36 INCHES OF A VERTICAL DROP OF 30 INCHES OR GREATER, GUARDRAIL SHALL BE INSTALLED CONFORMANT WITH THE REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION AND THE CURRENT EDITION OF THE STATE BUILDING CODE (E.G. INTERNATIONAL BUILDING CODE, CHAPTER 10, SECTION 1015)

UTILITY NOTES

- ALL WORK SHALL CONFORM TO THE CURRENT EDITIONS OF THE STATE PLUMBING AND BUILDING CODES WITH LOCAL AMENDMENTS AS APPLICABLE ALONG WITH ANY ADDITIONAL REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION.
- THE WORKING DRAWINGS ARE GENERALLY DIAGRAMMATIC. THEY DO NOT SHOW EVERY OFFSET, BEND OR ELBOW REQUIRED FOR INSTALLATION IN THE SPACE PROVIDED. THEY DO NOT SHOW EVERY DIMENSION, COMPONENT PIECE, SECTION, JOINT OR FITTING REQUIRED TO COMPLETE THE PROJECT. ALL LOCATIONS FOR WORK SHALL BE CHECKED AND COORDINATED WITH EXISTING CONDITIONS IN THE FIELD BEFORE BEGINNING CONSTRUCTION. EXISTING UNDERGROUND UTILITIES WITHIN THE LIMITS OF EXCAVATION SHALL BE VERIFIED AS TO CONDITION, SIZE AND LOCATION BY UNCOVERING (POTHOLES), PROVIDING SUCH IS PERMITTED BY THE AUTHORITIES HAVING JURISDICTION, BEFORE BEGINNING CONSTRUCTION. CONTRACTOR TO NOTIFY ENGINEER IF THERE ARE ANY DISCREPANCIES.
- NOT ALL REQUIRED CLEANOUTS ARE SHOWN ON THE PLANS. PROVIDE CLEANOUTS AS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION AND THE CURRENT EDITION OF THE STATE PLUMBING CODE (E.G. UNIFORM PLUMBING CODE CHAPTER 7, SECTIONS 707 AND 719, AND CHAPTER 11, SECTION 1101.13)

- ALL SANITARY AND STORM PIPING IS DESIGNED USING CONCENTRIC PIPE TO PIPE AND WYE FITTINGS, UNLESS OTHERWISE NOTED
- ALL DOWNSPOUT LEADERS TO BE 6 INCHES AT 2.0% MINIMUM UNLESS NOTED OTHERWISE
- IF APPLICABLE, PROVIDE 2 INCH PVC DRAIN LINE FROM DOMESTIC WATER METER VAULT AND BACKFLOW PREVENTER VAULT TO THE DOUBLE DETECTOR CHECK VALVE (FIRE) VAULT. PROVIDE 1/3 HP SUMP PUMP AT BASE OF FIRE VAULT AND INSTALL 2 INCH PVC DRAIN LINE WITH BACKFLOW VALVE FROM SUMP PUMP TO DAYLIGHT AT NEAREST CURB. FURNISH 3/4 INCH DIAMETER CONDUIT FROM BUILDING ELECTRICAL ROOM TO FIRE VAULT FOR SUMP PUMP ELECTRICAL SERVICE. NOTE: COORDINATE WITH FIRE PROTECTION CONTRACTOR FOR FLOW SENSOR INSTALLATION AND CONDUIT REQUIREMENTS
- IF APPLICABLE, CONTRACTOR TO PROVIDE POWER TO IRRIGATION CONTROLLER. SEE LANDSCAPE PLANS AND SPECIFICATIONS
- SEE BUILDING PLUMBING DRAWINGS FOR PIPING WITHIN THE BUILDING AND UP TO 5 FEET OUTSIDE THE BUILDING, INCLUDING ANY FOUNDATION DRAINAGE PIPING
- CONTRACTOR TO MAINTAIN MINIMUM 3 FEET OF COVER OVER ALL UTILITY PIPING AND CONDUITS, UNLESS NOTED OTHERWISE
- WHERE CONNECTING TO AN EXISTING PIPE, AND PRIOR TO ORDERING MATERIALS, THE CONTRACTOR SHALL EXPOSE THE END OF THE EXISTING PIPE TO VERIFY THE LOCATION, SIZE, AND ELEVATION. NOTIFY ENGINEER OF ANY DISCREPANCIES
- CONTRACTOR SHALL SCOPE ALL PRIVATE ONSITE GRAVITY SYSTEM LINES THAT ARE BEING CONNECTED TO FOR PROPOSED SERVICE. SCOPING SHALL OCCUR A MINIMUM OF 72 HOURS PRIOR TO CONSTRUCTION AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES WITH AS-BUILT RECORDS/SURVEY FINDINGS OR IF THE EXISTING UTILITIES ARE DAMAGED OR SHOW SIGNS OF SIGNIFICANT DETERIORATION. CONTRACTOR SHALL PROVIDE THE ENGINEER WITH VIDEO RECORDS, ALONG WITH A SKETCH IF THE LOCATIONS DIFFER FROM AS-BUILT PLANS OR SURVEY FINDINGS

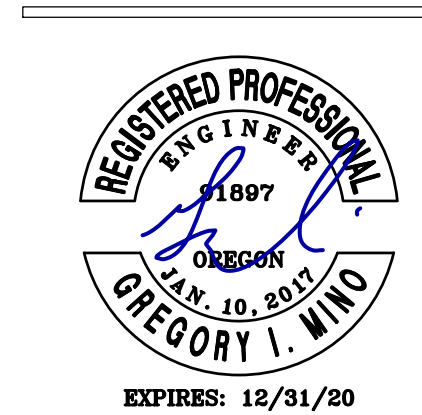
- PRODUCT MATERIAL SUBMITTALS FOR REVIEW BY THE ENGINEER SHALL BE ACCOMPANIED BY A MANUFACTURER'S CERTIFICATION THAT THE PRODUCT IS CAPABLE OF MEETING PERFORMANCE EXPECTATIONS (I.E. - WATERTIGHT, MINIMUM MAXIMUM BURIAL, PREVENTION OF GROUNDWATER INTRUSION, ETC.) BASED ON THEIR REVIEW OF THE PRODUCT PLANS. IN THE ABSENCE OF A MANUFACTURER'S CERTIFICATION, THE GENERAL CONTRACTOR'S REVIEW STAMP SHALL CONSTITUTE THAT THEY HAVE PERFORMED THE NECESSARY REVIEW TO CERTIFY THE PRODUCT'S CONFORMANCE TO PROJECT SPECIFICATIONS AND GENERAL EXPECTATIONS
- PIPE LENGTHS SHOWN ON PLANS ARE TWO DIMENSIONAL AND MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE
- RIM ELEVATIONS SHOWN ON PLANS REFERENCE THE CENTER OF THE STRUCTURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECONCILING LIDS/GRATES/ETC TO THE SLOPES OF THE SITE GRADING
- MANHOLE OR VAULT RIM ELEVATIONS SHALL BE SET FLUSH IN PAVEMENT AREAS AND 3-4 INCHES ABOVE GRADE IN LANDSCAPE AREAS. RIMS IN PAVEMENT AREAS SHALL BE H-20 TRAFFIC RATED

ABBREVIATIONS

ARCH	ARCHITECTURAL	LS	LANDSCAPE
BW	BOTTOM OF WALL	MAX	MAXIMUM
CB	CATCH BASIN	MH	MANHOLE
C	COMPACT	MIN	MINIMUM
CL	CENTERLINE	NTS	NOT TO SCALE
CO	CLEANOUT	OC	ON CENTER
CRB	CRUSHED ROCK BASE	PCC	PORTLAND CEMENT CONCRETE
ELEV	ELEVATION	PIV	POST INDICATOR VALVE
EX	EXISTING	PSI	POUNDS PER SQUARE INCH
E.W.	EACH WAY	RD	ROOF DRAIN
FG	FINISHED GRADE	ROW	RIGHT OF WAY
FF	FINISHED FLOOR ELEVATION	SAN	SANITARY SEWER
FH	FIRE HYDRANT	STM	STORM
FW	FIRE WATER	TC	TOP OF CURB
GPM	GALLONS PER MINUTE	TW	TOP OF WALL
IE	INVERT ELEVATION	TYP	TYPICAL
INV	INVERT	WM	WATER METER

LEGEND

	EXISTING	PROPOSED
LOT/ROW LINE	---	---
LIMITS OF GRADING DESIGN	---	---
CENTERLINE	---	---
FIRE HYDRANT	☼	▲
CATCH BASIN	☐	☐
MANHOLE	☉ ☽	☉
STREET/SITE LIGHT	☼	☼ ☐ ☐ ☐ ☐ ☐ ☐
SIGN	---	---
CARPOOL/VANPOOL SPACE	---	C CARPOOL
CONTOUR	---158---	---166---
VEHICLE OVERHANG	---	---
SANITARY SEWER LINE	---	---
CENTERLINE OF STORM PIPE	---	---
PERFORATED STORM PIPE	---	---
FIRE WATERLINE	---	---
DOMESTIC WATERLINE	---	---
GAS LINE	---	---
WATER VALVE	☼	☉
POST INDICATOR VALVE	☼	☉
FIRE DEPARTMENT CONNECTION	☼	☉
POST INDICATOR VALVE	☼	☉
RIP RAP	---	---
STORM DRAIN CHANNEL EASEMENT	---	---
CONSERVATION EASEMENT	---	---
FLOW CONTROL MANHOLE	---	---
BACKFLOW ASSEMBLY	---	---
RIDGE LINE	---	---
WATER QUALITY FILTER	---	---
WETLAND BOUNDARY	---	WTB



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SHEET TITLE:
CONSTRUCTION NOTES, ABBREVIATIONS, AND LEGEND

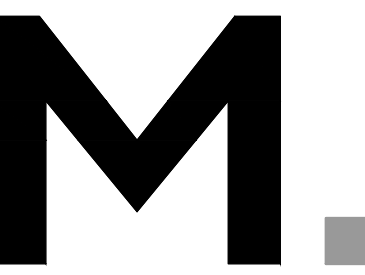
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Portland, OR
503.224.9560
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206.749.9993

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SHEET TITLE:

**CIVIL
CONSTRUCTION
SPECIFICATIONS**

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PRIVATE UTILITY SPECIFICATION NOTES:

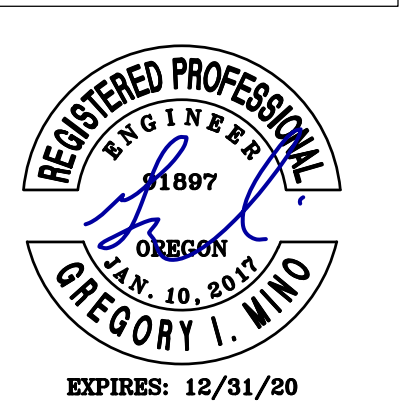
- 1. PRODUCTS:
 - A. DOMESTIC WATER:
 - A.1. PLASTIC PIPE CONFORMING TO THE STATE PLUMBING CODE, LATEST EDITION, WITH PRESSURE RATED FITTINGS PER MANUFACTURER RECOMMENDATIONS.
 - A.2. BACKFLOW PREVENTER: CONTRACTOR TO CONFIRM WITH AGENCY HAVING JURISDICTION (AHJ). IF AHJ DOES NOT SPECIFY, USE DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY COMPLIANT WITH THE STATE PLUMBING CODE, LATEST EDITION. IF REQUIRED, REDUCED PRESSURE DEVICES SHALL BE INSTALLED ABOVE GRADE IN A HEATED ENCLOSURE.
 - B. FIRE WATER:
 - B.1. PLASTIC PIPE CONFORMING TO AWWA C900, RATED FOR 200 PSI MINIMUM, WITH MECHANICAL JOINT FITTINGS/RESTRAINTS PER MANUFACTURER RECOMMENDATIONS.
 - B.2. BACKFLOW PREVENTER: CONTRACTOR TO CONFIRM WITH AGENCY HAVING JURISDICTION (AHJ). IF AHJ DOES NOT SPECIFY, USE DOUBLE CHECK DETECTOR FIRE PROTECTION BACKFLOW PREVENTION ASSEMBLY COMPLIANT WITH THE STATE PLUMBING CODE.
 - C. SANITARY SEWER:
 - C.1. PLASTIC PIPE COMPLIANT WITH THE STATE PLUMBING CODE, LATEST EDITION, WITH ELASTOMER GASKETED WYE FITTINGS PER MANUFACTURER RECOMMENDATIONS.
 - D. STORM DRAINAGE:
 - D.1. PLASTIC PIPE COMPLIANT WITH THE STATE PLUMBING CODE, LATEST EDITION, WITH ELASTOMERIC GASKETED WYE FITTINGS PER MANUFACTURER RECOMMENDATIONS.
 - E. TRACER WIRE:
 - E.1. MAGNETIC DETECTABLE CONDUCTOR, CLEAR PLASTIC COVERING, IMPRINTED WITH THE NAME OF THE TYPE OF UTILITY SERVICE (I.E. "STORM SEWER SERVICE") IN LARGE LETTERS.
- 2. TRENCHING, BEDDING, AND BACKFILL:
 - A. THE PREPARED SUBGRADE SHALL BE EVALUATED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING PIPE BEDDING MATERIAL.
 - B. EXCAVATE UNSUITABLE TRENCH BOTTOM MATERIALS AND REPLACE WITH TRENCH STABILIZATION MATERIAL PLACED AND COMPACTED AS DIRECTED BY THE GEOTECHNICAL ENGINEER. UNLESS DIRECTED OTHERWISE, TRENCH STABILIZATION MATERIAL SHALL BE 1/4 INCH TO 4 INCH, WELL GRADED CRUSHED ROCK OR CRUSHED GRAVEL FREE OF DELETERIOUS MATERIALS WITH LESS THAN 5 PERCENT PASSING THE U.S. STANDARD NO. 200 SIEVE WHEN TESTED IN ACCORDANCE WITH ASTM C 117.
 - C. PIPE BEDDING AND PIPE ZONE MATERIAL SHALL BE IMPORTED GRANULAR MATERIAL, 3/4 INCH-MINUS SIZE, WITH THE EXCEPTION THAT THE PERCENT PASSING THE U.S. STANDARD NO. 200 SIEVE SHALL BE LESS THAN 8 PERCENT BY DRY WEIGHT WHEN TESTED IN ACCORDANCE WITH ASTM C 117.
 - D. SPREAD BEDDING AND GRADE SO PIPE IS UNIFORMLY SUPPORTED ALONG THE BARREL. EXCAVATE BELL HOLES AT EACH JOINT TO PERMIT ASSEMBLY AND EVALUATION OF THE ENTIRE JOINT. BACKFILL THE TRENCH TO 12 INCHES ABOVE THE TOP OF THE PIPE WITH PIPE ZONE MATERIAL.
 - E. PLACE PIPE ZONE MATERIAL IN LOOSE LIFTS NOT EXCEEDING 6 INCHES IN UNCOMPACTED THICKNESS SIMULTANEOUSLY ON BOTH SIDES OF THE PIPE.
 - F. CAREFULLY WORK PIPE ZONE MATERIAL UNDER THE SIDES OF THE PIPE BY SLICING WITH A SHOVEL OR OTHER APPROVED PROCEDURE TO PROVIDE A FIRM BACKING FOR THE PIPE AND PREVENT LATERAL MOVEMENT OF THE PIPE.
 - G. COMPACT PIPE ZONE MATERIAL TO 90 PERCENT OF THE MAXIMUM DRY DENSITY OR AS RECOMMENDED BY THE PIPE MANUFACTURER. BACKFILL THE REMAINDER OF THE TRENCH WITH IMPORTED GRANULAR MATERIAL OR AS SPECIFIED BY THE GEOTECHNICAL ENGINEER.
 - H. IN PAVED AREAS, COMPACT BACKFILL ABOVE PIPE ZONE TO AT LEAST 95% OF MAXIMUM DRY DENSITY, OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
 - I. IN LANDSCAPE AREAS, COMPACT BACKFILL ABOVE PIPE ZONE TO AT LEAST 90% OF MAXIMUM DRY DENSITY, OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
- 3. INSTALLATION:
 - A. PIPE COVER: MAINTAIN MINIMUM 36 INCH COVER OVER ALL UTILITY PIPING, UNLESS NOTED OTHERWISE ON PROJECT PLANS. IN NO CASE SHALL FIRE WATER BE INSTALLED AT LESS THAN 36 INCH COVER IN PAVEMENT AREAS. PROVIDE CONCRETE CAP (FC=2,500PSI) OVER PIPES WITH LESS THAN 12 INCHES COVER IN VEHICULAR AREAS (OR SUBMIT TO THE ENGINEER FOR APPROVAL ALTERNATE PIPE MATERIAL CAPABLE OF WITHSTANDING PREDICTED LOADS AND/OR TO PREVENT DAMAGE, I.E. DUCTILE IRON, REINFORCED CONCRETE, ETC.) IN CASES WHERE CONCRETE CAP MAY BECOME EXPOSED OR IMPEDE THE INSTALLATION OF SURFACE PAVEMENTS, NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION AND AWAIT APPROVAL TO PROCEED OR ALTERNATE DESIGN.
 - B. SANITARY SEWER AND WATER PIPES: WHERE SANITARY SEWER PIPING WILL BE INSTALLED WITHIN 10 FEET OF A DOMESTIC WATER PIPE, AND AS APPROVED BY THE LOCAL BUILDING OFFICIAL, THE SANITARY PIPE SHALL BE MADE OF A MATERIAL APPROVED FOR USE WITHIN A BUILDING (I.E. PVC SCHEDULE 40), HOWEVER, IN NO CASE SHALL THE SANITARY LINE BE LOCATED WITHIN 12 INCHES OF A DOMESTIC WATER LINE (BOTH HORIZONTALLY AND VERTICALLY).
 - C. PIPE CROSSINGS/SEPARATION: MAINTAIN MINIMUM SEPARATION OF WATER MAIN FROM SEWER PIPING IN ACCORDANCE WITH LOCAL AGENCY AND STATE PLUMBING CODES, LATEST EDITIONS. WHERE NOT REGULATED BY CODE, MAINTAIN A MINIMUM OF 12 INCH VERTICAL SEPARATION AT PIPE CROSSINGS.
 - D. GRAVITY SYSTEMS: MAINTAIN MINIMUM SLOPES AS DEFINED BY LOCAL AGENCY AND STATE PLUMBING CODES. WHERE NOT REGULATED BY CODE OR INDICATED ON PLANS, MAINTAIN A MINIMUM OF 1.0% SLOPE ON ALL SANITARY SEWER PIPING AND 0.5% ON ALL STORM DRAIN PIPING UNLESS NOTED OTHERWISE ON PROJECT PLANS.
 - E. PIPE OUTLETS: IF NOT SPECIFIED ON PLANS, ALL EXPOSED PIPE INLETS AND OUTLETS SHALL BE PROPERLY STABILIZED WITH RIP RAP OR TRIMMED FLUSH WITH THE ADJACENT GRADE (SLOPED OR VERTICAL) AND PROVIDED WITH AN APPROPRIATE HEADWALL FEATURE. PROVIDE HINGED OR REMOVABLE TRASH RACK OR RODENT GUARD.
 - F. CATCH BASINS: ALL CATCH BASINS TO HAVE A 24 INCH MINIMUM SUMP AND HOODED OUTLET UNLESS NOTED OTHERWISE ON PROJECT PLANS.
 - G. MANHOLES: ALL SANITARY MANHOLES SHALL BE CHANNELIZED. STORM MANHOLES SHALL PROVIDE A 24 INCH SUMP UNLESS OTHERWISE SPECIFIED ON PROJECT PLANS. ENSURE WATERTIGHT SEAL AT ALL PIPE PENETRATIONS TO MANHOLES. LIDS SHALL BE MARKED TO IDENTIFY TYPE OF UTILITY.
 - H. CLEANOUTS: CLEANOUTS SHALL BE PROVIDED IN ACCORDANCE WITH THE UNIFORM PLUMBING CODE, LATEST EDITION (AT A MINIMUM, EVERY 100 LINEAL FEET OF PIPE RUN OR EVERY 135 DEGREE OF CUMULATIVE ANGLE). CLEANOUTS SHALL BE OF THE SAME SIZE OF THE PIPE THEY ARE SERVING. LIDS SHALL BE MARKED TO IDENTIFY TYPE OF UTILITY.
 - I. BACKFLOW PREVENTERS: BACKFLOW PREVENTERS SHALL BE INSTALLED IN A COMPLIANT UNDERGROUND VAULT (EXCEPT REDUCED PRESSURE DEVICES) WITH SUMP PUMP DISCHARGING TO AN APPROVED DISCHARGE POINT. VAULT SHALL BE SIZED TO ACCOMMODATE THE INSTALLATION OF AN FDC ON THE DOWNSTREAM END WITHIN THE VAULT, EVEN IF THE FDC IS NOT INSTALLED AT TIME OF VAULT INSTALLATION. REDUCED PRESSURE DEVICES SHALL BE INSTALLED IN AN ABOVE GROUND HEATED ENCLOSURE, UNLESS THE AUTHORITY HAVING JURISDICTION ALLOWS FOR INSTALLATION IN A VAULT.
 - J. MECHANICAL JOINT RESTRAINTS: UNLESS NOTED OTHERWISE, ALL FIRE WATER SUPPLY SYSTEMS SHALL BE PROVIDED WITH MECHANICAL JOINT RESTRAINTS AT FITTINGS, CALCULATED AND SIZED BASED ON PROJECT CONDITIONS. CONTRACTOR SHALL PROVIDE RESTRAINT LENGTH SIZING CALCULATIONS WITH WATER SYSTEM PRODUCT SUBMITTAL.

GRADING SPECIFICATION NOTES:

- 1. THE PROJECT SPECIFIC GEOTECHNICAL REPORT OR RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER OF RECORD SHALL SUPERCEDE THESE REQUIREMENTS, WHERE CONFLICTS ARISE.
- 2. MATERIALS:
 - A. IMPORTED STRUCTURAL FILL: WELL-GRADED PIT- OR QUARRY-RUN ROCK, CRUSHED ROCK, CRUSHED GRAVEL, OR SAND FREE OF CLAY BALLS, ROOTS, ORGANIC MATTER, AND OTHER DELETERIOUS MATERIALS. FILL SHALL HAVE A MAXIM PARTICLE SIZE OF 8 INCHES AND IN WET WEATHER HAVE LESS THAN 12 PERCENT BY DRY WEIGHT PASSING THE U.S. STANDARD NO. 200 SIEVE (ASTM C 117) OR 5 PERCENT IN DRY WEATHER.
 - B. SELECT STRUCTURAL FILL: ON-SITE OR IMPORTED SILTY MATERIALS THAT ARE FREE OF DELETERIOUS MATERIALS AND PARTICLES GREATER THAN 4 INCHES IN DIAMETER. ALL SELECT STRUCTURAL FILLS SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO USE AS STRUCTURAL FILL MATERIAL.
 - C. IMPORTED GRANULAR MATERIAL: 3/4 INCH MINUS TO 1-1/2 INCH CRUSHED ROCK OR CRUSHED GRAVEL AND SAND WITH LESS THAN 5 PERCENT BY DRY WEIGHT PASSING THE U.S. STANDARD NO. 200 SIEVE (ASTM C 117).
 - D. STABILIZATION MATERIAL: IMPORTED GRANULAR MATERIAL, 6 INCH MINUS, PIT- OR QUARRY-RUN ROCK, CRUSHED ROCK FREE OF CLAY BALLS, ROOTS, ORGANIC MATTER, AND OTHER DELETERIOUS MATERIALS WITH LESS THAN 5 PERCENT BY DRY WEIGHT PASSING THE U.S. STANDARD NO. 200 SIEVE (ASTM C 117).
 - E. DRAIN ROCK: CRUSHED ROCK OR GRAVEL, CONFORMING TO THE FOLLOWING GRADATION (U.S. STANDARD SIEVE SIZE, PERCENT PASSING (BY DRY WEIGHT)):
 - E.1. 1-1/2 INCH (100); 1 INCH (95-100); 1/2 INCH (25-60); NO. 4 (0-10); NO. 8 (0-5)
 - F. ON-SITE TOPSOIL: IF NOT DEFINED BY THE LANDSCAPE ARCHITECT, ON-SITE TOPSOIL SHALL BE FREE OF PARTICLES GREATER THAN 1 INCH DIAMETER, ADMIXTURES OF SUBSOIL, CLAY, NOXIOUS WEEDS AND GRASSES (I.E. HORSETAIL, QUACKGRASS, JOHNSON GRASS) AND OTHER MATERIAL DELETERIOUS TO PLANT GROWTH OR THAT HINDER GRADING, PLANTING, OR MAINTENANCE OPERATIONS.
 - G. IMPORTED TOPSOIL: IF NOT DEFINED BY THE LANDSCAPE ARCHITECT, IMPORTED TOPOSOIL SHALL CONSIST OF SANDY-LOAM FROM APPROVED SOURCES AND SHALL BE FREE OF PARTICLES GREATER THAN 1-INCH DIAMETER AND ADMIXTURES OF SUBSOIL, CLAY, NOXIOUS WEEDS AND GRASSES (I.E. HORSETAIL, QUACKGRASS, JOHNSON GRASS) AND OTHER MATERIAL DELETERIOUS TO PLANT GROWTH OR THAT HINDER GRADING, PLANTING, OR MAINTENANCE OPERATIONS.
- 3. MINIMUM COMPACTION DENSITY UNLESS OTHERWISE NOTED (MAXIMUM DRY DENSITY DETERMINED BY ASTM D1557):
 - A. UNDER PAVING, SLAB ON GRADE, OR OTHER STRUCTURES OR PAVEMENTS: MINIMUM OF 95% OF MAXIMUM DRY DENSITY.
 - B. UNDER LANDSCAPING: MINIMUM OF 90% OF MAXIMUM DRY DENSITY.
- 4. ALL FILL AND BACKFILL SHALL BE PROPERLY MOISTURE CONDITIONED TO MEET THE COMPACTION REQUIREMENTS. IMPORTED GRANULAR MATERIALS SHALL BE COMPACTED IN UNIFORM LAYERS NOT EXCEEDING 12 INCHES, 8 INCHES FOR SELECT STRUCTURAL FILL.
- 5. GRADING TOLERANCES:
 - A. ROUGH GRADE AT PAVED OR LANDSCAPED AREAS: ±0.1 FEET
 - B. FINISH GRADE PRIOR TO PLACING FINAL SURFACING: ±0.04 FEET
 - C. FINISH GRADE OF FINAL SURFACING: ±0.02 FEET

SITE WORK SPECIFICATION NOTES:

- 1. BASE ROCK FOR CONCRETE SLABS, PAVEMENT, AND SIDEWALKS: 3/4 INCH CRUSHED AGGREGATE BASE IN ACCORDANCE WITH STATE DEPARTMENT OF TRANSPORTATION (DOT) SPECIFICATIONS, LATEST EDITION.
- 2. PLACE AGGREGATE IN MAXIMUM 4 INCH LAYERS. ROLLER COMPACT TO SPECIFIED DENSITY. USE MECHANICAL TAMPING EQUIPMENT IN AREAS INACCESSIBLE TO ROLLER EQUIPMENT. COMPACT AGGREGATE BASE TO MINIMUM 95% OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557.
- 3. WHERE NOT NOTED ON PLANS, INSURE 0.5% MINIMUM SLOPE ON CONCRETE SURFACES, 1.0% ON ASPHALT SURFACES, AND 2.0% IN LANDSCAPED AREAS.
- 4. HOT MIX ASPHALT CONCRETE (HM-AC), LEVEL 2, 1/2 INCH DENSE-GRADED HM-AC (OR EQUAL) PER STATE DOT SPECIFICATIONS, PG 64-22 OR BETTER.
 - A. PLACE HM-AC OVER PREPARED AND COMPACTED AGGREGATE BASE PER PLAN. MINIMUM LIFT THICKNESS: 2.0 INCHES. MAXIMUM LIFT THICKNESS: 3.0 INCHES.
 - B. COMPACT HM-AC TO MINIMUM DENSITY 91% OF ASTM D2041 LABORATORY DENSITY.
 - C. SEAL COAT (FOG COAT): EMLUSIFIED ASPHALT FOG COAT, CSS-1, CSS-1H, OR HRFCS-P1 TYPE PER STATE DOT SPECIFICATIONS.
 - C.1. PREPARE EMLUSIFIED ASPHALT PER MANUFACTURER'S REQUIREMENTS. APPLY UNIFORMLY WITH AN ASPHALT DISTRIBUTOR AT A RATE OF 0.10 TO 0.15 GALLONS PER SQUARE YARD, OR AS RECOMMENDED BY THE MANUFACTURER. PROTECT SEALED ASPHALT PAVEMENT SURFACE FROM VEHICLE AND FOOT TRAFFIC UNTIL CURED.
- 5. SITE CONCRETE: ALL WORK TO CONFORM TO ACI STANDARDS.
 - A. COMPRESSIVE STRENGTH (PSI) AT 28 DAYS, MAXIMUM W/C RATIO OF 0.5, 4 INCH MAXIMUM SLUMP:
 - A.1. PAVEMENTS: 4,000 (MINIMUM)
 - A.2. SIDEWALKS: 3,000 (MINIMUM)
 - A.3. CURBS AND GUTTERS: 3,000 (MINIMUM)
 - B. JOINTS: ALIGN CURB, GUTTER, AND SIDEWALK JOINTS.
 - B.1. PROVIDE SCORED JOINTS AT 5 FOOT MAXIMUM INTERVALS, EVENLY SPACED, BETWEEN SIDEWALKS AND CURBS, BETWEEN CURBS AND PAVEMENT, OR AS INDICATED ON PLAN.
 - B.2. PROVIDE EXPANSION JOINTS EVERY FOURTH JOINT TO SEPARATE PAVING FROM VERTICAL SURFACES AND UTILITY PENETRATIONS, OR AS INDICATED ON PLAN.
 - C. FINISHING:
 - C.1. PAVEMENTS: BROOM FINISH, PERPENDICULAR TO DIRECTION OF TRAVEL
 - C.2. SIDEWALKS: LIGHT BROOM, PERPENDICULAR TO DIRECTION OF TRAVEL, TROWELED AND RADIUSSED EDGE, 1/8 TO 1/4 INCH RADIUS.
 - C.3. CURBS AND GUTTERS: LIGHT BROOM, PARALLEL TO PAVEMENT DIRECTION.
- 6. PAINTED PAVEMENT MARKINGS:
 - A. PAINT: MPI NO. 97 (OR EQUAL) LATEX TRAFFIC MARKING PAINT, WHITE (FOR STANDARD PARKING STRIPING) OR AS INDICATED ON PLAN.
 - A.1. PREPARATION: CLEAN PAVEMENT SURFACES THOROUGHLY PRIOR TO INSTALLATION. PREPARE SURFACES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 - A.2. INSTALLATION: APPLY PAINT WHEN PAVEMENT SURFACE OR THE ATMOSPHERE TEMPERATURE IS BETWEEN 50 DEGREES AND 95 DEGREES F, APPLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. APPLY PAINT IN ONE COAT ONLY. FOR SYMBOLS, UTILIZE A TEMPLATE THAT WILL PROVIDE TRUE, SHARP EDGES AND ENDS FOR THE PAVEMENT MARKING. PROTECT NEWLY PAINTED MARKINGS FROM DISTURBANCE AND TRACKING.
 - A.3. PAVEMENT MARKING REMOVAL: SANDBLAST OR OTHER METHOD OF COMPLETE REMOVAL OF SPECIFIED MARKING. BLACKOUT METHODS MUST BE APPROVED BY THE OWNER.



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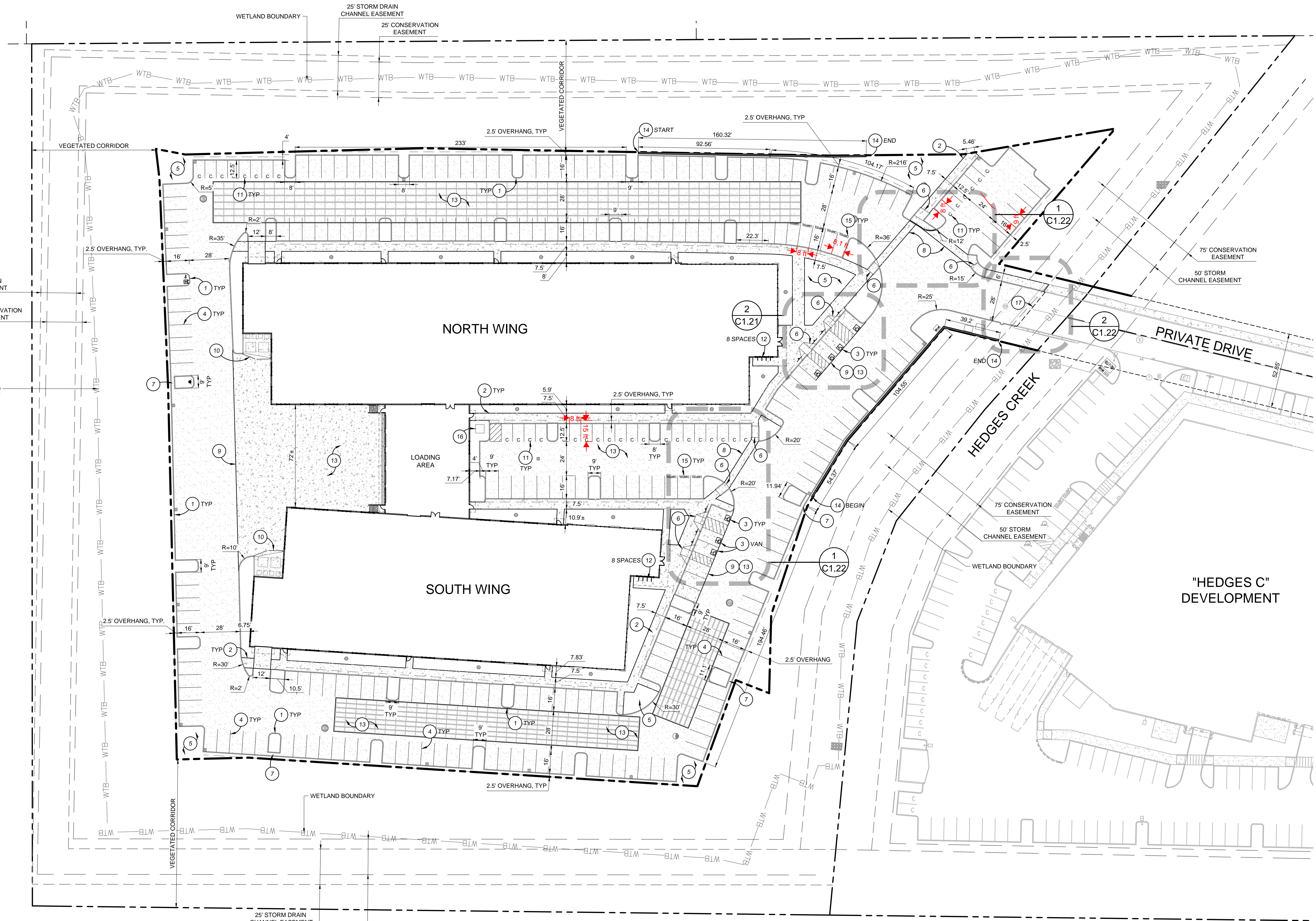
REVISION SCHEDULE		
Delta	Issued As	Issue Date

SHEET TITLE:
SITE PLAN

DRAWN BY: BTC
CHECKED BY: GIM
SHEET

C1.10

JOB NO. **2190365.00**

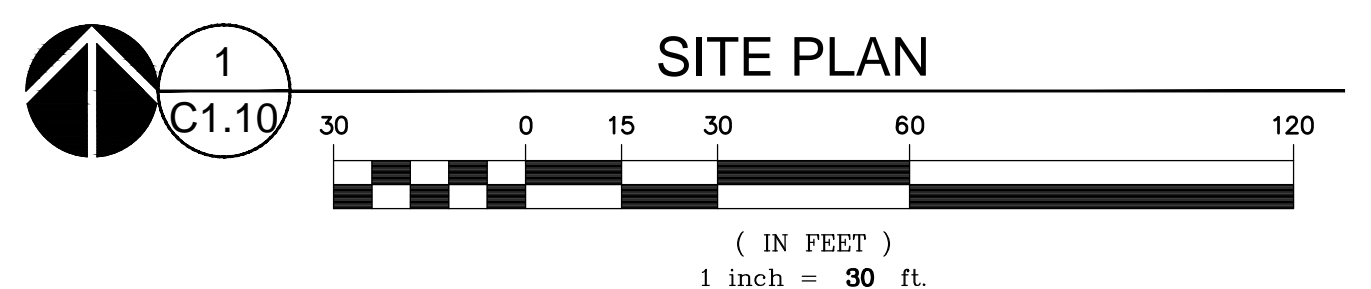
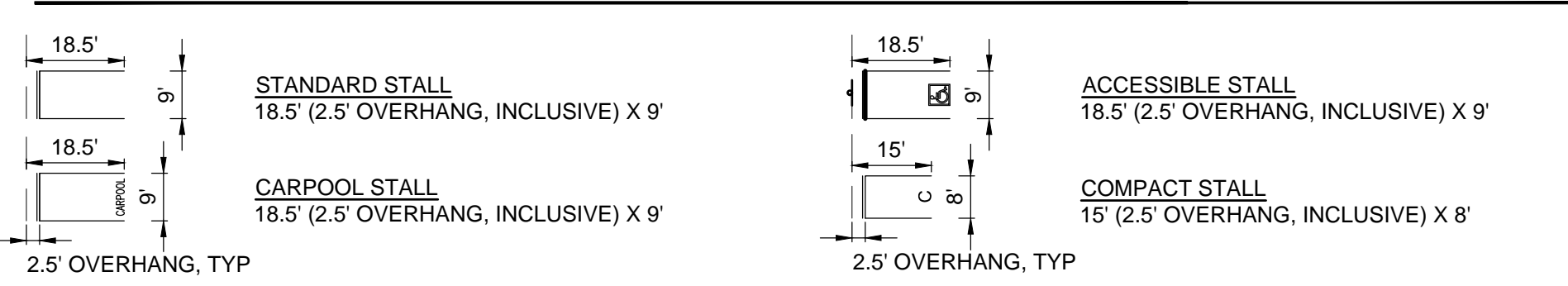


PAVEMENT LEGEND

*PAVEMENT SECTIONS SHOWN BELOW REFER TO THE GEOTECHNICAL REPORT BY GEOENGINEERS, INC. DATED JULY 10, 2019. ALL RECOMMENDATIONS THEREIN SHALL BE FOLLOWED.

- ASPHALT PAVEMENT SECTION**
ASPHALTIC CONCRETE (AC) OVER CRUSHED ROCK BASE (CRB) OVER COMPACTED SUBGRADE PER GEOTECHNICAL REQUIREMENTS
- DRIVE AISLES: 4.0" AC OVER 11.0" CRB
PARKING STALLS: 3.0" AC OVER 8.0" CRB
- CONCRETE PAVEMENT SECTION**
PORTLAND CEMENT CONCRETE (PCC) OVER CRUSHED ROCK BASE (CRB) OVER COMPACTED SUBGRADE PER GEOTECHNICAL REQUIREMENTS
- SITE SLABS-ON-GRADE: 6.0" PCC OVER 6.0" CRB, REINFORCED W/ #4 REBAR @ 12" OC, EW
SIDEWALKS: 4.0" PCC OVER 2.0" CRB, REINFORCED W/ #4 REBAR @ 24" OC, EW

PARKING LEGEND

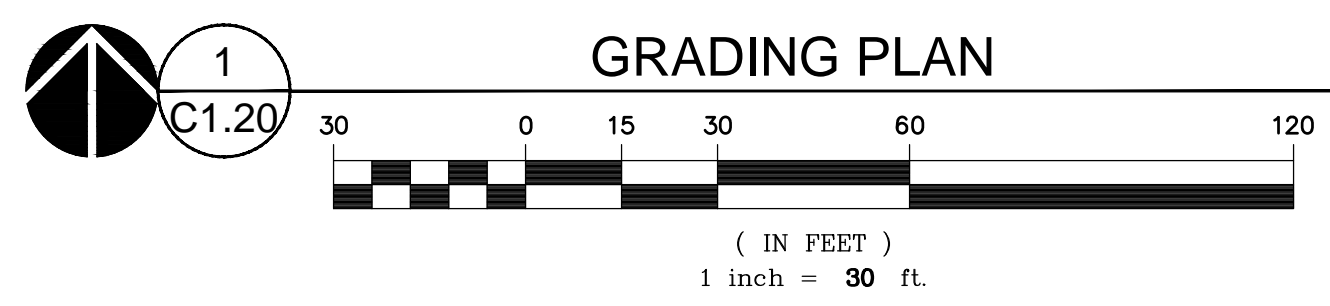
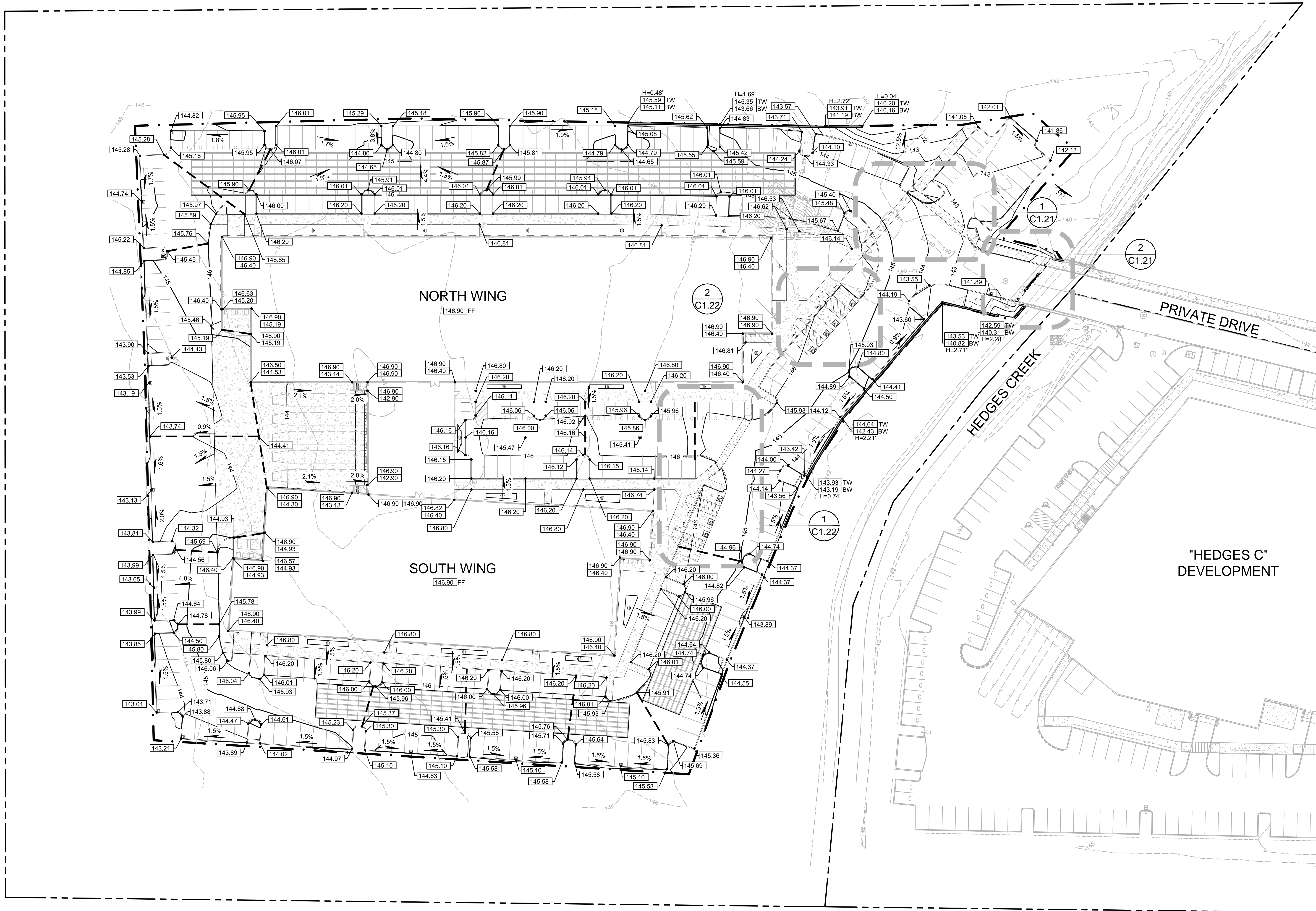


KEYNOTES

- 6" CONCRETE VERTICAL CURB PER 3/C5.10
- CONCRETE SIDEWALK PER 1/C5.10
- ACCESSIBLE PARKING STALL PER 2/C5.10
- 4" WHITE PARKING STRIPE PER 4/C5.10
- LANDSCAPE AREA PER LANDSCAPE PLANS
- ACCESSIBLE RAMP PER 8,9,10/C5.10
- CONCRETE CURB CHANNEL FOR DRAINAGE PER 11/C5.10
- CROSSWALK WITH CONTRASTING SLIP RESISTANT CONCRETE PER 5/C5.10
- ASPHALT TO CONCRETE TRANSITION PER 6/C5.10
- TRASH ENCLOSURE PER ARCHITECTURAL PLANS
- COMPACT PARKING PER 4/C5.10
- BIKE PARKING PER ARCHITECTURAL PLANS
- PAVED SURFACE PER PAVING LEGEND
- SCHEMATIC DESIGN BUILD WALL PER 12/C5.10 BY OTHERS
- CARPOOL PARKING PER 4/C5.10
- BUILDING TRANSFORMER ON CONCRETE PAD PER ELECTRIC SERVICE PROVIDER
- ASPHALT TRANSITION TO BRIDGE BY SAWCUTTING ASPHALT 12" FROM EDGE, DOWN 12" OR UNTIL EXPOSING CONCRETE BRIDGE STRUCTURE. ABUT PROPOSED CRUSHED ROCK BASE UP TO BRIDGE AND EXTEND NEW PAVEMENT SECTION INTO SAWCUT AREA.



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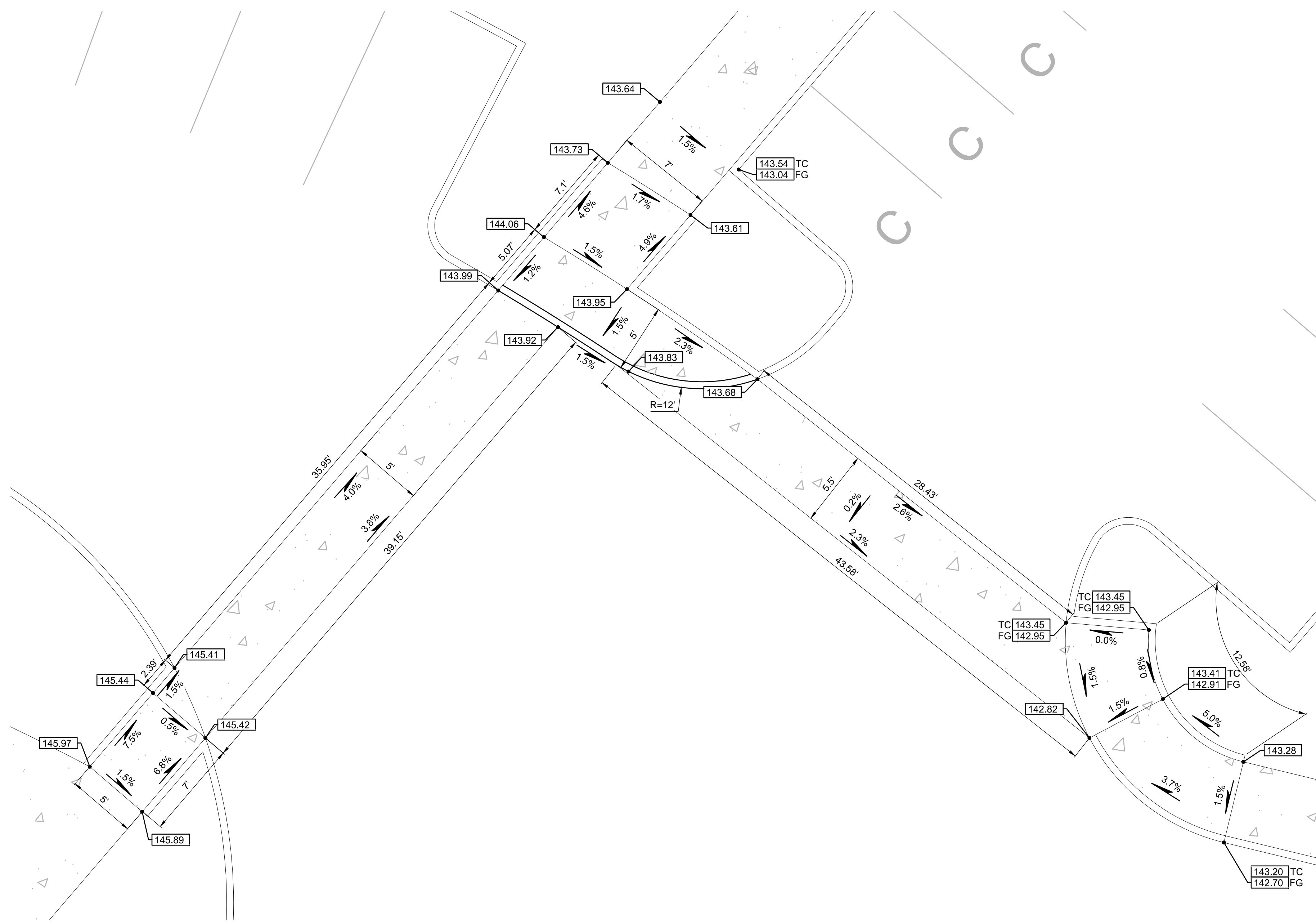
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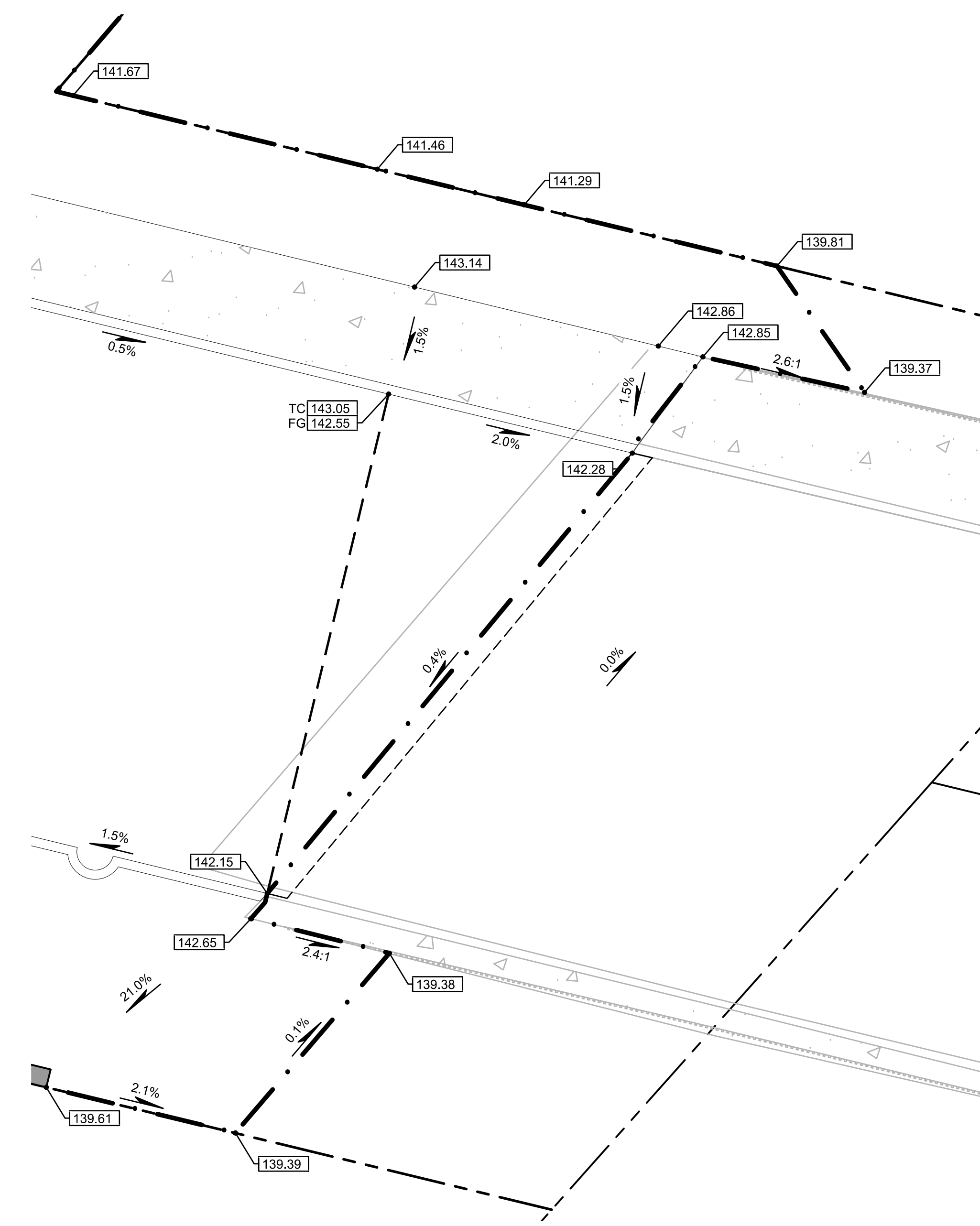
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DEVELOPMENT NW**

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SEATTLE, WA
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Project
HEDGES D



1
C1.21
GRADING PLAN ENLARGEMENTS -
NORTH WALK
5 0 2.5 5 10 20
(IN FEET)
1 inch = 5 ft.



2
C1.21
GRADING PLAN ENLARGEMENTS -
BRIDGE ABUTMENT
5 0 2.5 5 10 20
(IN FEET)
1 inch = 5 ft.



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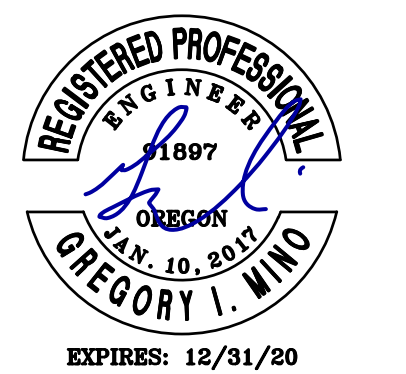
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Delta	Issued As	Issue Date

SHEET TITLE:
**GRADING PLAN
ENLARGEMENTS**

DRAWN BY: GIM
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SHEET

C1.21

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SHEET TITLE:
GRADING PLAN ENLARGEMENTS

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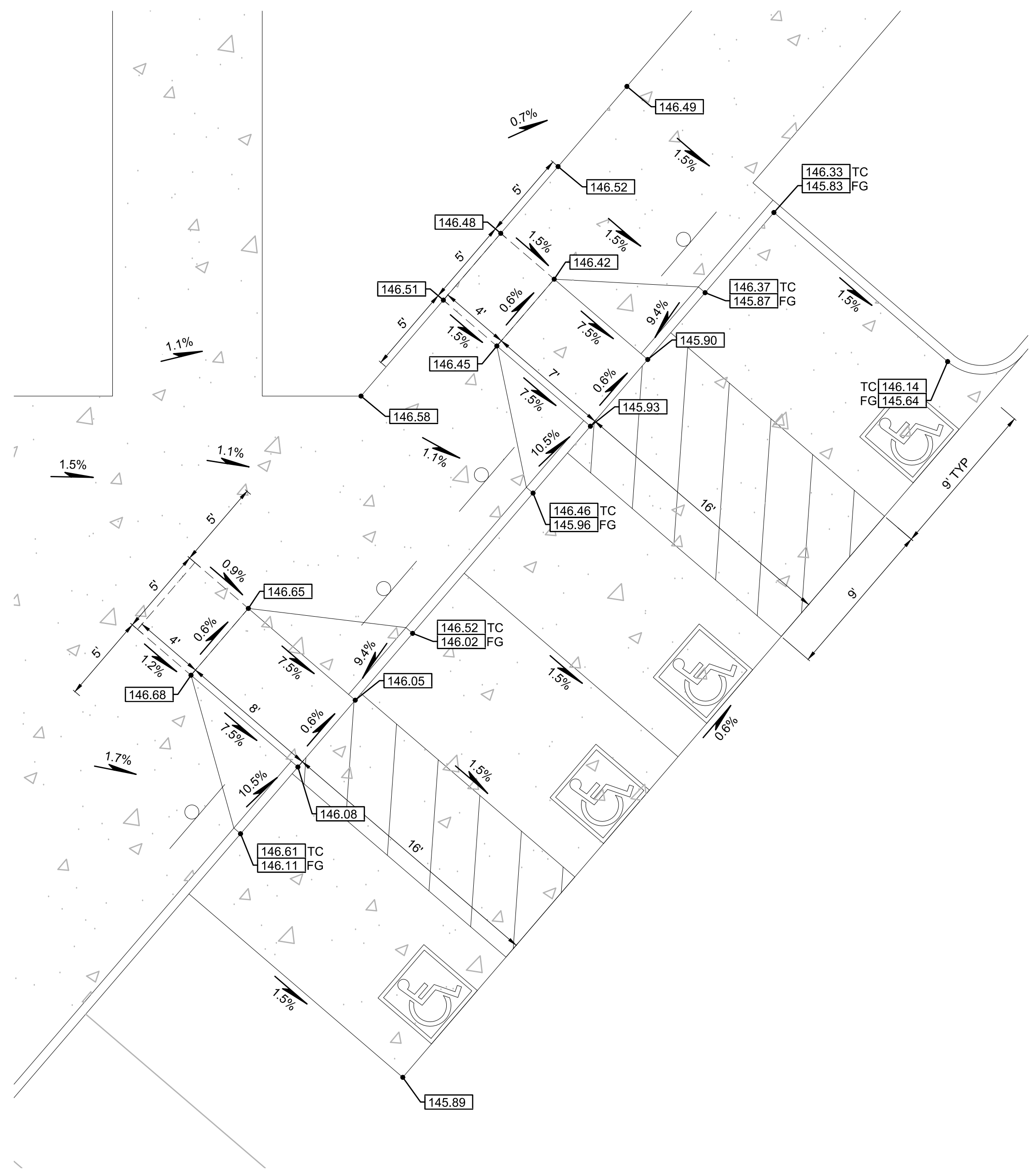
SHEET

C1.22

JOB NO. **2190365.00**



1
GRADING PLAN ENLARGEMENTS - SOUTH ACCESSIBLE PARKING
 C1.22
 (IN FEET)
 1 inch = 5 ft.

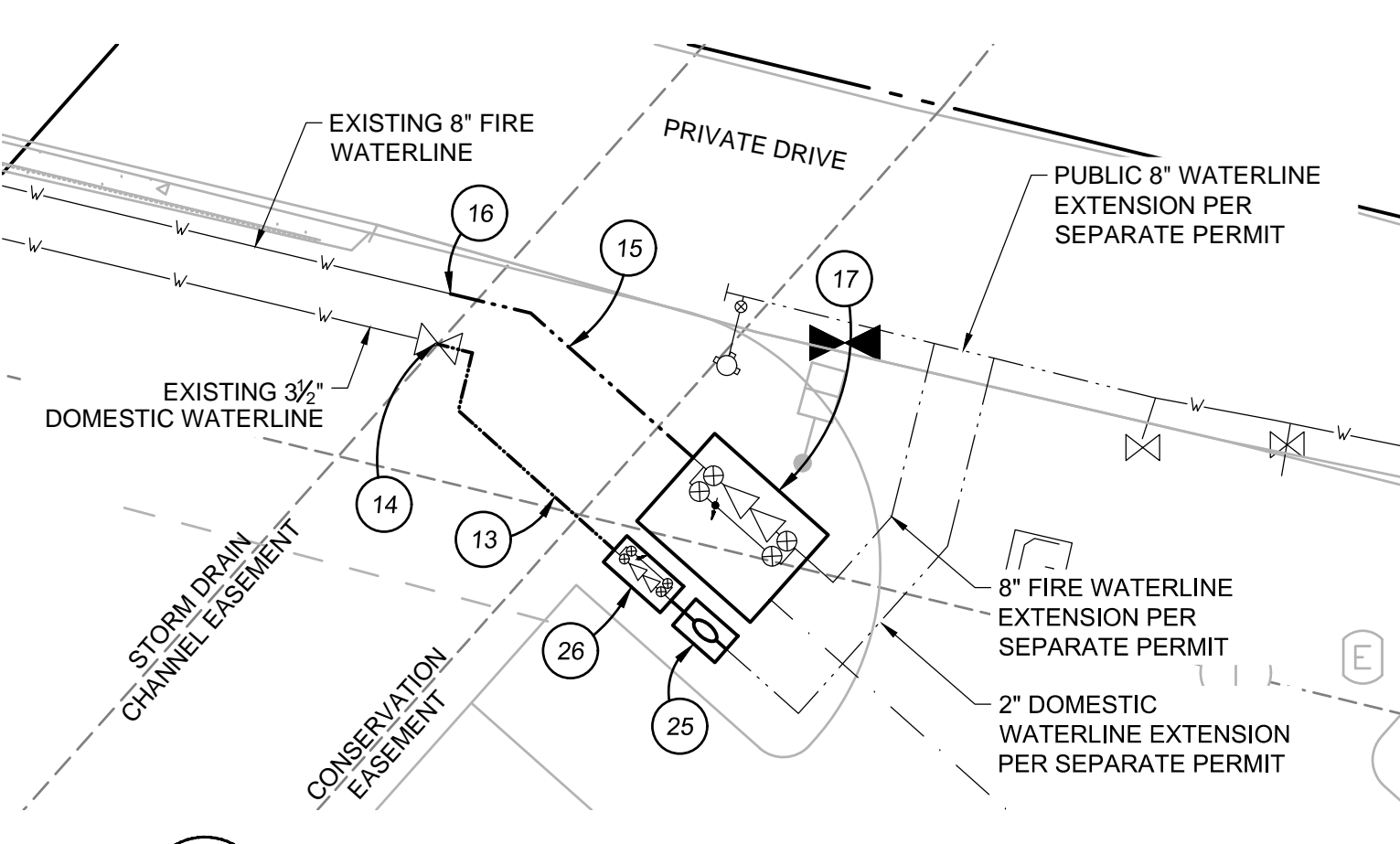
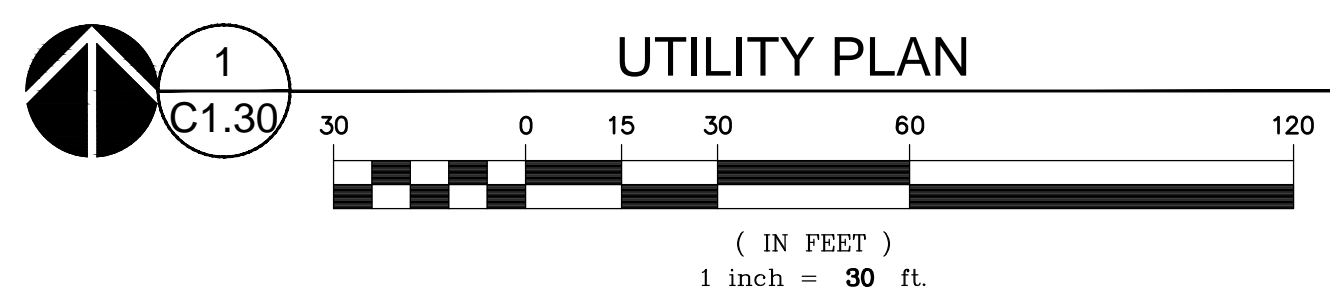
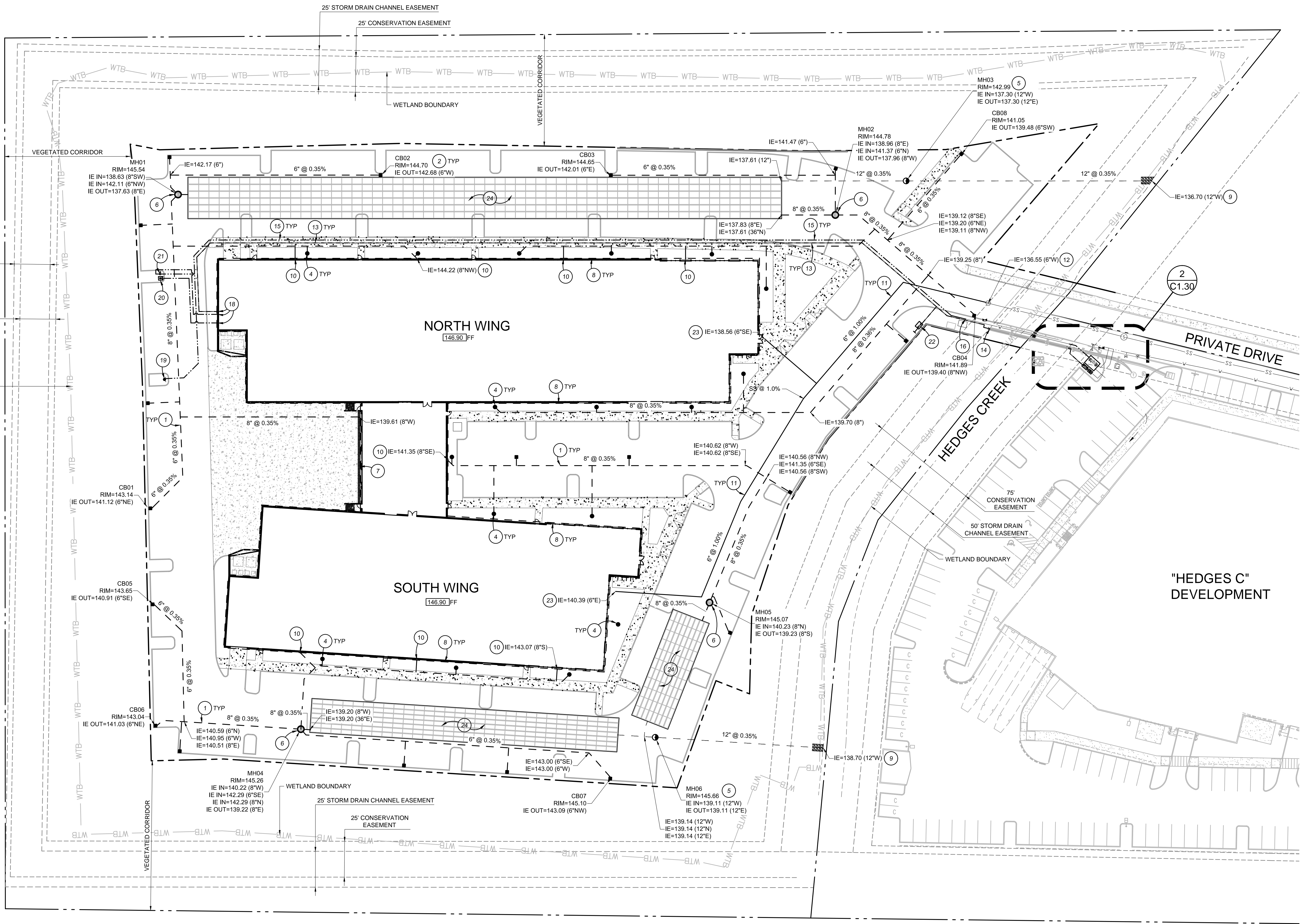


2
GRADING PLAN ENLARGEMENTS - NORTH ACCESSIBLE PARKING
 C1.22
 (IN FEET)
 1 inch = 5 ft.

THE SURVEY INFORMATION SHOWN AS A BACKGROUND SCREEN ON THIS SHEET IS SHOWN FOR REFERENCE ONLY AND IS BASED ON A SURVEY BY: WOODLE SURVEYING DATE: 10/21/2019

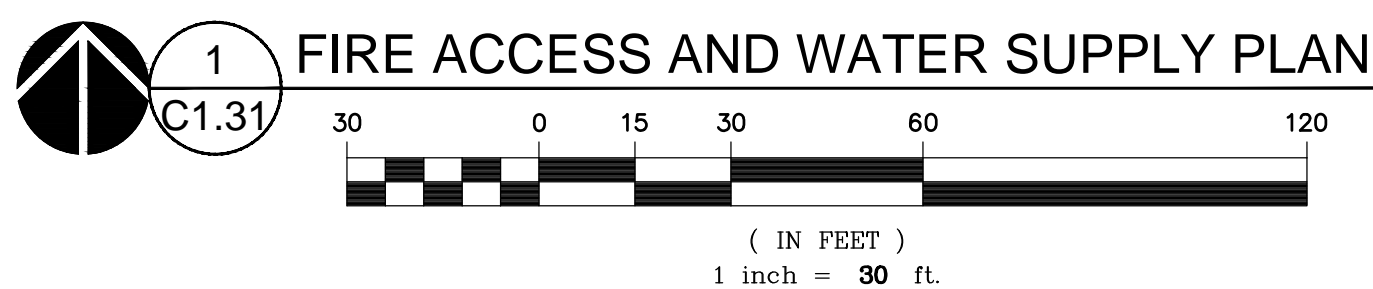
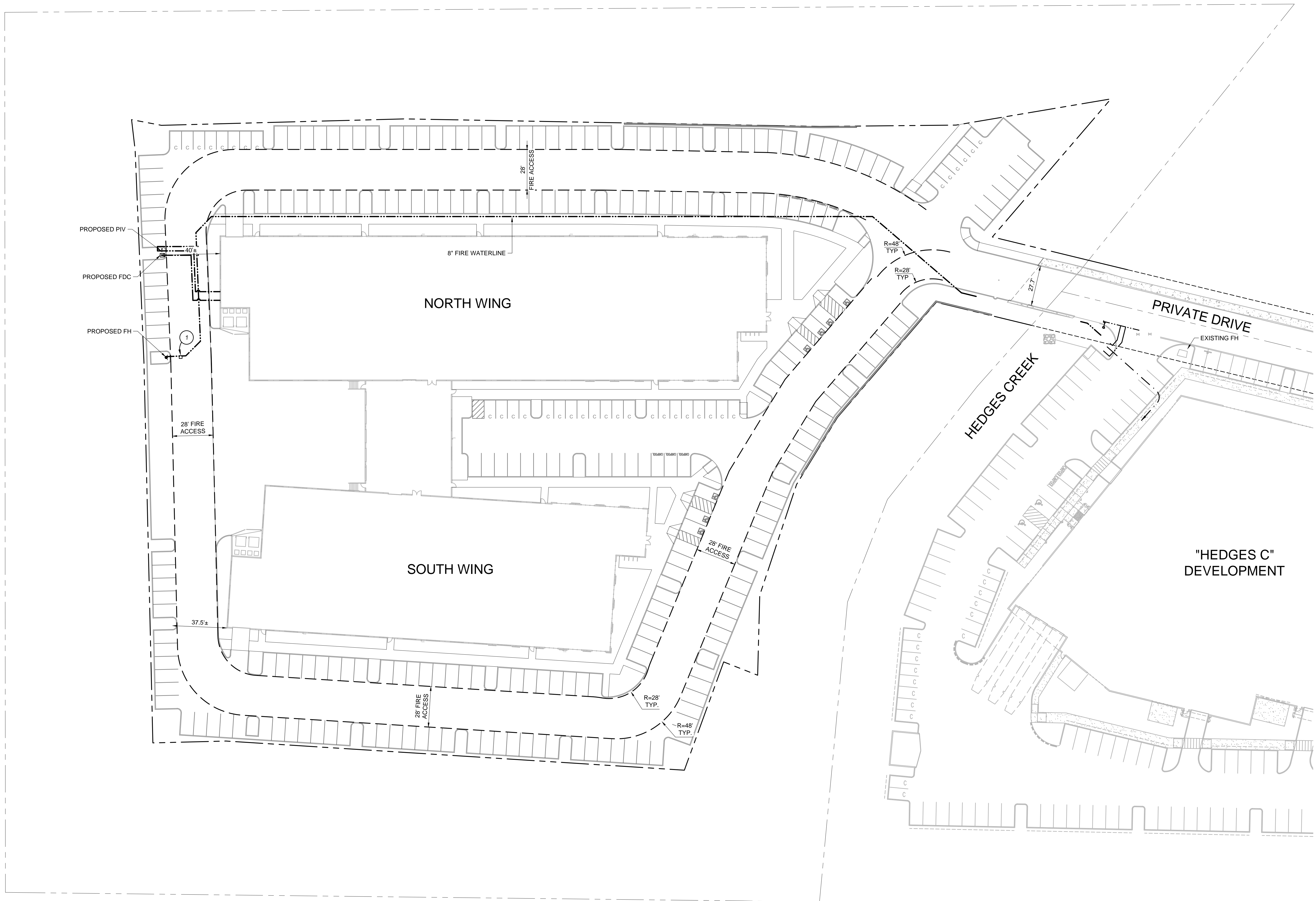


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Delta	Issued As	Issue Date



KEYNOTES

1. INSTALL STORM PIPE, SIZE PER PLAN, TRENCHING PER 2/C5.12 AND PROJECT SPECIFICATIONS
2. INSTALL CATCH BASIN PER 1/C5.11
3. INSTALL STORM MANHOLE PER 2/C5.11
4. INSTALL LANDSCAPE AREA DRAIN PER 6/C5.11
5. INSTALL FLOW CONTROL MANHOLE PER 4/C5.11
6. INSTALL WATER QUALITY MANHOLE PER 8/C5.11
7. TRENCH DRAIN PER 6/C5.12
8. INSTALL 4" DIAMETER PERFORATED PIPE PLACED ON A 3" BED OF, AND SURROUNDED BY 6" OF DRAINAGE MATERIAL ENCLOSED IN A NON-WOVEN GEOTEXTILE SUCH AS MIRAFI 140N (OR APPROVED ALTERNATE). PERMETER DRAINS SHOULD BE SLOPED TO DRAIN BY GRAVITY TO A SUITABLE DISCHARGE POINT. RECOMMEND THAT CLEANOUTS BE COVERED AND PLACED IN FLUSH-MOUNTED UTILITY BOXES. PROVIDE BACKWATER VALVE PER 3/C5.11.
9. OUTFALL TO CREEK, PROVIDE RIP RAP PAD PER 7/C5.11
10. JOIN BUILDING STORM PLUMBING/DOWNSPOUT SYSTEM. INSTALL ADAPTER TO DOWNSPOUT AS REQUIRED
11. INSTALL SANITARY PIPE, SIZE PER PLAN, TRENCHING PER 2/C5.12 AND PROJECT SPECIFICATIONS
12. JOIN SANITARY LINE AT EXISTING CLEANOUT
13. INSTALL 2" DOMESTIC WATER PIPE AND TRENCHING PER 2/C5.12 AND PROJECT SPECIFICATIONS
14. JOIN PROPOSED 2" DOMESTIC LINE TO EXISTING 3/2" WATERLINE
15. INSTALL 8" FIRE WATER PIPE AND TRENCHING PER 2/C5.12 AND PROJECT SPECIFICATIONS
16. JOIN PROPOSED 8" FIREWATER LINE TO EXISTING 8" WATERLINE
17. INSTALL DOUBLE CHECK DETECTOR VALVE AND VAULT PER 1/C5.12. CONNECT PROPOSED 8" FIRE WATER LINE
18. JOIN BUILDING WATER SYSTEM
19. INSTALL FIRE HYDRANT PER 3/C5.12
20. INSTALL FIRE DEPARTMENT CONNECTION PER 5/C5.12. CHECK VALVE INSIDE BUILDING PER FIRE SPRINKLER PLANS
21. POST INDICATOR VALVE PER 4/C5.12
22. INSTALL IRRIGATION BACKFLOW PREVENTOR AND STUB
23. JOIN BUILDING SANITARY SYSTEM
24. INSTALL ADS STORMTECH SC-740 CHAMBER SYSTEM
25. INSTALL 2" WATER METER PER CITY OF TUALATIN DRAWING NO. 633 (7/C5.12)
26. INSTALL 2" RPBA PER CITY OF TUALATIN DRAWING NO. 608 (8/C5.12)



GENERAL NOTES

1. FIRE DEPARTMENT ACCESS ROADS ON SITE ARE DESIGNED TO SUPPORT AN APPARATUS WEIGHING 75,000 LB. GROSS VEHICLE WEIGHT.
2. ALL FIRE DEPARTMENT ACCESS ROADS SHOWN ON PLANS HAVE A TURNING RADIUS OF 20 FEET (INSIDE) AND 48 FEET (OUTSIDE), UNLESS OTHERWISE NOTED.
3. PROVIDE EMERGENCY ACCESS EASEMENTS AS REQUIRED BY TUALATIN VALLEY FIRE AND RESCUE.

FIRE HYDRANT NOTES

1. PRIVATE FIRE HYDRANTS IN THE CITY OF TUALATIN SHALL BE YELLOW IN COLOR (OFC 507).
2. FIRE HYDRANT LOCATIONS SHALL BE IDENTIFIED BY THE INSTALLATION OF BLUE REFLECTIVE MARKERS. THEY SHALL BE LOCATED ADJACENT AND TO THE SIDE OF THE CENTER LINE OF THE ACCESS ROADWAY THAT THE FIRE HYDRANT IS LOCATED ON. IN THE CASE THAT THERE IS NO CENTERLINE, THEN ASSUME A CENTER LINE AND PLACE THE REFLECTORS ACCORDINGLY (OFC 507).
3. WHERE FIRE HYDRANTS ARE SUBJECT TO IMPACT BY A MOTOR VEHICLE, GUARD POSTS, BOLLARDS OR OTHER APPROVED MEANS OF PROTECTION SHALL BE PROVIDED (OFC 507.5.6 & OFC 312).
4. A 3-FOOT CLEAR SPACE SHALL BE PROVIDED AROUND THE CIRCUMFERENCE OF ALL FIRE HYDRANTS (OFC 507.5.5).

FIRE DEPARTMENT CONNECTION (FDC) NOTES

1. FDCs SHALL BE LOCATED WITHIN 100 FEET OF A FIRE HYDRANT (OR AS APPROVED). HYDRANTS AND FDCs SHALL BE LOCATED ON THE SAME SIDE OF THE FIRE APPARATUS ACCESS ROADWAY OR DRIVE AISLE, FULLY VISIBLE, AND RECOGNIZABLE FROM THE STREET OR NEAREST POINT OF THE FIRE DEPARTMENT VEHICLE ACCESS OR AS OTHERWISE APPROVED (OFC 912.2.1 & NFPA 13).
2. FIRE DEPARTMENT CONNECTIONS (FDCs) SHALL NORMALLY BE LOCATED REMOTELY AND OUTSIDE OF THE FALL-LINE OF THE BUILDING WHEN REQUIRED. FDCs MAY BE MOUNTED ON THE BUILDING THEY SERVE, WHEN APPROVED.
3. FDCs SHALL BE PLUMBED ON THE SYSTEM SIDE OF THE CHECK VALVE WHEN SPRINKLERS ARE SERVED BY UNDERGROUND LINES ALSO SERVING PRIVATE FIRE HYDRANTS.

PAINTED CURB NOTES

WHERE REQUIRED, FIRE APPARATUS ACCESS ROADWAY CURBS SHALL BE PAINTED RED (OR AS APPROVED) AND MARKED "NO PARKING FIRE LANE" AT 25 FOOT INTERVALS. LETTERING SHALL HAVE A STROKE OF NOT LESS THAN ONE INCH WIDE BY SIX INCHES HIGH. LETTERING SHALL BE WHITE ON RED BACKGROUND (OR AS APPROVED) (OFC 503.3).

KEYNOTES

1. BLUE REFLECTIVE MARKER. SEE FIRE HYDRANT NOTE #2



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SHEET TITLE:
**FIRE ACCESS
 AND WATER
 SUPPLY PLAN**

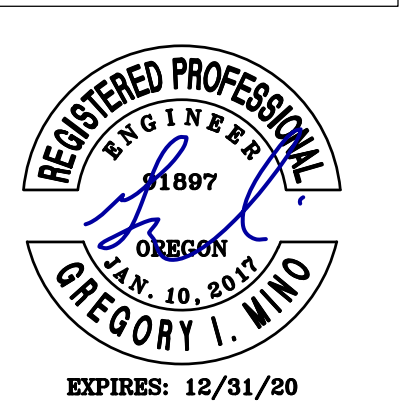
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SHEET TITLE:
**CLEARING,
DEMOLITION,
MASS GRADING,
ESC PLAN**

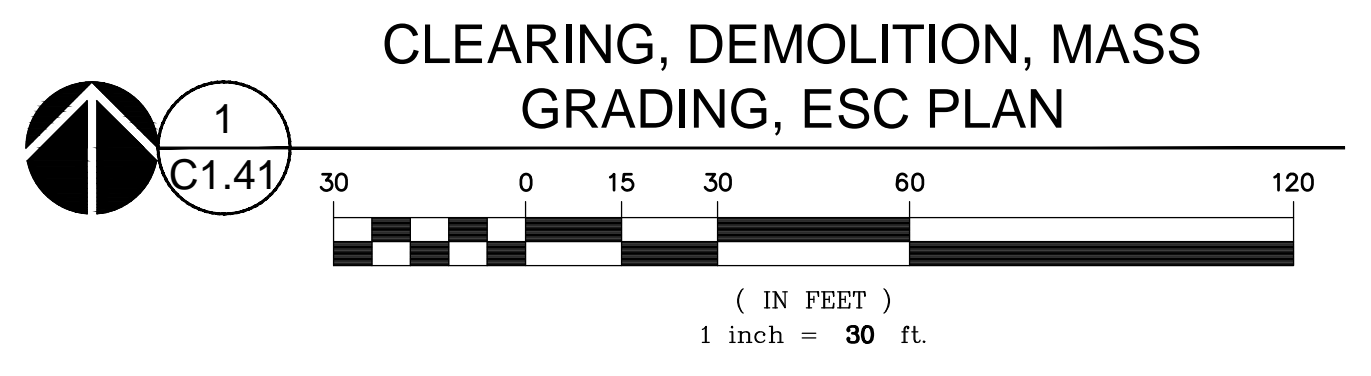
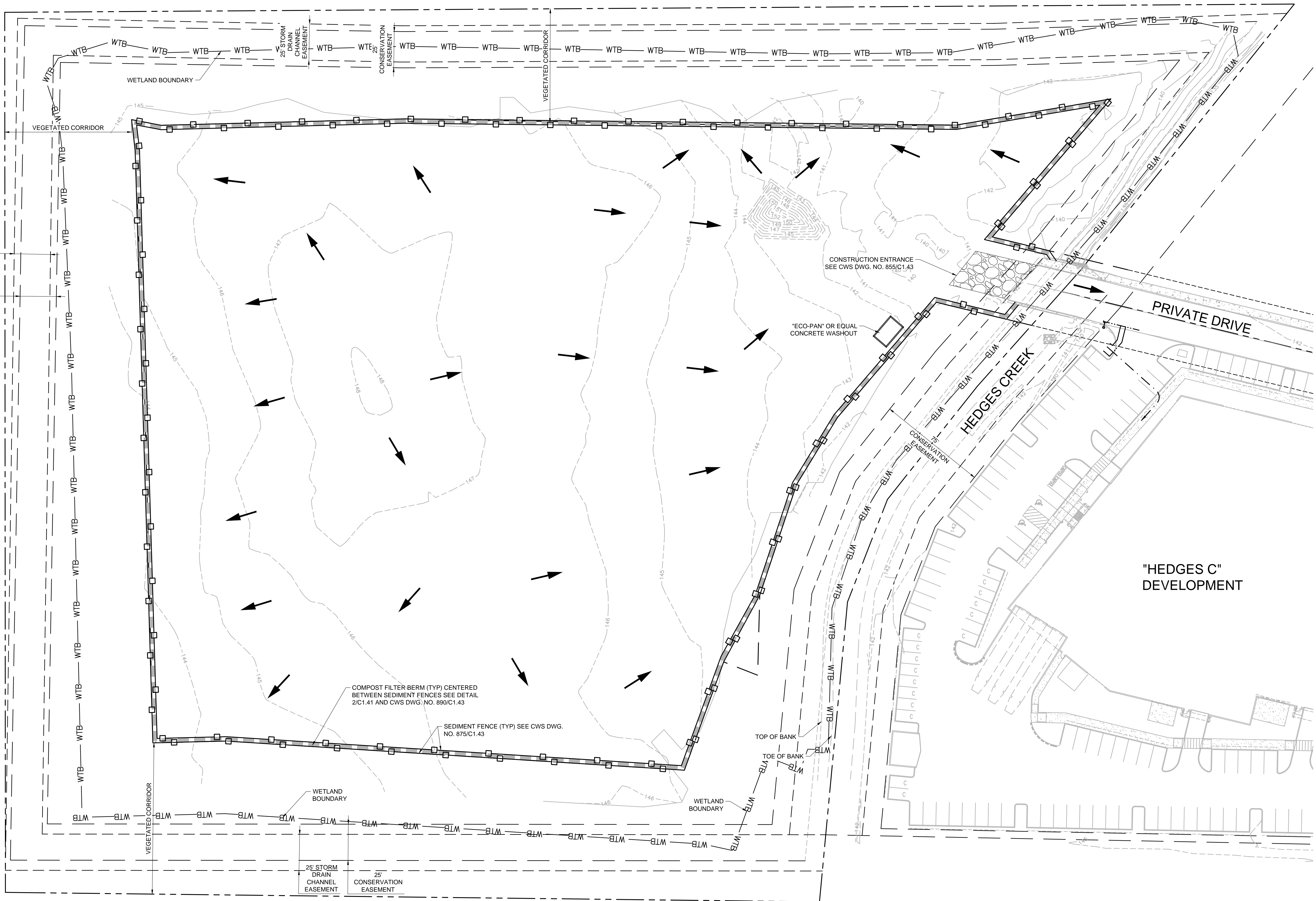
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C1.41

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LEGEND

- EXISTING DRAINAGE FLOW DIRECTION
- COMPOST FILTER BERM
- SEDIMENT FENCE/STRAW WATTLE
- INLET PROTECTION
- GRAVEL CONSTRUCTION ENTRANCE
- CONCRETE WASHOUT

STAGING AND STOCKPILE AREAS ARE TO BE DETERMINED BY THE CONTRACTOR AND ADJUSTED TO ACCOMMODATE THE PROGRESS OF CONSTRUCTION. THE OWNER'S EROSION CONTROL INSPECTOR SHALL BE MADE AWARE OF ALL CHANGES AND CONSULTED FOR BMP IMPLEMENTATIONS THAT MAY BE NECESSARY TO ACCOMMODATE THE SELECTED LOCATIONS.

THIS PLAN IS INTENDED TO BE ONLY A BASELINE APPROACH TO EROSION AND SEDIMENT CONTROL FOR THE PROJECT SITE. THE OWNER'S EROSION AND SEDIMENT CONTROL INSPECTOR SHALL BE RESPONSIBLE FOR INSTRUCTING THE CONTRACTOR TO ADJUST BMP'S AS NECESSARY TO PROPERLY MANAGE THE VARIOUS PHASES OF CONSTRUCTION AND ANY UNFORESEEN CONDITIONS REQUIRING DIFFERENT OR ADDITIONAL BMP'S TO MANAGE.

SEE SHEETS C1.43 FOR EROSION AND SEDIMENT CONTROL DETAILS



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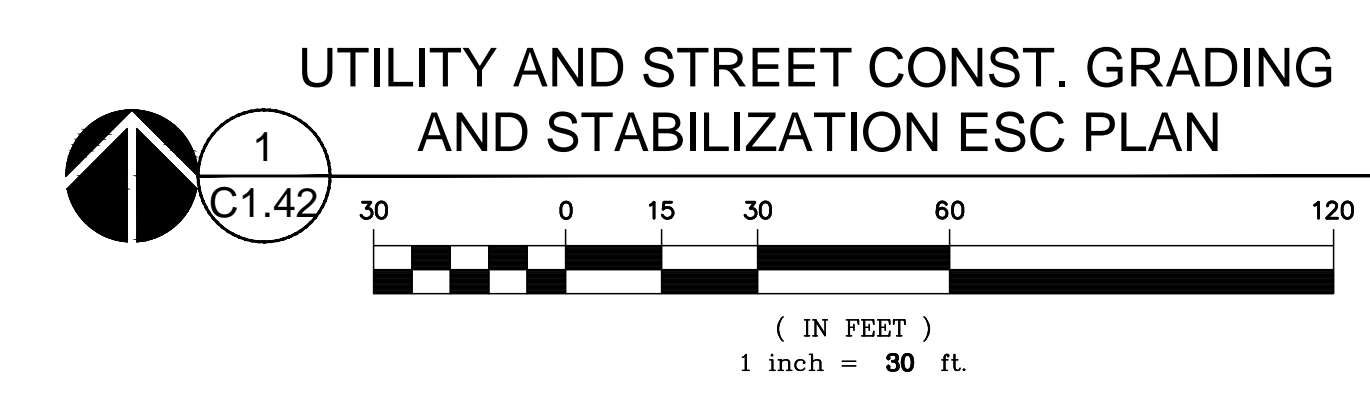
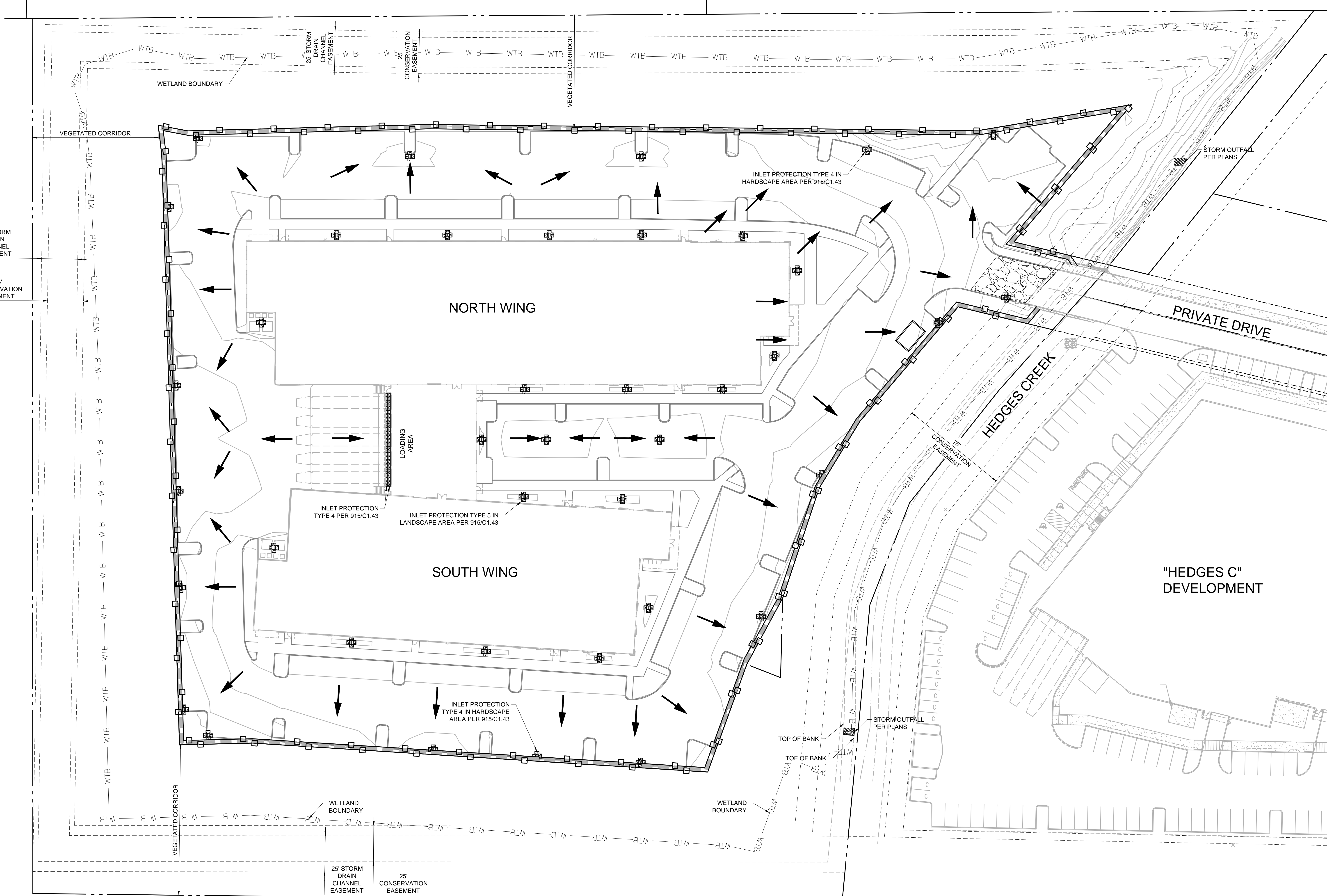
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SHEET TITLE:
**UTILITY AND
STREET CONST.
GRADING AND
STABILIZATION
ESC PLAN**

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SHEET

C1.42

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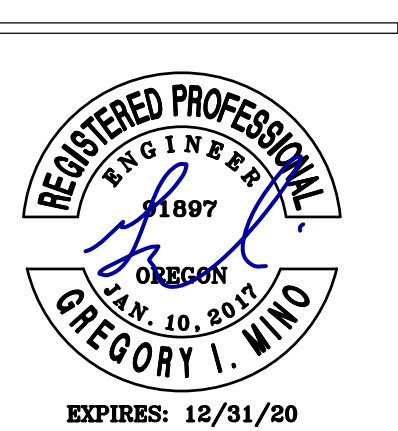
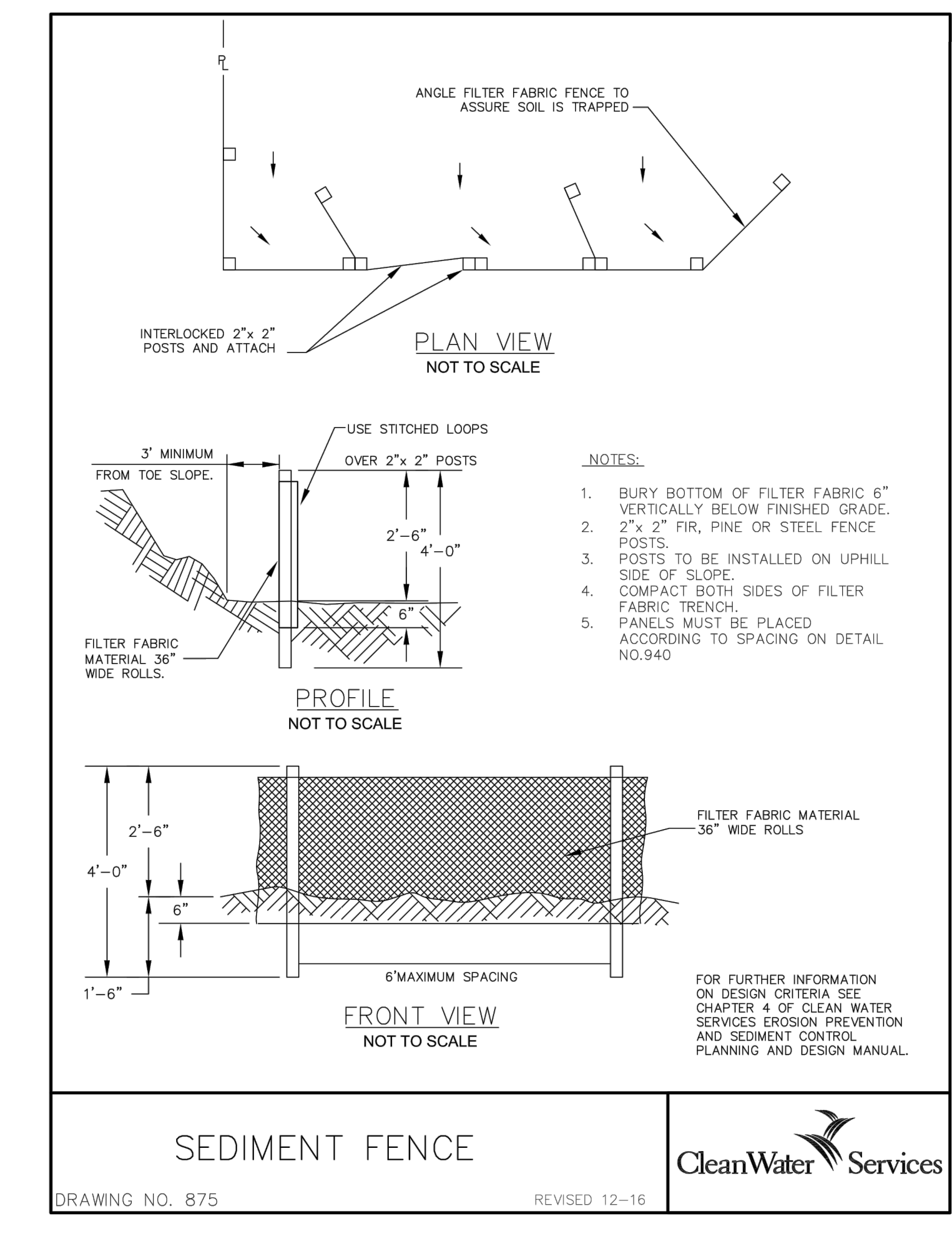
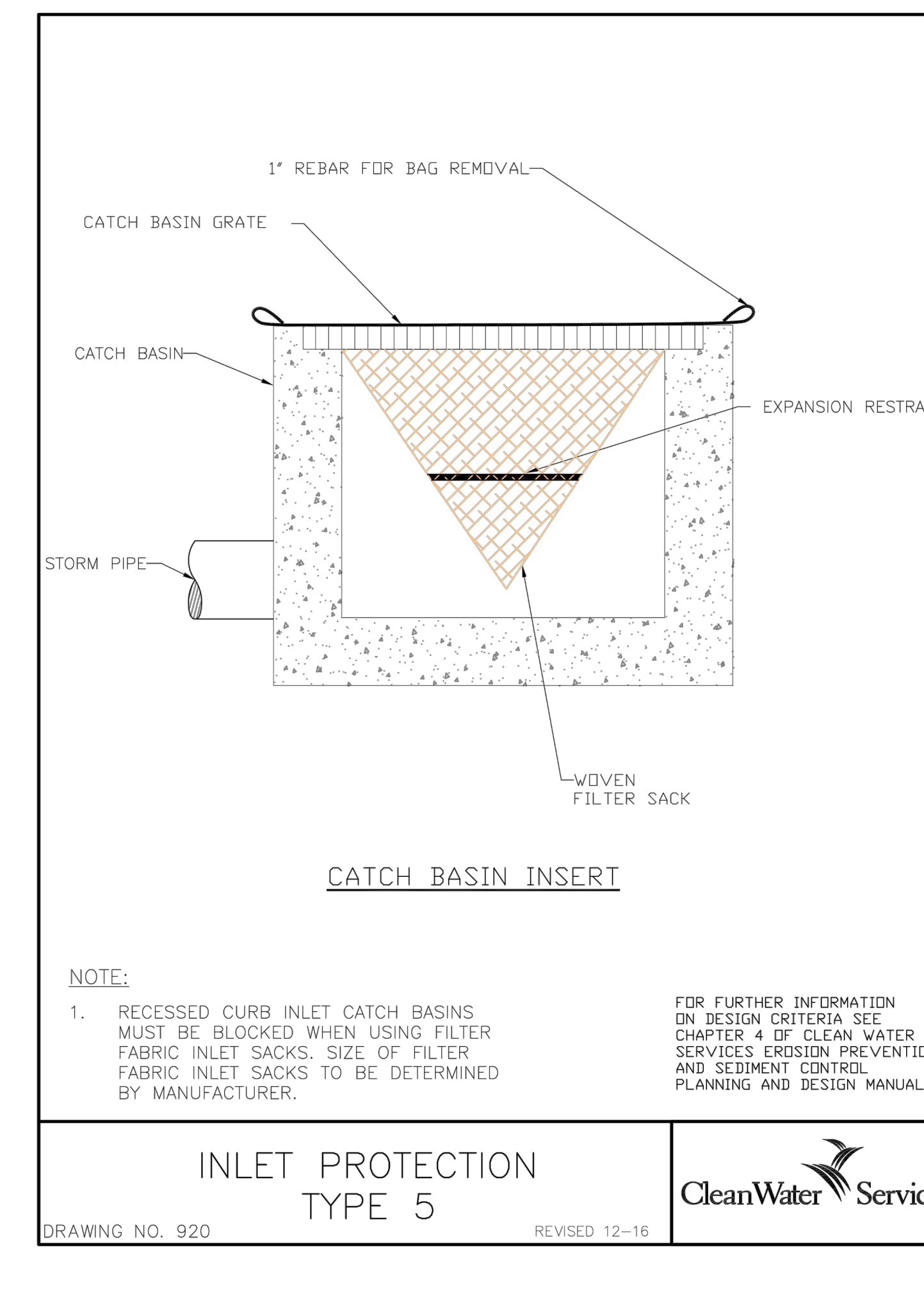
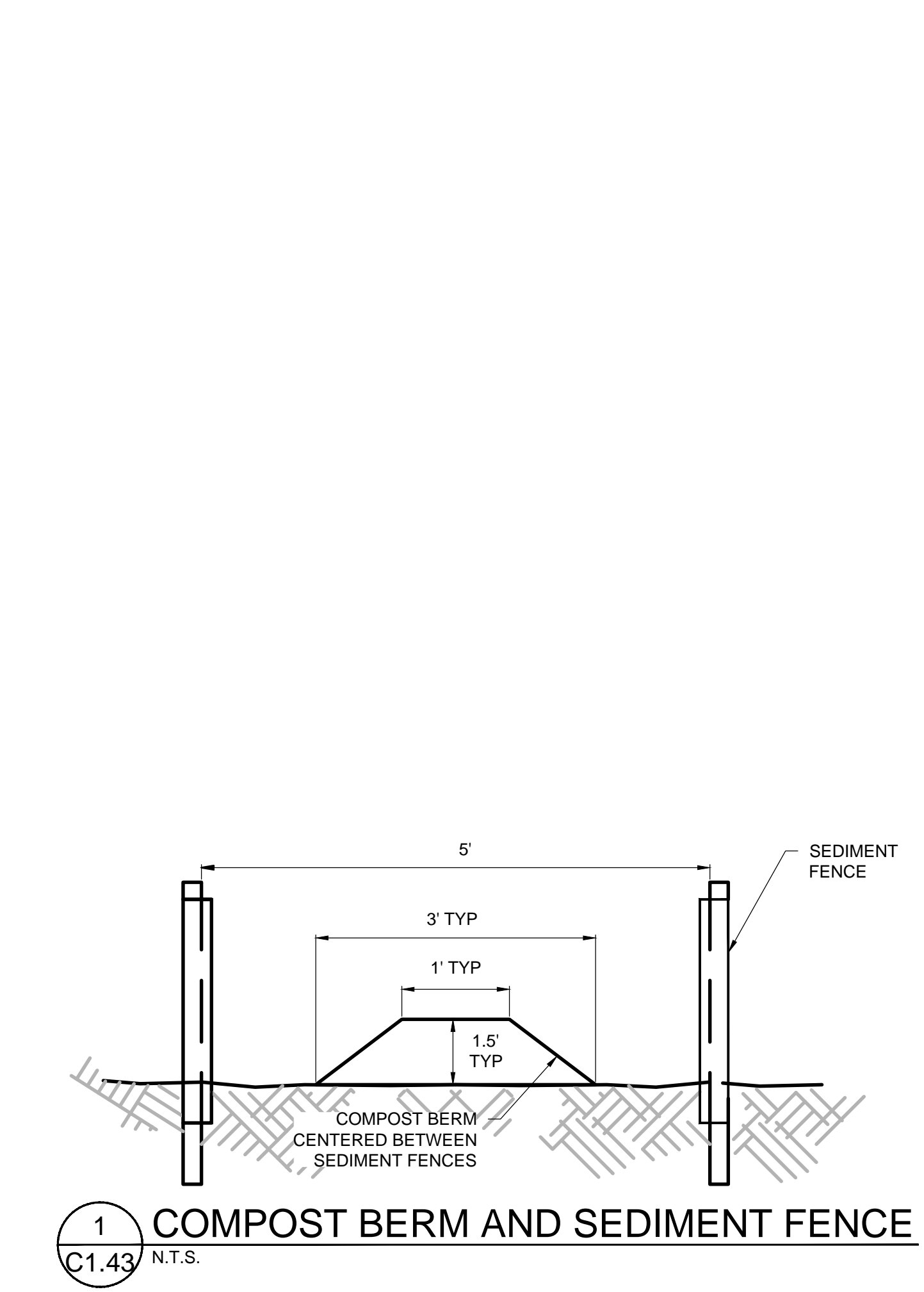
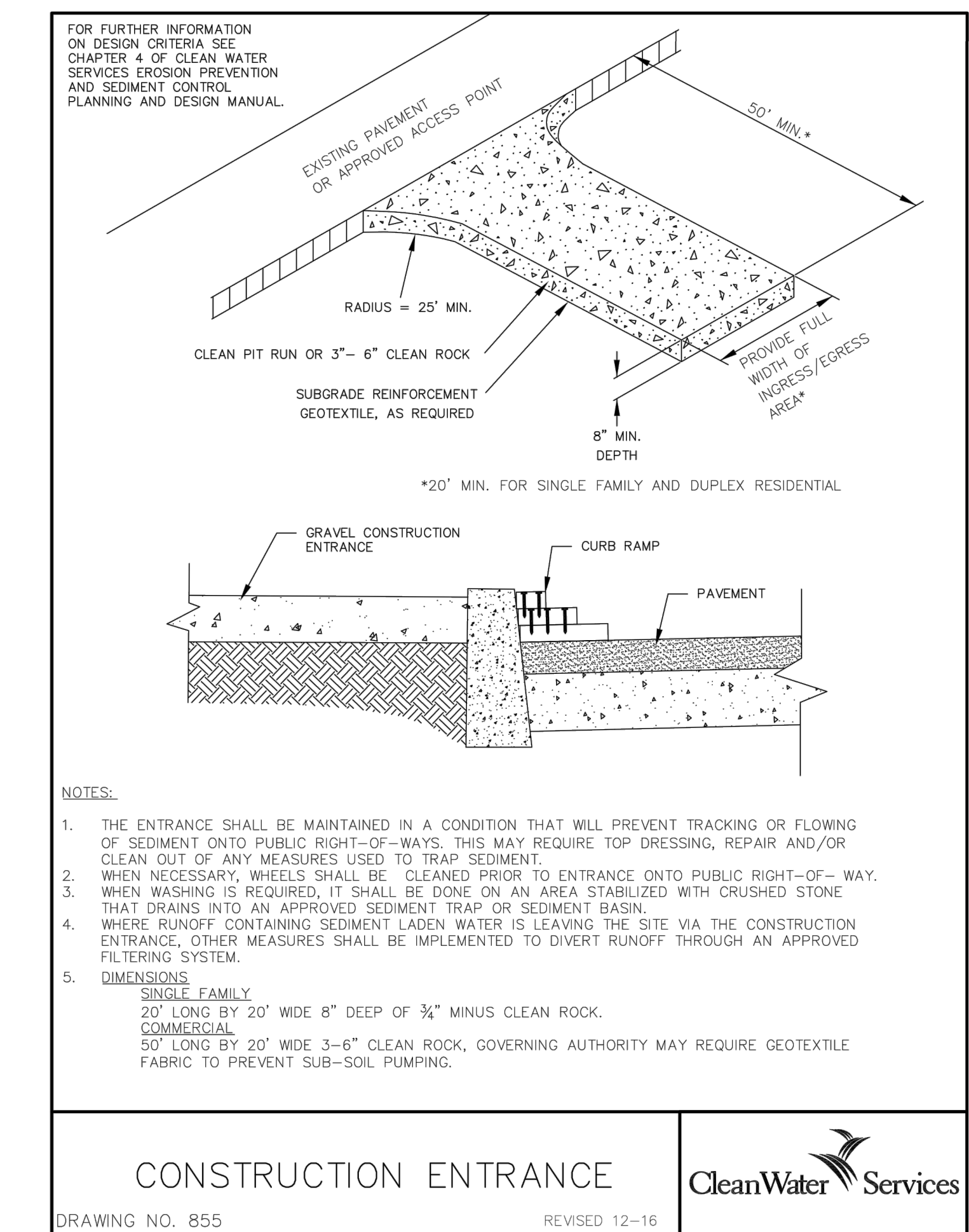
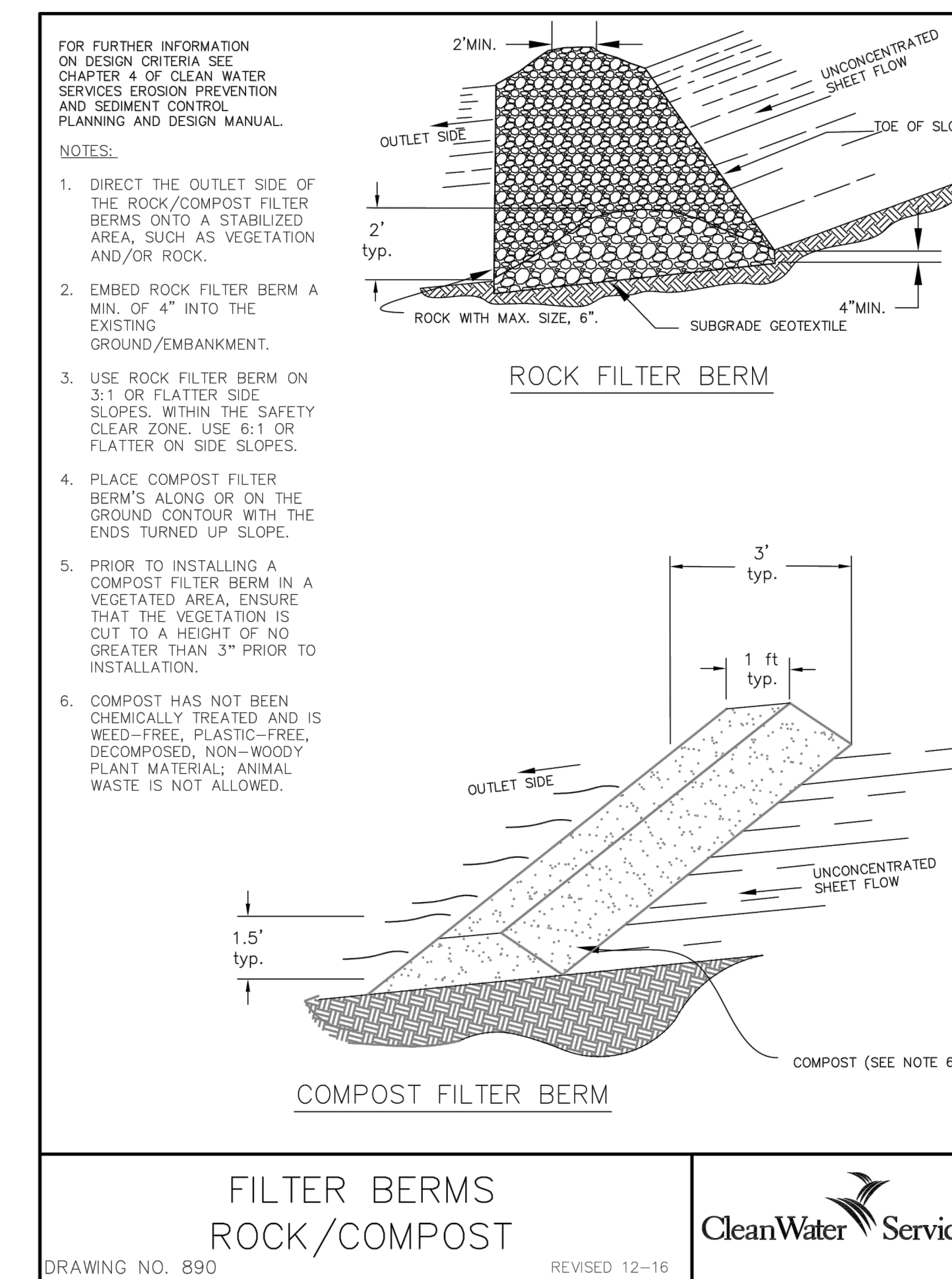
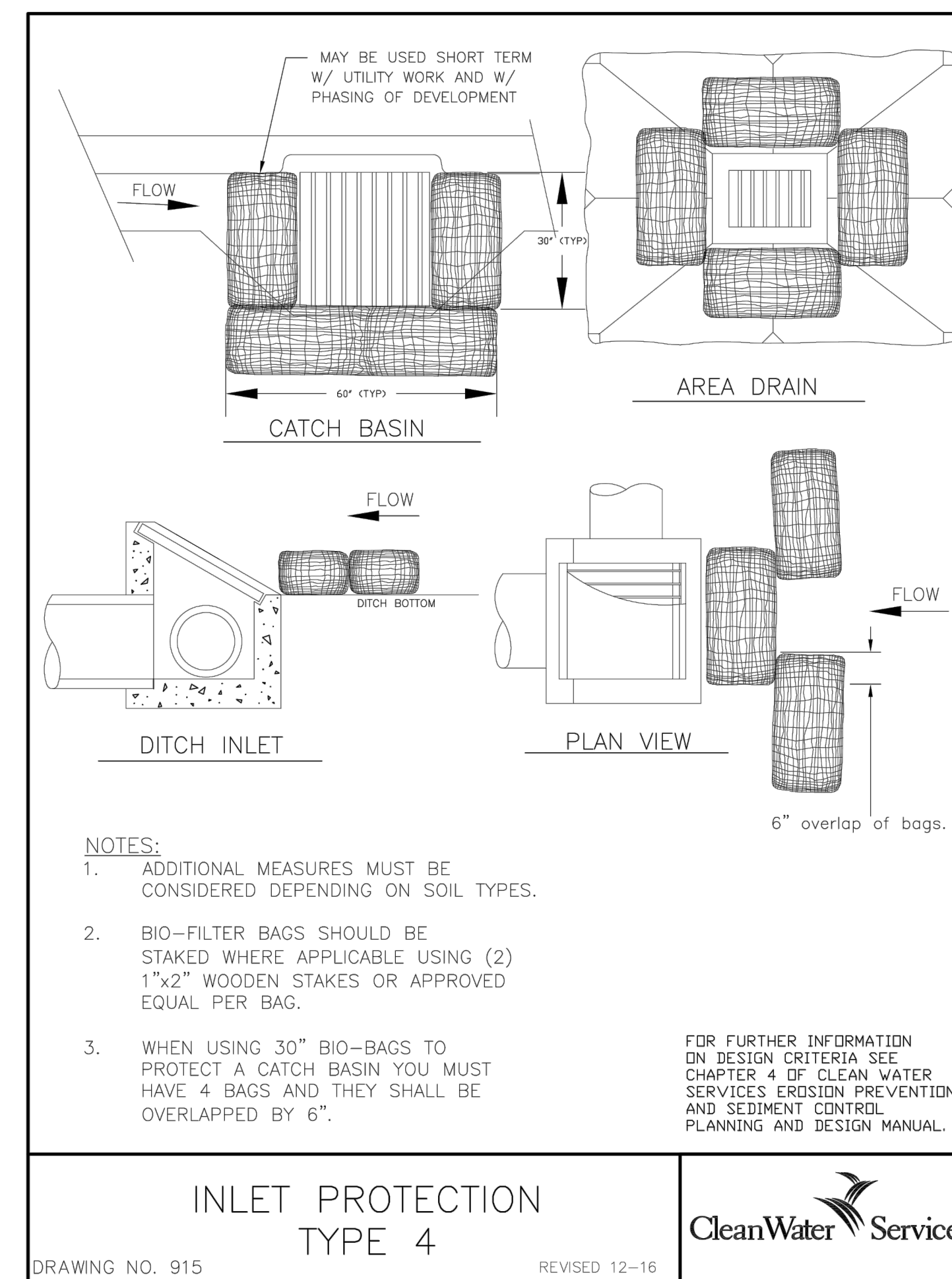
LEGEND

EXISTING	PROPOSED	
---	→	DRAINAGE FLOW DIRECTION
---	---	COMPOST FILTER BERM
—□—	—□—	SEDIMENT FENCE
+	+	INLET PROTECTION
⊕	⊕	GRAVEL CONSTRUCTION ENTRANCE
□	□	DRIVE THROUGH TIRE WASH

STAGING AND STOCKPILE AREAS ARE TO BE DETERMINED BY THE CONTRACTOR AND ADJUSTED TO ACCOMMODATE THE PROGRESS OF CONSTRUCTION. THE OWNER'S EROSION CONTROL INSPECTOR SHALL BE MADE AWARE OF ALL CHANGES AND CONSULTED FOR BMP IMPLEMENTATIONS THAT MAY BE NECESSARY TO ACCOMMODATE THE SELECTED LOCATIONS.

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SEE SHEETS C1.43 FOR EROSION AND SEDIMENT CONTROL DETAILS



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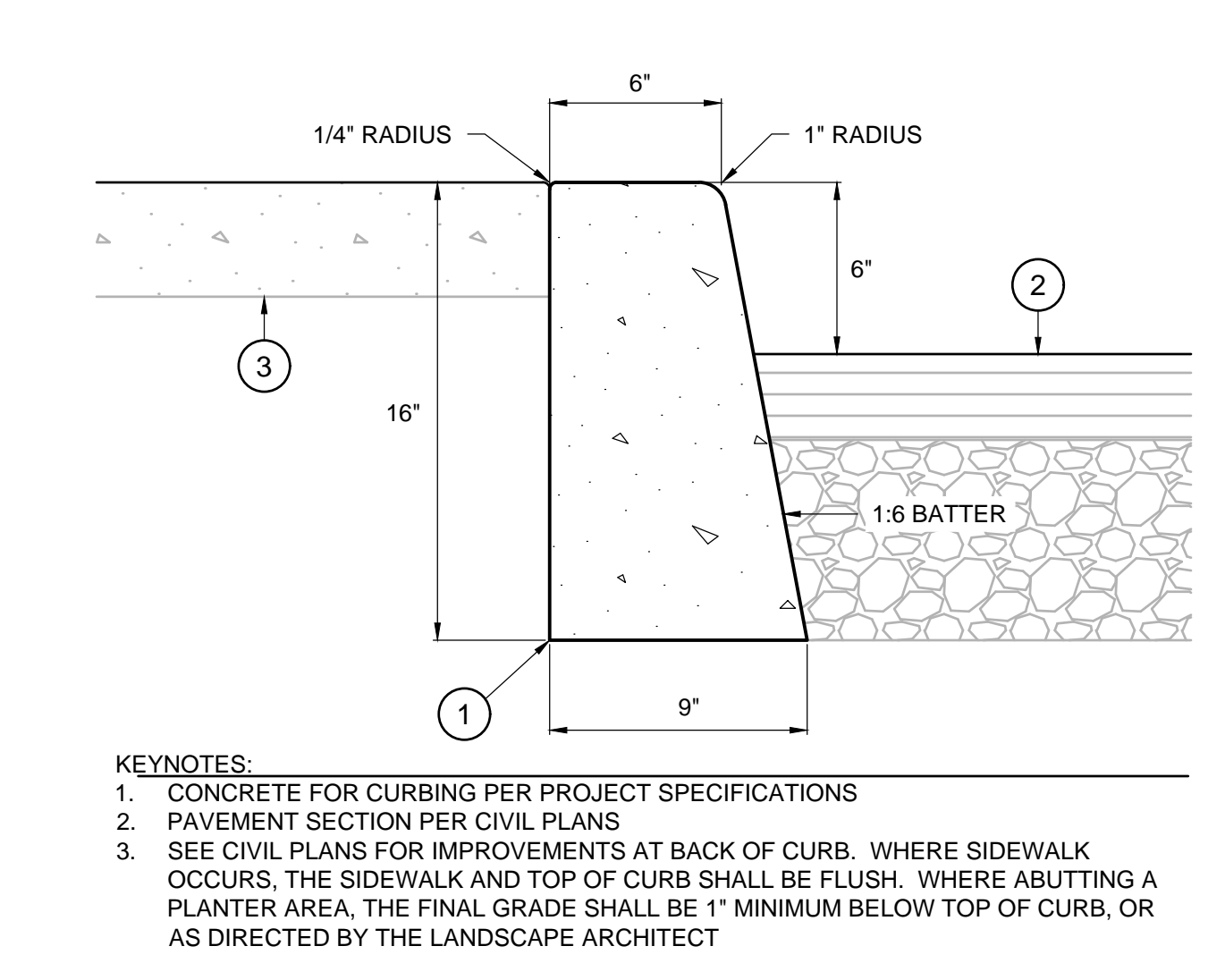
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**EROSION AND
SEDIMENT
CONTROL
DETAILS**

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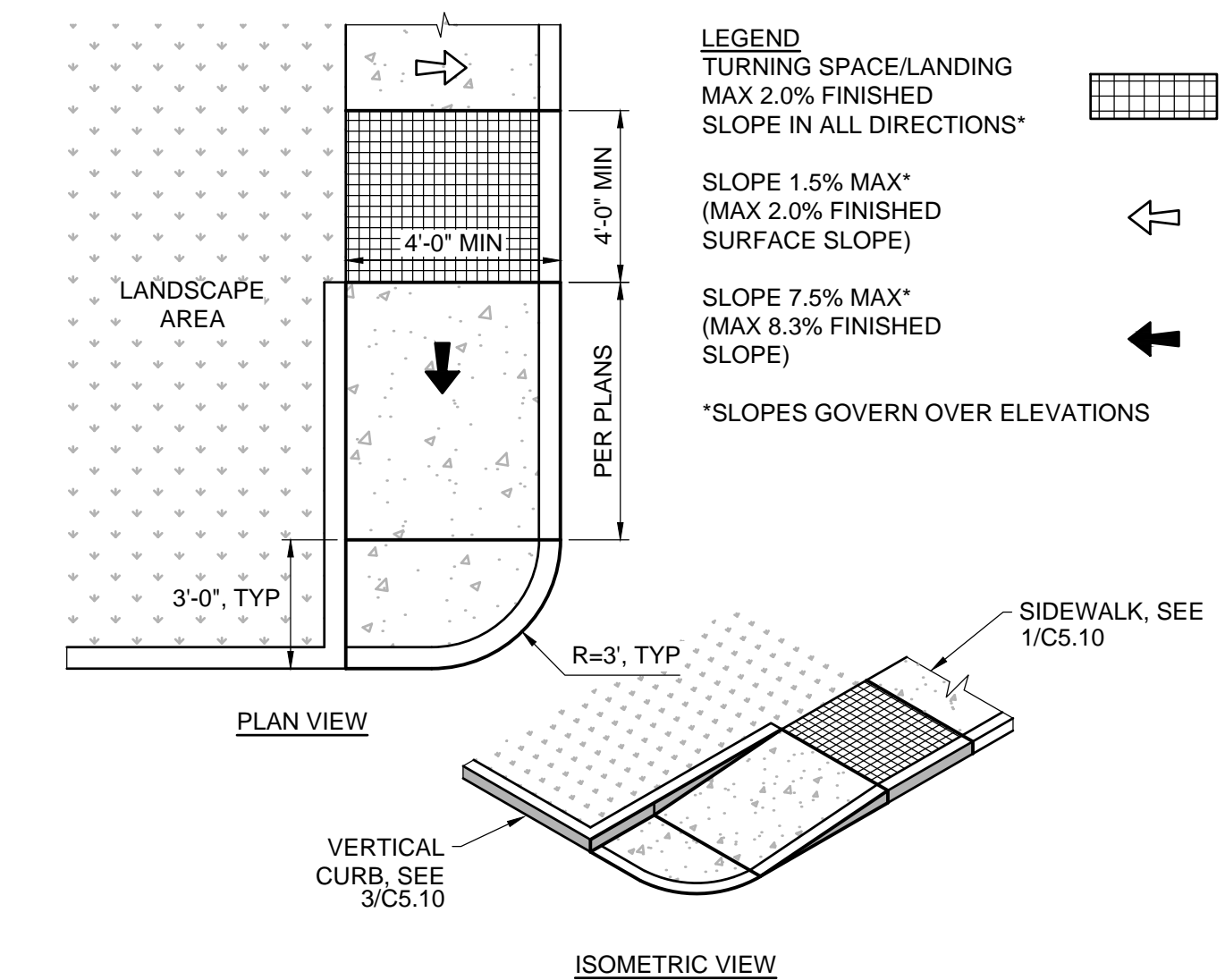
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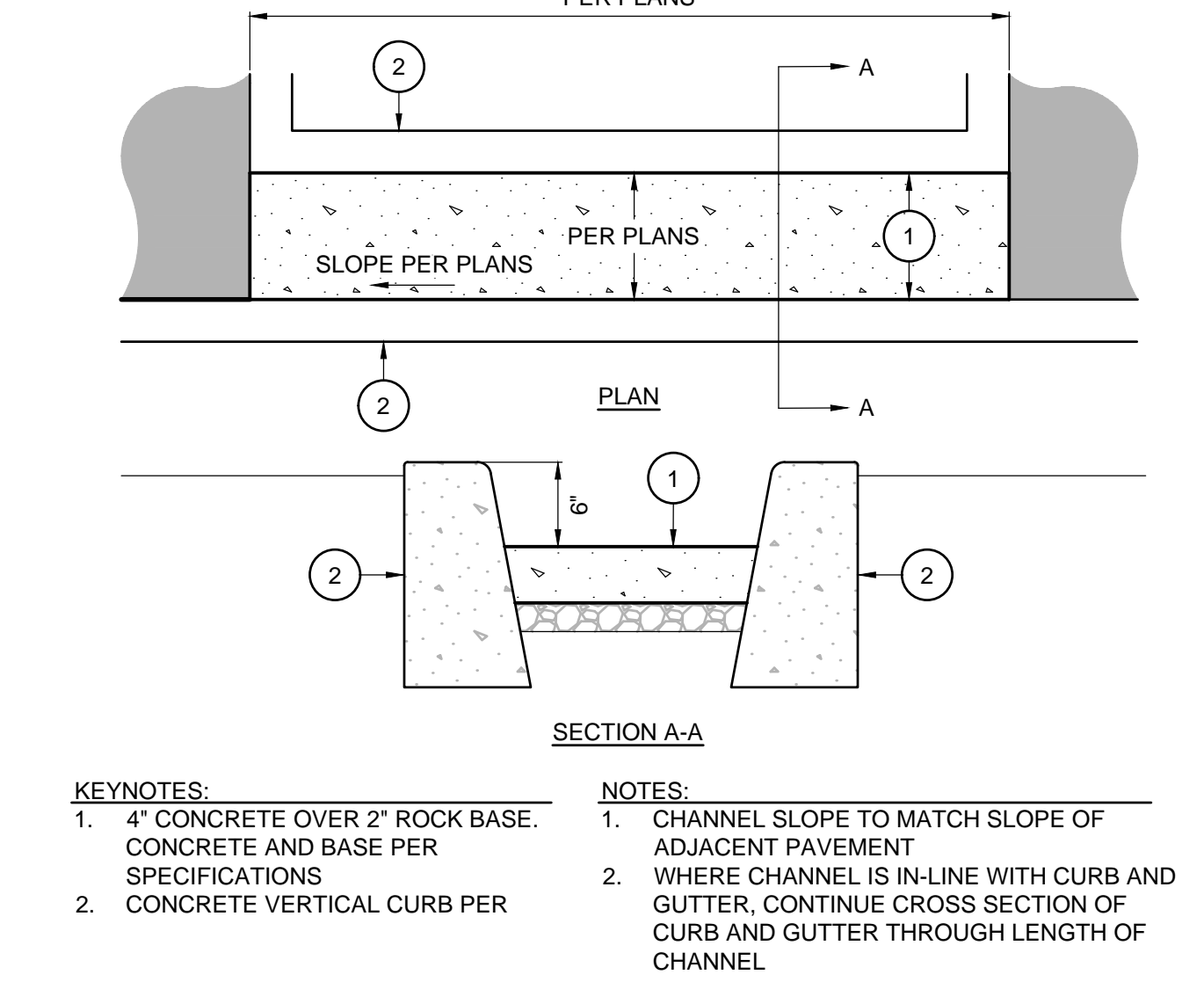
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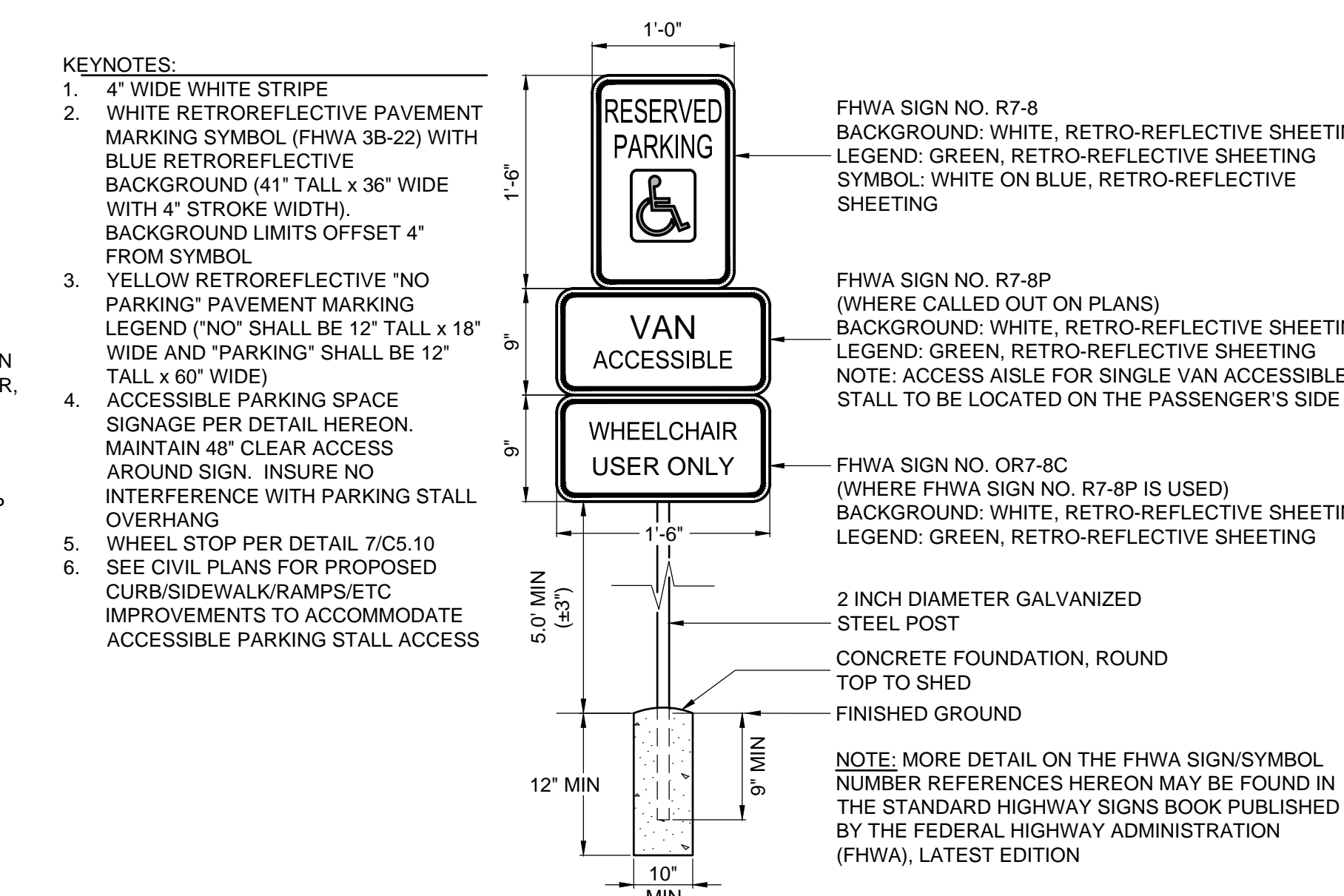
3 VERTICAL CURB
C5.10 N.T.S.



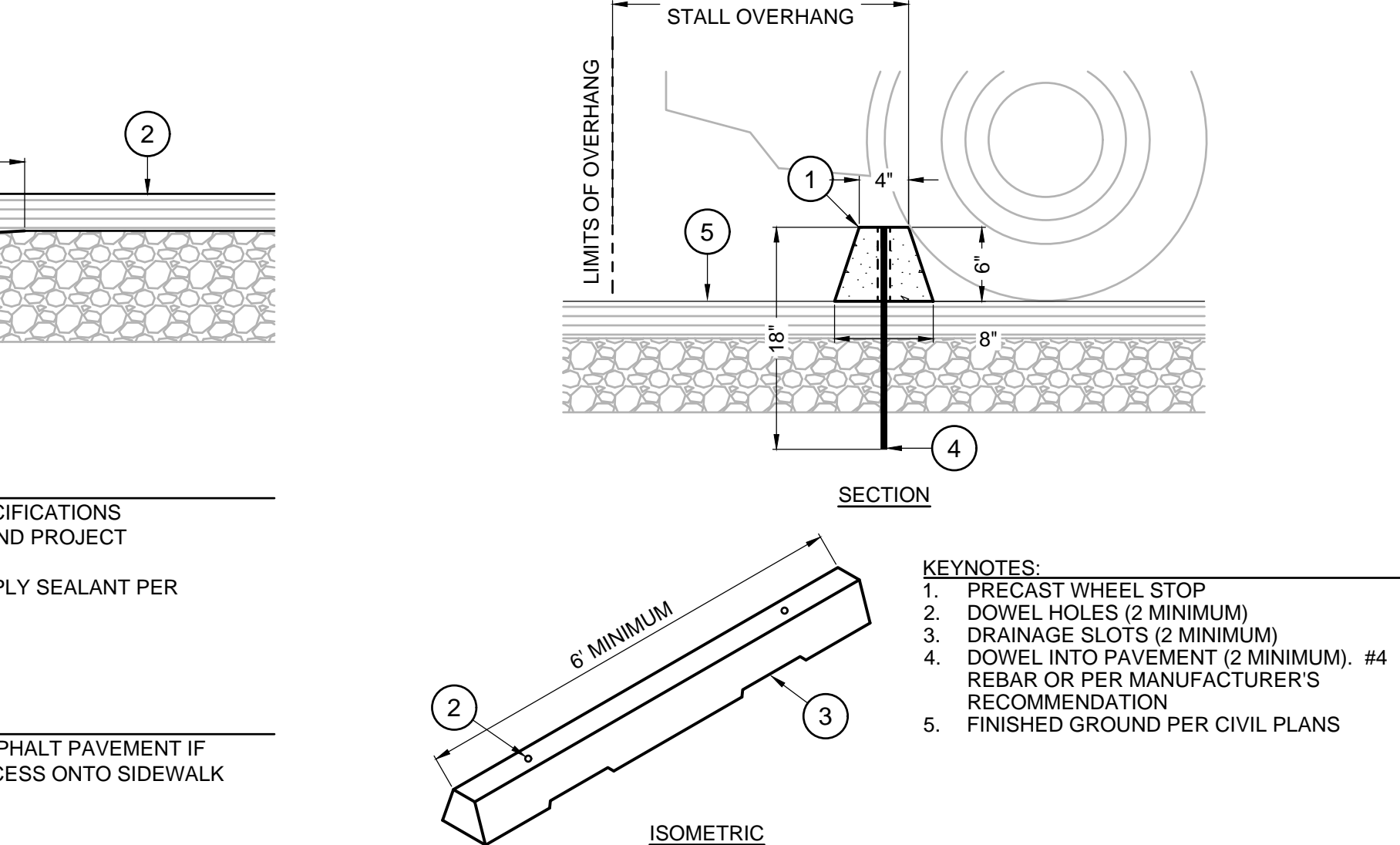
8 CORNER CURB RAMP
C5.10 N.T.S.



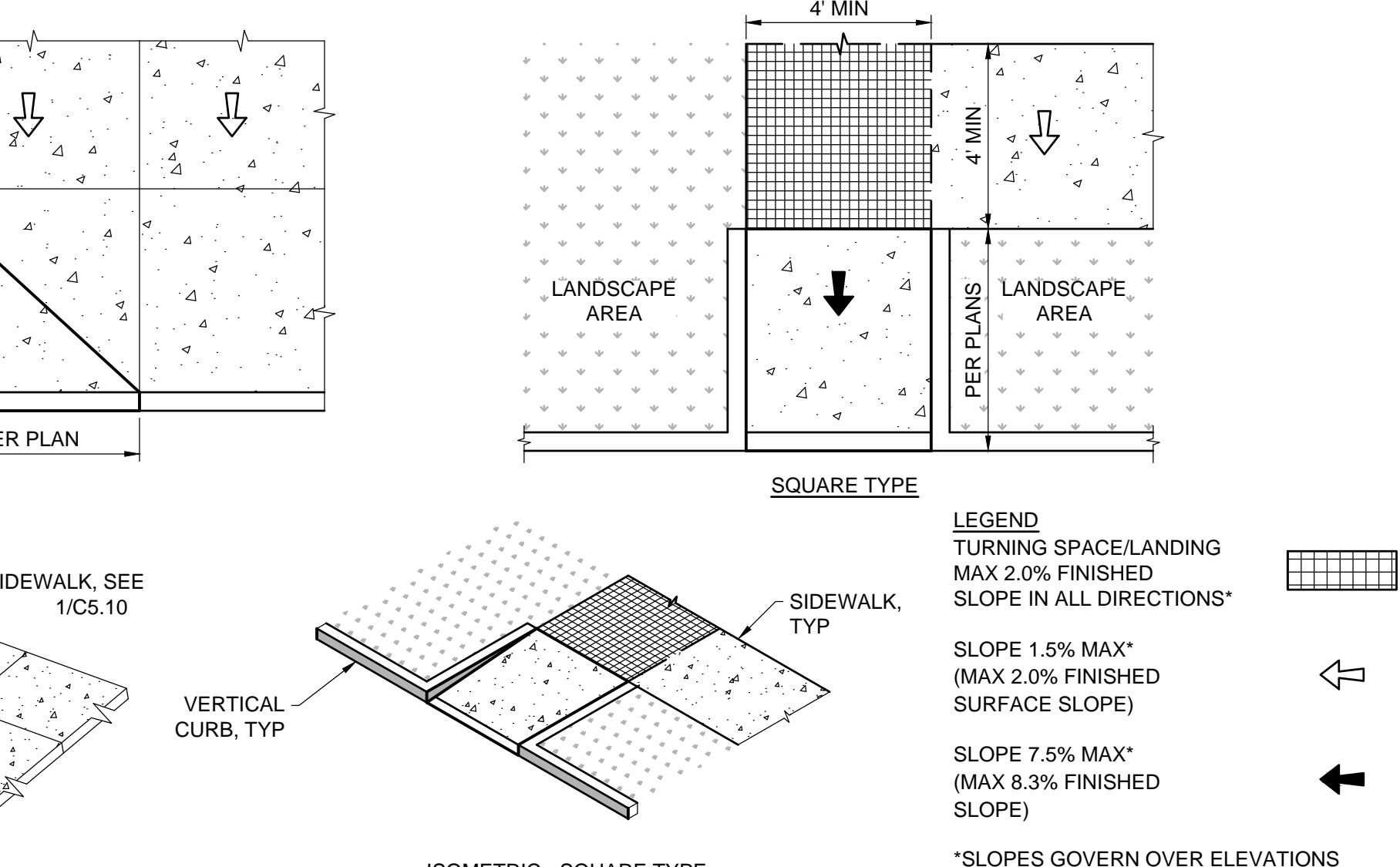
11 CONCRETE CURB CHANNEL
C5.10 N.T.S.



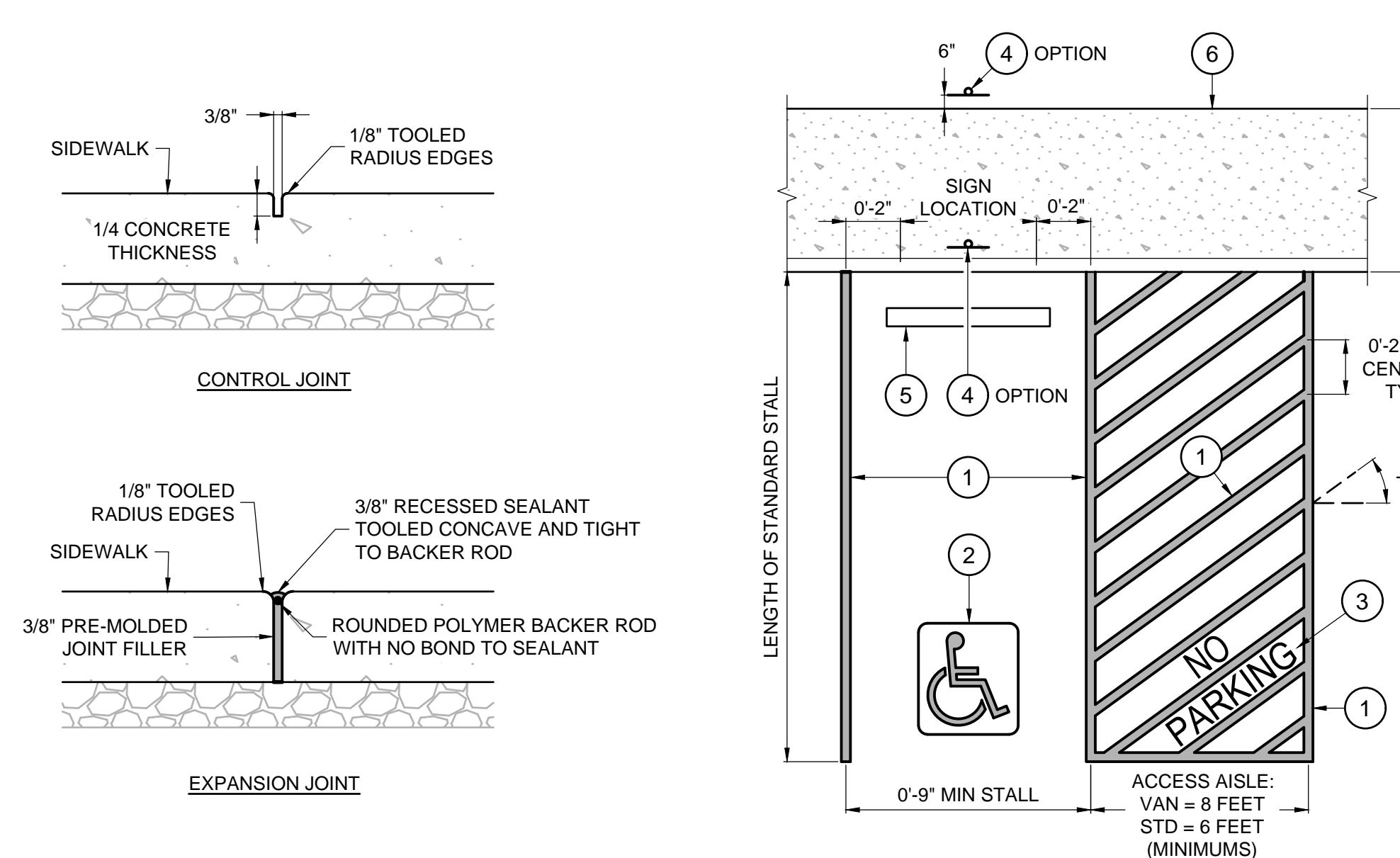
2 ACCESSIBLE PARKING STALL
C5.10 N.T.S.



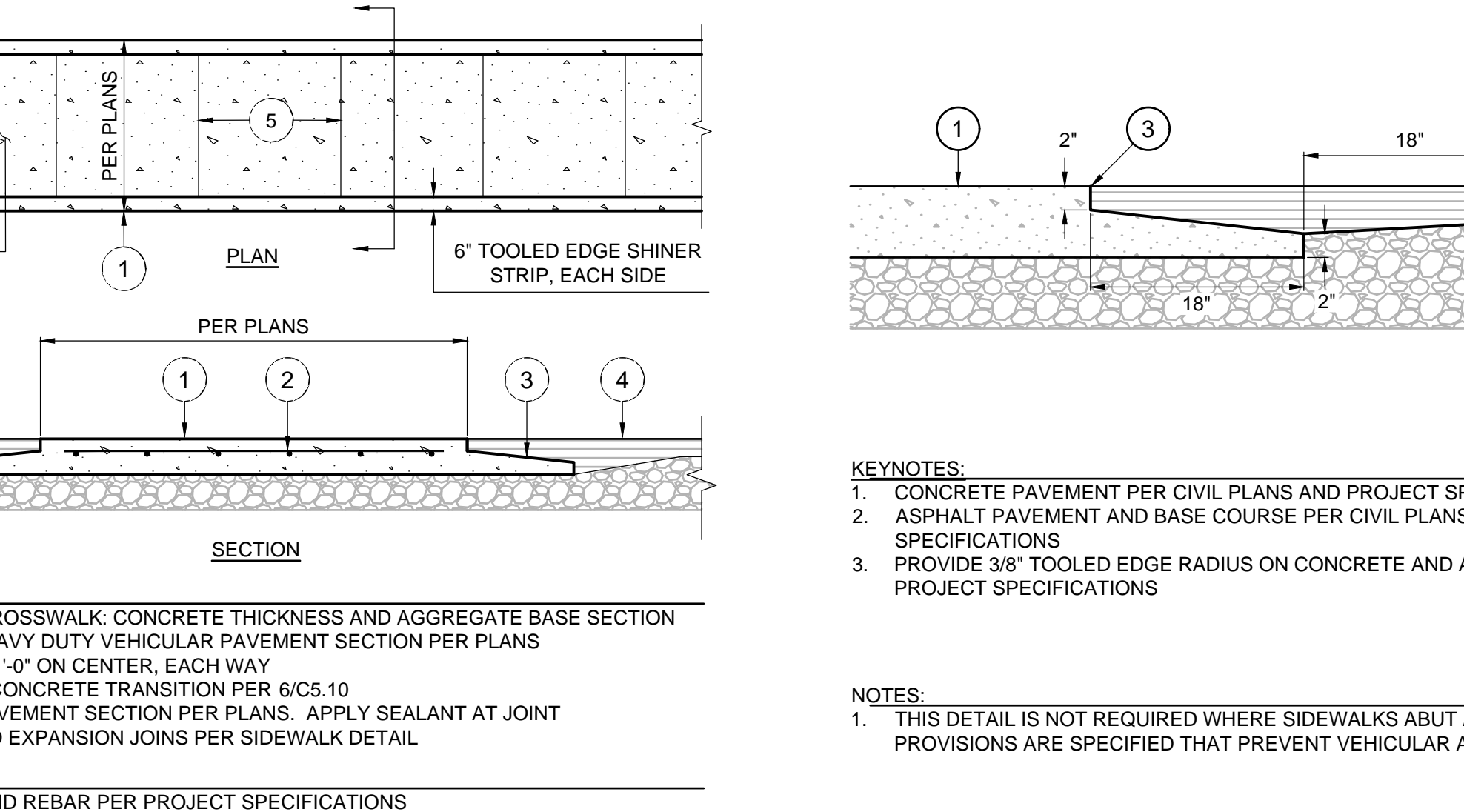
7 PRECAST WHEEL STOP
C5.10 N.T.S.



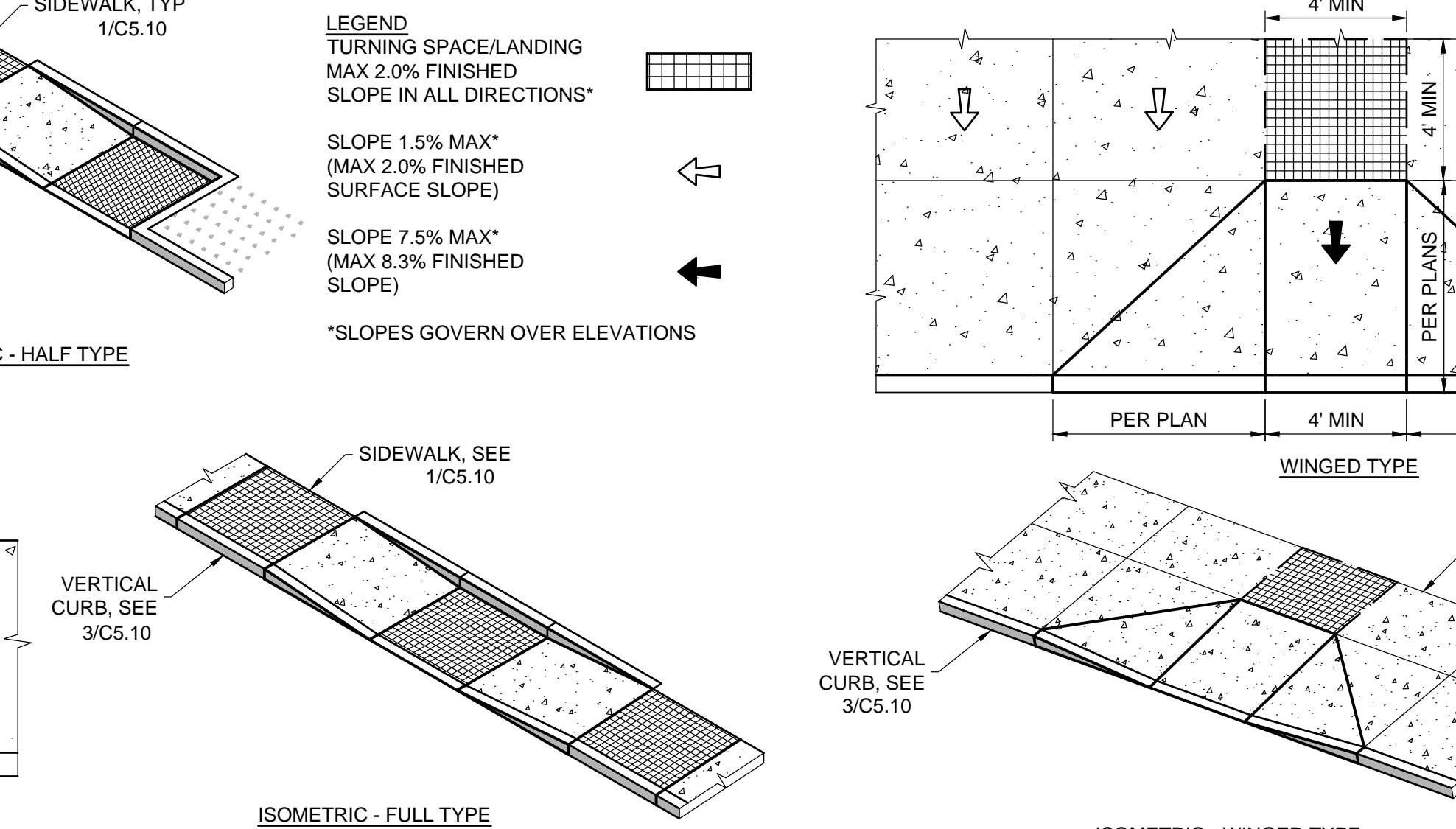
10 PERPENDICULAR CURB RAMPS
C5.10 N.T.S.



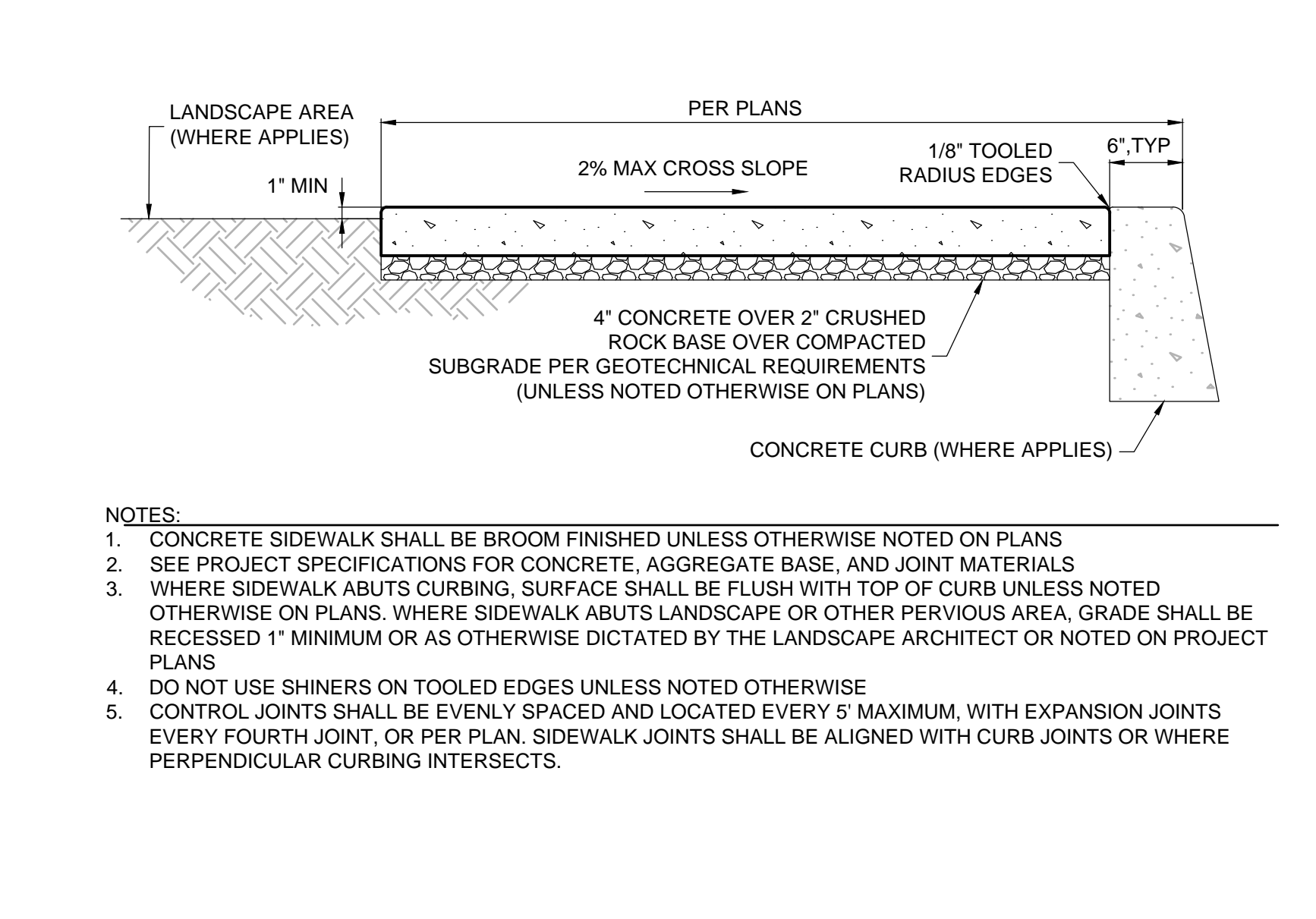
1 CONCRETE SIDEWALK AND JOINTS
C5.10 N.T.S.



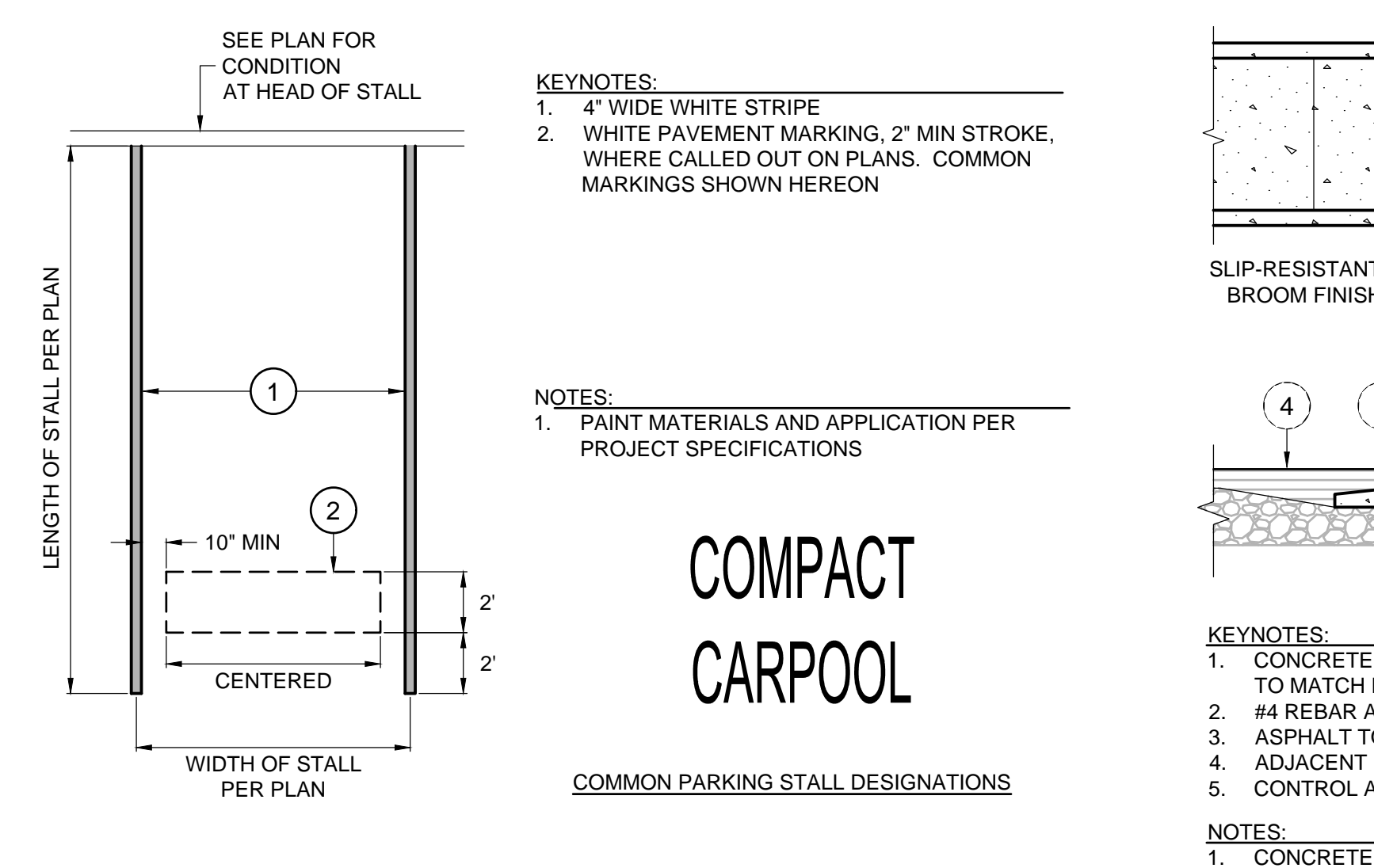
5 CONCRETE CROSSWALK
C5.10 N.T.S.



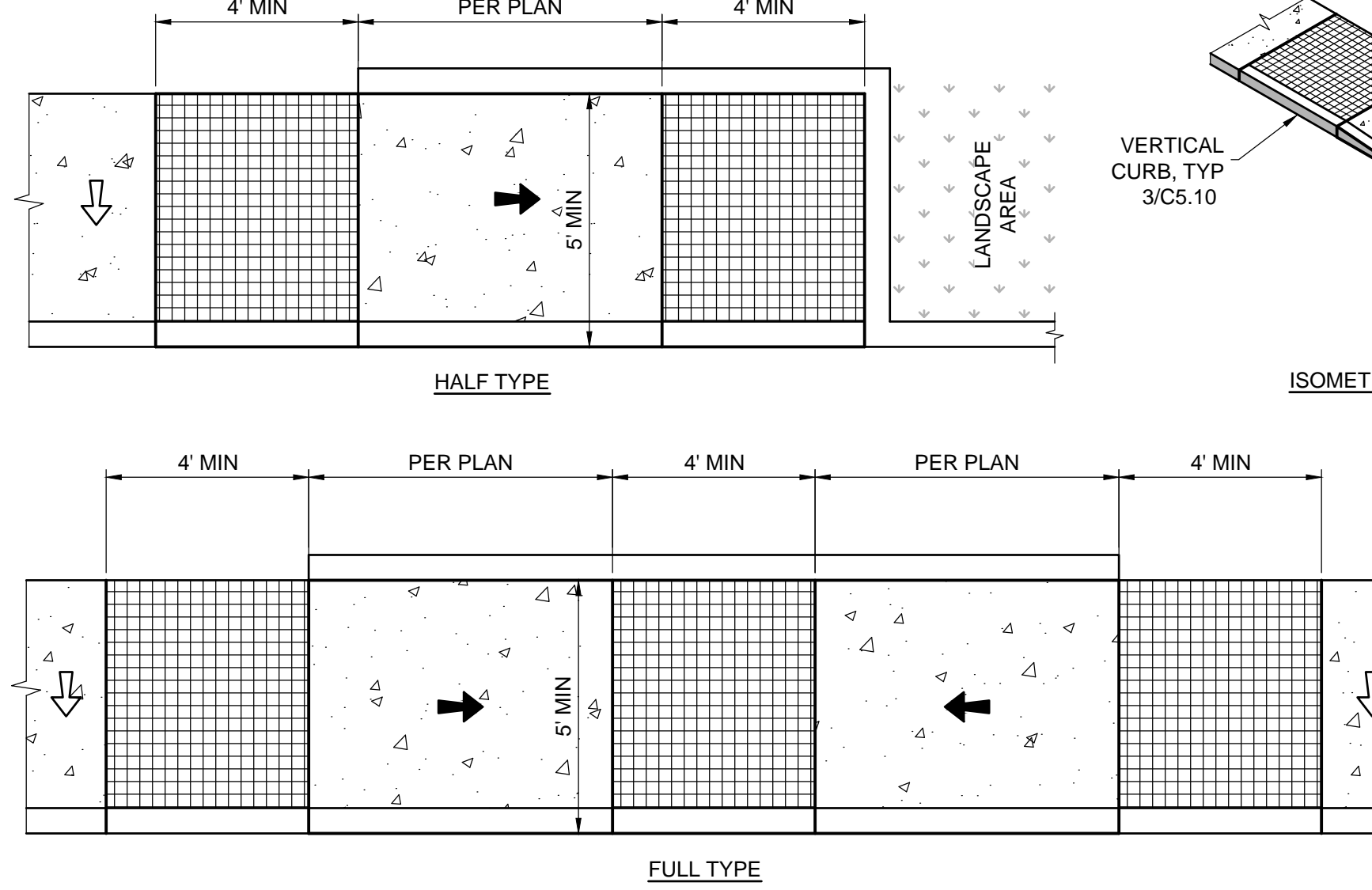
9 PARALLEL CURB RAMPS
C5.10 N.T.S.



4 COMPACT CARPOOL
C5.10 N.T.S.

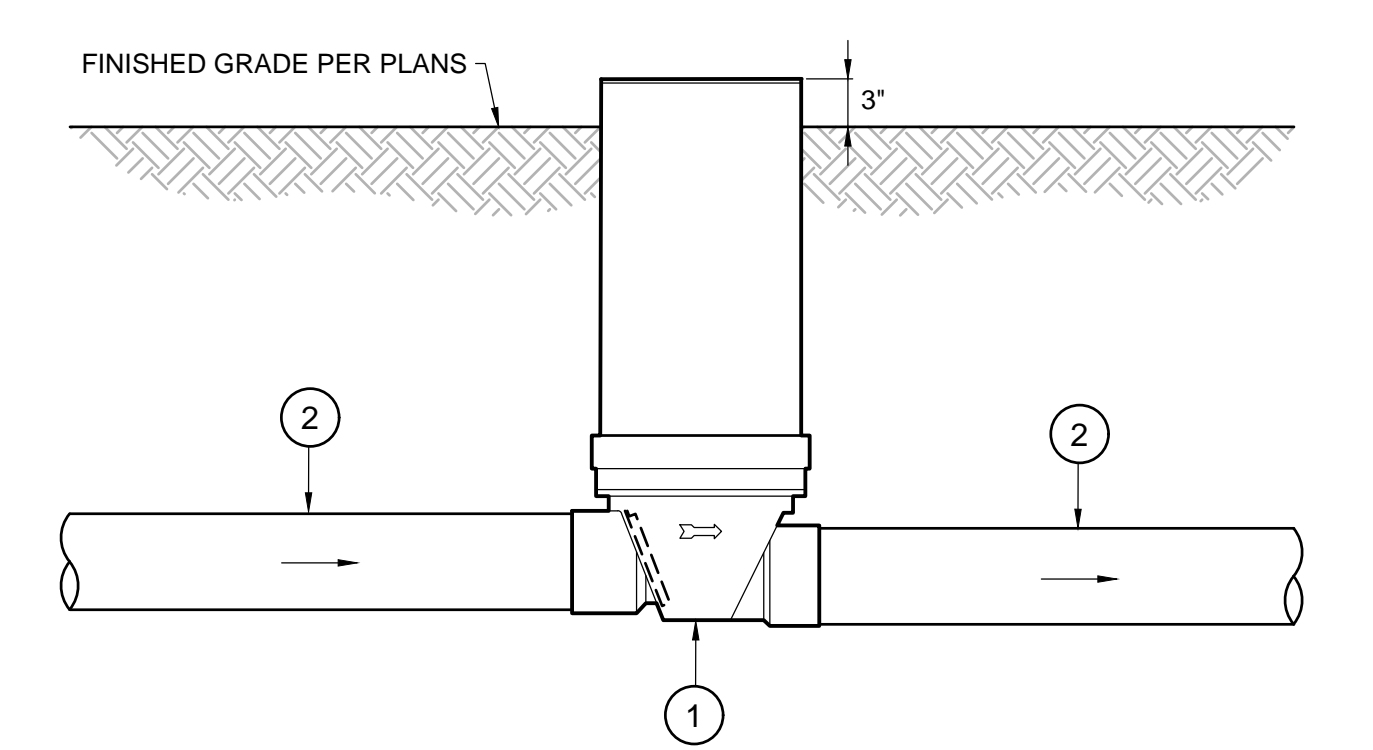


6 ASPHALT TO CONCRETE TRANSITION
C5.10 N.T.S.



12 SCHEMATIC WALL
C5.10 N.T.S.

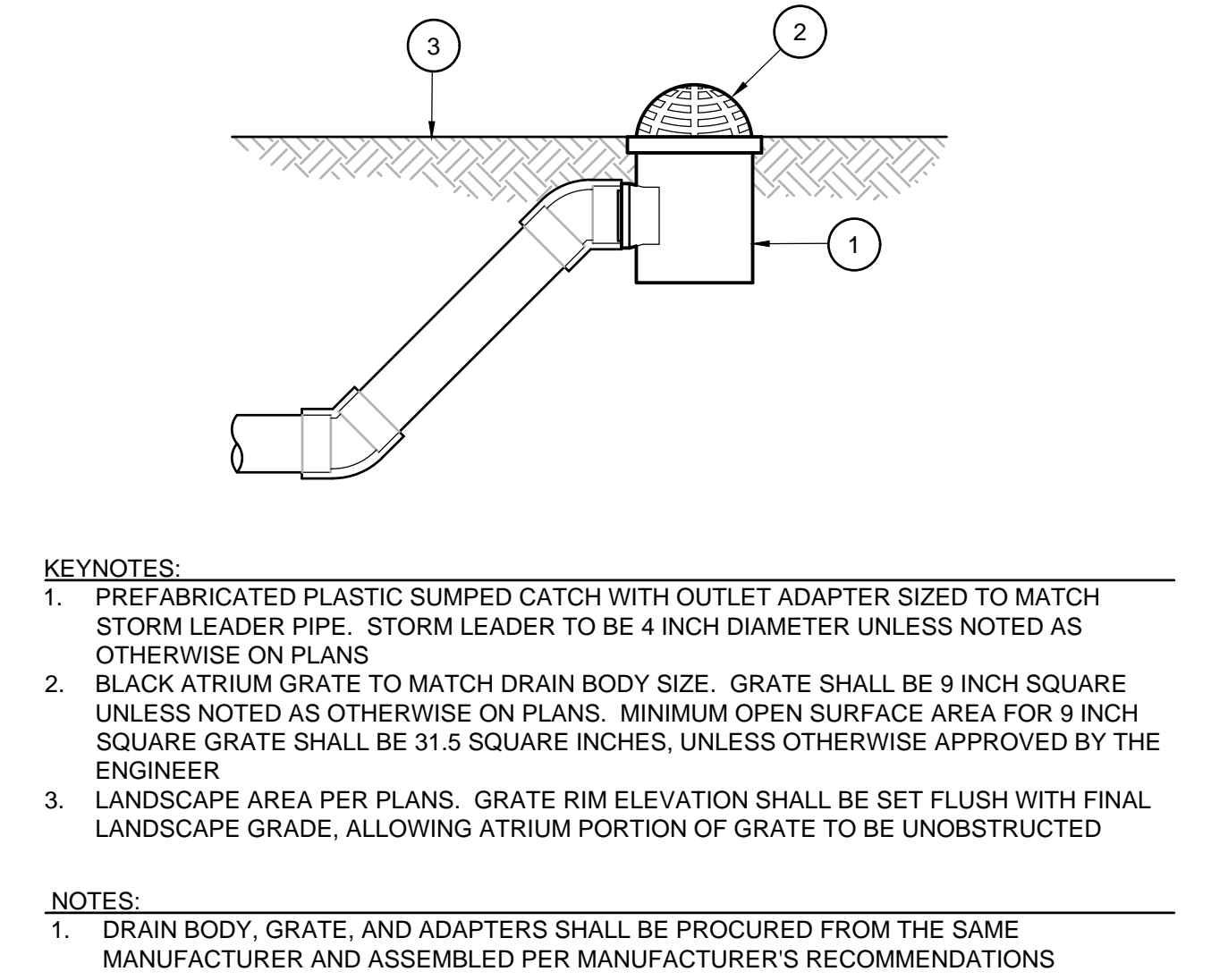
REVISION SCHEDULE		
Delta	Issued As	Issue Date



KEYNOTES:
1. PVC BACKWATER VALVE WITH RISER EXTENSION AND LID
2. PIPE SIZE, INVERT, AND SLOPE PER PLANS

NOTES:
1. BACKWATER VALVE AND ACCESSORIES SHALL BE PROCURED FROM THE SAME MANUFACTURER AND ASSEMBLED PER MANUFACTURER'S RECOMMENDATIONS
2. PROVIDE EXTENSION KIT FOR ACCESS FROM THE SURFACE WHERE DEPTH TO VALVE EXCEEDS 24 INCHES
3. THIS DETAIL IS NOT FOR USE IN VEHICULAR TRAVEL AREAS

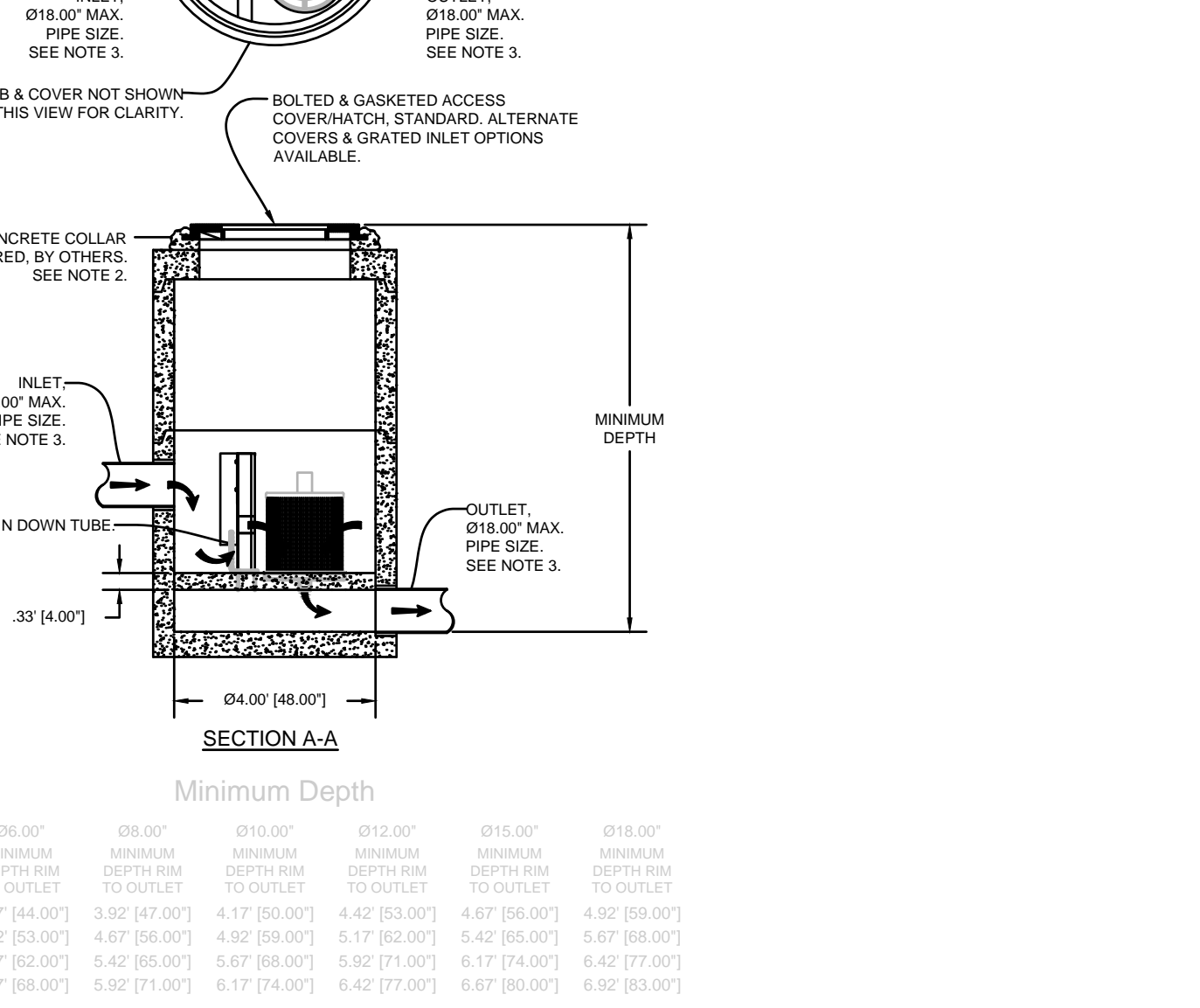
3 BACKWATER VALVE
C5.11 N.T.S.



KEYNOTES:
1. PREFABRICATED PLASTIC SUMPED CATCH WITH OUTLET ADAPTER SIZED TO MATCH STORM LEADER PIPE. STORM LEADER TO BE 4 INCH DIAMETER UNLESS NOTED AS OTHERWISE ON PLANS
2. BLACK ATRIUM GRATE TO MATCH DRAIN BODY SIZE. GRATE SHALL BE 9 INCH SQUARE UNLESS NOTED AS OTHERWISE ON PLANS. MINIMUM OPEN SURFACE AREA FOR 9 INCH SQUARE GRATE SHALL BE 31.5 SQUARE INCHES, UNLESS OTHERWISE APPROVED BY THE ENGINEER
3. LANDSCAPE AREA PER PLANS. GRATE RIM ELEVATION SHALL BE SET FLUSH WITH FINAL LANDSCAPE GRADE, ALLOWING ATRIUM PORTION OF GRATE TO BE UNOBSERVED

NOTES:
1. DRAIN BODY, GRATE, AND ADAPTERS SHALL BE PROCURED FROM THE SAME MANUFACTURER AND ASSEMBLED PER MANUFACTURER'S RECOMMENDATIONS

6 LANDSCAPE AREA DRAIN
C5.11 N.T.S.



Minimum Depth

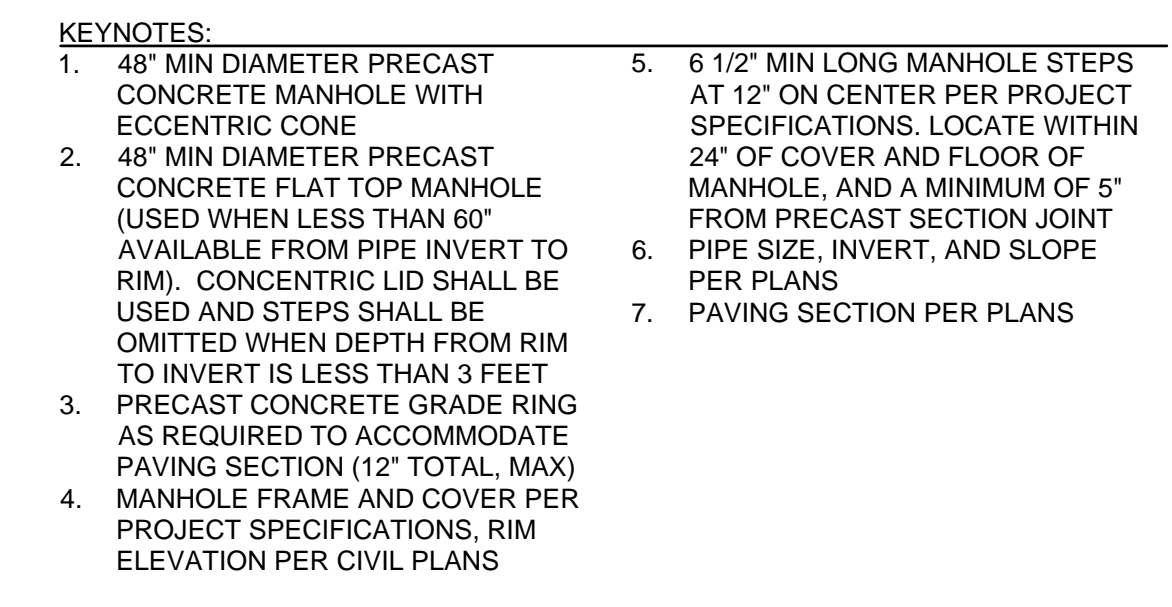
PIPE SIZE	Ø6.00"	Ø6.00"	Ø6.00"	Ø6.00"	Ø6.00"	Ø6.00"	Ø6.00"	Ø6.00"	Ø6.00"
CARTRIDGE TYPE	Ø6.00" MAX PIPE SIZE SEE NOTE 3.	Ø6.00" MAX PIPE SIZE SEE NOTE 3.	Ø6.00" MAX PIPE SIZE SEE NOTE 3.	Ø6.00" MAX PIPE SIZE SEE NOTE 3.	Ø6.00" MAX PIPE SIZE SEE NOTE 3.	Ø6.00" MAX PIPE SIZE SEE NOTE 3.	Ø6.00" MAX PIPE SIZE SEE NOTE 3.	Ø6.00" MAX PIPE SIZE SEE NOTE 3.	Ø6.00" MAX PIPE SIZE SEE NOTE 3.
DEPTH TO INLET	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
DEPTH TO OUTLET	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"

TREATMENT FLOW RATES, TOTAL FLOW CAPACITIES & MAXIMUM HEAD LOSS

CARTRIDGE QUANTITY	12"		12" & 18"		12" & 18"	
	TOTAL FLOW CAPACITY (GPM)	TOTAL FLOW CAPACITY (MGD)	TOTAL FLOW CAPACITY (GPM)	TOTAL FLOW CAPACITY (MGD)	TOTAL FLOW CAPACITY (GPM)	TOTAL FLOW CAPACITY (MGD)
1	121.0/2.0	2.47	181.0/3.6	3.65	261.0/5.2	5.25
2	241.0/4.9	4.94	361.0/7.2	7.29	521.0/10.4	10.50

Perk Filter®
Ø48.00" Manhole
One to Two Cartridges / Stacks

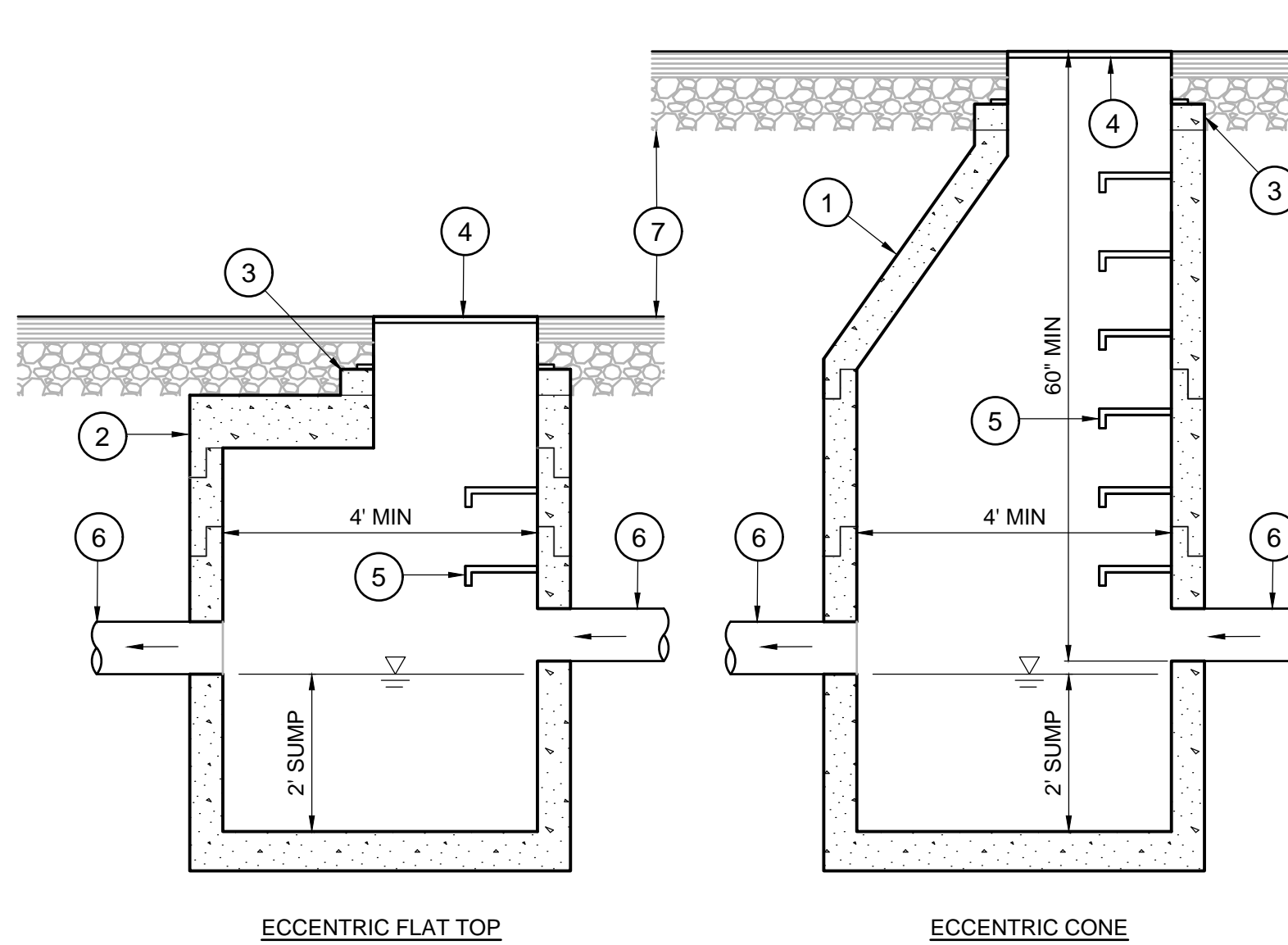
Oldcastle®
Stormwater Solutions
7821 Southpark Plaza, Suite 200 | Littleton, CO | (303) 211-8000 | oldcastlestormwater.com



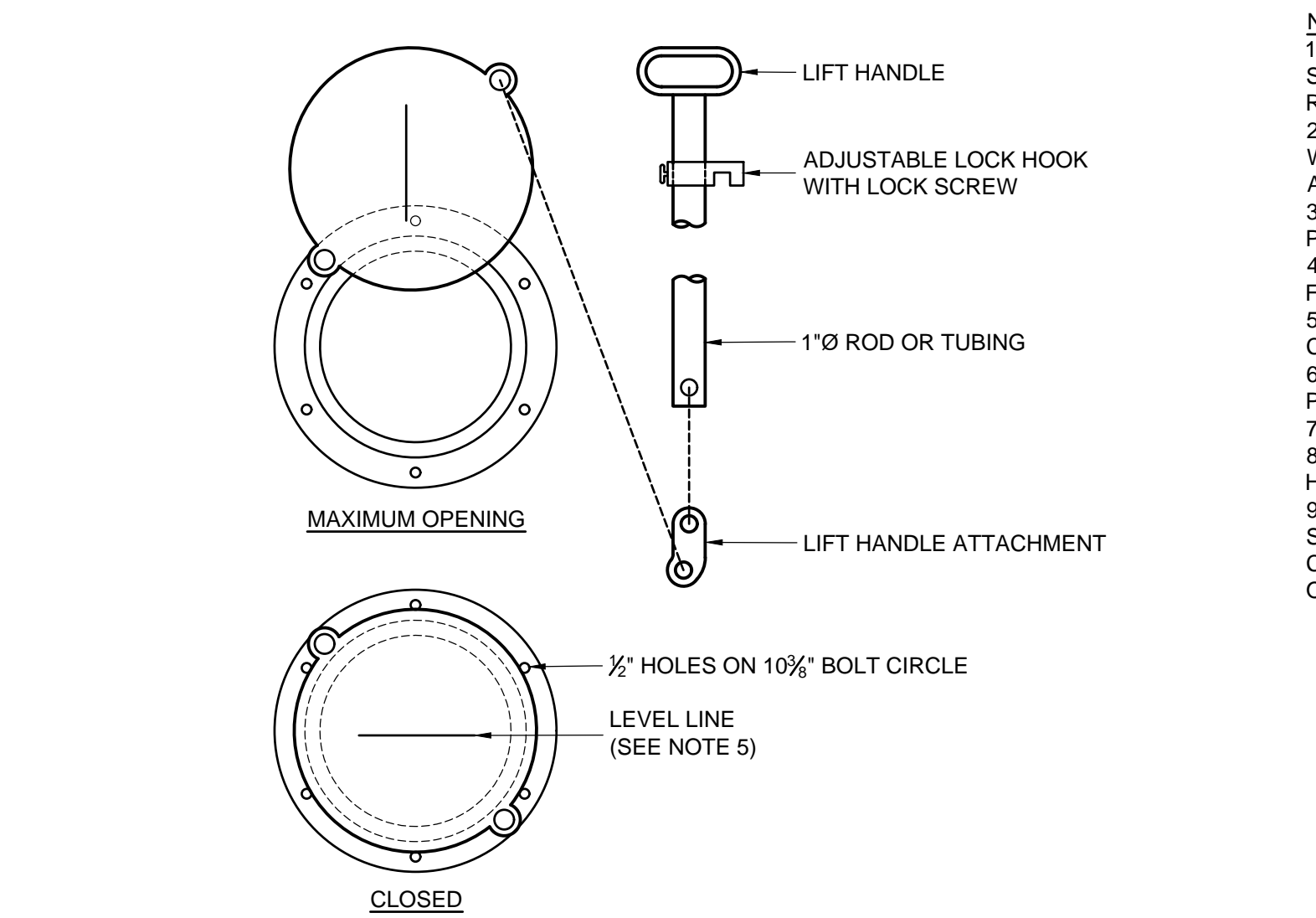
KEYNOTES:
1. 48" MIN DIAMETER PRECAST CONCRETE MANHOLE WITH ECCENTRIC CONE
2. 48" MIN DIAMETER PRECAST CONCRETE FLAT TOP MANHOLE (USED WHEN LESS THAN 60" AVAILABLE FROM PIPE INVERT TO RIM). CONCENTRIC LID SHALL BE USED AND STEPS SHALL BE OMITTED WHEN DEPTH FROM RIM TO INVERT IS LESS THAN 3 FEET
3. PRECAST CONCRETE GRADE RING AS REQUIRED TO ACCOMMODATE PAVING SECTION (12" TOTAL MAX)
4. MANHOLE FRAME AND COVER PER PROJECT SPECIFICATIONS, RIM ELEVATION PER CIVIL PLANS

NOTES:
1. MANHOLE DIAMETER SHALL BE INCREASED, IF REQUIRED, TO PROVIDE A MINIMUM OF 12" SEPARATION BETWEEN PIPE CONNECTIONS, OR WHEN ANY PIPE DIAMETER IS GREATER THAN 1/2 THE DIAMETER OF THE MANHOLE
2. MANHOLE ACCESS COVER SHALL NOT BE LOCATED DIRECTLY OVER A PIPE CONNECTION UNLESS DIRECTED OTHERWISE BY THE ENGINEER
3. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL MANHOLES FOR REVIEW AND APPROVAL BY THE ENGINEER PRIOR TO PROCURING MATERIALS
4. SELECTED MANHOLE SHALL MEET THE CRITERIA OF THE PROJECT SPECIFICATIONS AND BE INSTALLED ACCORDINGLY
5. INLET AND OUTLET PIPES CONNECTIONS SHALL BE COMPLIANT WITH PROJECT SPECIFICATIONS OR THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION, WHICHEVER IS MOST STRINGENT

1 STEEL CATCH BASIN
C5.11 N.T.S.



2 STORM SEWER MANHOLES
C5.11 N.T.S.



5 SHEAR GATE
C5.11 N.T.S.

KEYNOTES:
1. PREFABRICATED, ASPHALT DIPPED, 10 GAUGE STEEL SUMPED CATCH BASIN WITH INTEGRAL GRATE FRAME
2. BIKE PROOF, HEAVY DUTY REMOVABLE TRAFFIC GRATE CAPABLE OF SUPPORTING H2O LOADING
3. SEDIMENT TRAP WITH HINGED LID
4. INSTALL FLEXIBLE CLAMPED COUPLING ON INTEGRAL CATCH BASIN OUTLET. IMMEDIATELY TURN DOWN PIPING AT 45 DEGREES TO INTERSECT WITH THE SITE PIPING

NOTES:
1. ALL PRODUCTS USED SHALL BE COMPLIANT WITH BOTH THE UNIFORM AND LOCAL JURISDICTION PLUMBING CODES
2. WHERE ABUTTING CURBING, GRATE SHALL BE ORIENTED SO THAT THE ELONGATED PATTERN IS PERPENDICULAR TO THE CURB FACE

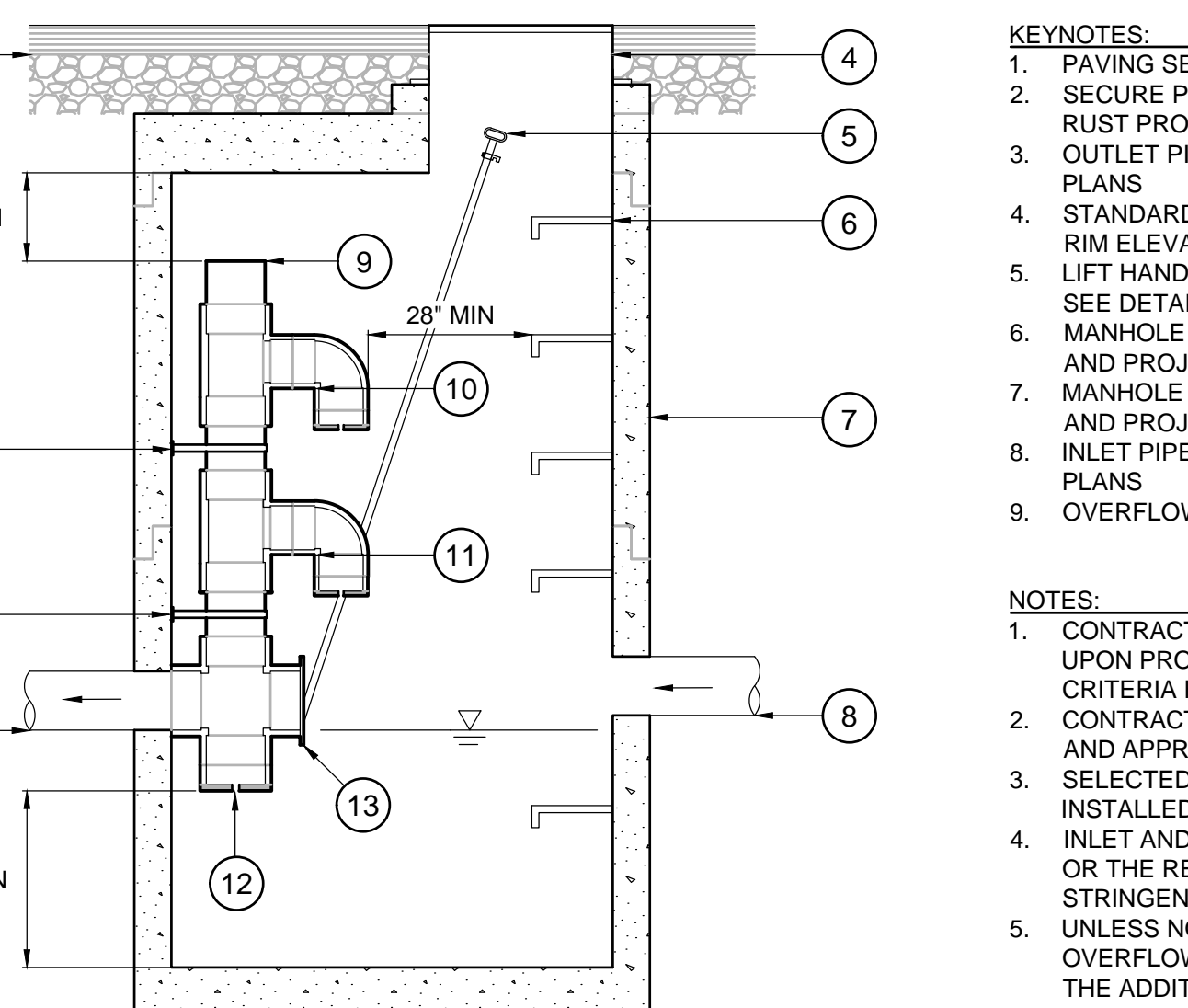
KEYNOTES:
1. PAVING SECTION PER PLANS
2. SECURE PIPE STACK TO MANHOLE WITH RUST PROOF TIE STRAPS AND BOLTS
3. OUTLET PIPE SIZE, INVERT, AND SLOPE PER PLANS
4. STANDARD MANHOLE FRAME AND COVER. RIM ELEVATION PER PLANS
5. LIFT HANDLE FOR SHEAR GATE. SEE DETAIL 5/C5.11
6. MANHOLE STEP PER MANHOLE DETAIL AND PROJECT SPECIFICATIONS, TYP
7. MANHOLE PER MANHOLE DETAIL AND PROJECT SPECIFICATIONS, TYP
8. INLET PIPE SIZE, INVERT, AND SLOPE PER PLANS
9. OVERFLOW SIZE AND ELEVATION = XX', XXX.XX

NOTES:
1. CONTRACTOR IS RESPONSIBLE FOR SELECTING THE MANHOLE SIZE, TYPE, AND MATERIAL BASED UPON PROJECT SITE CONDITIONS, PROJECT PLANS & SPECIFICATIONS, AND THE DIMENSIONAL CRITERIA HEREON
2. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL FLOW CONTROL MANHOLES FOR REVIEW AND APPROVAL BY THE ENGINEER PRIOR TO PROCURING MATERIALS
3. SELECTED MANHOLE SHALL MEET THE CRITERIA OF THE PROJECT SPECIFICATIONS AND BE INSTALLED ACCORDINGLY
4. INLET AND OUTLET PIPES CONNECTIONS SHALL BE COMPLIANT WITH PROJECT SPECIFICATIONS OR THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION, WHICHEVER IS MOST STRINGENT
5. UNLESS NOTED OTHERWISE, PIPE STACK, CROSS FITTING FOR ORIFICE 1 & SHEAR GATE, AND OVERFLOW SHALL BE THE SIZE OF THE OUTLET PIPE. USE REDUCING TEES AS APPROPRIATE FOR THE ADDITIONAL ORIFICES TO OPTIMIZE SPACE CONSTRAINTS

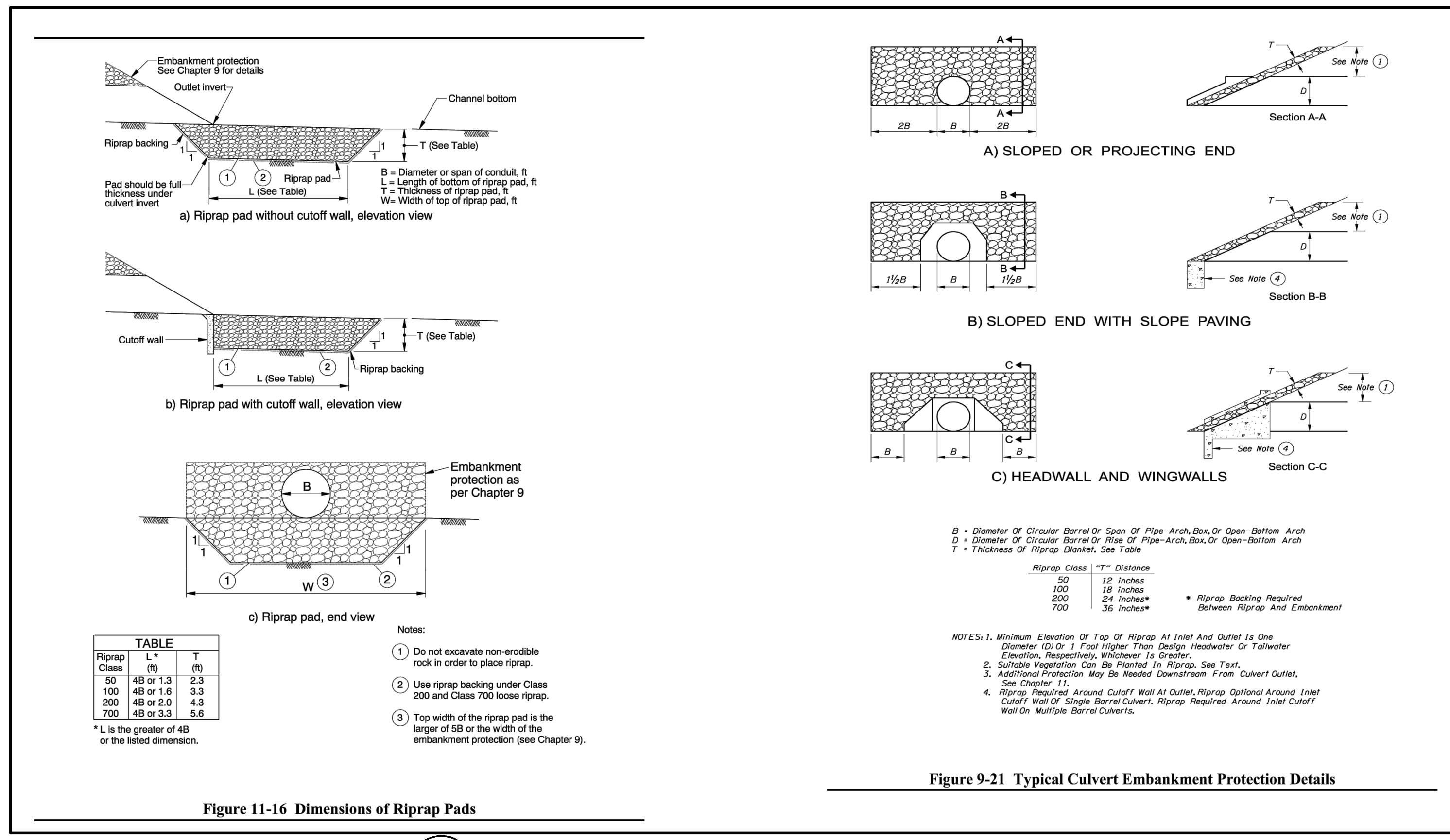
KEYNOTES:
10. ORIFICE 3 SIZE AND ELEVATION = XX', XXX.XX or N/A
11. ORIFICE 2 SIZE AND ELEVATION = XX', XXX.XX or N/A
12. ORIFICE 1 SIZE AND ELEVATION = XX', XXX.XX
13. SHEAR GATE PER DETAIL 5/C5.11

NOTES:
1. CONTRACTOR IS RESPONSIBLE FOR SELECTING THE MANHOLE SIZE, TYPE, AND MATERIAL BASED UPON PROJECT SITE CONDITIONS, PROJECT PLANS & SPECIFICATIONS, AND THE DIMENSIONAL CRITERIA HEREON
2. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL FLOW CONTROL MANHOLES FOR REVIEW AND APPROVAL BY THE ENGINEER PRIOR TO PROCURING MATERIALS
3. SELECTED MANHOLE SHALL MEET THE CRITERIA OF THE PROJECT SPECIFICATIONS AND BE INSTALLED ACCORDINGLY
4. INLET AND OUTLET PIPES CONNECTIONS SHALL BE COMPLIANT WITH PROJECT SPECIFICATIONS OR THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION, WHICHEVER IS MOST STRINGENT
5. UNLESS NOTED OTHERWISE, PIPE STACK, CROSS FITTING FOR ORIFICE 1 & SHEAR GATE, AND OVERFLOW SHALL BE THE SIZE OF THE OUTLET PIPE. USE REDUCING TEES AS APPROPRIATE FOR THE ADDITIONAL ORIFICES TO OPTIMIZE SPACE CONSTRAINTS

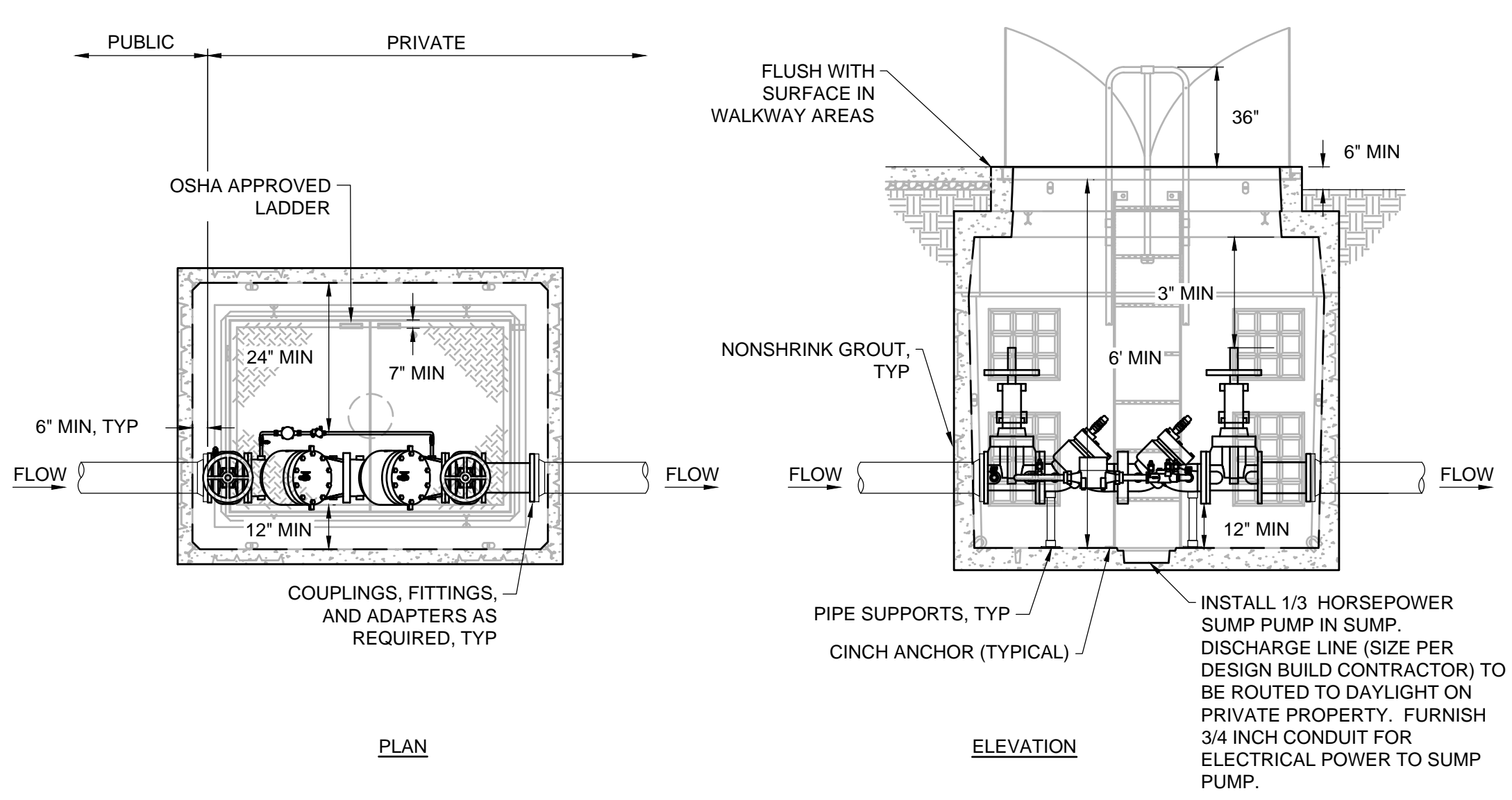
4 FLOW CONTROL MANHOLE
C5.11 N.T.S.



4 FLOW CONTROL MANHOLE
C5.11 N.T.S.

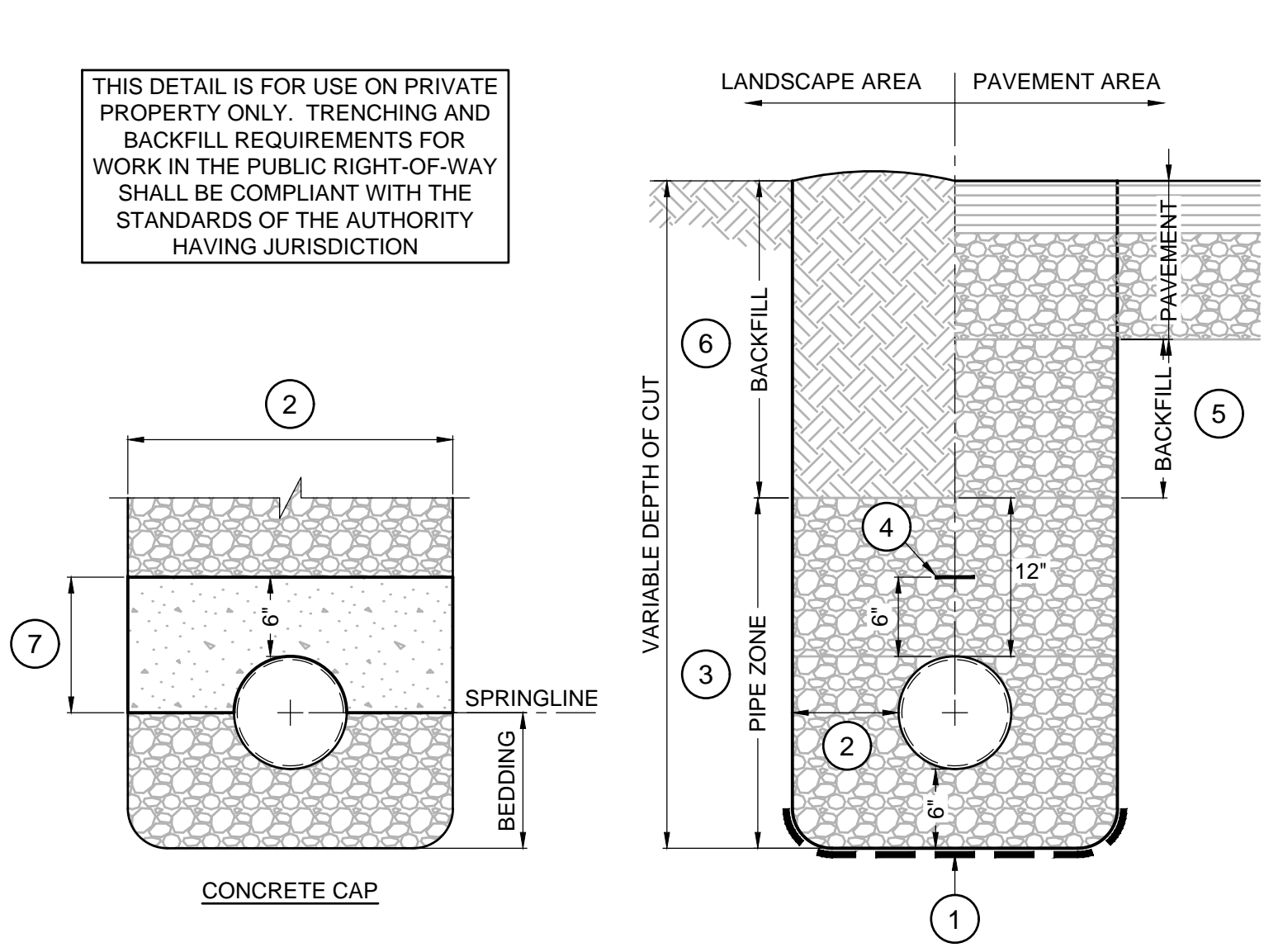


7 RIP RAP PAD
C5.11 N.T.S.



BACKFLOW PREVENTER SHALL BE APPROVED BY THE STATE HEALTH DEPARTMENT AND PLUMBING CODE
VAULT SHALL BE PRECAST CONCRETE WITH GALVANIZED HINGED ACCESS DOORS (OLDCASTLE, OR EQUAL)
VAULT SHALL BE MECHANICALLY LOCKED AND VALVES SHALL BE PROVIDED WITH ELECTRONIC TAMPER SWITCHES

APPROXIMATE VAULT SIZES	BACKFLOW (DIAMETER)	VAULT (OUTSIDE)
3 INCH	7'-0" (L) 4'-8" (W) 7'-0" (H)	
4 INCH	7'-0" (L) 4'-8" (W) 7'-0" (H)	
6 INCH	8'-8" (L) 6'-8" (W) 8'-1" (H)	
8 INCH	8'-8" (L) 6'-8" (W) 8'-1" (H)	
10 INCH	8'-8" (L) 6'-8" (W) 8'-1" (H)	



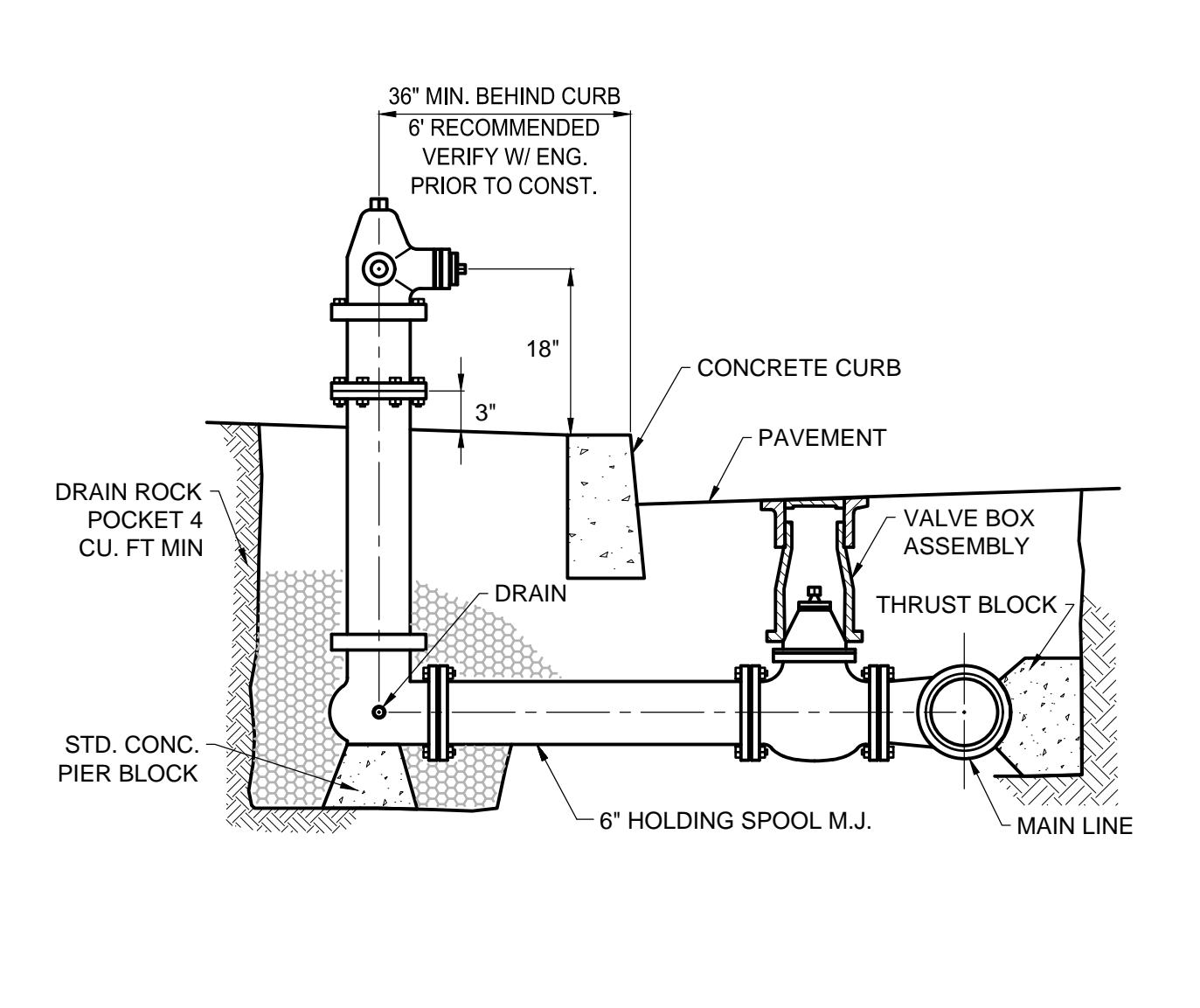
THIS DETAIL IS FOR USE ON PRIVATE PROPERTY ONLY. TRENCHING AND BACKFILL REQUIREMENTS FOR WORK IN THE PUBLIC RIGHT-OF-WAY SHALL BE COMPLIANT WITH THE STANDARDS OF THE AUTHORITY HAVING JURISDICTION

KEYNOTES:

- INSTALL TRENCH STABILIZATION AS REQUIRED BY THE GEOTECHNICAL ENGINEER
- TRENCH WIDTH SHALL ACCOMMODATE THE PIPE DIAMETER PLUS ONE ADDITIONAL PIPE DIAMETER ON EITHER SIDE OF THE PIPE, BUT IN NO CASE LESS THAN 6 INCHES OR MORE THAN 18 INCHES
- PIPE ZONE TO CONSIST OF IMPORTED GRANULAR MATERIAL TRACER WIRE
- BACKFILL IN PAVEMENT AREAS WITH IMPORTED GRANULAR MATERIAL TO PAVEMENT SUBGRADE ELEVATION
- BACKFILL IN LANDSCAPE AREAS WITH NATIVE MATERIAL TO PLANTER SUBGRADE ELEVATION. MOUND TOP TO SHED AT 2% EACH DIRECTION IF TRENCH IS LOCATED IN UNDEVELOPED, NON-LANDSCAPED AREAS
- CONCRETE CAP, WHERE CALLED OUT ON PLANS, OR WHERE PIPE COVER IS LESS THAN 12 INCHES IN VEHICULAR AREAS, PROVIDE 6 INCH THICK CONCRETE CAP THE WIDTH OF THE TRENCH, BEARING ON THE BEDDING HAUNCHING AT THE SPRINGLINE OF THE PIPE

NOTES:

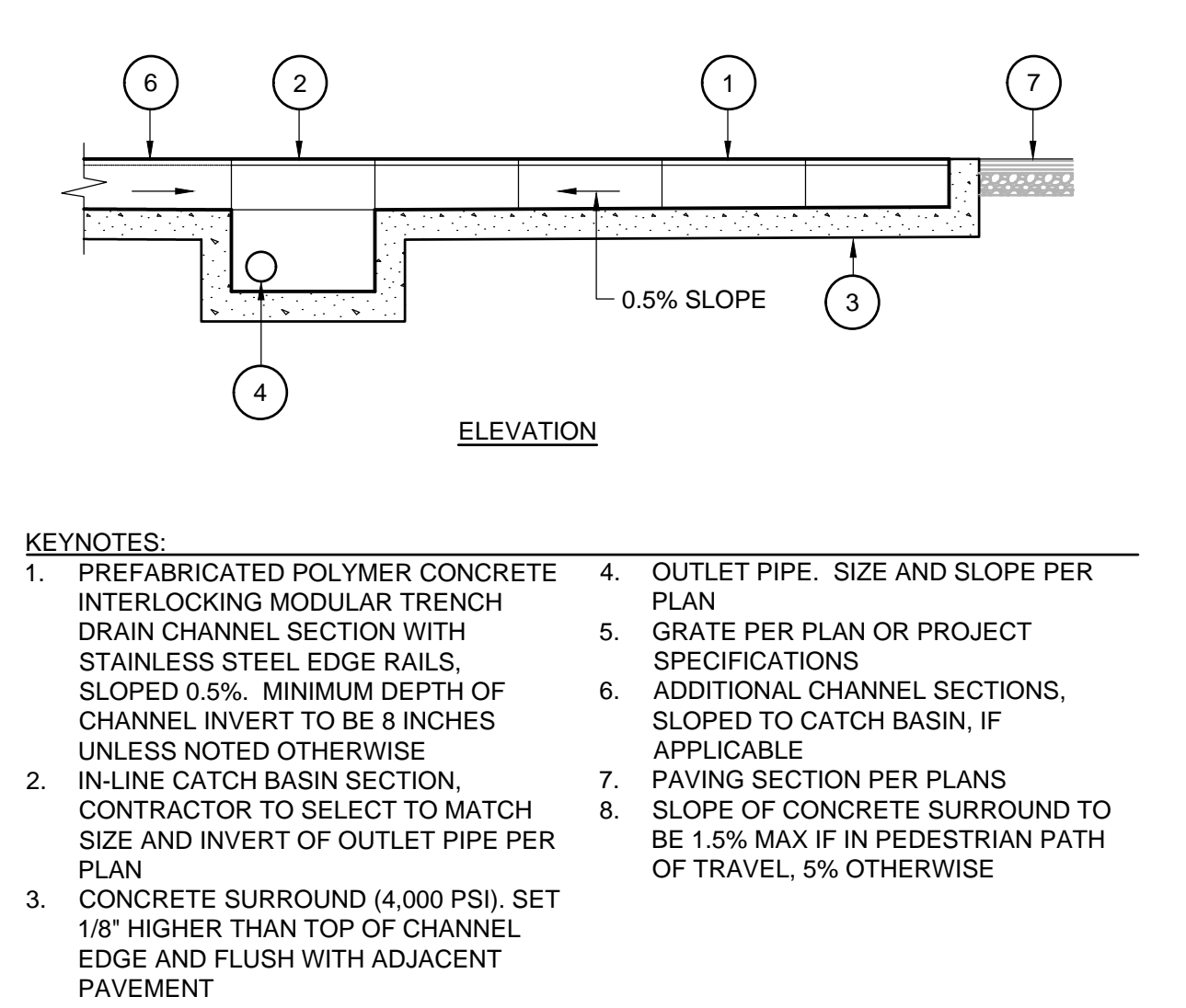
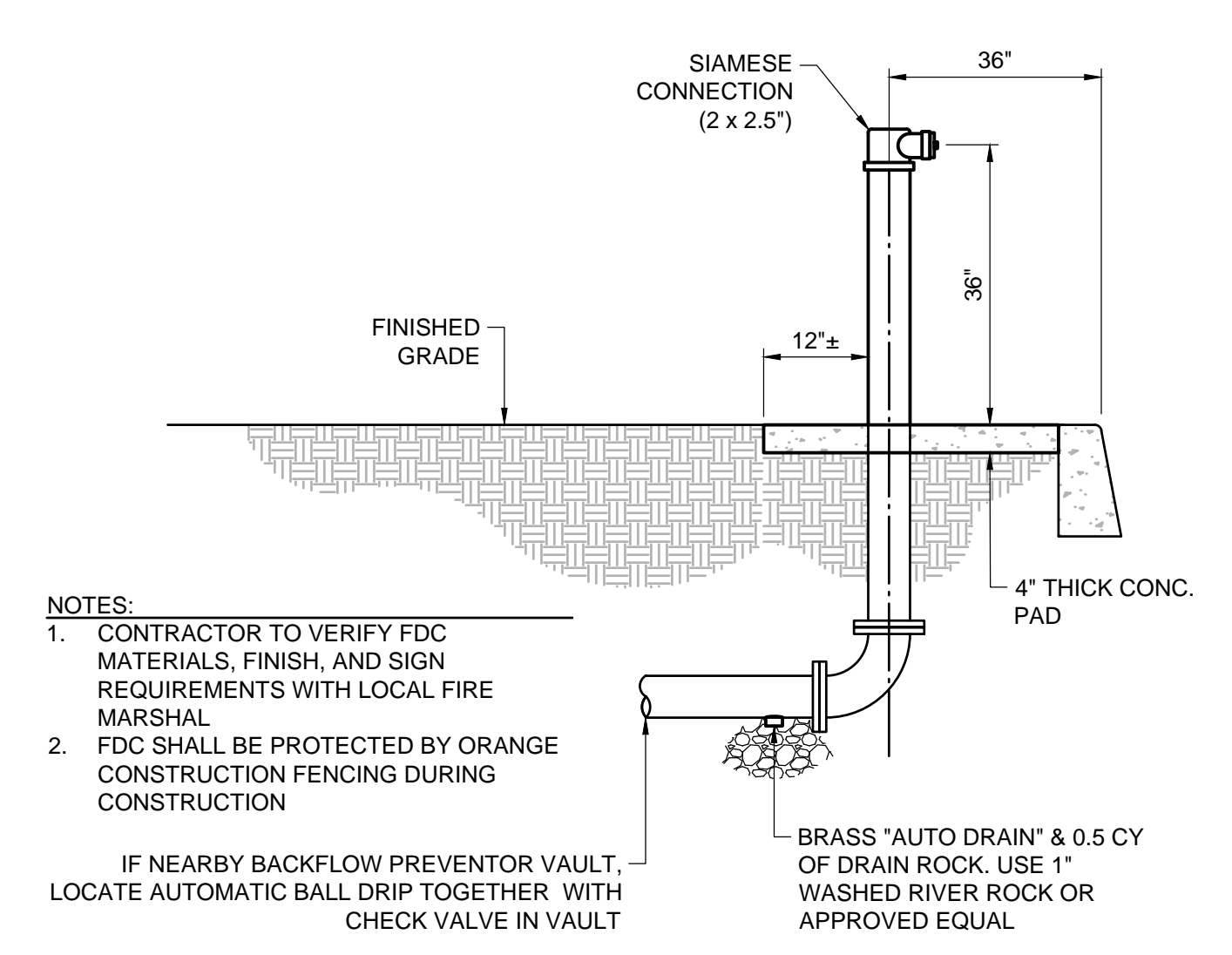
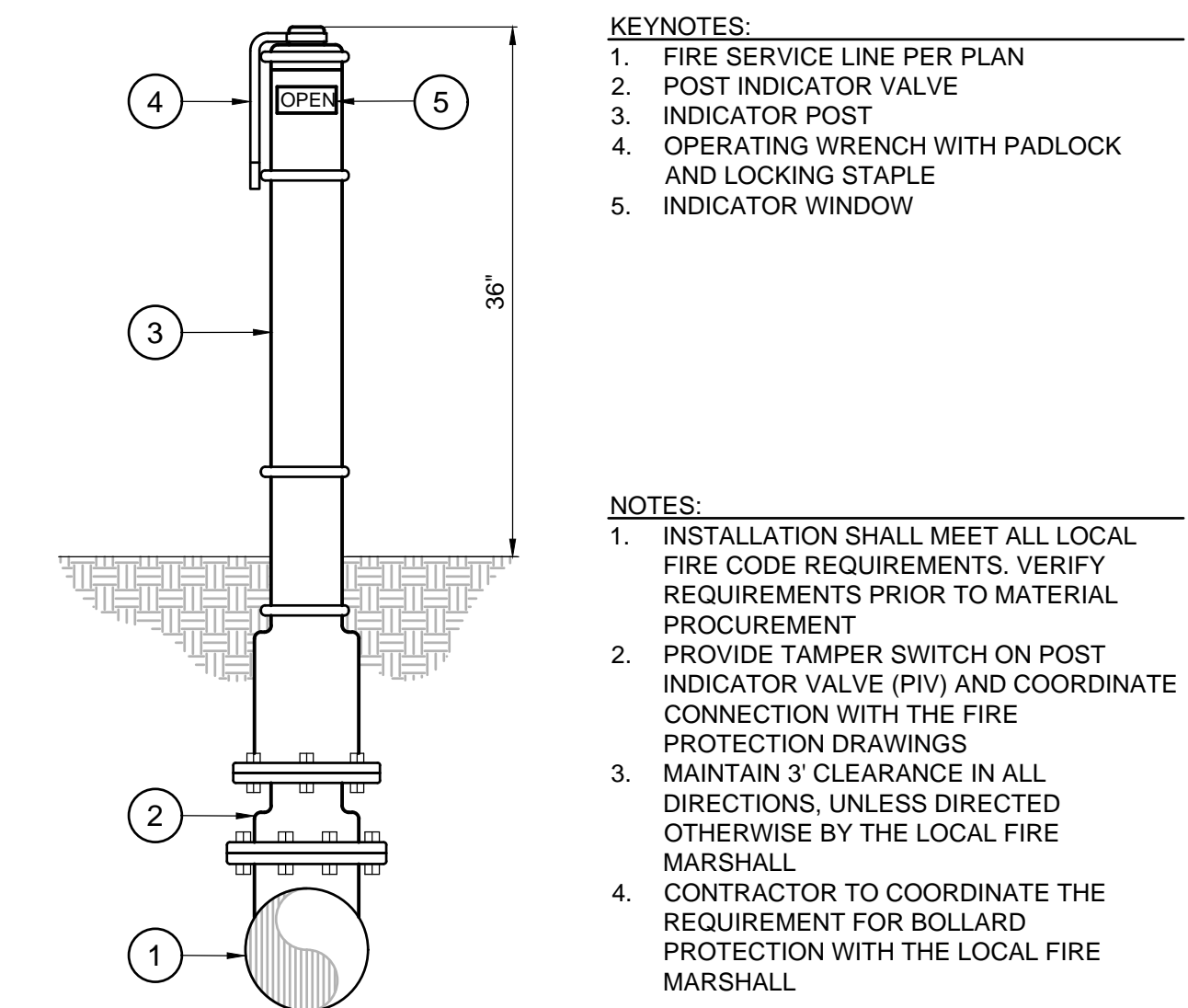
- SEE GEOTECHNICAL REPORT AND PROJECT SPECIFICATIONS FOR RECOMMENDED MATERIALS AND FURTHER REQUIREMENTS (i.e. MINIMUM COMPACTION)
- IF GROUNDWATER IS ENCOUNTERED, CONSULT THE GEOTECHNICAL ENGINEER OF RECORD FOR ADDITIONAL RECOMMENDATIONS WITH REGARD TO TRENCHING, PIPE PLACEMENT, AND BACKFILL



1 DOUBLE CHECK DETECTOR AND VAULT
C5.12 NTS

2 UTILITY TRENCH BEDDING AND BACKFILL
C5.12 NTS

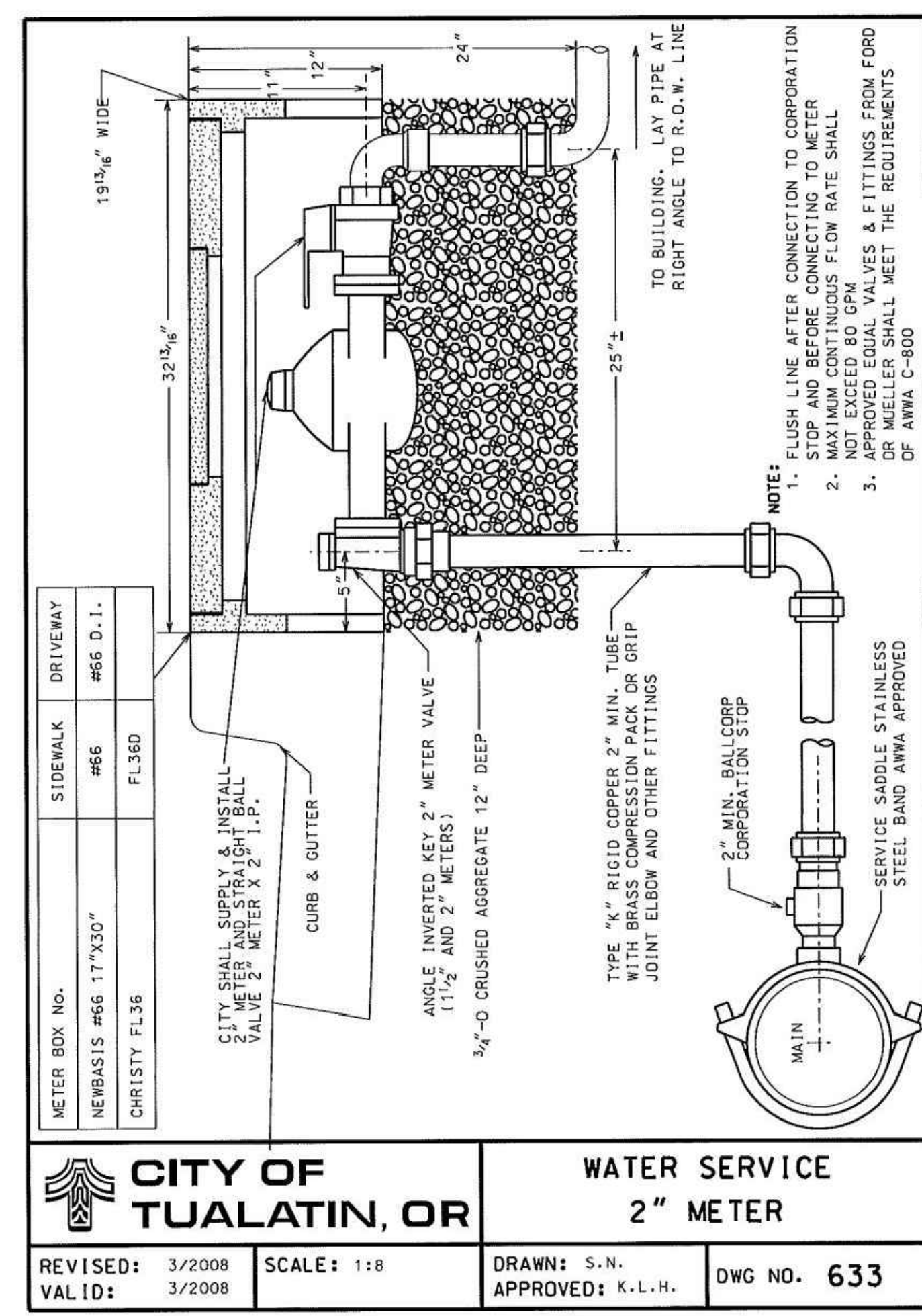
3 FIRE HYDRANT
C5.12 NTS



4 POST INDICATOR VALVE
C5.12 NTS

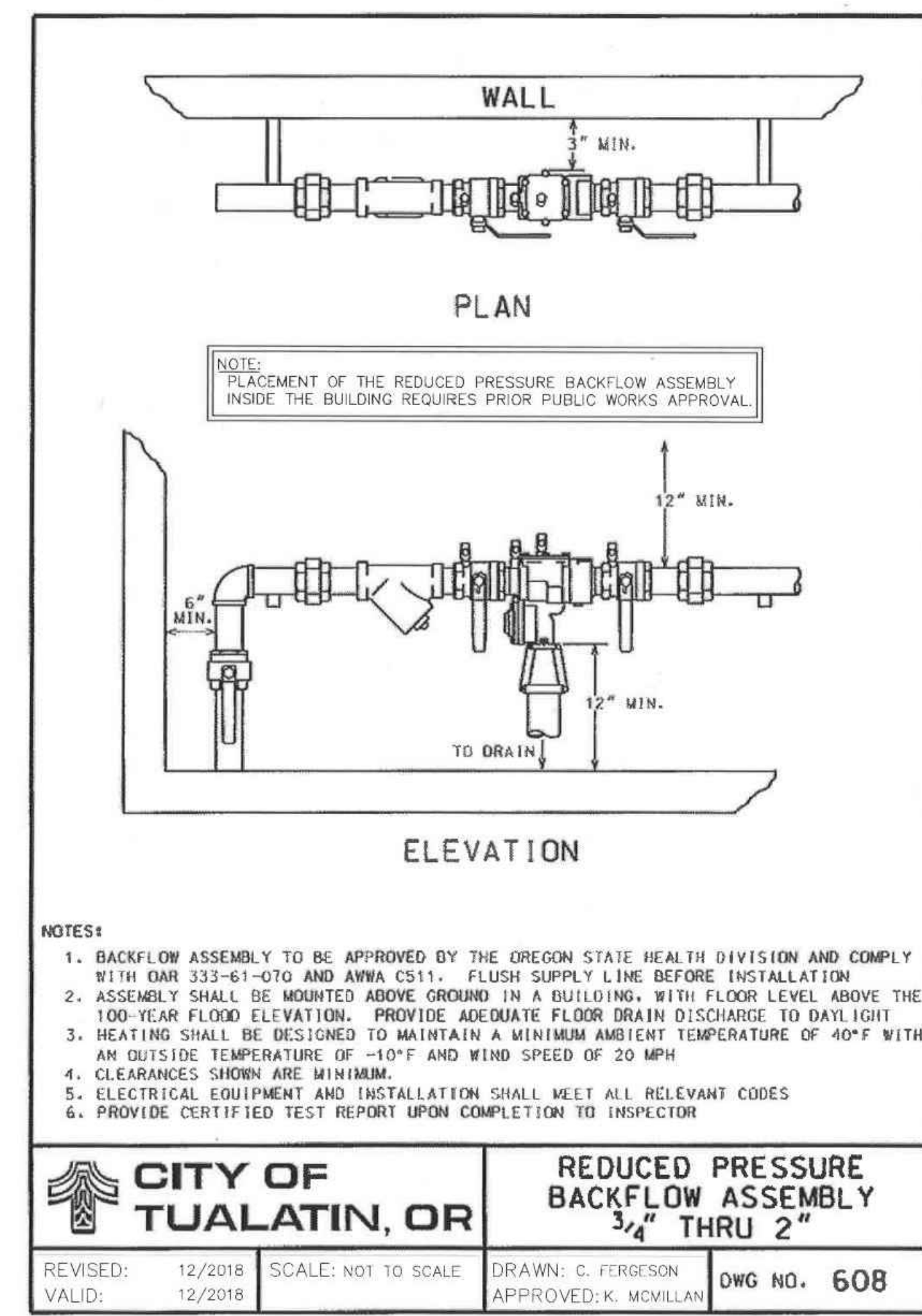
5 FIRE DEPARTMENT CONNECTION
C5.12 NTS

6 TRENCH DRAIN
C5.12 NTS



CITY OF TUALATIN, OR
WATER SERVICE
2" METER

REVISIONS: 3/2008 SCALE: 1:8 DRAWN: S.N. APPROVED: K.L.H. DWG NO. 633

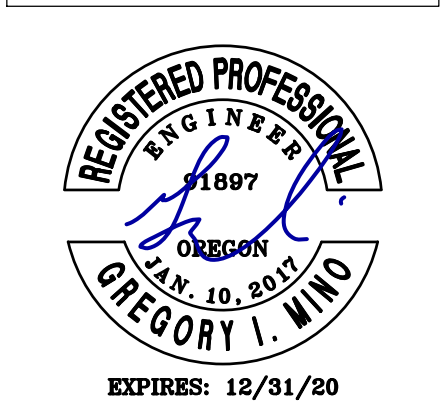


CITY OF TUALATIN, OR
REDUCED PRESSURE
BACKFLOW ASSEMBLY
3/4" THRU 2"

REVISIONS: 12/2018 SCALE: NOT TO SCALE DRAWN: C. FERGUSON APPROVED: K. MCVILLAN DWG NO. 608

7 WATER SERVICE - 2" METER
C5.12 CITY OF TUALATIN DWG NO. 633 NTS

8 RPBA 3/4" TO 2"
C5.12 CITY OF TUALATIN DWG NO. 608 NTS



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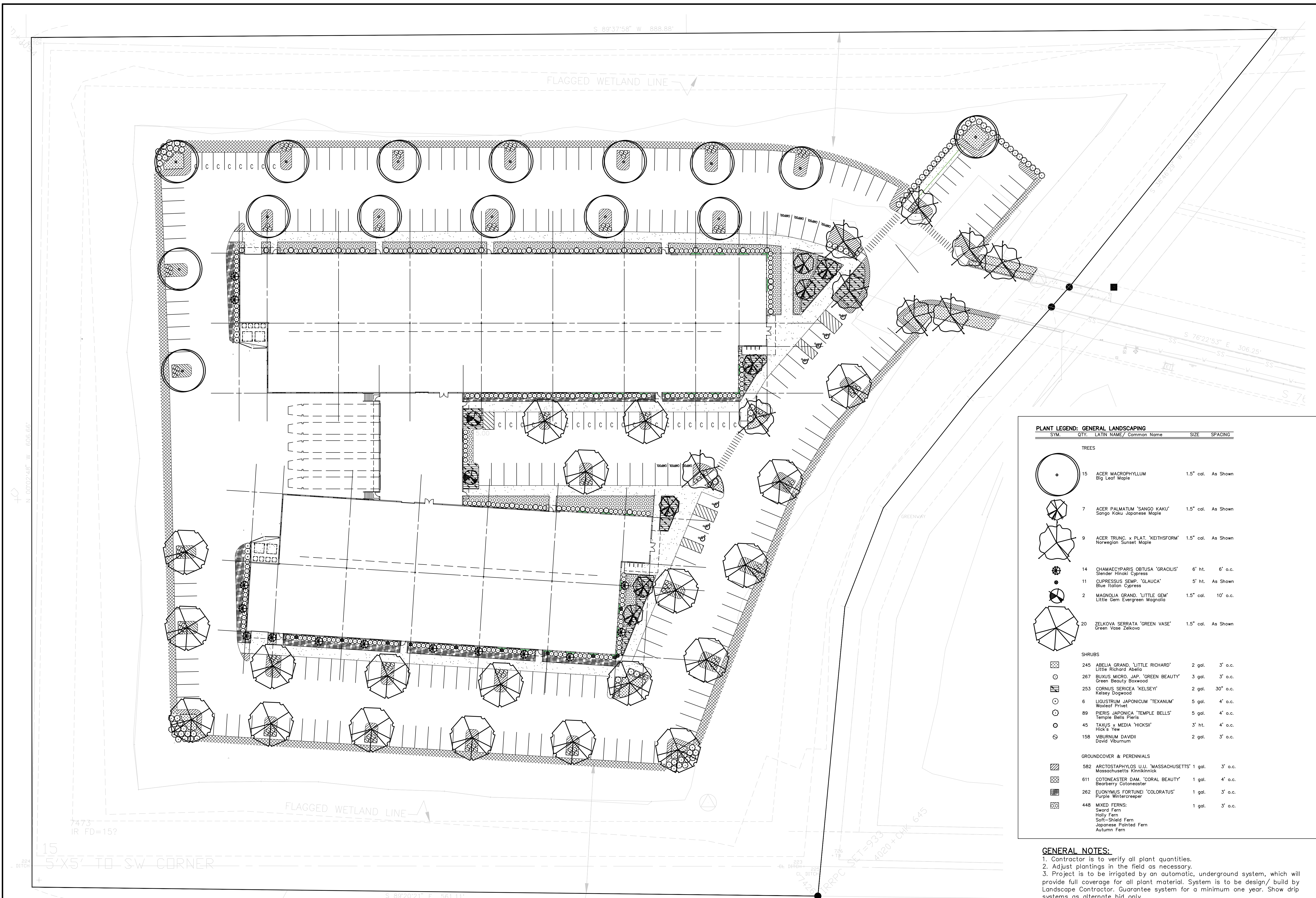
REVISION SCHEDULE		
Delta	Issued As	Issue Date

SHEET TITLE:
CIVIL DETAILS

DRAWN BY: SIM
CHECKED BY: MWB
SHEET

C5.12

JOB NO. 2190365.00



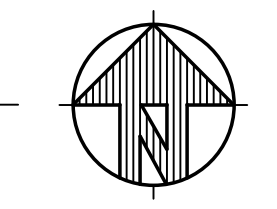
PLANT LEGEND: GENERAL LANDSCAPING

SYM.	QTY.	LATIN NAME / Common Name	SIZE	SPACING
TREES				
	15	ACER MACROPHYLLUM Big Leaf Maple	1.5" cal.	As Shown
	7	ACER PALMATUM 'SANGO KAKU' Sango Kaku Japanese Maple	1.5" cal.	As Shown
	9	ACER TRUNC. x PLAT. 'KEITHSFORM' Norwegian Sunset Maple	1.5" cal.	As Shown
	14	CHAMAECYPARIS OBTUSA 'GRACILIS' Slender Hinoki Cypress	6' ht.	6' o.c.
	11	CUPRESSUS SEMP. 'GLAUCA' Blue Italian Cypress	5' ht.	As Shown
	2	MAGNOLIA GRAND. 'LITTLE GEM' Little Gem Evergreen Magnolia	1.5" cal.	10' o.c.
	20	ZELKOVA SERRATA 'GREEN VASE' Green Vase Zelkova	1.5" cal.	As Shown
SHRUBS				
	245	ABELIA GRAND. 'LITTLE RICHARD' Little Richard Abelia	2 gal.	3' o.c.
	267	BUXUS MICRO. JAP. 'GREEN BEAUTY' Green Beauty Boxwood	3 gal.	3' o.c.
	253	CORNUS SERICEA 'KELSEY' Kelsey Dogwood	2 gal.	30" o.c.
	6	LIGUSTRUM JAPONICUM 'TEXANUM' Waxleaf Privet	5 gal.	4' o.c.
	89	PIERIS JAPONICA 'TEMPLE BELLS' Temple Bells Pieris	5 gal.	4' o.c.
	45	TAXUS x MEDIA 'HICKSII' Hick's Yew	3' ht.	4' o.c.
	158	VIBURNUM DAVIDII David Viburnum	2 gal.	3' o.c.
GROUNDCOVER & PERENNIALS				
	582	ARCTOSTAPHYLOS UVA. 'MASSACHUSETTS' Massachusetts Kinnikinnick	1 gal.	3' o.c.
	611	COTONEASTER DAM. 'CORAL BEAUTY' Bearberry Cotoneaster	1 gal.	4' o.c.
	262	ELYMUS FORTUNEI 'COLORATUS' Purple Wintercreeper	1 gal.	3' o.c.
	448	MIXED FERNS: Sword Fern Holly Fern Soft-Shield Fern Japanese Painted Fern Autumn Fern	1 gal.	3' o.c.

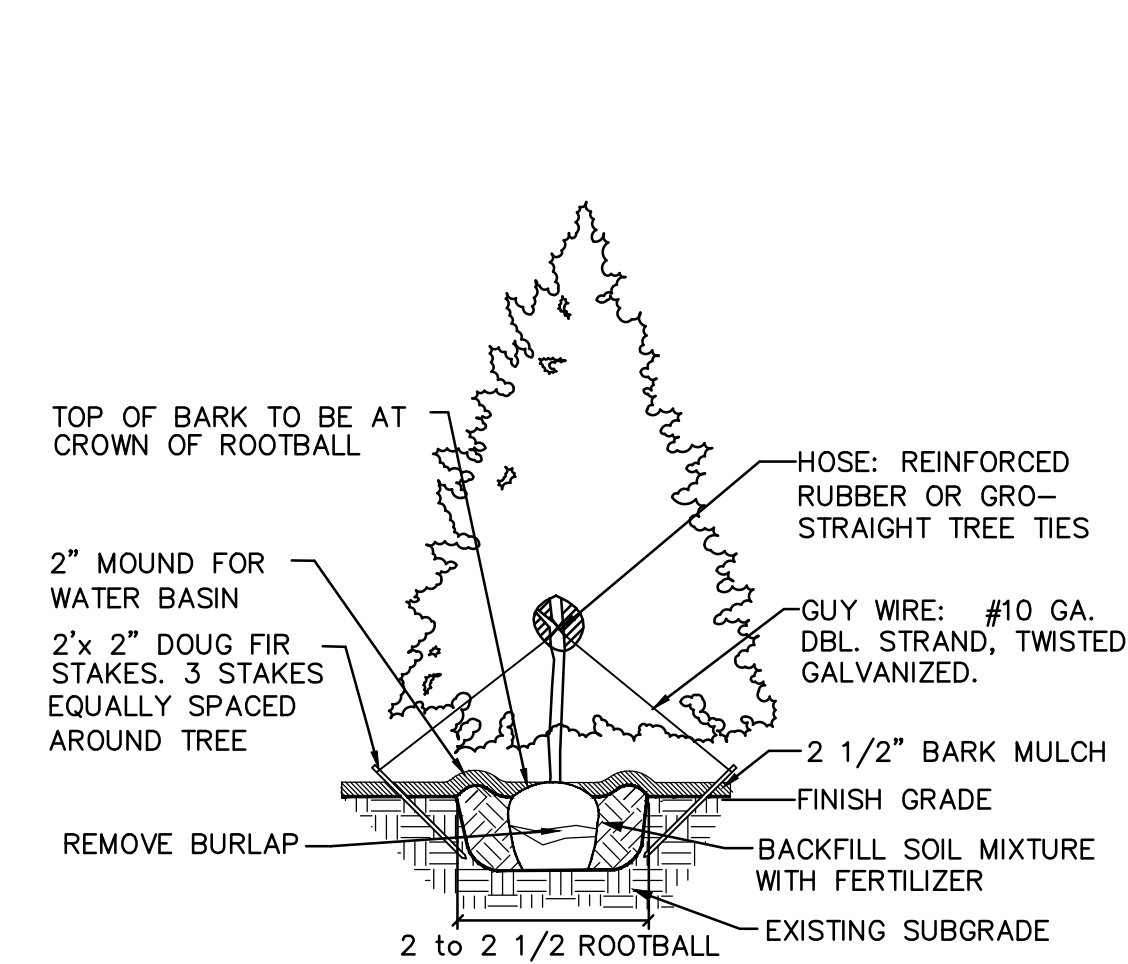
GENERAL NOTES:

- Contractor is to verify all plant quantities.
- Adjust plantings in the field as necessary.
- Project is to be irrigated by an automatic, underground system, which will provide full coverage for all plant material. System is to be design/ build by Landscape Contractor. Guarantee system for a minimum one year. Show drip systems as alternate bid only.
- All plants are to be fully foliated, well branched and true to form.
- Contractor is to notify Landscape Architect or Owner's Representative of any site changes or unforeseen conditions that may be detrimental to plant health, or cause future problems to any structural elements of the project.
- Contractor shall notify the Landscape Architect if specified materials or methods are not consistent with local climate and/or practices.

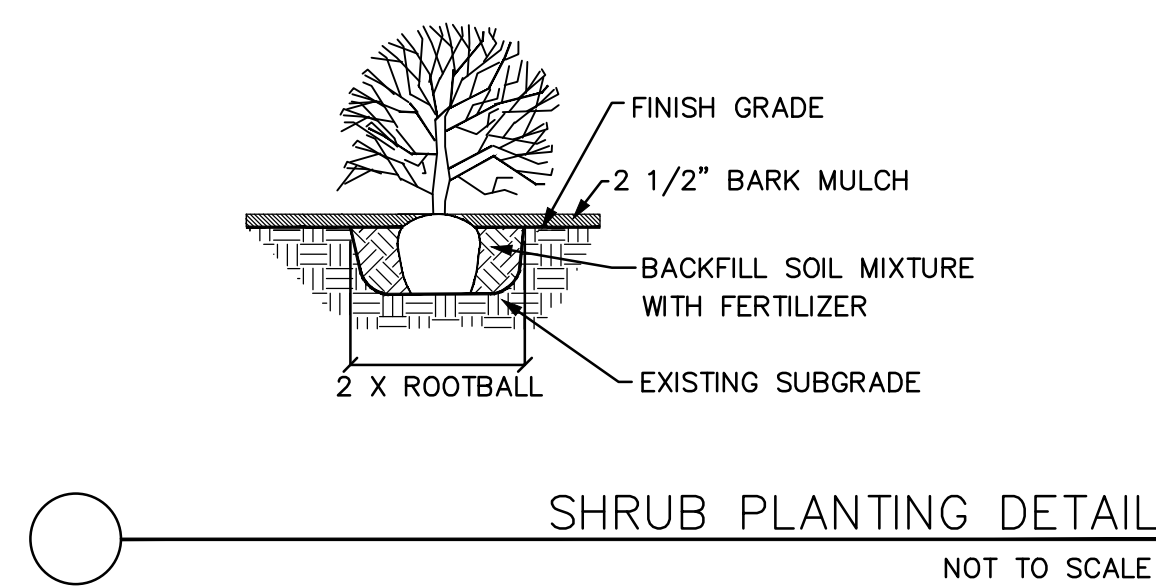
LANDSCAPE PLAN
SCALE 1" = 30'-0"



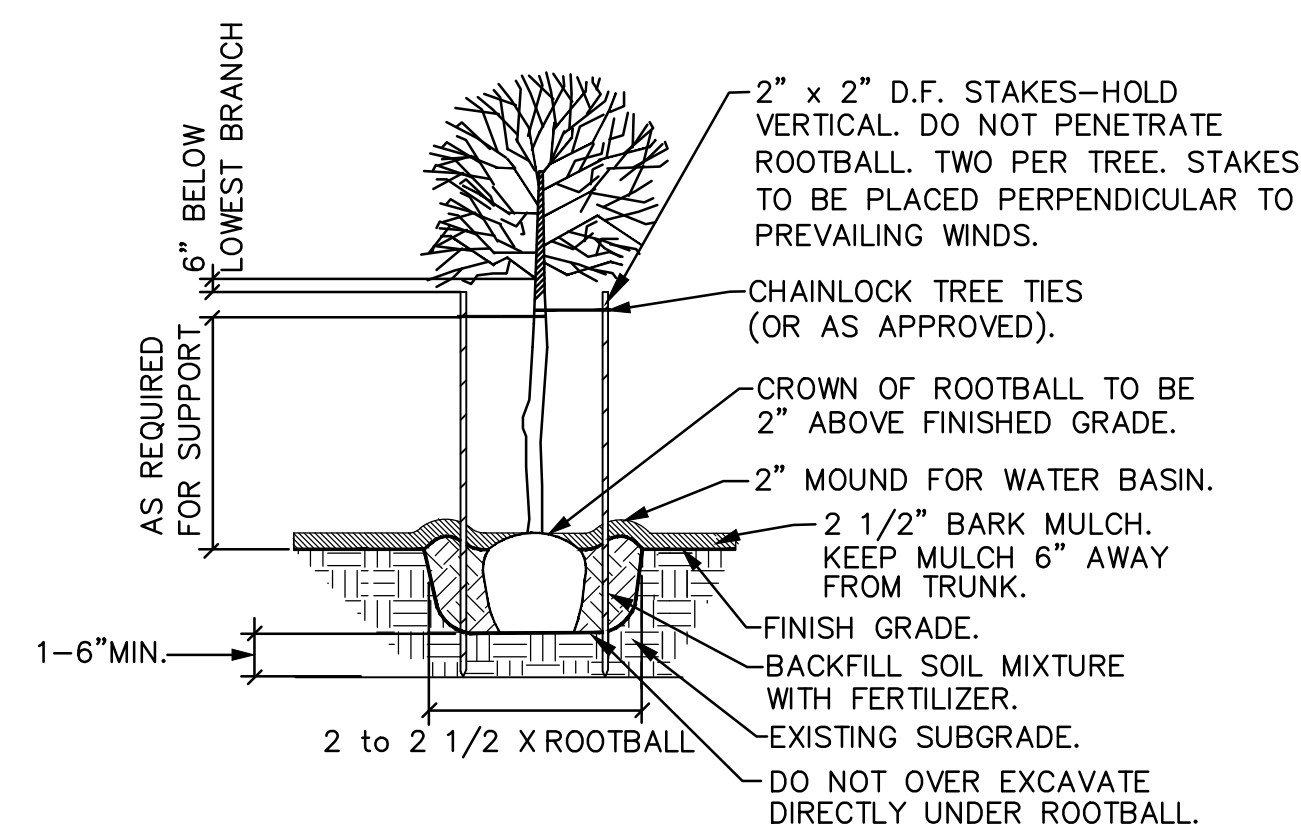
REGISTERED L793 ERIN HOLSÖNBACK OREGON 610/0313 EXP. 5/31/20 LANDSCAPE ARCHITECT	
OTTEN & Associates, Landscape Architecture, LLC 3933 SW Kelly Avenue, Suite B • Portland, Oregon 97239 Phone: (503) 972-0311 • www.ottenla.com	
DATE	12-9-2019
SCALE	NOTED
DRAWN	CHECKED
MPL	EH
SHEET NO.	L1.0
1 OF 2	



EVERGREEN TREE STAKING DETAIL
NOT TO SCALE



SHRUB PLANTING DETAIL
NOT TO SCALE



NOTE: ANY PROPOSED CHANGES TO OUR SPECIFICATION OR DETAIL SHOULD BE APPROVED BY THE LANDSCAPE ARCHITECT. LIKEWISE, IN ACCORDANCE WITH BEST PRACTICES OF LOCAL LANDSCAPE INSTALLATION, SHOULD THE LANDSCAPE CONTRACTOR FIND A PREFERRED ALTERNATE METHOD, THE LANDSCAPE ARCHITECT MAY BE SO ADVISED.

GENERAL DECIDUOUS TREE PLANTING DETAIL
NOT TO SCALE

OUTLINE SPECIFICATIONS PLANTING:

GENERAL: All plants shall conform to all applicable standards of the latest edition of the "American Association of Nurserymen Standards", A.N.S.I. 260.1 - 1973. Meet or exceed the regulations and laws of Federal, State, and County regulations, regarding the inspection of plant materials, certified as free from hazardous insects, disease, and noxious weeds, and certified fit for sale in Oregon.

The apparent silence of the Specifications and Plans as to any detail, or the apparent omission from them of a detailed description concerning any point, shall be regarded as meaning that only the best general practice is to prevail and that only material and workmanship of first quality are to be used. All interpretations of these Specifications shall be made upon the basis above stated.

Landscape contractor shall perform a site visit prior to bidding to view existing conditions.

PERFORMANCE QUALITY ASSURANCE: Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary horticultural practices and who are completely familiar with the specified requirements and methods needed for the proper performance of the work of this section.

NOTIFICATION: Give Landscape Architect minimum of 2 days advance notice of times for inspections. Inspections at growing site does not preclude Landscape Architect's right of rejection of deficient materials at project site. Each plant failing to meet the above mentioned "Standards" or otherwise failing to meet the specified requirements as set forth shall be rejected and removed immediately from the premises by the Contractor and at his expense, and replaced with satisfactory plants or trees conforming to the specified requirements.

SUBSTITUTIONS: Only as approved by the Landscape Architect or the Owner's Representative.

GUARANTEE AND REPLACEMENT: All plant material shall be guaranteed from final acceptance for one full growing season or one year, whichever is longer. During this period the Contractor shall replace any plant material that is not in good condition and producing new growth (except that material damaged by severe weather conditions, due to Owner's negligence, normally unforeseen peculiarities of the planting site, or lost due to vandalism). Guarantee to replace, at no cost to Owner, unacceptable plant materials with plants of same variety, age, size and quality as plant originally specified. Conditions of guarantee on replacement plant shall be same as for original plant.

Landscape Contractor shall keep on site for Owner's Representative's inspection, all receipts for soil amendment and topsoil deliveries.

PROTECTION: Protect existing roads, sidewalks, and curbs, landscaping, and other features remaining as final work. Verify location of underground utilities prior to doing work. Repair and make good any damage to service lines, existing features, etc. caused by landscaping installation.

PLANT QUALITY ASSURANCE: Deliver direct from nursery. Maintain and protect roots of plant material from drying or other possible injury. Store plants in shade and protect them from weather immediately upon delivery, if not to be planted within four hours.

Nursery stock shall be healthy, well branched and rooted, formed true to variety and species, full foliaged, free of disease, injury, defects, insects, weeds, and weed roots. Trees shall have straight trunks, symmetrical tips, and have an intact single leader. Any trees with double leaders will be rejected upon inspection. All Plants: True to name, with one of each bundle or lot tagged with the common and botanical name and size of the plants in accordance with standards of practice of the American Association of Nurserymen, and shall conform to the Standardized Plant Names, 1942 Edition.

Container grown stock: Small container-grown plants, furnished in removable containers, shall be well rooted to ensure healthy growth. **Grow container plants in containers a minimum of one year** prior to delivery, with roots filling container but not root bound. Bare root stock: Roots well-branched and fibrous. Baled and burlapped (B&B): Ball shall be of natural size to ensure healthy growth. Ball shall be firm and the burlap sound. No loose or made ball will be acceptable.

TOPSOIL AND FINAL GRADES: Landscape Contractor is to supply and place 12" of topsoil in planting beds. Landscape Contractor is to verify with the General Contractor if the on-site topsoil is or is not conducive to proper plant growth. The topsoil shall be a sandy loam, free of all weeds and debris inimical to lawn or plant growth. Furnish soil analysis by a qualified soil testing laboratory stating percentages of organic matter; gradation of sand, silt and clay content; cation exchange capacity; deleterious material; pH; and plant nutrient content of the topsoil. Report suitability of topsoil for plant growth and recommended quantities of nitrogen, phosphorus and potash nutrients and soil amendments (including compost) to be added to produce satisfactory topsoil. If stockpiled topsoil on site is not conducive to proper plant growth, the Landscape Contractor shall import the required amount.

Landscaping shall include finished grades and even distribution of topsoil to meet planting requirements. Grades and slopes shall be as indicated. Planting bed grades shall be approximately 3" below adjacent walks, paving, finished grade lines, etc., to allow for bark application. Finish grading shall remove all depressions or low areas to provide positive drainage throughout the area.

PLANTING SPECIFICATIONS:

HERBICIDES: Prior to soil preparation, all areas showing any undesirable weed or grass growth shall be treated with Round-up in strict accordance with the manufacturer's instructions.

SOIL PREPARATION: Work all areas by rototilling to a minimum depth of 8". Remove all stones (over 1 1/2" size), sticks, mortar, large clumps of vegetation, roots, debris, or extraneous matter turned up in working. Soil shall be of a homogeneous fine texture. Level, smooth and lightly compact area to plus or minus .10 of required grades.

In groundcover areas add 2" of compost (or as approved) and till in to the top 6" of soil.

PLANTING HOLE: Lay out all plant locations and excavate all soils from planting holes to 2 1/2 times the root ball or root system width. Loosen soil inside bottom of plant hole. Dispose of any "subsoil" or debris from excavation. Check drainage of planting hole with water, and adjust any area showing drainage problems.

SOIL MIX: Prepare soil mix in each planting hole by mixing:
2 part native topsoil (no subsoil)
1 part compost (as approved)

Thoroughly mix in planting hole and add fertilizers at the following rates:

- Small shrubs - 1/8 lb./ plant
- Shrubs - 1/3 to 1/2 lb./ plant
- Trees - 1/3 to 1 lb./ plant

FERTILIZER: For trees and shrubs use Commercial Fertilizer "A" Inorganic (5-4-3) with micro-nutrients and 50% slow releasing nitrogen.

PLANTING TREES AND SHRUBS: Plant upright and face to give best appearance or relationship to adjacent plants and structures. Place 6" minimum, lightly compacted layer of prepared planting soil under root system. Loosen and remove twine binding and burlap from top 1/2 of root balls. Cut off cleanly all broken or frayed roots, and spread roots out. Stagger Plants in rows. Backfill planting hole with soil mix while working each layer to eliminate voids.

When approximately 2/3 full, water thoroughly, then allow water to soak away. Place remaining backfill and dish surface around plant to hold water. Final grade should keep root ball slightly above surrounding grade, not to exceed 1". Water again until no more water is absorbed. Initial watering by irrigation system is not allowed.

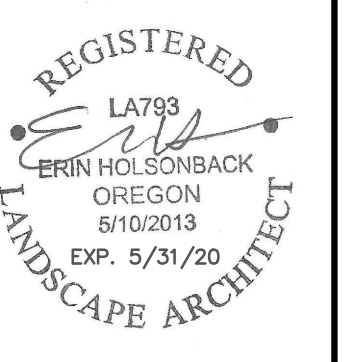
STAKING OF TREES: Stake or guy all trees. Stakes shall be 2" X 2" (nom.) quality tree stakes with point. They shall be of Douglas Fir, clear and sturdy. Stake to be minimum 2/3 the height of the tree, not to exceed 8'-0". Drive stake firmly 1'-6" below the planting hole. Tree ties for deciduous trees shall be "Chainlock" (or better). For Evergreen trees use "Gro-Strait" Tree Ties (or a reinforced rubber hose and guy wires) with guy wires of a minimum 2 strand twisted 12 ga. wire. Staking and guying shall be loose enough to allow movement of tree while holding tree upright.

MULCHING OF PLANTINGS: Mulch planting areas with dark, aged, medium grind fir or hemlock bark (aged at least 6 months) to a depth of 2" in ground cover areas and 2 1/2" in shrub beds. Apply evenly, not higher than grade of plant as it came from the nursery, and rake to a smooth finish. Water thoroughly, then hose down planting area with fine spray to wash leaves of plants.

GENERAL MAINTENANCE: Protect and maintain work described in these specifications against all defects of materials and workmanship, through final acceptance. Replace plants not in normal healthy condition at the end of this period. Water, weed, cultivate, mulch, reset plants to proper grade or upright position, remove dead wood and do necessary standard maintenance operations. Irrigate when necessary to avoid drying out of plant materials, and to promote healthy growth.

CLEAN-UP: At completion of each division of work all extra material, supplies, equipment, etc., shall be removed from the site. All walks, paving, or other surfaces shall be swept clean, mulch areas shall have debris removed and any soil cleared from surface. All areas of the project shall be kept clean, orderly and complete.

NO.	DATE	REVISIONS



OITEN & Associates
Landscape Architecture, LLC
3933 SW Kelly Avenue, Suite B • Portland, Oregon 97239
Phone: (503) 972-0311 • www.oitena.com

HEDGES D

SW 115TH STREET
TUALATIN, OREGON

LANDSCAPE DETAILS & SPECS

DATE	12-9-2019
SCALE	AS SHOWN
DRAWN	CHECKED
MPL	EH
SHEET NO	L2.0