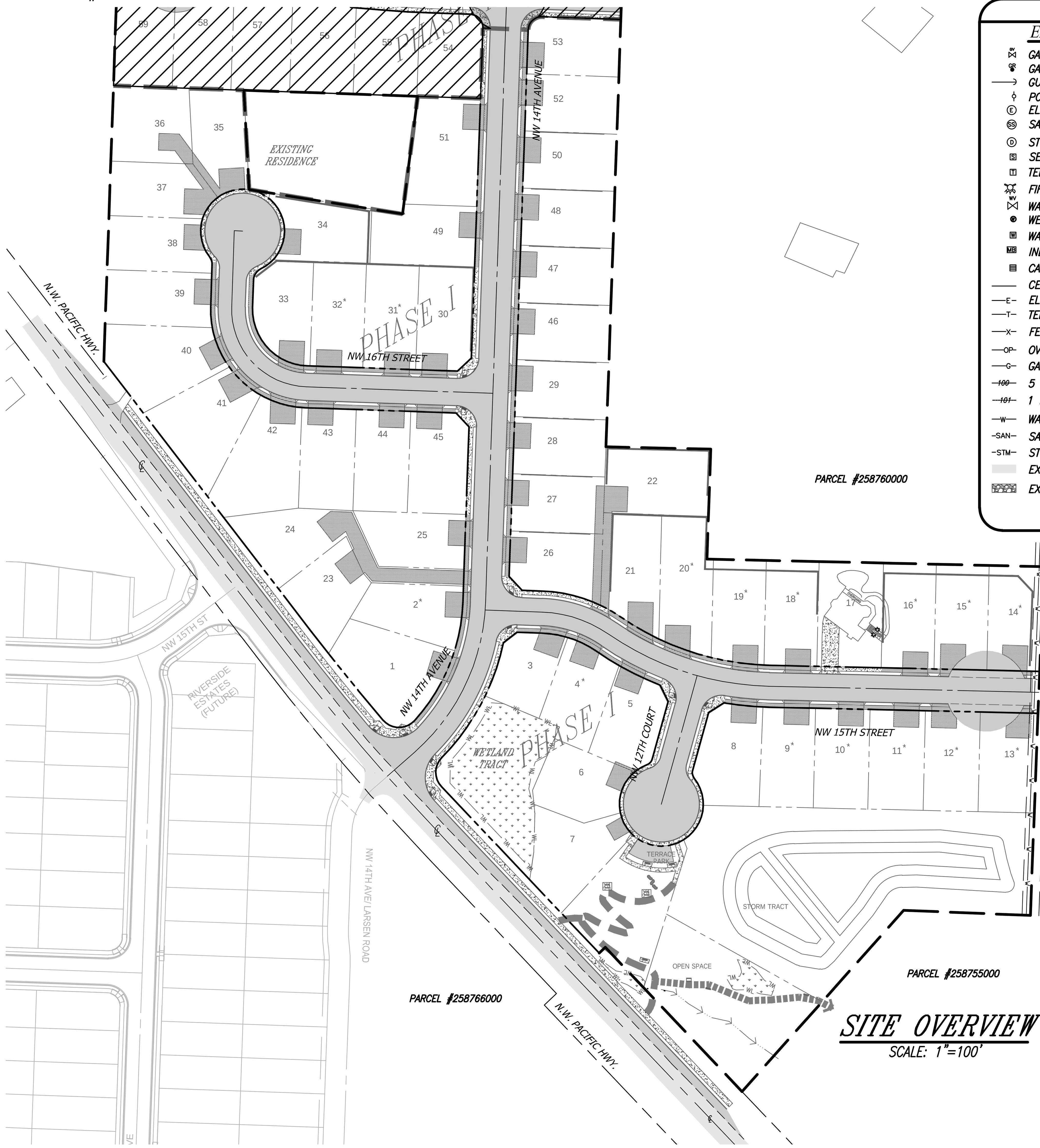
HIGHLAND TERRACE SUBDIVISION PHASE 1

CITY OF LA CENTER, WASHINGTON

BEING A PORTION OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 5 NORTH, RANGE 1 EAST OF THE WILLAMETTE MERIDIAN CLARK COUNTY, WASHINGTON
PARCEL #258636-000, 258704-000, 258703-000, 258702-000, 258727-000, 258644-000, & 258763-000



SITE OVERVIEW
SCALE: 1"=100'

LEGEND

EXISTING:

- GAS VALVE
- GAS RISER
- GUY ANCHOR
- POWER POLE
- ELECTRICAL SERVICE
- SANITARY MANHOLE
- STORM DRYWELL
- SEPTIC TANK
- TELEPHONE PEDESTAL
- FIRE HYDRANT
- WATER VALVE
- WELL
- WATER METER
- INDICATES MAILBOX
- CATCH BASIN
- CENTERLINE
- ELECTRIC LOCATE
- TELEPHONE LOCATE
- FENCE
- OVERHEAD POWER
- GAS LINE LOCATE
- 5 FOOT CONTOUR
- 1 FOOT CONTOUR
- WATER LINE
- SANITARY LINE
- STORM LINE
- EXISTING PAVEMENT
- EXISTING GRAVEL ROAD

PROPOSED:

- SANITARY MANHOLE
- SANITARY CLEANOUT
- STORM MANHOLE
- CATCH BASIN/ W/TEMP. STORM INLET PROTECTION
- CURB INLET
- STORMFILTER CATCH BASIN
- THRUST BLOCK
- WATER VALVE
- FIRE HYDRANT
- WATER BLOW-OFF
- WATER SERVICE LATERAL AND METER
- STORM LINE
- WATER LINE
- SANITARY LINE
- PROPERTY LINE
- PHASE LINE
- FG 100 MAJOR CONTOURS
- FG 101 MINOR CONTOURS
- ADA RAMPS COMPLETED W/STREET CONSTRUCTION
- SIDEWALK COMPLETED W/STREET CONSTRUCTION
- NEW PAVEMENT
- STORM ACCESS ROAD

CLARK PUBLIC UTILITIES - WATER SERVICES DEVELOPER INSTALLED WATER MATERIAL LIST

INSTALLED WATER ITEM	MATERIAL	QUANTITY	UNITS
12" WATER MAIN	PVC	953	LF
8" WATER MAIN	PVC	1155	LF
6" WATER MAIN	DIP	37	LF
4" WATER MAIN	PVC	199	LF
FIRE HYDRANT		4	EA
1" WATER SERVICE LINE		53	EA
1" WATER SERVICE LINE (ABANDONED)		1	EA

NOTES:
1. PIPE MATERIAL ABBREVIATIONS:
   - PVC - POLYVINYL CHLORIDE PIPE
   - DIP - DUCTILE IRON PIPE
   - HDPE - HIGH DENSITY POLYETHYLENE PIPE
2. QUANTITIES LISTED WITHIN THIS TABLE ARE NOT FOR BIDDING PURPOSES, BUT FOR USE BY CLARK PUBLIC UTILITIES TO DETERMINE THE INSTALLED WATER SYSTEM VALUE.

NOTE:
A UTILITY LOCATE WAS CALLED FOR ON 08-23-05 UNDER TICKET NUMBER 5280607, & 12-05-05 UNDER TICKET NUMBER 5405724. THE UNDERGROUND UTILITIES AS SHOWN ON THIS TOPOGRAPHIC MAP ARE AS MARKED AT THE TIME OF THIS SURVEY. UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE ONLY. UNDERGROUND CONNECTIONS ARE SHOWN AS STRAIGHT LINES BETWEEN SURFACE LOCATIONS BUT MAY CONTAIN BENDS OR CURVES NOT SHOWN. SOME UNDERGROUND LOCATIONS HEREON MAY HAVE BEEN TAKEN FROM PUBLIC RECORDS. M.G.S. ASSUMES NO LIABILITY FOR THE ACCURACY OF PUBLIC RECORDS.

GENERAL NOTES

1. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE LATEST STANDARDS AND PRACTICES OF THE CITY OF LA CENTER AND THE 2002 EDITION OF THE "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION" AS PREPARED BY W.S.D.O.T. AND A.P.W.A.

2. EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY FROM UTILITY RECORDS AND AS VISIBLE AT THE SITE FROM UTILITY LOCATES. CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.

3. A MINIMUM OF 48 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION, THE CONTRACTOR WILL BE RESPONSIBLE TO NOTIFY THE UTILITY COMPANIES FOR LOCATION MARK-UP OF ALL EXISTING UTILITIES AT (360) 696-4848.

4. THE CONTRACTOR SHALL NOTIFY THE CITY OF LA CENTER AT (360) 263-2782 AND CLARK PUBLIC UTILITIES AT (360) 992-8019 2 DAYS PRIOR TO THE START OF CONSTRUCTION. INSPECTIONS AND APPROVAL OF THE CONSTRUCTION WILL BE BY THE CITY OF LA CENTER AND CLARK PUBLIC UTILITIES. A SATISFACTORY PRESSURE AND BACTERIOLOGICAL TEST FOR THE WATER CONSTRUCTION IS REQUIRED FOR APPROVAL BY CLARK PUBLIC UTILITIES.

5. WHERE EXISTING SERVICES MUST BE INTERRUPTED, THE CONTRACTOR SHALL OBTAIN APPROVAL FROM CLARK PUBLIC UTILITIES AND THE UTILITY SHALL NOTIFY ALL CUSTOMERS THAT ARE TO BE AFFECTED TO THE DATE, TIME, AND DURATION OF THE INTERRUPTION. THE CONTRACTOR SHALL SCHEDULE CONSTRUCTION TO PROVIDE MINIMUM INTERRUPTION OF SERVICES AS DETERMINED BY CLARK PUBLIC UTILITIES. UNDER NO CIRCUMSTANCES WILL THE CONTRACTOR SCHEDULE A WATER MAIN SHUT DOWN WITHOUT THE REQUIRED 48 HOUR NOTICE. THE CONTRACTOR SHALL NOT OPERATE CLARK PUBLIC UTILITY'S WATER FACILITIES WITHOUT APPROVAL FROM THE UTILITY.

6. A MINIMUM OF 10 FEET HORIZONTAL SEPARATION AND 18 INCHES VERTICAL SEPARATION SHALL BE MAINTAINED BETWEEN ALL EXISTING AND PROPOSED WATER AND SEWER LINES.

7. ALL THE FLAG LOTS SHALL HAVE A 20-FOOT WIDE UNOBSTRUCTED ACCESS ROAD MARKED "FIRE LANE".

CITY OF LA CENTER

CITY ENGINEER   DATE

FIRE DISTRICT APPROVAL

Plan Approved by CCF&R
Josh Taylor
04/21/2020

APPROVED   DATE

APPROVED CLARK P.U.D. WATER UTILITIES

N. Flagg   04/27/2020

R.I.O. #544835

DEVELOPER

FELIDA ROSE, LLC
ATTN: CHRIS SUNDSTROM
13217 NW 30TH CT.
VANCOUVER, WA 98685
PHONE: (360) 624-3116
CHRISS4@COMCAST.NET

SURVEYOR

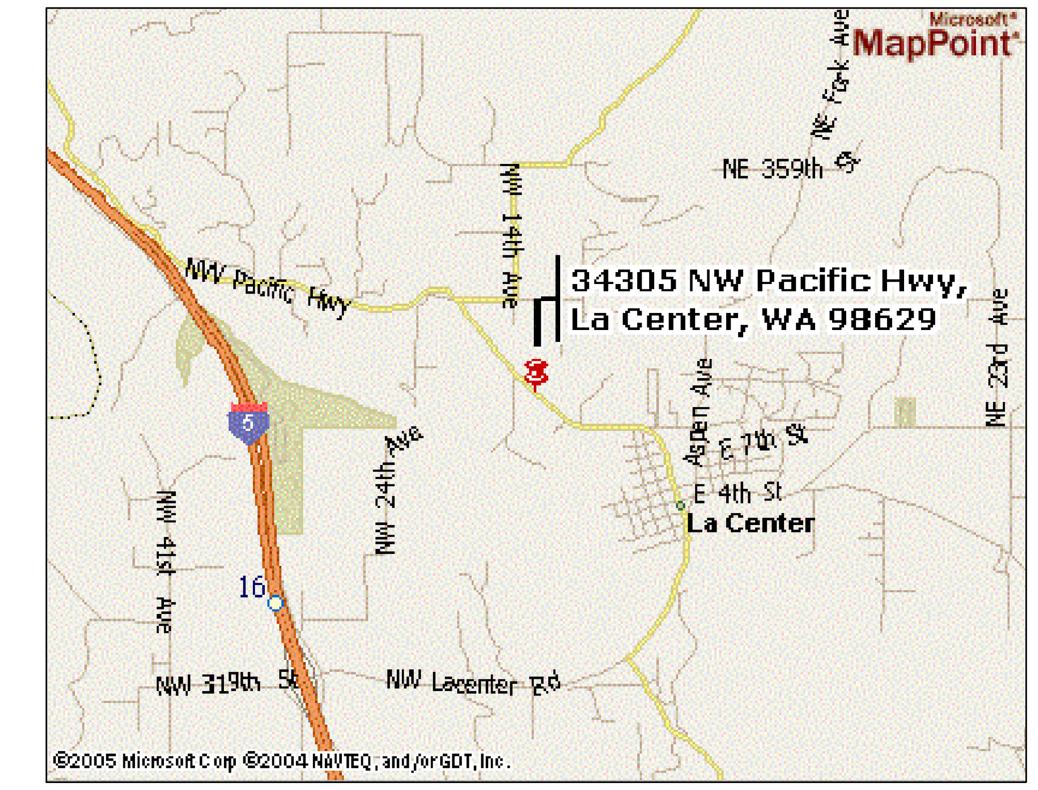
MINISTER-GLAESER SURVEYING, INC.
ATTN: KEVIN BETHJE
2200 E. EVERGREEN BLVD.
VANCOUVER, WA 98661
PHONE: (360) 694-3313
KLB@MGSURVEY.COM

CONTACT/ENGINEER

SGA ENGINEERING, PLLC
ATTN: JASON MATTOS
2005 BROADWAY
VANCOUVER, WA 98663
PHONE (360) 993-0911
JMATTOS@SGAENGINEERING.COM

GEOTECH

COLUMBIA WEST ENGINEERING, INC.
ATTN: LANCE LEHTO
11917 NE 95TH STREET
VANCOUVER, WA 98682
PHONE: (360) 823-2900
LANCE@COLUMBIAWESTENGINEERING.COM



VICINITY MAP
NO SCALE

SHEET INDEX

SGA ENGINEERING & DESIGN
CIVIL ENGINEERING ~ LAND PLANNING
DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE

2005 BROADWAY
VANCOUVER, WA 98663
PHONE (360)993-0911
FAX (360)993-0912

4/16/2020

COVER SHEET

HIGHLAND TERRACE SUBDIVISION PHASE 1

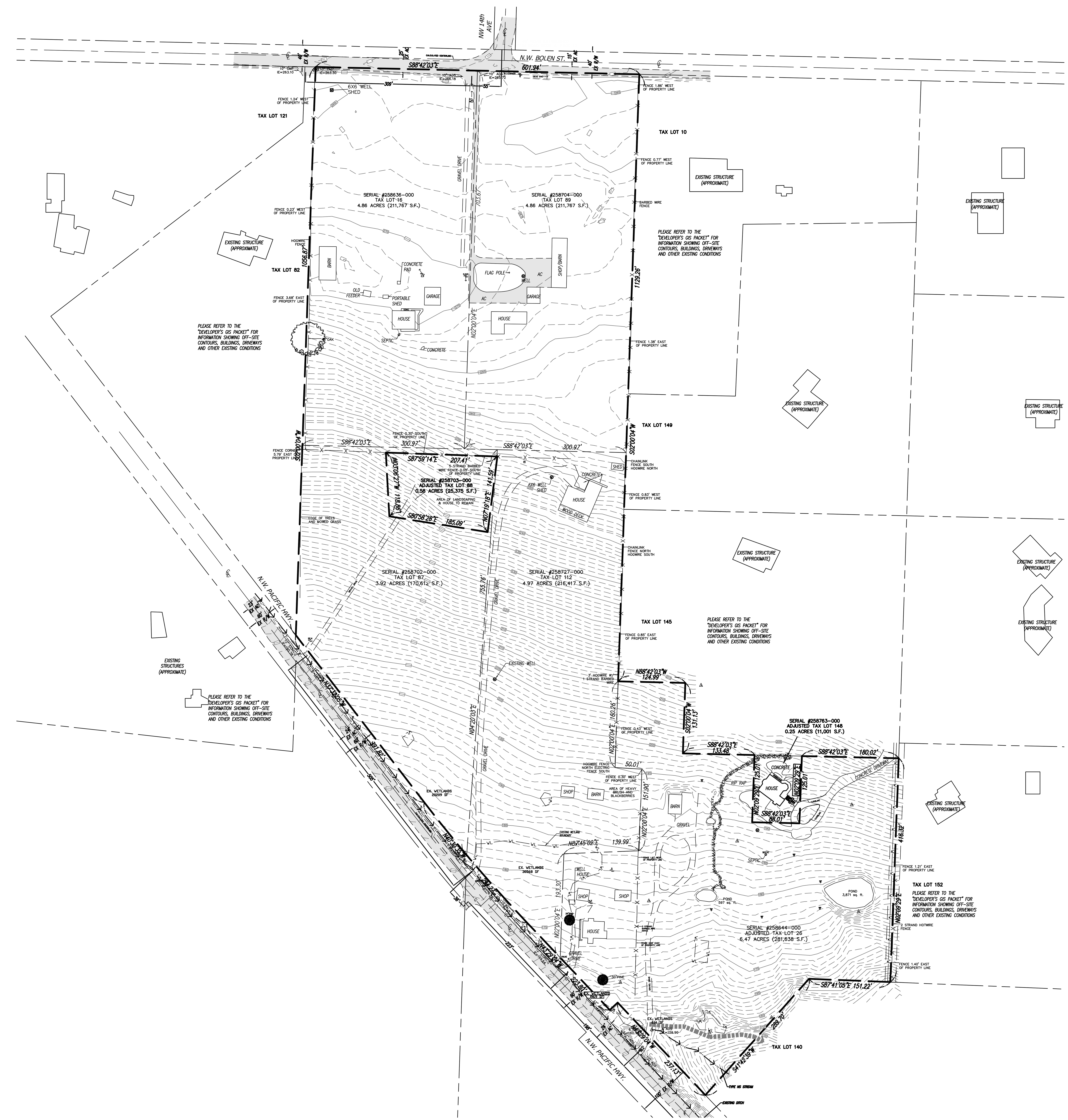
CITY OF LA CENTER WASHINGTON

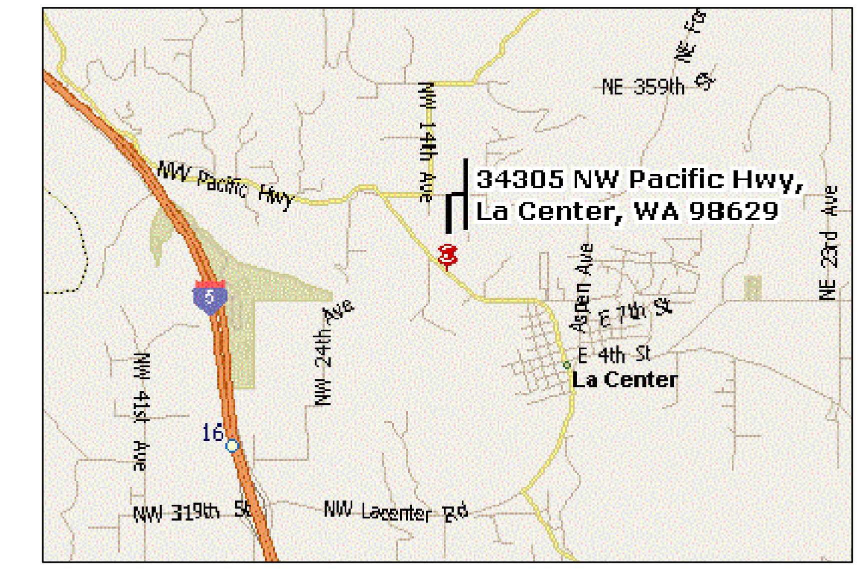
APPROVED

REVISIONS

DESIGNED BY:	NAW
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	AS SHOWN

JOB NUMBER	SHEET
0536	C1.0





VICINITY MAP

HIGHLAND TERRACE SUBDIVISION

BEING A PORTION OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 5 NORTH, RANGE 1 EAST OF THE WILLAMETTE MERIDIAN CLARK COUNTY, WASHINGTON

APRIL 2019

TAX PARCEL #'S	258636–000, 258704–000, 258703–000, 258702–000, 258727–000, 258644–000
APPLICANT:	EVERGREEN HOMES, NW 13217 NW 30TH COURT VANCOUVER, WA 98685 ATTN: CHRIS SUNDROM
CONTACT:	SGA ENGINEERING, PLLC. ATTN: SCOTT TAYLOR 2005 BROADWAY STREET VANCOUVER, WA 98660 PHONE: (360) 993–0911 FAX: (360) 993–0912 EMAIL: STAYLOR@SGAENGINEERING.COM

EXISTING SITE DATA:

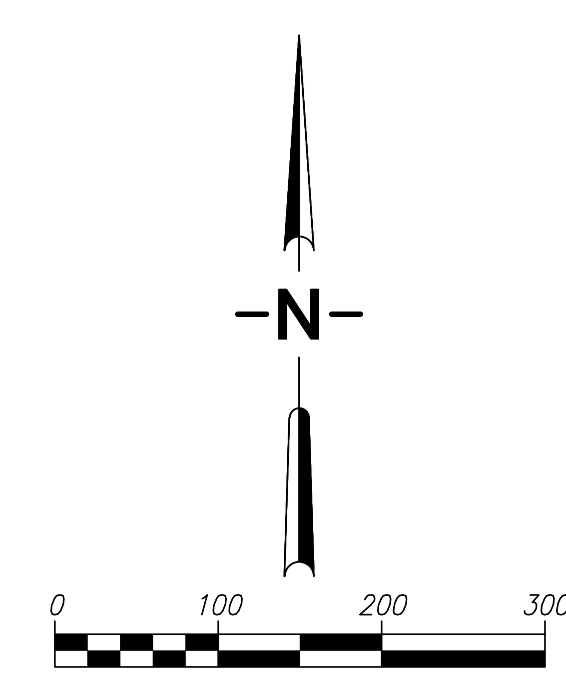
PRESENT USE	4 SINGLE FAMILY RESIDENCES ON ACERAGE
EXISTING ZONING	R–7.5
GROSS SITE AREA	25.3 ACRES (1,103,203 S.F.)
TRANSIT ROUTES & STOPS	NONE WITHIN 1/4 MILE OF SITE
EXISTING WATER	PRIVATE WELLS
EXISTING SEWER	PRIVATE SEPTIC

ENVIRONMENTAL DATA:

100 YEAR FLOOD PLAIN	NONE KNOWN
DRAINAGE COURSES	SHOWN BY TOPO CONTOURS
UNSTABLE GROUND	NONE KNOWN
HIGH WATER WATER TABLE OR IMPERMEABLE SOILS	YES
WETLANDS OR WATER BODIES	SITE CONTAINS WETLANDS AND MAN–MADE PONDS
SEVERE EROSION POTENTIAL	NONE KNOWN
WEAK FOUNDATIONAL SOILS	NONE KNOWN
SIGNIFICANT VEGETATION OR WILDLIFE HABITAT	NONE KNOWN
SLOPES IN EXCESS OF 15%	YES

EXISTING CONDITIONS DISCLAIMER:

EXISTING CONDITIONS SHOWN ON THIS PLAN WAS COMPILED FROM INFORMATION OBTAINED FROM OUTSIDE SOURCES. STURTEVANT, GOLEMO AND ASSOCIATES DOES NOT GUARANTEE THE ACCURACY OF THIS INFORMATION.



Scale: 1" = 100'

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JASON T. MATTOS
STATE OF WASHINGTON
40172
REGISTERED
PROFESSIONAL ENGINEER
4/16/2020

EXISTING CONDITIONS

HIGHLAND TERRACE SUBDIVISION PHASE 1

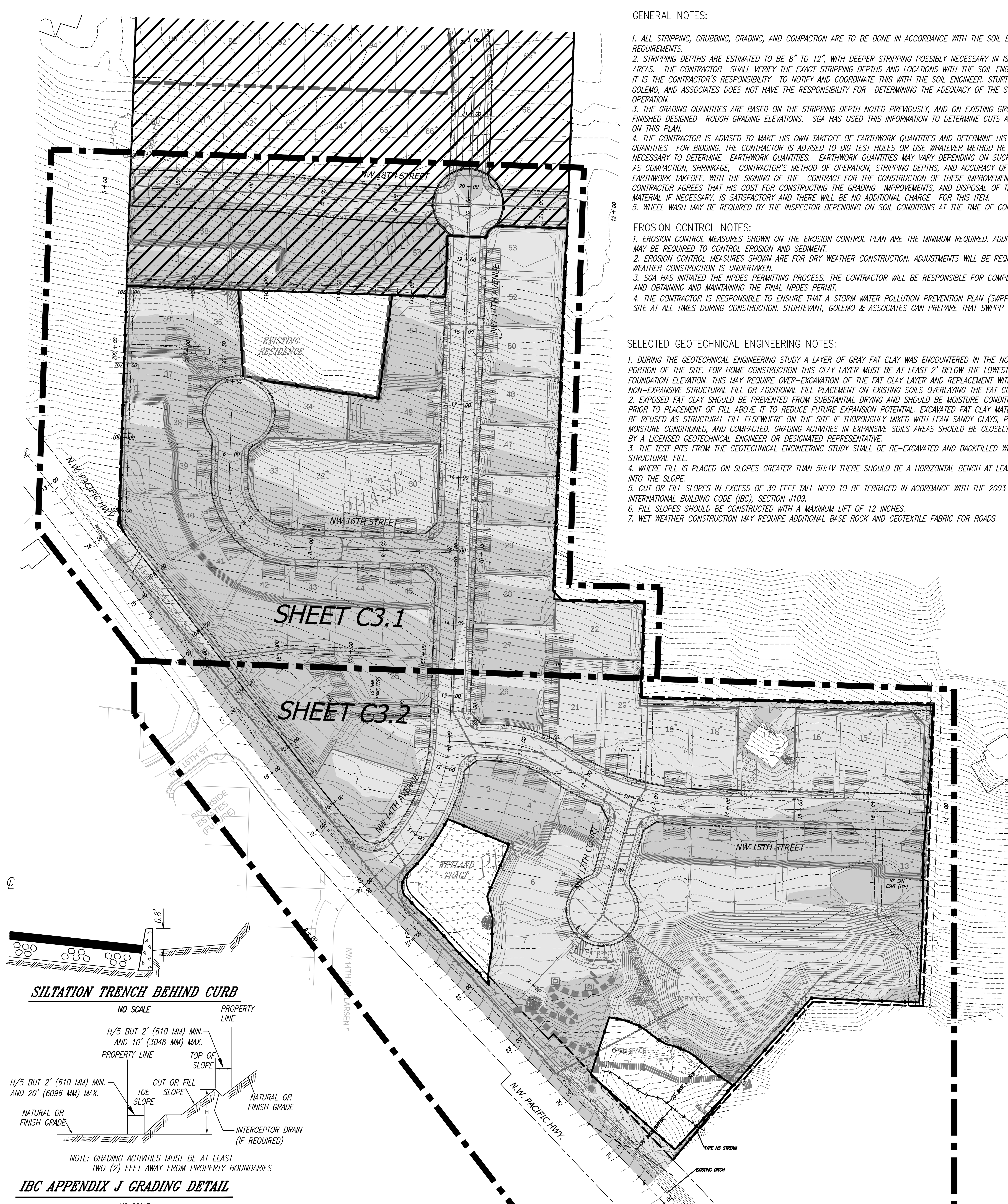
CITY OF LA CENTER
WASHINGTON

APPROVED

REVISIONS

DESIGNED BY:	NAW
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	1" = 100'

JOB NUMBER	SHEET
0536	C2.0



GENERAL NOTES:

1. ALL STRIPPING, GRUBBING, GRADING, AND COMPACTION ARE TO BE DONE IN ACCORDANCE WITH THE SOIL ENGINEER'S REQUIREMENTS.
2. STRIPPING DEPTHS ARE ESTIMATED TO BE 8" TO 12", WITH DEEPER STRIPPING POSSIBLY NECESSARY IN ISOLATED AREAS. THE CONTRACTOR SHALL VERIFY THE EXACT STRIPPING DEPTHS AND LOCATIONS WITH THE SOIL ENGINEER, AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY AND COORDINATE THIS WITH THE SOIL ENGINEER. STURTEVANT GOLEMO, AND ASSOCIATES DOES NOT HAVE THE RESPONSIBILITY FOR DETERMINING THE ADEQUACY OF THE STRIPPING OPERATION.
3. THE GRADING QUANTITIES ARE BASED ON THE STRIPPING DEPTH NOTED PREVIOUSLY, AND ON EXISTING GROUND AND FINISHED DESIGNED ROUGH GRADING ELEVATIONS. SGA HAS USED THIS INFORMATION TO DETERMINE CUTS AND FILLS ON THIS PLAN.
4. THE CONTRACTOR IS ADVISED TO MAKE HIS OWN TAKEOFF OF EARTHWORK QUANTITIES AND DETERMINE HIS OWN QUANTITIES FOR BIDDING. THE CONTRACTOR IS ADVISED TO DIG TEST HOLES OR USE WHATEVER METHOD HE DEEMS NECESSARY TO DETERMINE EARTHWORK QUANTITIES. EARTHWORK QUANTITIES MAY VARY DEPENDING ON SUCH VARIABLES AS COMPACTION, SHRINKAGE, CONTRACTOR'S METHOD OF OPERATION, STRIPPING DEPTHS, AND ACCURACY OF THE EARTHWORK TAKEOFF. WITH THE SIGNING OF THE CONTRACT FOR THE CONSTRUCTION OF THESE IMPROVEMENTS, THE CONTRACTOR AGREES THAT HIS COST FOR CONSTRUCTING THE GRADING IMPROVEMENTS, AND DISPOSAL OF THE EXCESS MATERIAL IF NECESSARY, IS SATISFACTORY AND THERE WILL BE NO ADDITIONAL CHARGE FOR THIS ITEM.
5. WHEEL WASH MAY BE REQUIRED BY THE INSPECTOR DEPENDING ON SOIL CONDITIONS AT THE TIME OF CONSTRUCTION.

EROSION CONTROL NOTES:

1. EROSION CONTROL MEASURES SHOWN ON THE EROSION CONTROL PLAN ARE THE MINIMUM REQUIRED. ADDITIONAL MEASURES MAY BE REQUIRED TO CONTROL EROSION AND SEDIMENT.
2. EROSION CONTROL MEASURES SHOWN ARE FOR DRY WEATHER CONSTRUCTION. ADJUSTMENTS WILL BE REQUIRED IF WET WEATHER CONSTRUCTION IS UNDERTAKEN.
3. SGA HAS INITIATED THE NPDES PERMITTING PROCESS. THE CONTRACTOR WILL BE RESPONSIBLE FOR COMPLETING THE PROCESS, AND OBTAINING AND MAINTAINING THE FINAL NPDES PERMIT.
4. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) BE ON-SITE AT ALL TIMES DURING CONSTRUCTION. STURTEVANT, GOLEMO & ASSOCIATES CAN PREPARE THAT SWPPP IF DESIRED.

SELECTED GEOTECHNICAL ENGINEERING NOTES:

1. DURING THE GEOTECHNICAL ENGINEERING STUDY A LAYER OF GRAY FAT CLAY WAS ENCOUNTERED IN THE NORTHWEST PORTION OF THE SITE. FOR HOME CONSTRUCTION THIS CLAY LAYER MUST BE AT LEAST 2' BELOW THE LOWEST FOUNDATION ELEVATION. THIS MAY REQUIRE OVER-EXCAVATION OF THE FAT CLAY LAYER AND REPLACEMENT WITH NON-EXPANSIVE STRUCTURAL FILL OR ADDITIONAL FILL PLACEMENT ON EXISTING SOILS OVERLAYING THE FAT CLAY LAYER.
2. EXPOSED FAT CLAY SHOULD BE PREVENTED FROM SUBSTANTIAL DRYING AND SHOULD BE MOISTURE-CONDITIONED PRIOR TO PLACEMENT OF FILL ABOVE IT TO REDUCE FUTURE EXPANSION POTENTIAL. EXCAVATED FAT CLAY MATERIAL MAY BE REUSED AS STRUCTURAL FILL ELSEWHERE ON THE SITE IF THOROUGHLY MIXED WITH LEAN SANDY CLAYS, PROPERLY MOISTURE CONDITIONED, AND COMPACTED. GRADING ACTIVITIES IN EXPANSIVE SOILS AREAS SHOULD BE CLOSELY OBSERVED BY A LICENSED GEOTECHNICAL ENGINEER OR DESIGNATED REPRESENTATIVE.
3. THE TEST PITS FROM THE GEOTECHNICAL ENGINEERING STUDY SHALL BE RE-EXCAVATED AND BACKFILLED WITH STRUCTURAL FILL.
4. WHERE FILL IS PLACED ON SLOPES GREATER THAN 5H:1V THERE SHOULD BE A HORIZONTAL BENCH AT LEAST 10' INTO THE SLOPE.
5. CUT OR FILL SLOPES IN EXCESS OF 30 FEET TALL NEED TO BE TERRACED IN ACORDANCE WITH THE 2003 INTERNATIONAL BUILDING CODE (IBC), SECTION J109.
6. FILL SLOPES SHOULD BE CONSTRUCTED WITH A MAXIMUM LIFT OF 12 INCHES.
7. WET WEATHER CONSTRUCTION MAY REQUIRE ADDITIONAL BASE ROCK AND GEOTEXTILE FABRIC FOR ROADS.

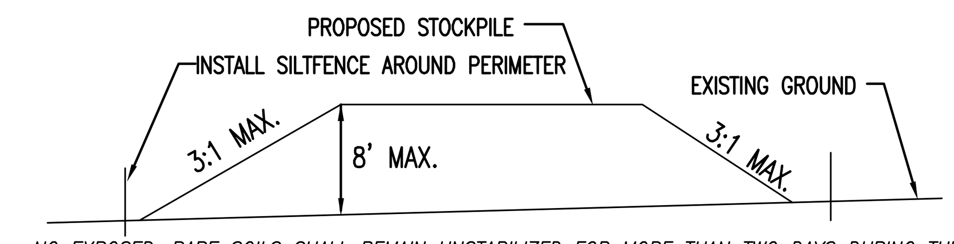
LEGEND

- FILL AREA
- CUT AREA
- FLOW ARROW
- GRAVEL CONSTRUCTION ENTRANCE
- TEMPORARY STORM INLET PROTECTION
- TEMPORARY SILT FENCE
- 100 FINISHED GRADE CONTOURS
- 100 EXISTING GRADE CONTOURS

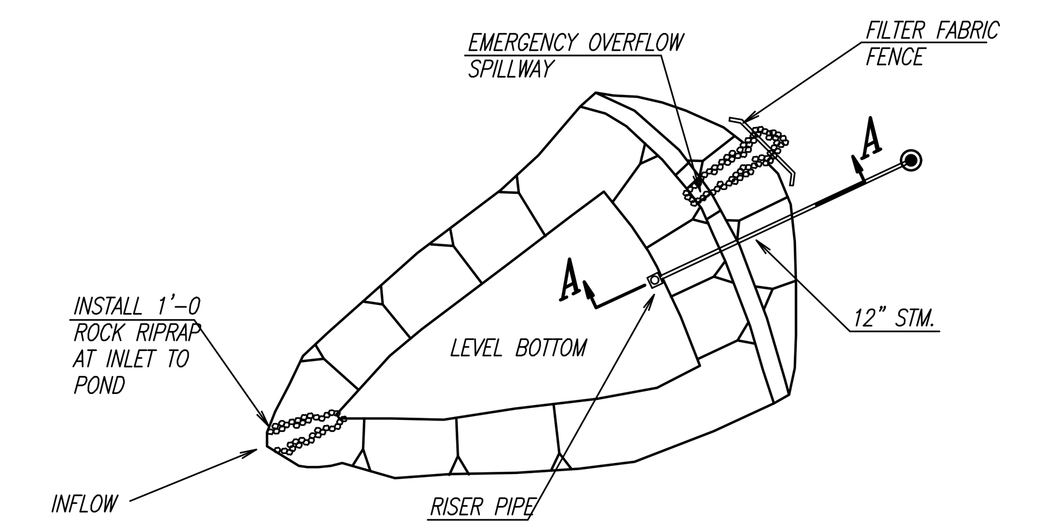
APPROX. DIRT QUANTITIES (CY)

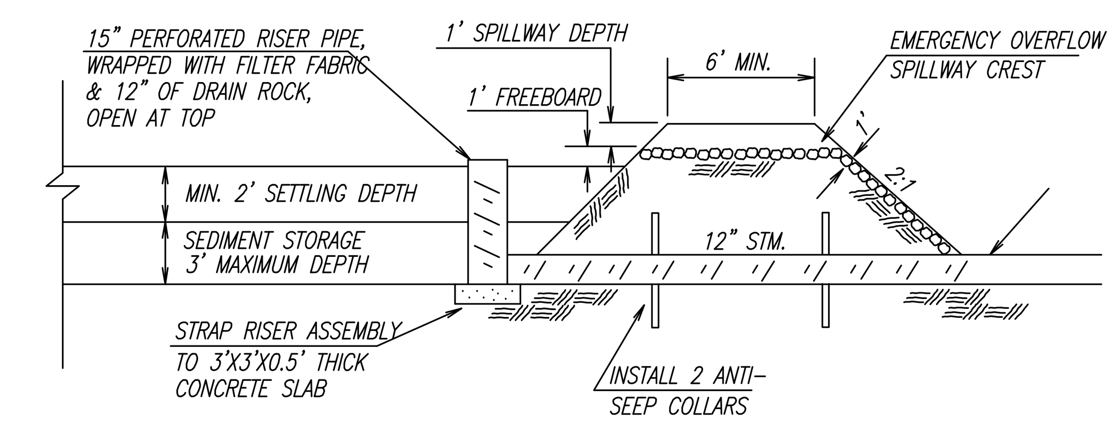
ITEM	STRUCTURAL CUT	STRUCTURAL FILL	NONSTRUCTURAL CUT	NONSTRUCTURAL FILL	TOTAL STRUCTURAL & NON-STRUCTURAL CUT GRADING VOLUME
SITE GRADING	74,825	62,525	33,575	10,325	
TRENCH SPOILS	12,325	---	---	---	
HAUL OFF	---	24,625	---	23,250	
IMPORT	---	---	---	---	
TOTAL	87,150	87,150	33,575	33,575	120,725

NOTES: IT IS ASSUMED THAT NONSTRUCTURAL FILL WILL BE USED TO FILL THE LAST 6" ON THE LOTS. THESE QUANTITIES ARE APPROXIMATE. CONTRACTOR IS ADVISED TO COMPUTE QUANTITIES INDEPENDENTLY FOR ESTIMATING AND BIDDING.



NO EXPOSED, BARE SOILS SHALL REMAIN UNSTABILIZED FOR MORE THAN TWO DAYS DURING THE PERIOD OCTOBER 1 THRU APRIL 30 OR FOR MORE THAN SEVEN DAYS DURING THE PERIOD OF MAY 1 THROUGH SEPTEMBER 30. ALL DISTURBED SOIL SURFACES SHALL BE STABILIZED BY HYDROSEEDING, BLOWN STRAW, OR A SUITABLE APPLICATION OF "BEST MANAGEMENT PRACTICES" AS APPROVED BY THE ENGINEER AND THE CiTY INSPECTOR.





SECTION A-A

TEMPORARY SEDIMENT POND NOTE:
TEMPORARY SEDIMENT POND TO BE CONSTRUCTED IN LOCATION OF PROPOSED DETENTION POND. OUTLET WILL BE CONNECTED TO PROPOSED STORM LINE THAT DRAINS TO EXISTING FACILITY. IF THE PROPOSED STORM LINE IS NOT CONSTRUCTED FIRST THEN WATER WILL NEED TO BE PUMPED FROM THE TEMPORARY SEDIMENT POND.

TEMP SEDIMENTATION POND DETAIL

NO SCALE

SILTATION TRENCH BEHIND CURB

NO SCALE

PROPERTY LINE
H/5 BUT 2' (610 MM) MIN. AND 10' (3048 MM) MAX.
PROPERTY LINE
TOP OF SLOPE
H/5 BUT 2' (610 MM) MIN. AND 20' (6096 MM) MAX.
TOE SLOPE
CUT OR FILL SLOPE
NATURAL OR FINISH GRADE
NATURAL OR FINISH GRADE
INTERCEPTOR DRAIN (IF REQUIRED)

NOTE: GRADING ACTIVITIES MUST BE AT LEAST TWO (2) FEET AWAY FROM PROPERTY BOUNDARIES

IBC APPENDIX J GRADING DETAIL

NO SCALE

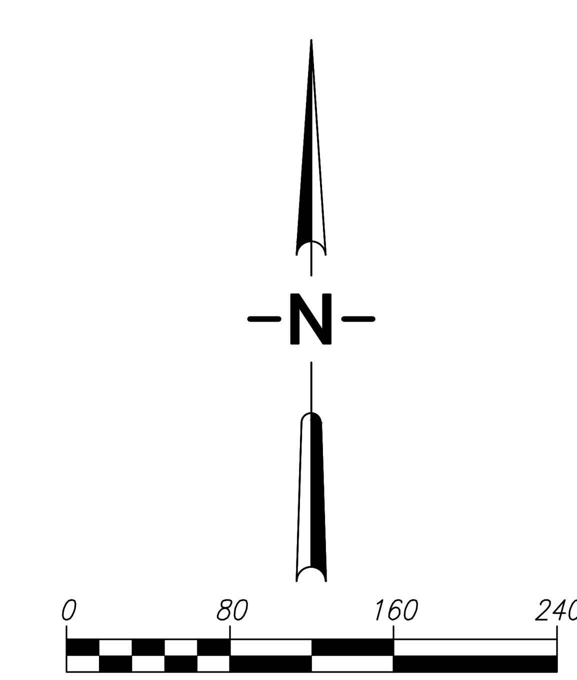
ALL CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE RECOMENDATIONS OF THE GEOTECHNICAL SITE INVESTIGATION PREPARED BY COLUMBIA WEST ENGINEERING, INC.
PHONE: 360-993-2879

FOR PERMANENT POND AND WALL DETAILS SEE STREET AND STORMWATER SHEETS

"SIGNIFICANT VARIATION AND DEGREE OF EROSION CONTROL EFFORT WILL BE DICTATED BY WEATHER CONDITION. THE DEVELOPER AND CONTRACTOR SHOULD BE PREPARED TO PROVIDED EXTRA EROSION CONTROL PROVISIONS AND EFFORT DURING WINTER AND WET WEATHER CONDITIONS BEYOND THAT NORMALLY REQUIRED DURING SUMMER AND DRY WEATHER CONDITIONS. FINE GRAINED AND UNCONSOLIDATED SOILS ON SLOPING SITES MAY BECOME UNSTABLE WHEN SUBJECT TO EXCESSIVE MOISTURE."

SEE THE MITIGATION PLAN BY ECOLOGICAL LAND SEVICES, INC. DATED DECEMBER 2008 FOR MORE INFORMATION

SEE THE GEOTECHNICAL ENGINEERING REPORT BY COLUMBIA WEST ENGINEERING DATED SEPTEMBER 30, 2005 FOR MORE INFORMATION



Scale: 1" = 80'

SGA ENGINEERING & DESIGN
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4/16/2020

GRADING & EROSION CONTROL OVERVIEW

HIGHLAND TERRACE SUBDIVISION PHASE 1

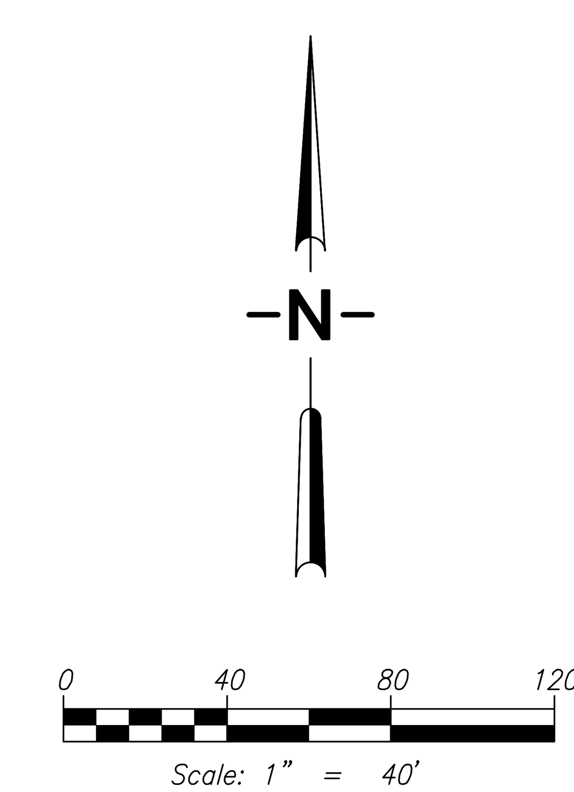
CITY OF LA CENTER
WASHINGTON

APPROVED

REVISIONS

DESIGNED BY:	NAW
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	1" = 80'

JOB NUMBER	SHEET
0536	C3.0



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JASON T. MATTSON, STATE OF WASHINGTON, 40172, REGISTERED PROFESSIONAL ENGINEER
4/16/2020

GRADING & EROSION CONTROL PLAN SHEET 1

HIGHLAND TERRACE SUBDIVISION PHASE 1

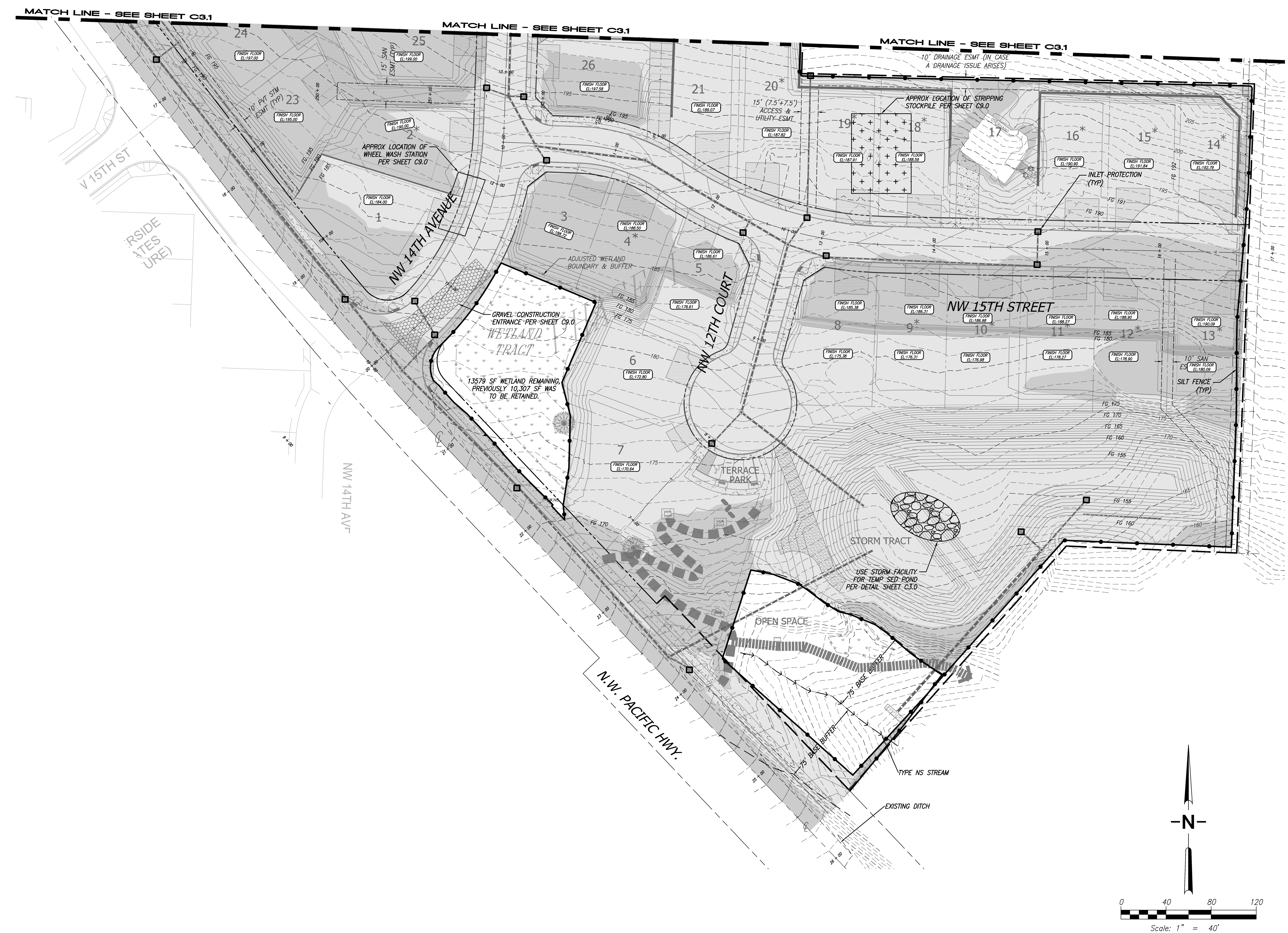
CITY OF LA CENTER WASHINGTON

APPROVED

REVISIONS

DESIGNED BY:	NAW
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	1" = 40'

JOB NUMBER	SHEET
0536	C3.1



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SGA ENGINEERING & DESIGN

CIVIL ENGINEERING ~ LAND PLANNING
DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE

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VANCOUVER, WA 98663
PHONE (360)993-0911
FAX (360)993-0912

JASON T. MATT... STATE OF WASHINGTON 40172 REGISTERED PROFESSIONAL ENGINEER
4/16/2020

GRADING & EROSION CONTROL PLAN SHEET 2

HIGHLAND TERRACE SUBDIVISION PHASE 1

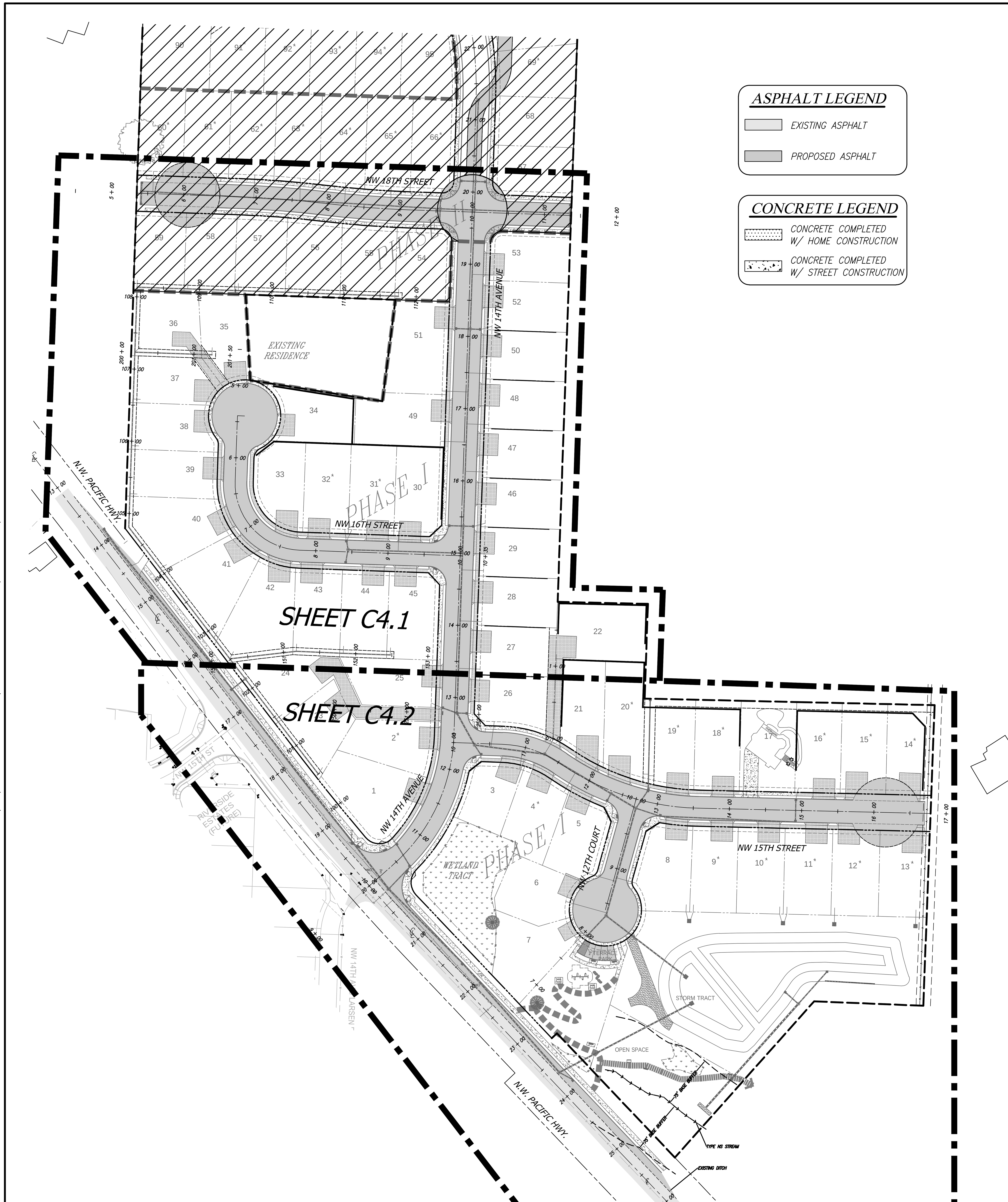
CITY OF LA CENTER WASHINGTON

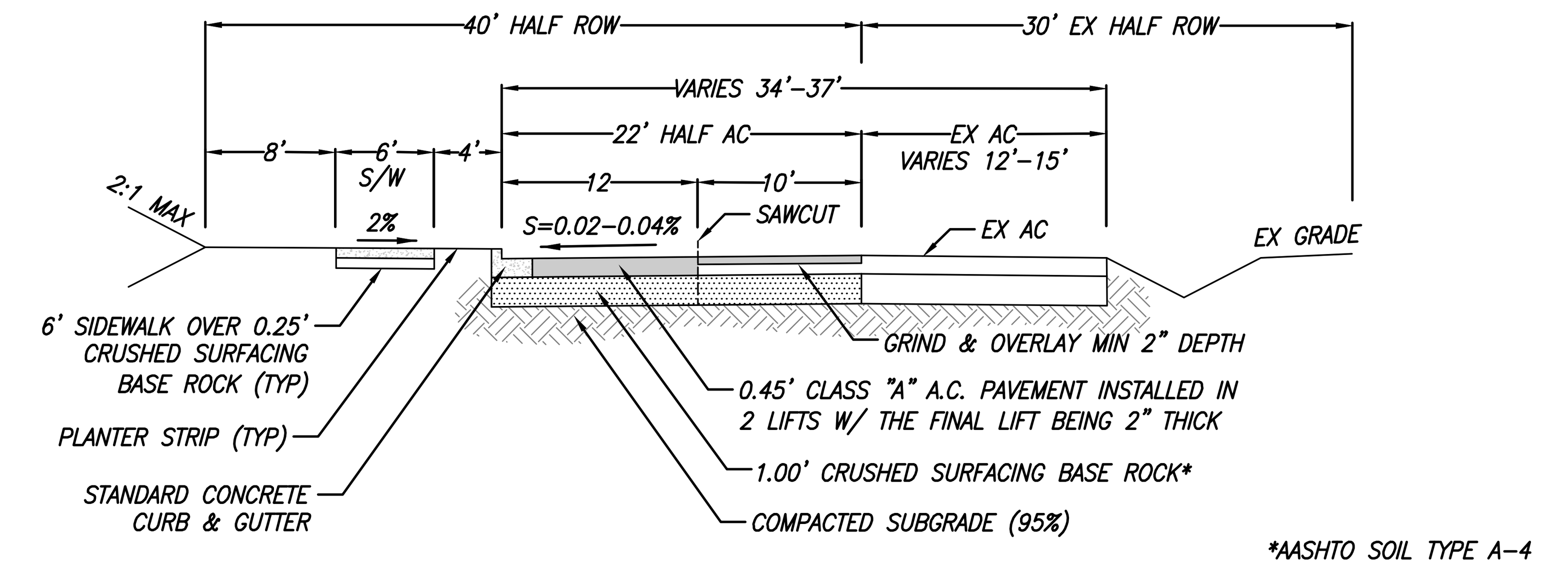
APPROVED

REVISIONS

DESIGNED BY: NAW
DRAWN BY: NAW
CHECKED BY: JTM
SCALE: 1" = 40'

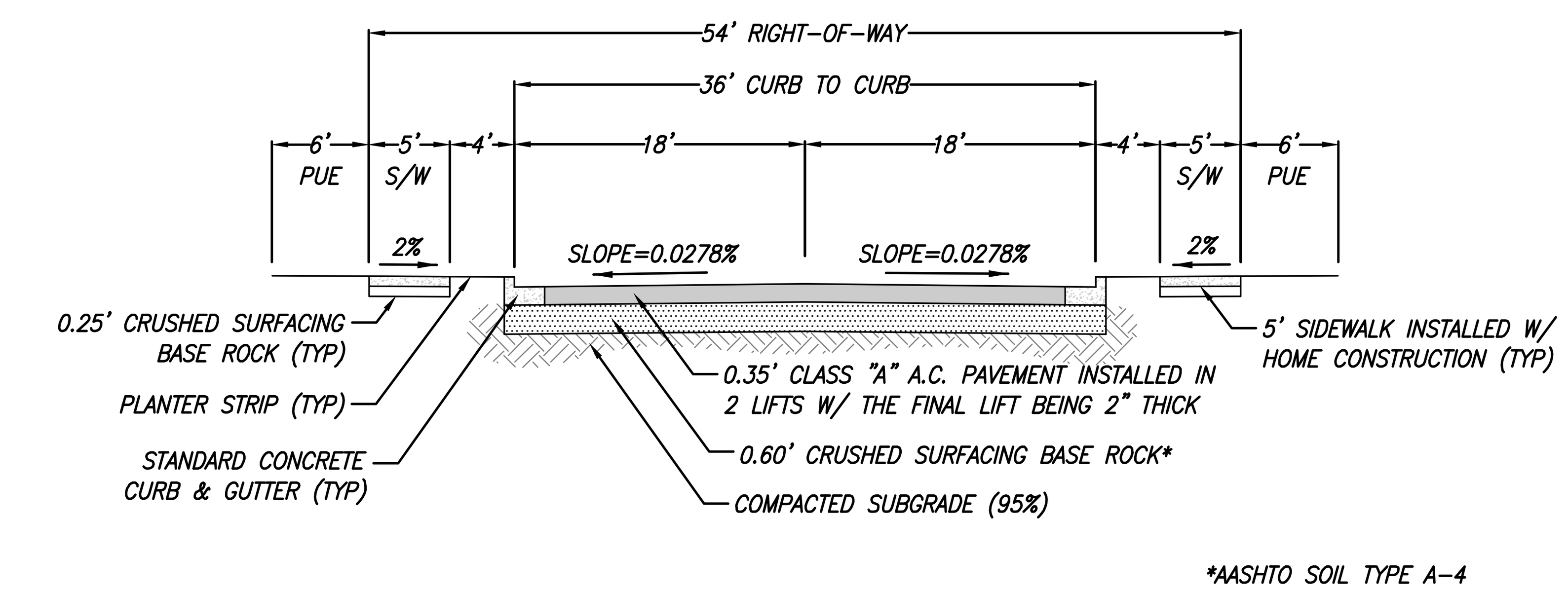
JOB NUMBER 0536
SHEET C3.2





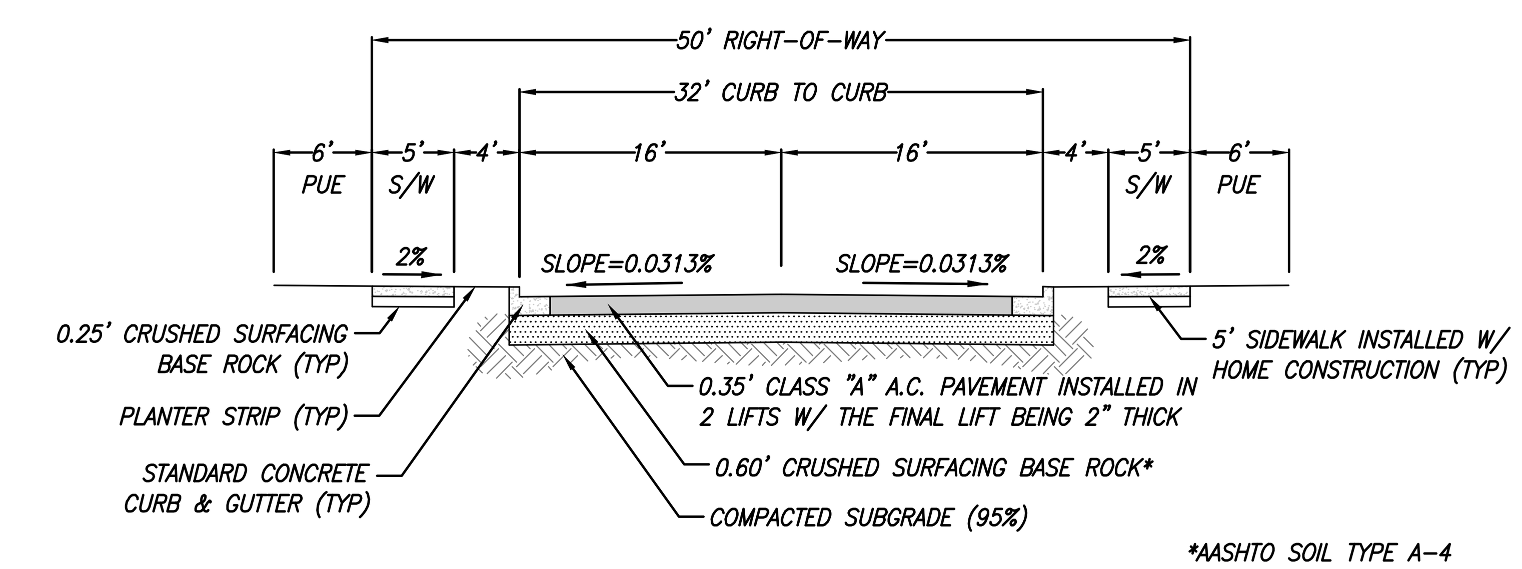
NW PACIFIC HIGHWAY

NO SCALE



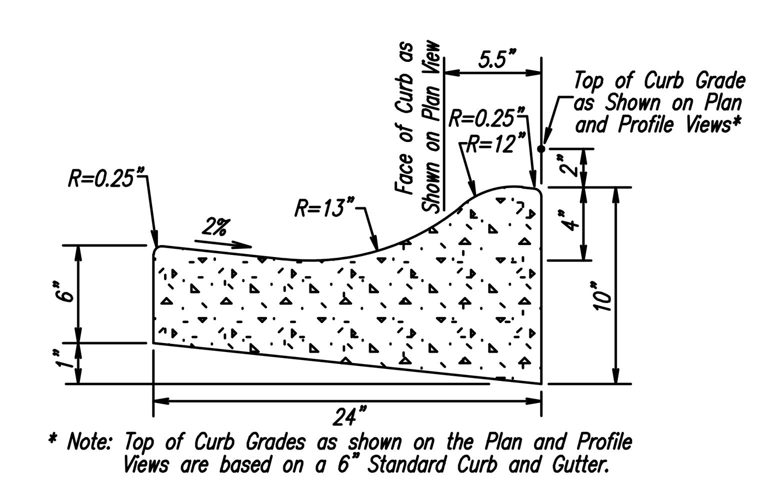
NW 14TH AVENUE

NO SCALE



NW 12TH COURT, NW 15TH STREET, NW 16TH STREET

NO SCALE



ROLLED CURB AND GUTTER DETAIL

ROLLED CURB TO BE USED ALONG NW. 12TH COURT CUL-DE-SAC & NW. 16TH STREET CUL-DE-SAC
NOT TO SCALE

N

0 80 160 240

Scale: 1" = 80'

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DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE

2005 BROADWAY
VANCOUVER, WA 98663
PHONE (360)993-0911
FAX (360)993-0912

JASON T. MATSON STATE OF WASHINGTON 40172 REGISTERED PROFESSIONAL ENGINEER

4/16/2020

STREET CONSTRUCTION OVERVIEW

HIGHLAND TERRACE SUBDIVISION PHASE 1

CITY OF LA CENTER WASHINGTON

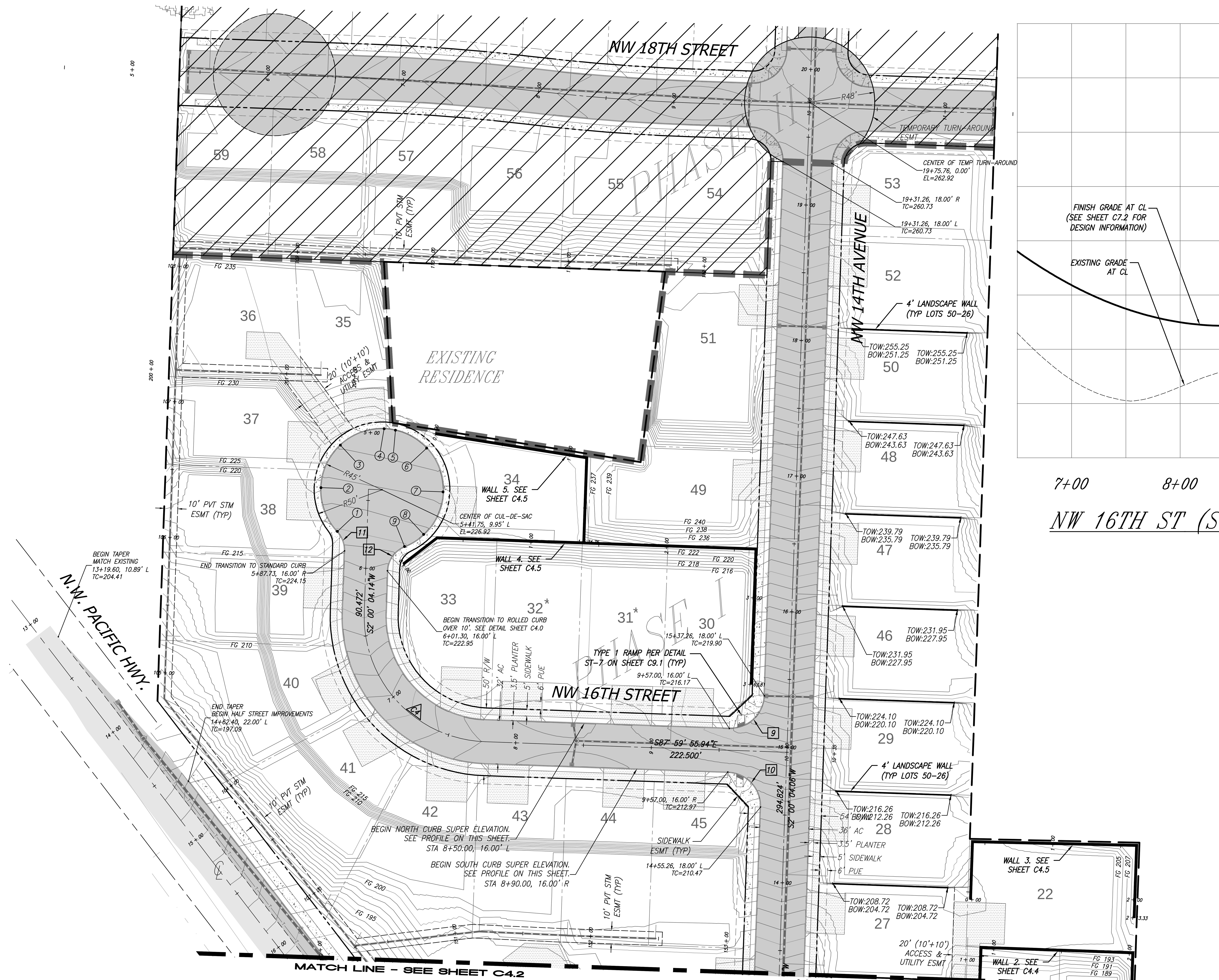
APPROVED

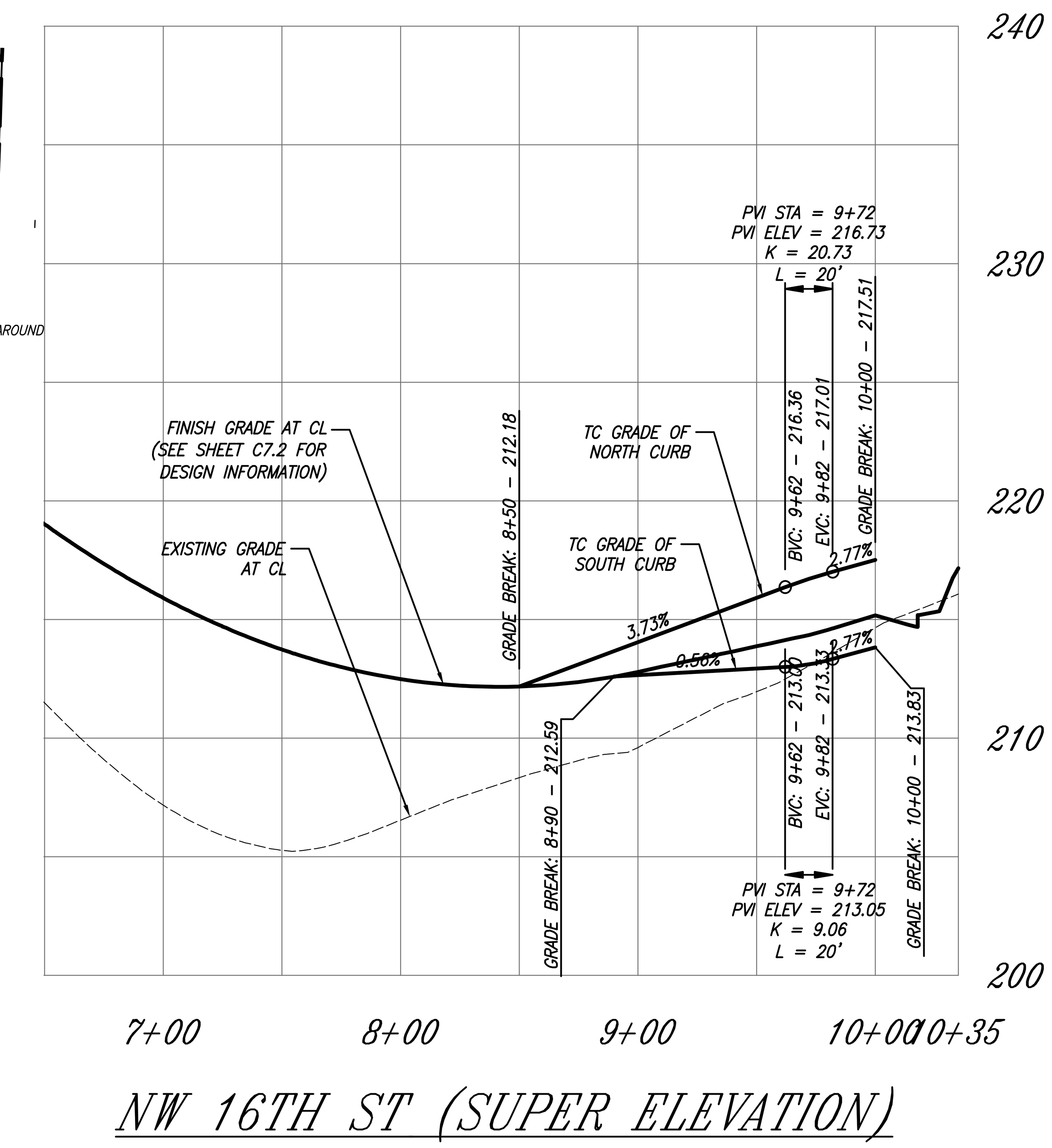
REVISIONS

DESIGNED BY: NAW
DRAWN BY: NAW
CHECKED BY: JTM
SCALE: 1" = 80'

JOB NUMBER 0536

SHEET C4.0





NW 16TH ST (SUPER ELEVATION)

Scale: 1" = 50'

Scale: 1" = 5'

16TH STREET CUL-DE-SAC

		ANGLE FROM CENTER	TC ELEV.
1	PRC	0°	225.40
2		45°	227.11
3		90°	228.56
4		135°	229.19
5	HP	146°	229.22
6		180°	228.97
7		225°	227.89
8		270°	226.21
9	PRC	291°	225.40

ANGLE FROM CENTER IS MEASURED GOING CLOCK-WISE FROM POINT 1

CURB RETURN TABLE

CURB #	LENGTH	RADIUS	DELTA	ER	1/4 PT	1/2 PT	3/4 PT	ER
9	39.27	25.00	90.00	219.90	218.85	217.79	216.87	216.17
10	39.27	25.00	90.00	212.97	212.79	212.11	211.29	210.47
11	15.71	20.00	45.02	225.40	225.09	224.78	224.47	224.15
12	23.17	20.00	66.37	222.95	223.56	224.18	224.79	225.40

CURB RETURN NOTE: TC ELEVATIONS SHOWN REFLECT PROJECTED TC GRADE & DO NOT ACCOUNT FOR CURB TYPE OR ADA RAMPS. RETURN GRADES GREATER THAN 2%

CURVE TABLE

CURVE #	LENGTH	RADIUS	DELTA	CHORD DIRECTION	CHORD LENGTH
C4	145.29	92.39	90.10	S42° 57' 00"E	130.78

*DRIVEWAYS ARE CONCEPTUAL AND ARE SHOWN FOR PLANNING PURPOSES ONLY

ASPHALT LEGEND

- EXISTING ASPHALT
- PROPOSED ASPHALT

CONCRETE LEGEND

- CONCRETE COMPLETED W/ HOME CONSTRUCTION
- CONCRETE COMPLETED W/ STREET CONSTRUCTION

N

Scale: 1" = 40'

SGA ENGINEERING & DESIGN

CIVIL ENGINEERING ~ LAND PLANNING
DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE

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JASON T. MATTSON, STATE OF WASHINGTON, 40172, REGISTERED PROFESSIONAL ENGINEER

4/16/2020

HIGHLAND TERRACE SUBDIVISION PHASE 1

STREET CONSTRUCTION SHEET 1

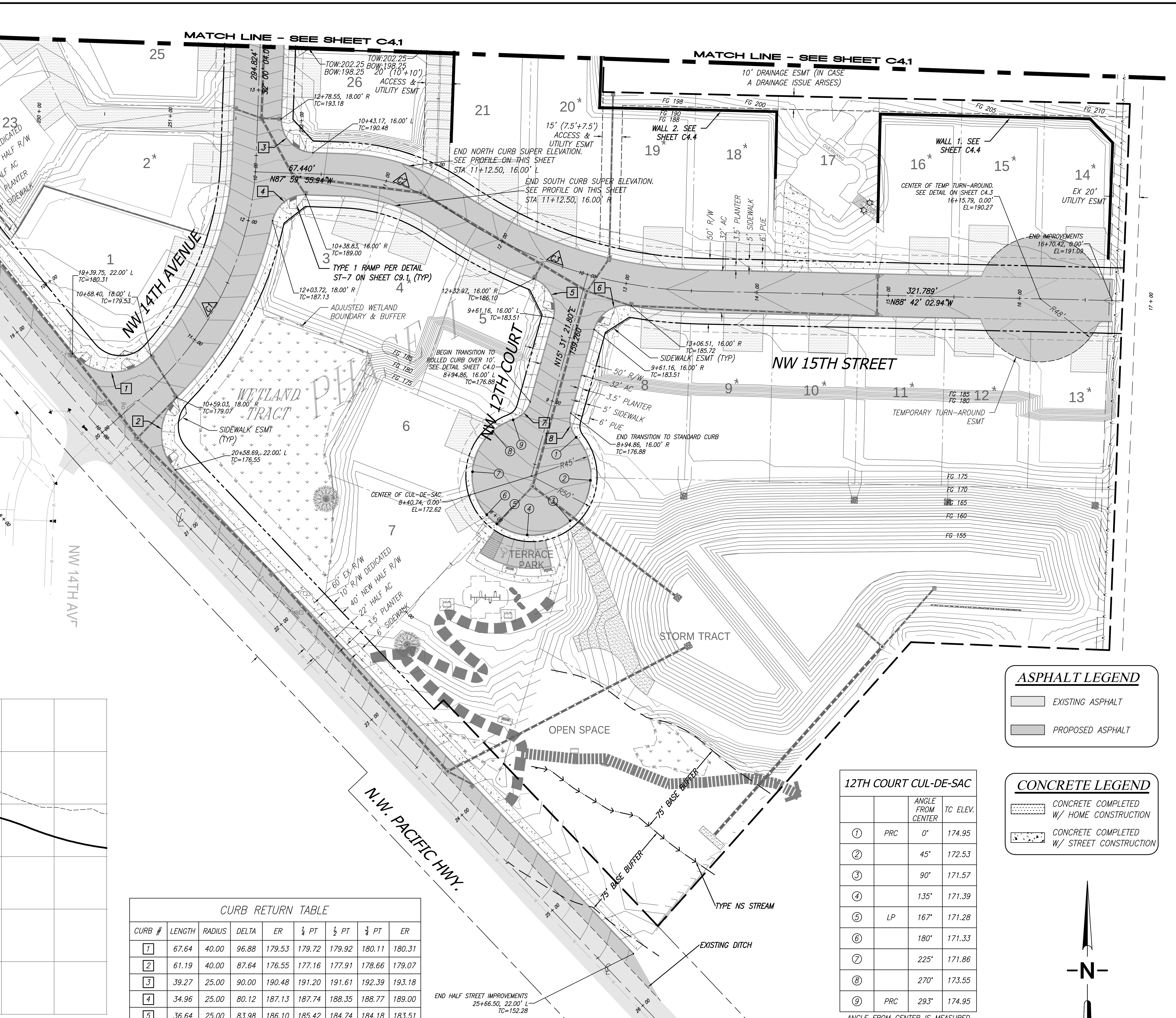
CITY OF LA CENTER, WASHINGTON

APPROVED

REVISIONS

DESIGNED BY:	NAW
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	PLAN VIEW: 1" = 40' PROFILE: 1" = 50' HORIZ. 1" = 5' VERT.

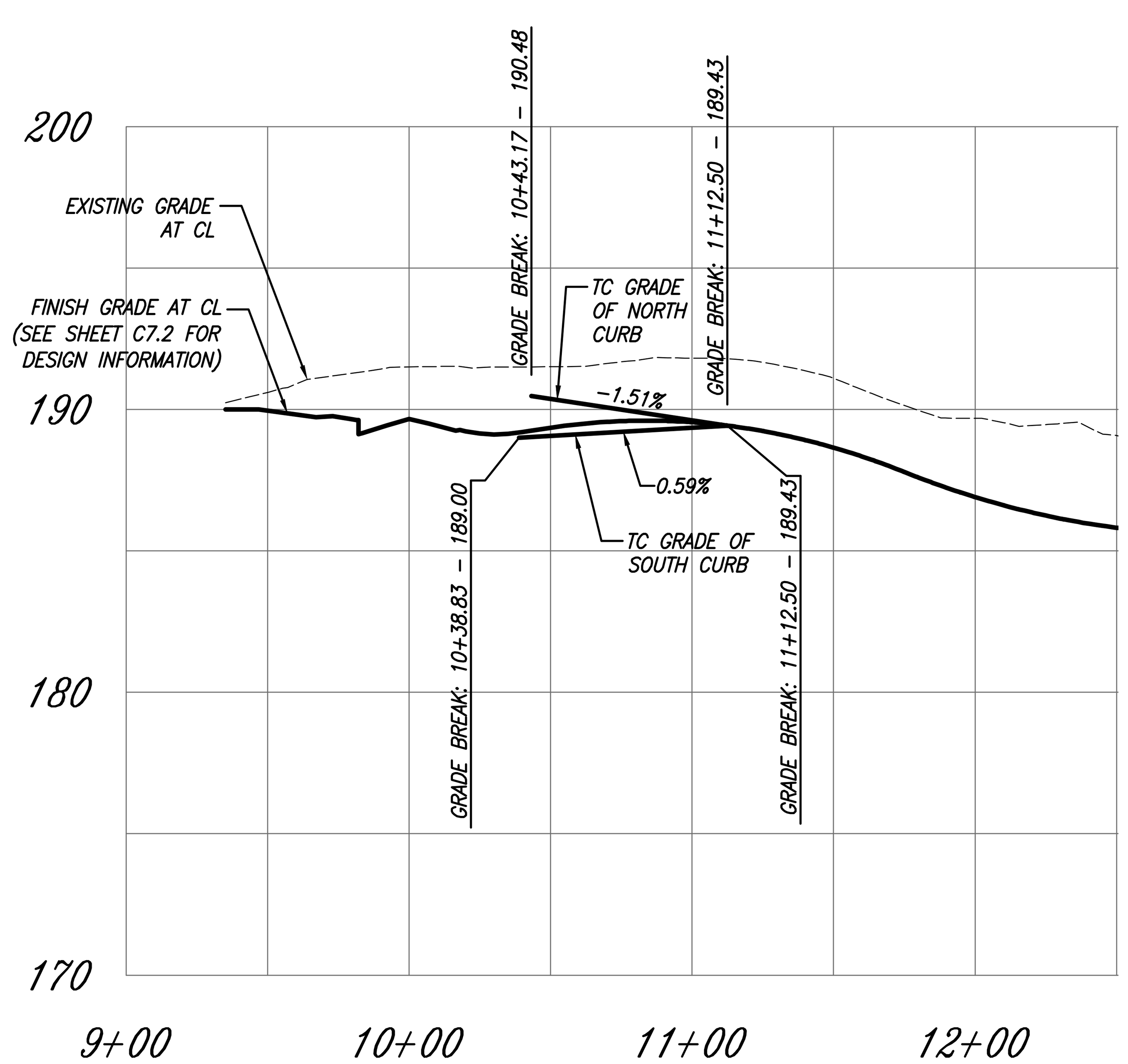
JOB NUMBER	SHEET
0536	C4.1



CURVE TABLE

CURVE #	LENGTH	RADIUS	DELTA	CHORD DIRECTION	CHORD LENGTH
C1	203.22	250.00	46.58	S25° 17' 19"W	197.67
C2	85.47	150.00	32.65	N71° 40' 31"W	84.32
C3	203.72	350.00	33.35	S72° 01' 34"E	200.86

*DRIVEWAYS ARE CONCEPTUAL AND ARE SHOWN FOR PLANNING PURPOSES ONLY



NW 15TH ST (SUPER ELEVATION)

CURB RETURN TABLE

CURB #	LENGTH	RADIUS	DELTA	ER	1/4 PT	1/2 PT	3/4 PT	ER
1	67.64	40.00	96.88	179.53	179.72	179.92	180.11	180.31
2	61.19	40.00	87.64	176.55	177.16	177.91	178.66	179.07
3	39.27	25.00	90.00	190.48	191.20	191.61	192.39	193.18
4	34.96	25.00	80.12	187.13	187.74	188.35	188.77	189.00
5	36.64	25.00	83.98	186.10	185.42	184.74	184.18	183.51
6	36.64	25.00	83.98	183.51	184.18	184.63	185.18	185.72
7	19.68	20.00	56.37	176.88	176.37	175.88	175.40	174.95
8	19.68	20.00	56.37	174.95	175.40	175.88	176.37	176.88

CURB RETURN NOTE: TC ELEVATIONS SHOWN REFLECT PROJECTED TC GRADE & DO NOT ACCOUNT FOR CURB TYPE OR ADA RAMPS. RETURN GRADES GREATER THAN 2%

12TH COURT CUL-DE-SAC

		ANGLE FROM CENTER	TC ELEV.
1	PRC	0°	174.95
2		45°	172.53
3		90°	171.57
4		135°	171.39
5	LP	167°	171.28
6		180°	171.33
7		225°	171.86
8		270°	173.55
9	PRC	293°	174.95

ANGLE FROM CENTER IS MEASURED GOING CLOCK-WISE FROM POINT 1

ASPHALT LEGEND

EXISTING ASPHALT

PROPOSED ASPHALT

CONCRETE LEGEND

CONCRETE COMPLETED W/ HOME CONSTRUCTION

CONCRETE COMPLETED W/ STREET CONSTRUCTION

-N-

0 40 80 120

Scale: 1" = 40'

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JASON T. MATTOS
STATE OF WASHINGTON
40172
REGISTERED
PROFESSIONAL ENGINEER
4/16/2020

STREET CONSTRUCTION SHEET 2

HIGHLAND TERRACE SUBDIVISION PHASE 1

CITY OF LA CENTER WASHINGTON

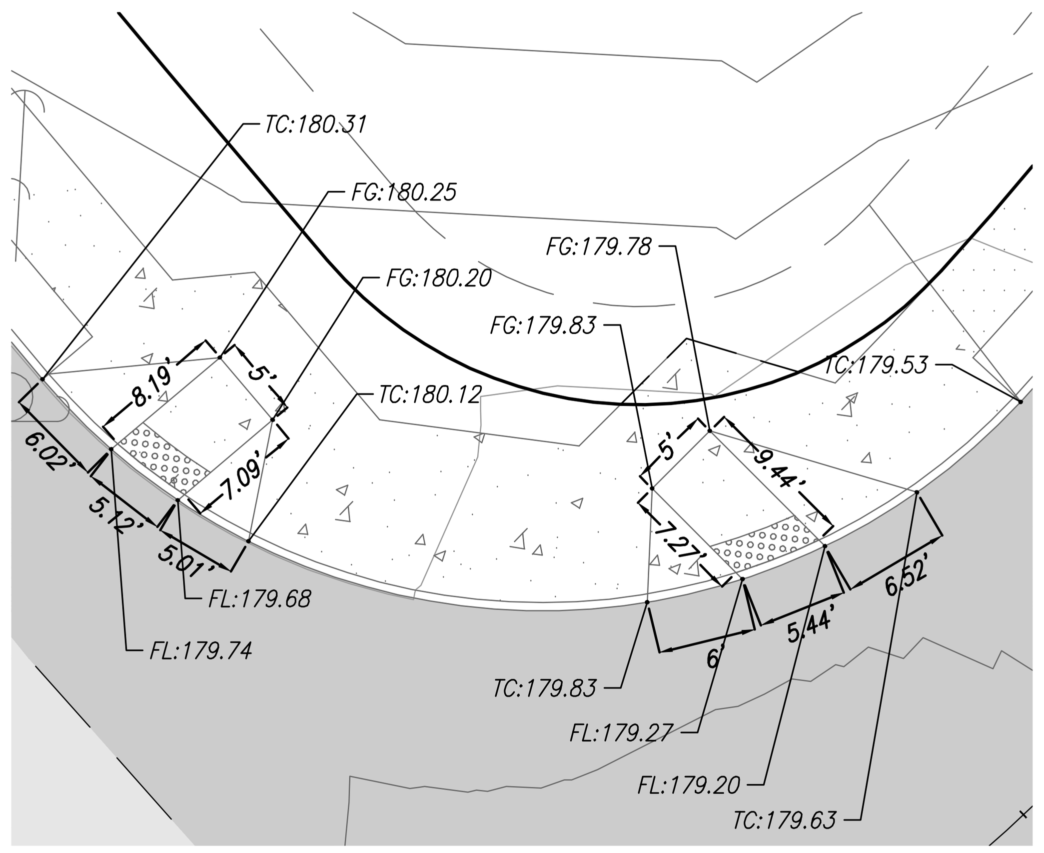
APPROVED

REVISIONS

DESIGNED BY: NAW
DRAWN BY: NAW
CHECKED BY: JTM
SCALE: PLAN VIEW: 1" = 40'
PROFILE: 1" = 50' HORIZ.
1" = 5' VERT.

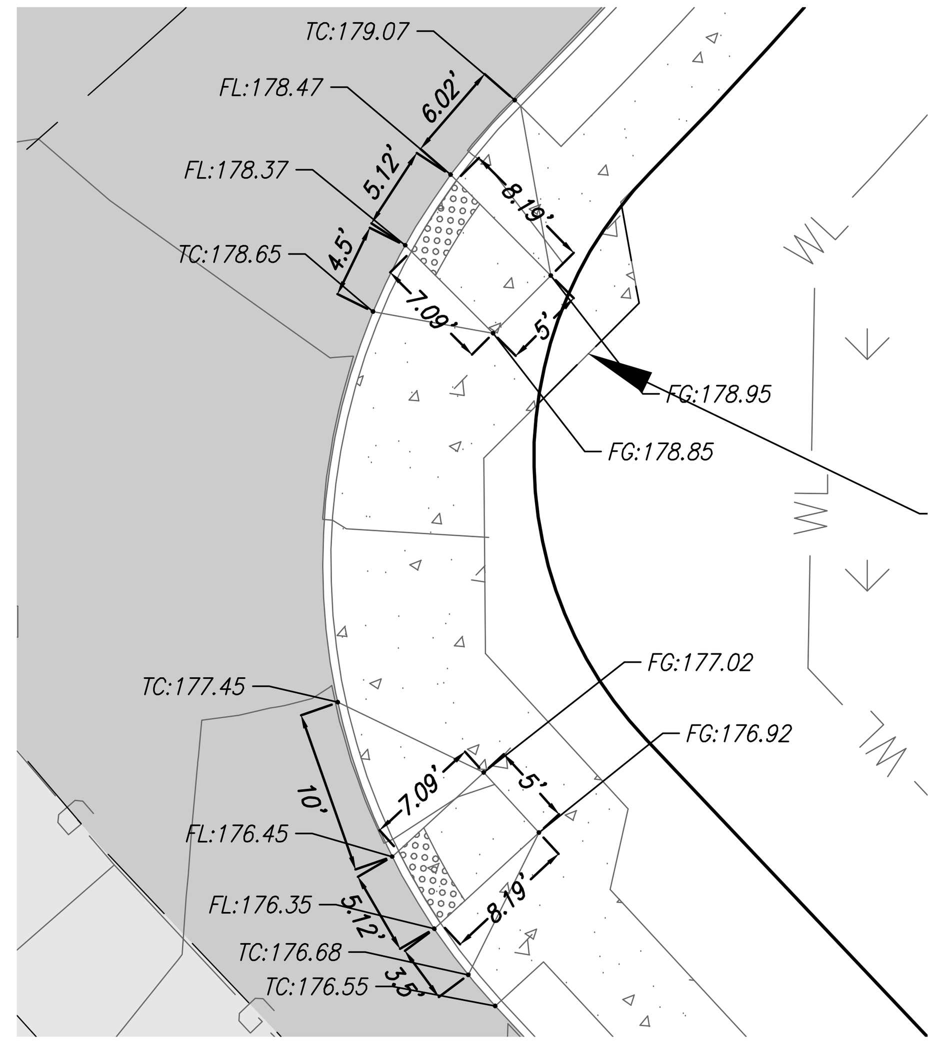
JOB NUMBER 0536

SHEET C4.2



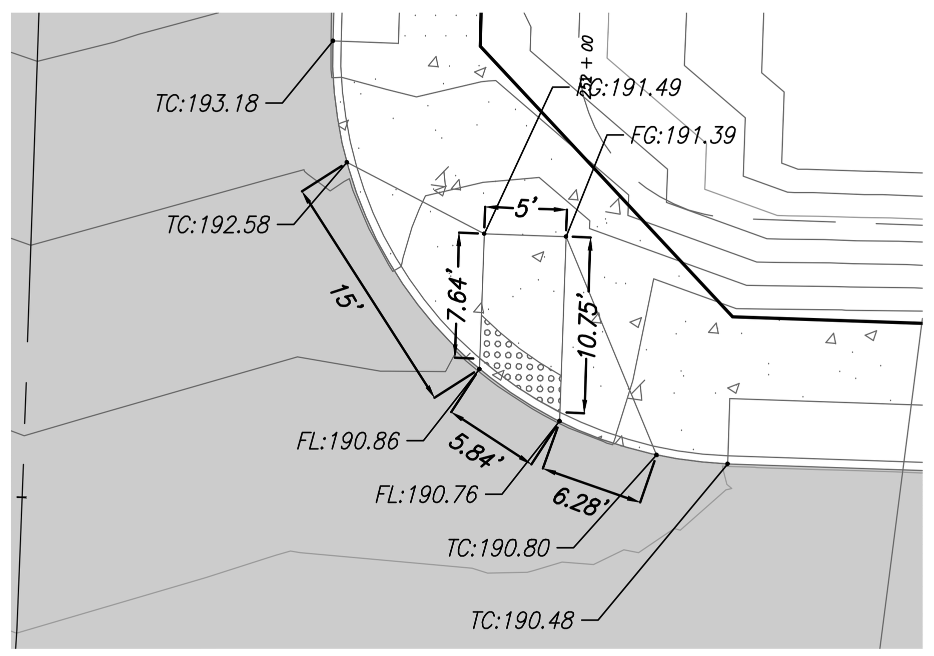
RAMP BLOWUP: CURB RETURN 1

SCALE: 1"=10'



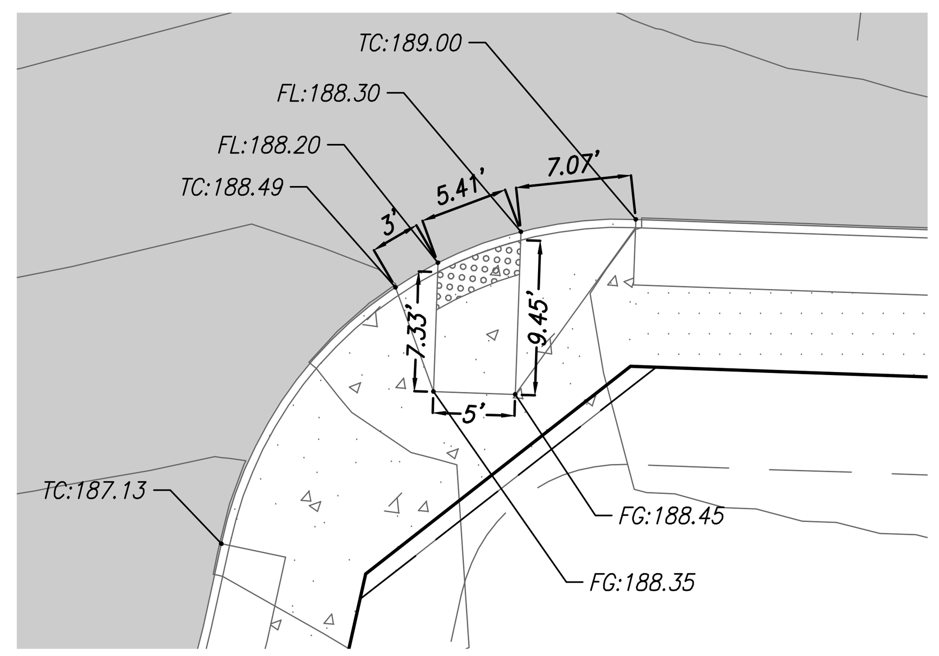
RAMP BLOWUP: CURB RETURN 2

SCALE: 1"=10'



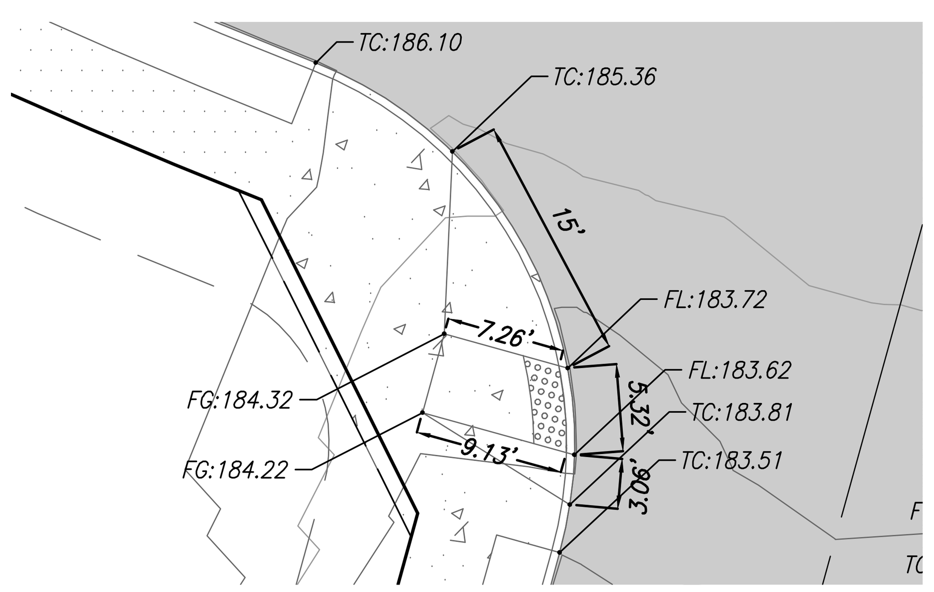
RAMP BLOWUP: CURB RETURN 3

SCALE: 1"=10'



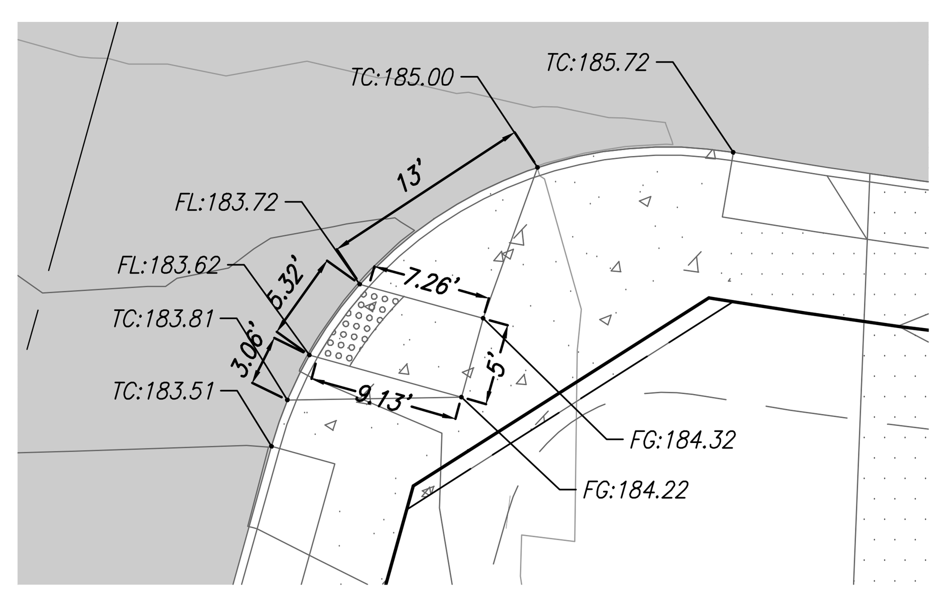
RAMP BLOWUP: CURB RETURN 4

SCALE: 1"=10'



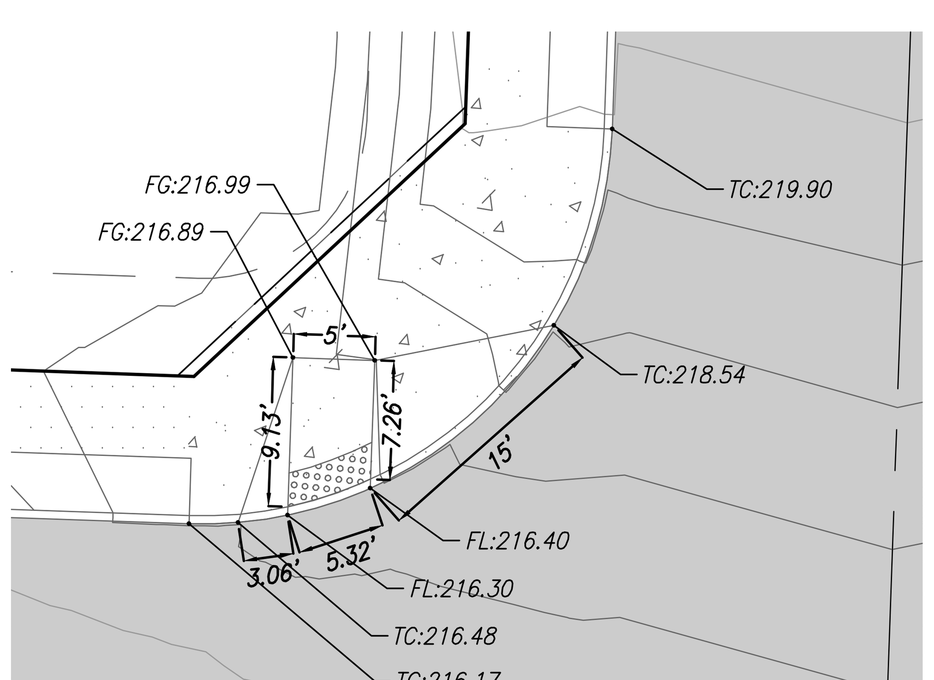
RAMP BLOWUP: CURB RETURN 5

SCALE: 1"=10'



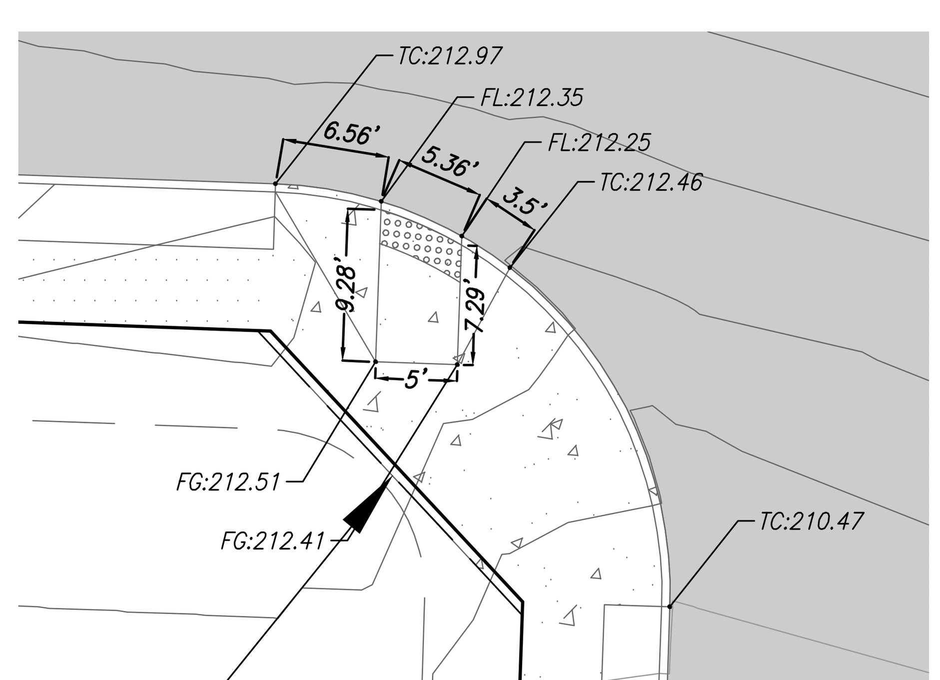
RAMP BLOWUP: CURB RETURN 6

SCALE: 1"=10'



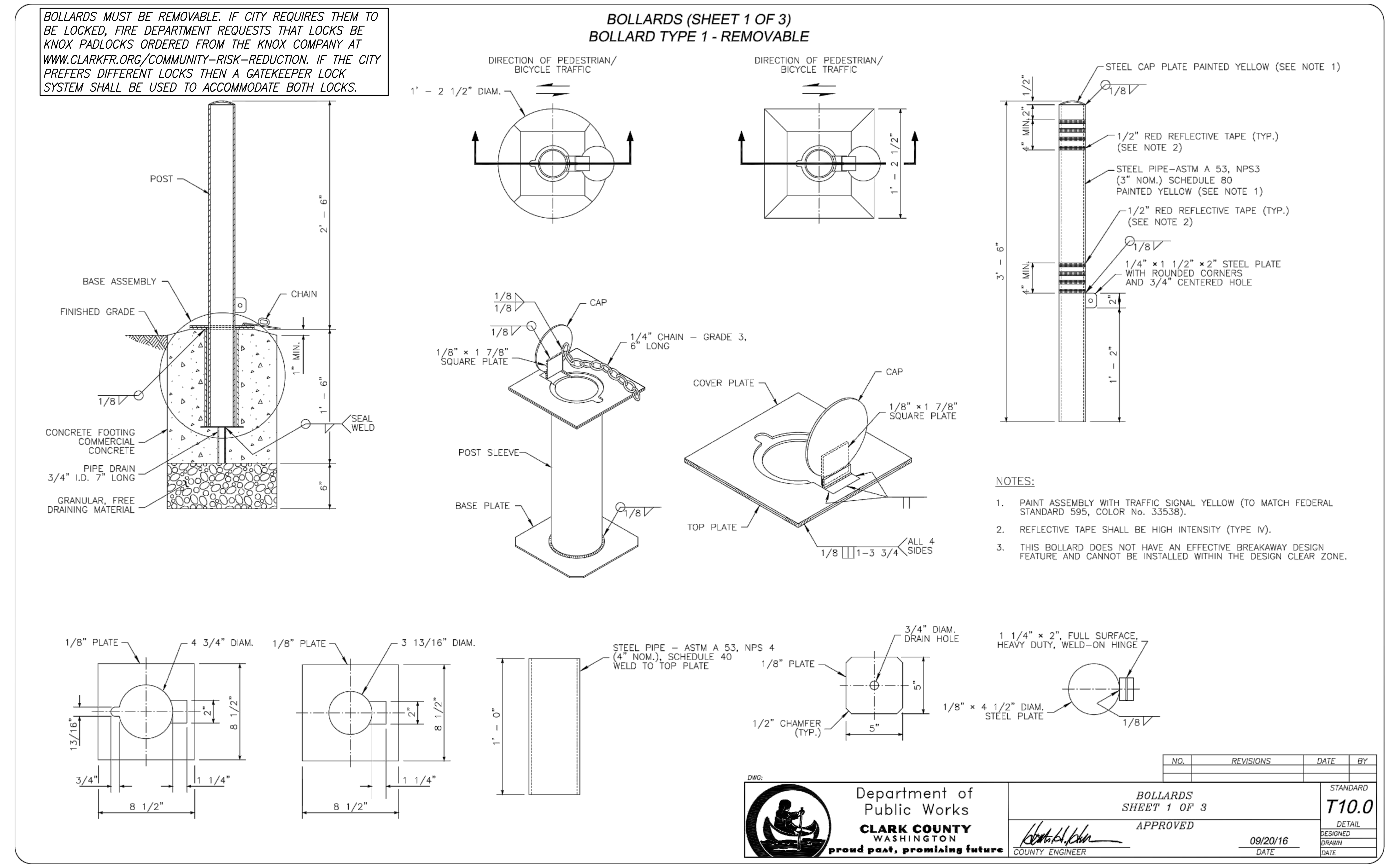
RAMP BLOWUP: CURB RETURN 9

SCALE: 1"=10'



RAMP BLOWUP: CURB RETURN 10

SCALE: 1"=10'



ASPHALT LEGEND

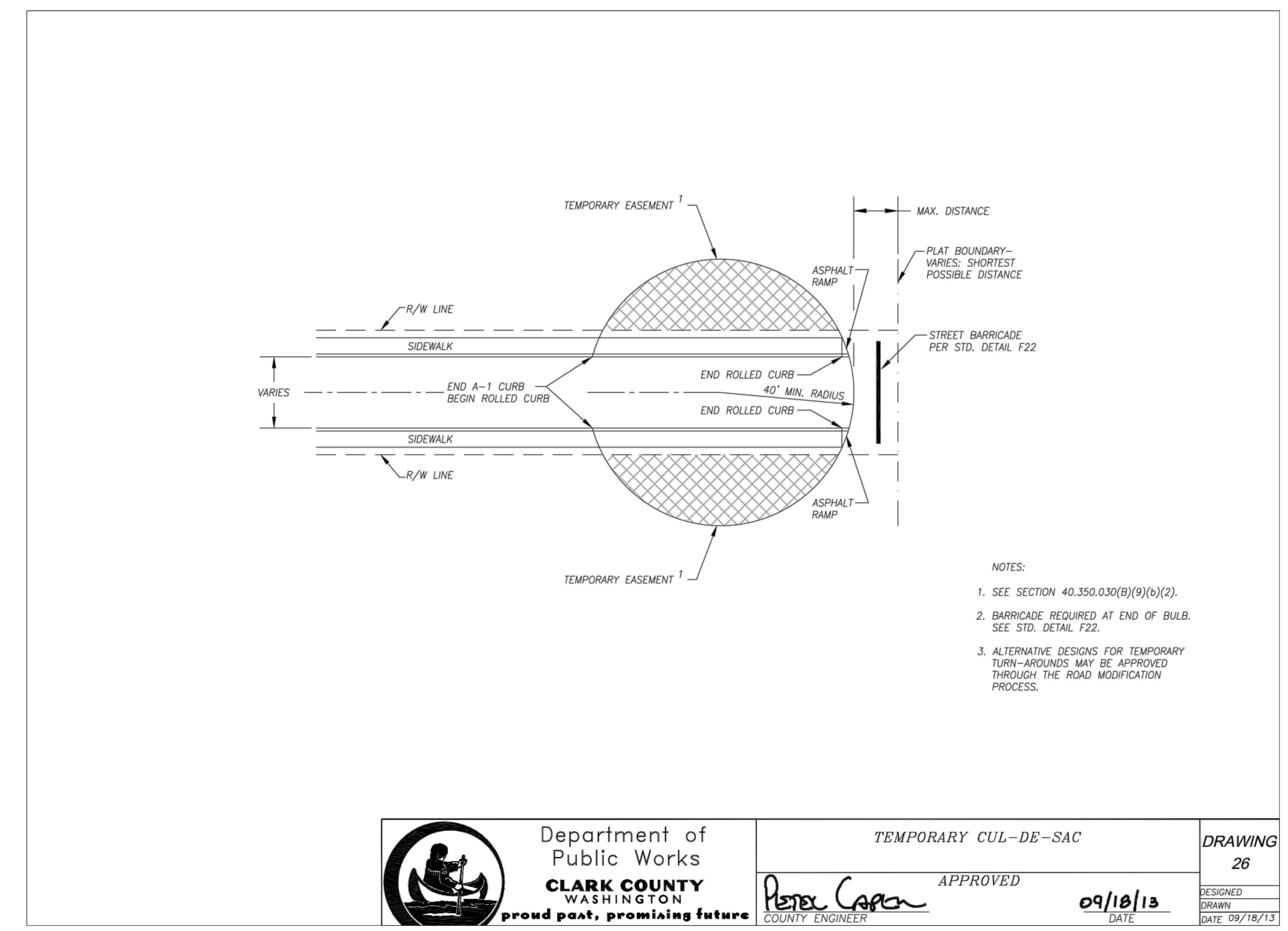
EXISTING ASPHALT

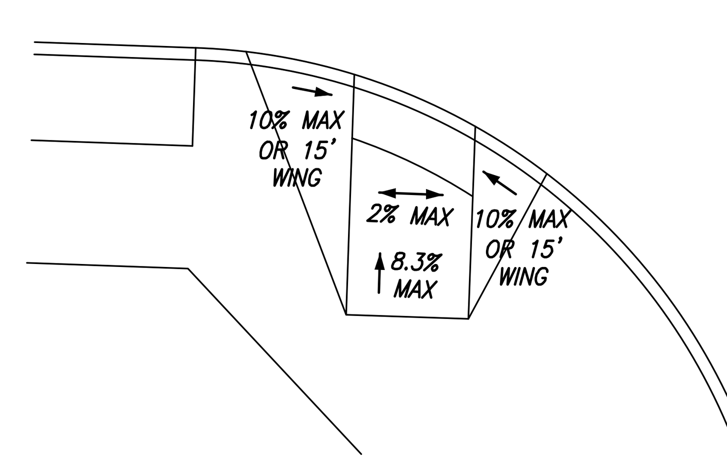
PROPOSED ASPHALT

CONCRETE LEGEND

CONCRETE COMPLETED W/ HOME CONSTRUCTION

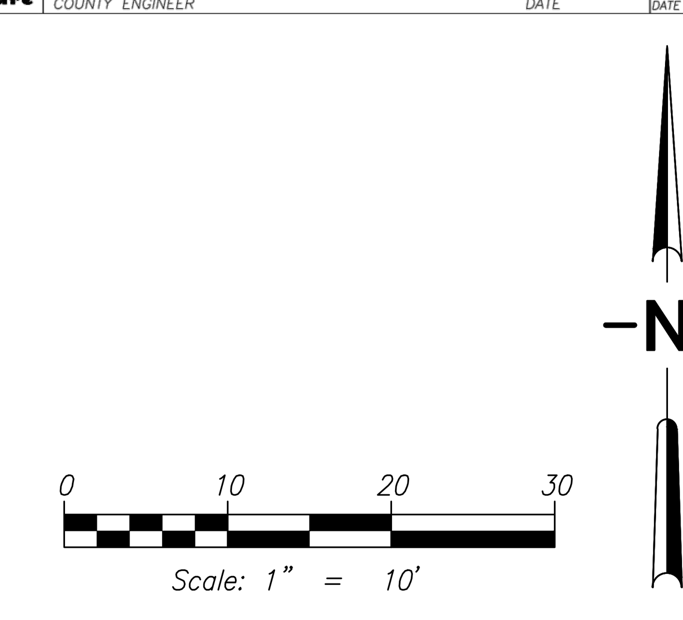
CONCRETE COMPLETED W/ STREET CONSTRUCTION





TYPICAL RAMP SLOPES PER DETAIL ST-7 ON SHEET C9.1

NO SCALE



SGA ENGINEERING & DESIGN

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4/16/2020

STREET CONSTRUCTION DETAILS

HIGHLAND TERRACE SUBDIVISION PHASE 1

CITY OF LA CENTER WASHINGTON

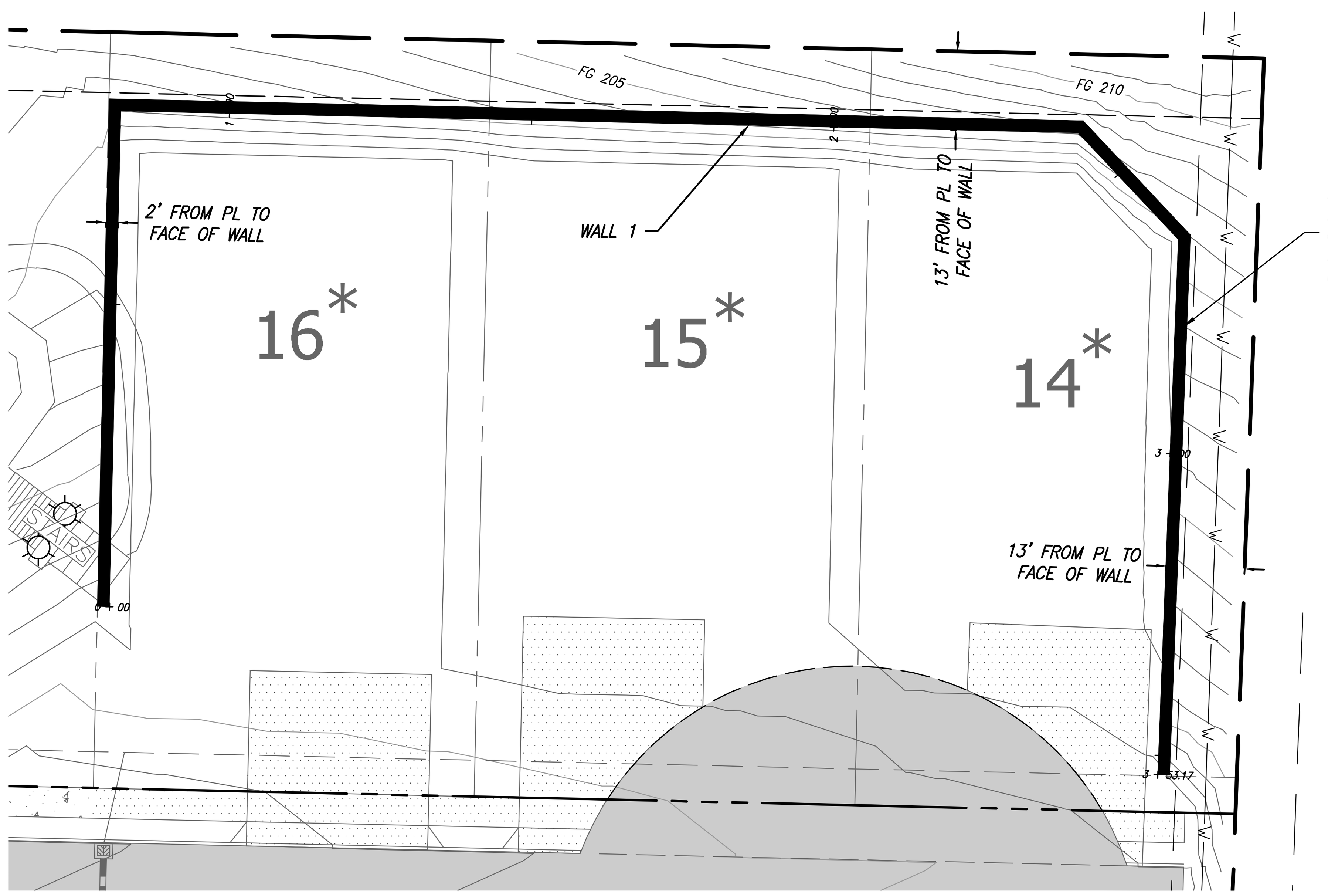
APPROVED

REVISIONS

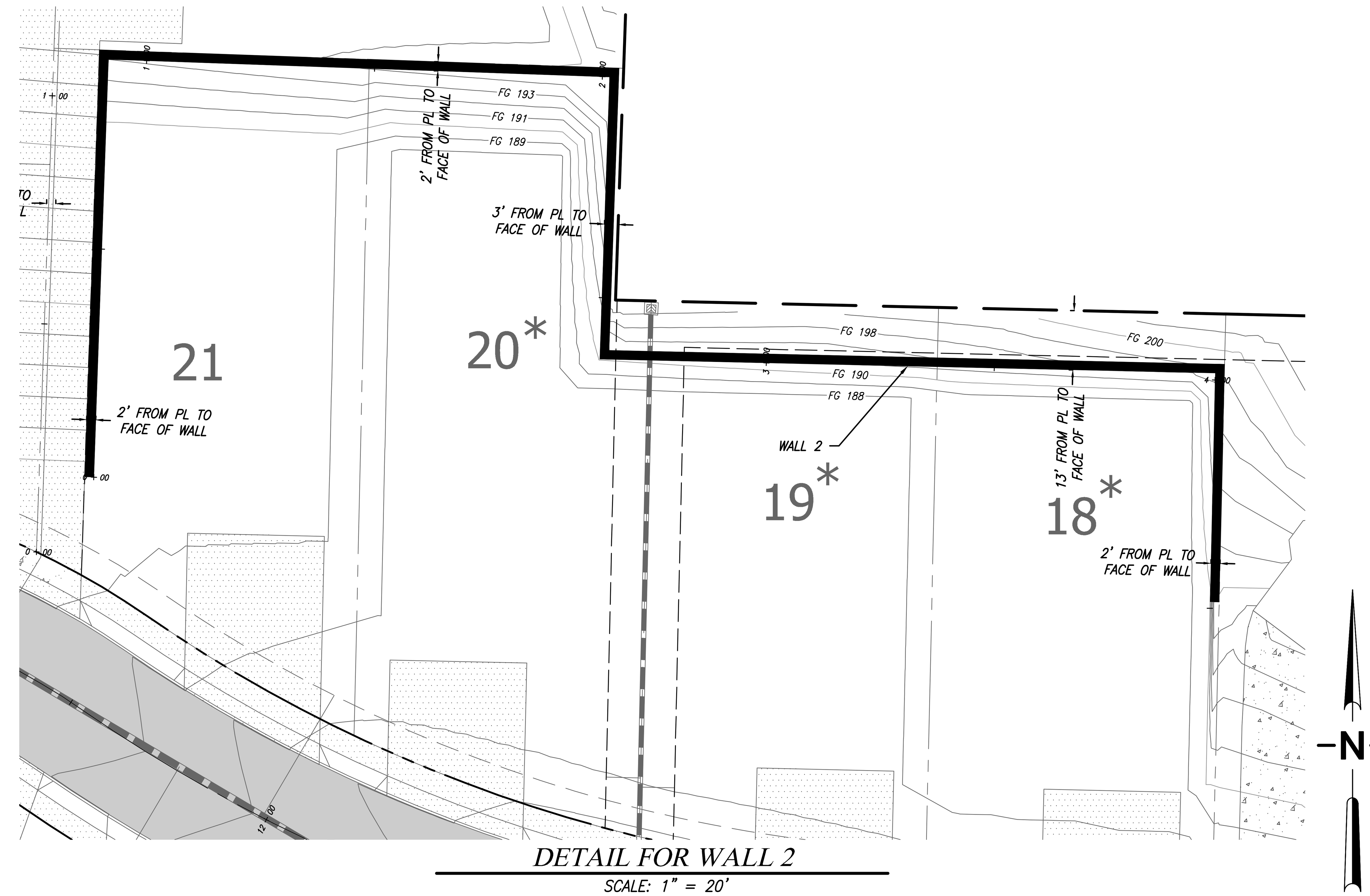
DESIGNED BY: NAW
DRAWN BY: NAW
CHECKED BY: JTM
SCALE: 1" = 10'

JOB NUMBER	SHEET
0536	C4.3

NOTE: CONTRACTOR TO POTHOLE AND VERIFY DEPTH AND LOCATION OF EXISTING WATER LINE AND REPORT ANY DISCREPANCIES TO THE ENGINEER. DUE TO THE PROXIMITY, HEIGHT OF PROPOSED WALL AND UNKNOWN SOIL CONDITIONS NEAR THE WATER LINE, A CLARK PUBLIC UTILITIES INSPECTOR SHALL BE PRESENT DURING EXCAVATION FOR WALL FOOTING AND ANY TIE-BACK GEOGRID, ALTERNATIVE WALL CONSTRUCTION TECHNIQUE OR SHORING. IF IT IS DETERMINED THAT SOIL STABILITY MAY BE COMPROMISED SURROUNDING THE WATER LINE AND TRENCH, AN ALTERNATE TEMPORARY WATER SOLUTION WILL BE REQUIRED AND WILL NEED TO BE REVIEWED AND APPROVED PRIOR TO ANY FURTHER CONSTRUCTION OF THE WALL.



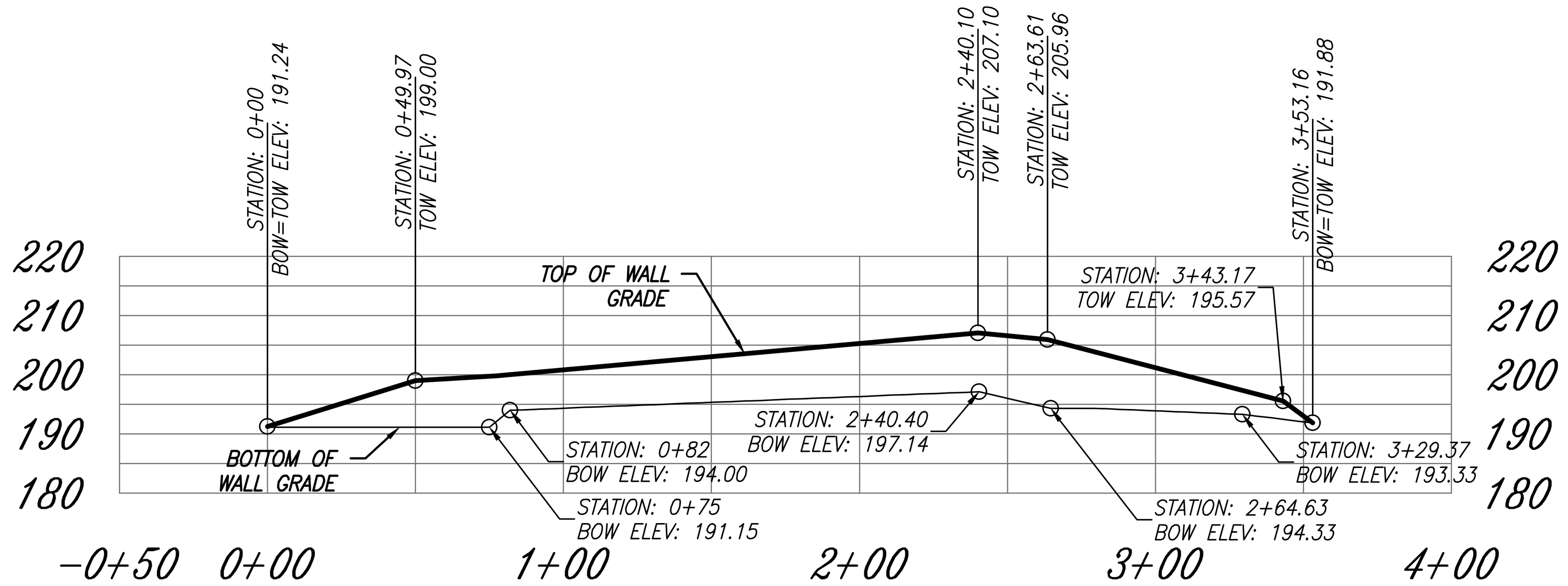
DETAIL FOR WALL 1
SCALE: 1" = 20'



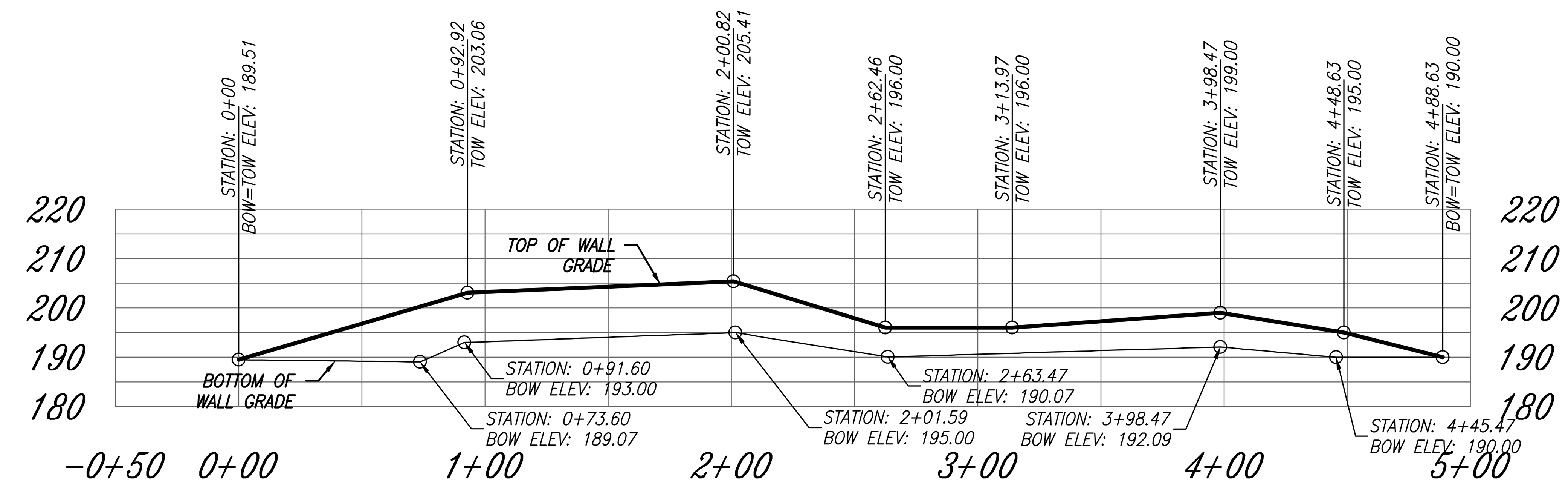
DETAIL FOR WALL 2
SCALE: 1" = 20'

WALLS OVER 4-FEET HIGH REQUIRE STRUCTURAL CALCULATIONS AND A SEPARATE BUILDING PERMIT. STRUCTURAL DESIGN TO BE COMPLETED BY OTHERS.

0 20 40 60
Scale: 1" = 20'



WALL 1



WALL 2

0 50 100 150
Scale: 1" = 50'

0 25 50 75
Scale: 1" = 25'

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04/27/2020

WALL DETAILS SHEET 1

HIGHLAND TERRACE SUBDIVISION PHASE 1

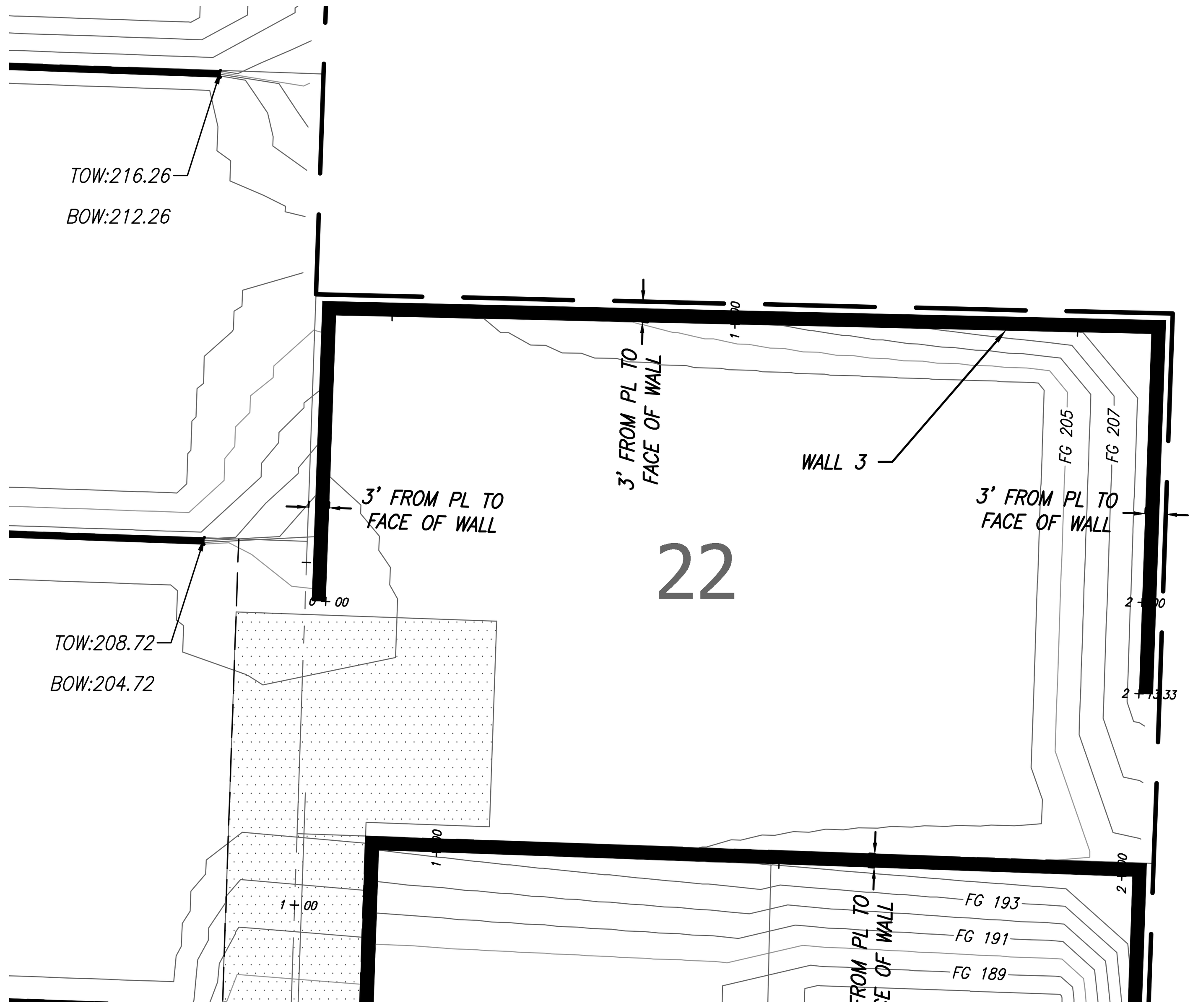
CITY OF LA CENTER
WASHINGTON

APPROVED

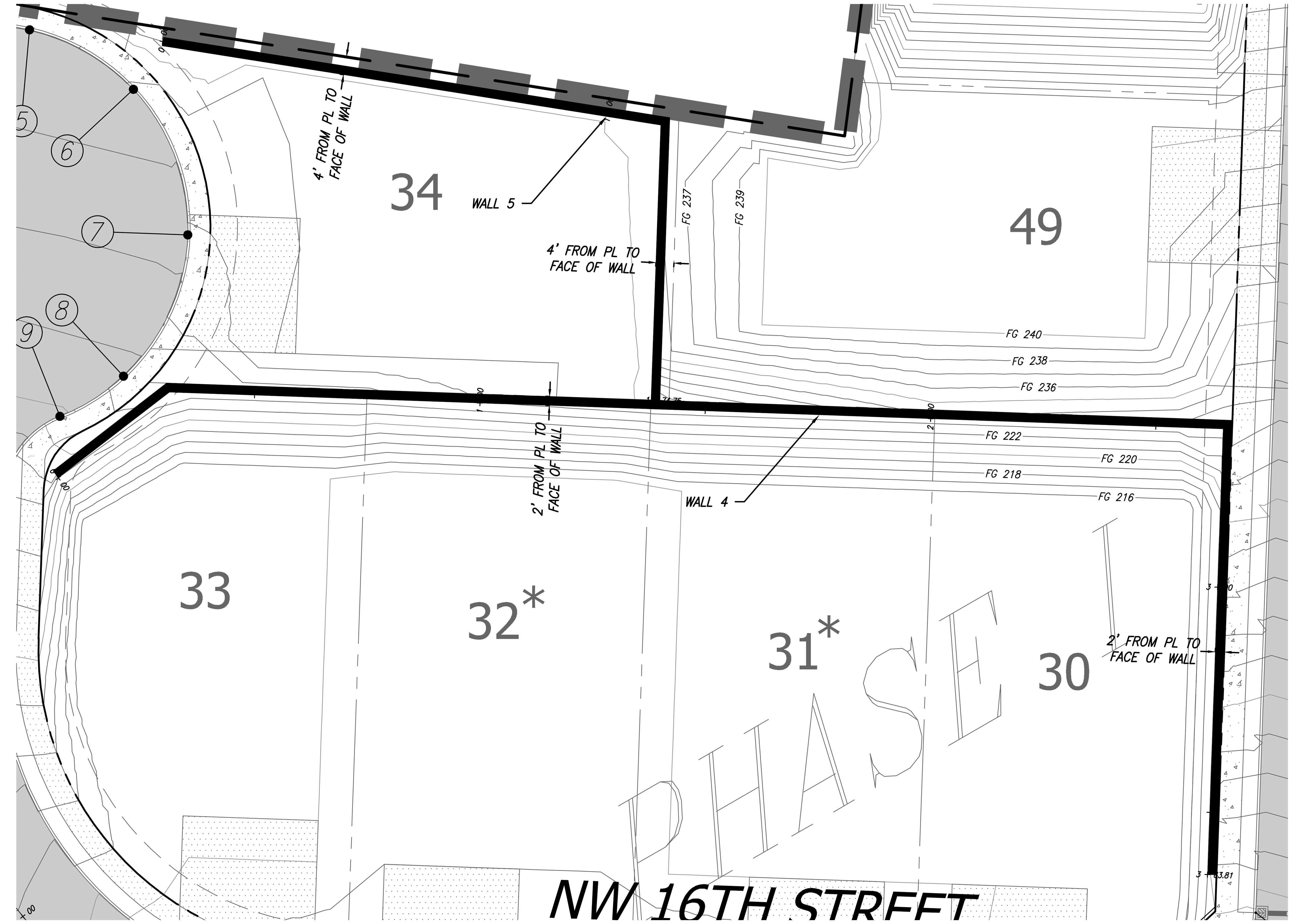
REVISIONS

DESIGNED BY: NAW
DRAWN BY: NAW
CHECKED BY: JTM
SCALE: PLAN VIEW: 1" = 20'
PROFILE: 1" = 50' HORIZ.
1" = 25' VERT.

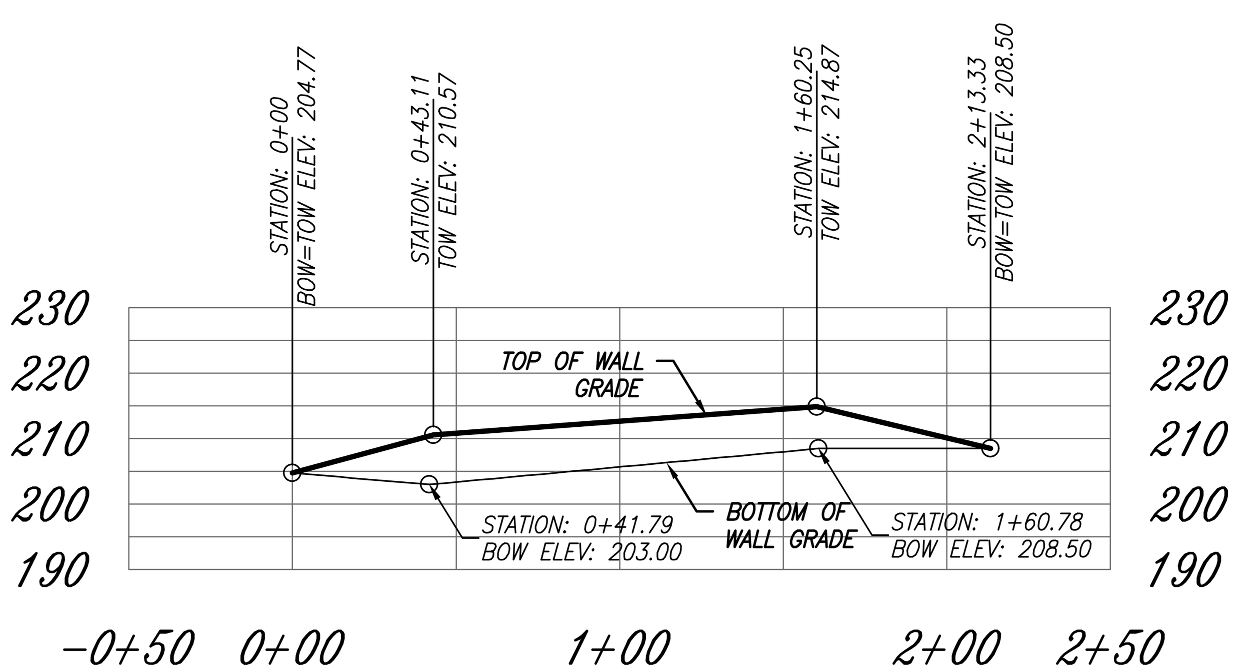
JOB NUMBER	SHEET
0536	C4.4



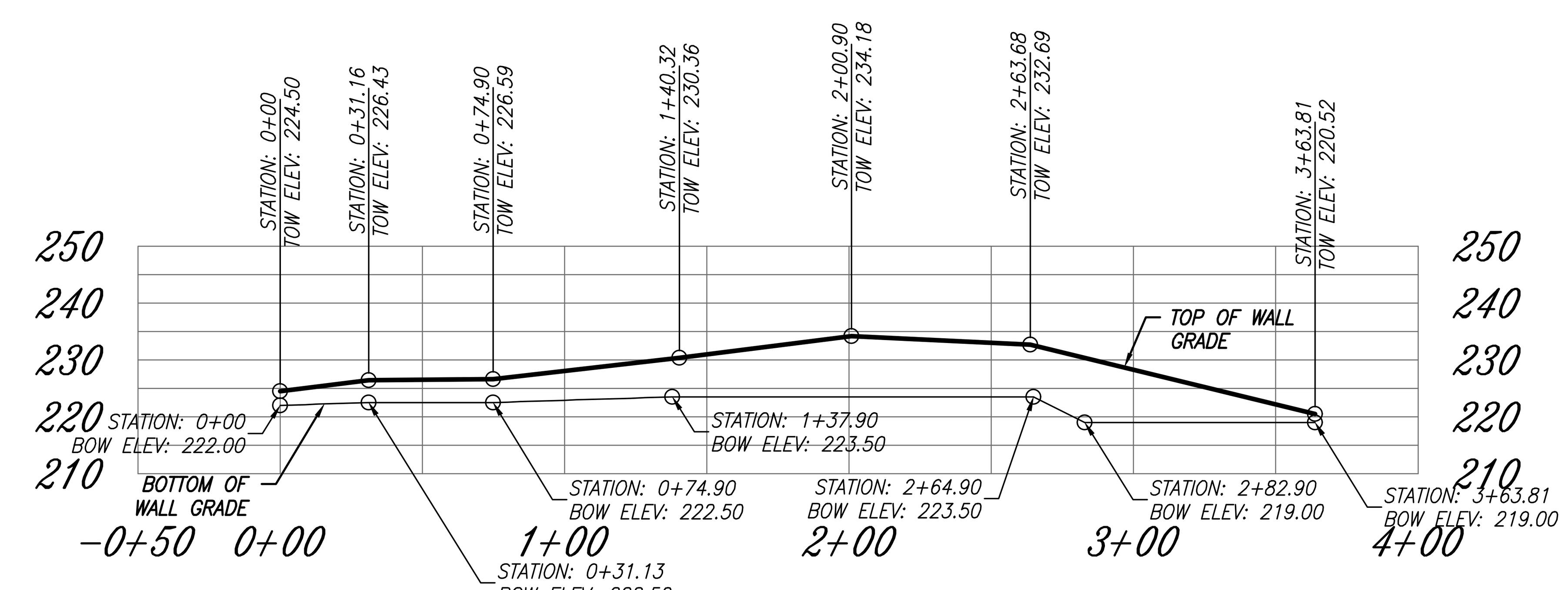
DETAIL FOR WALL 3
SCALE: 1" = 20'



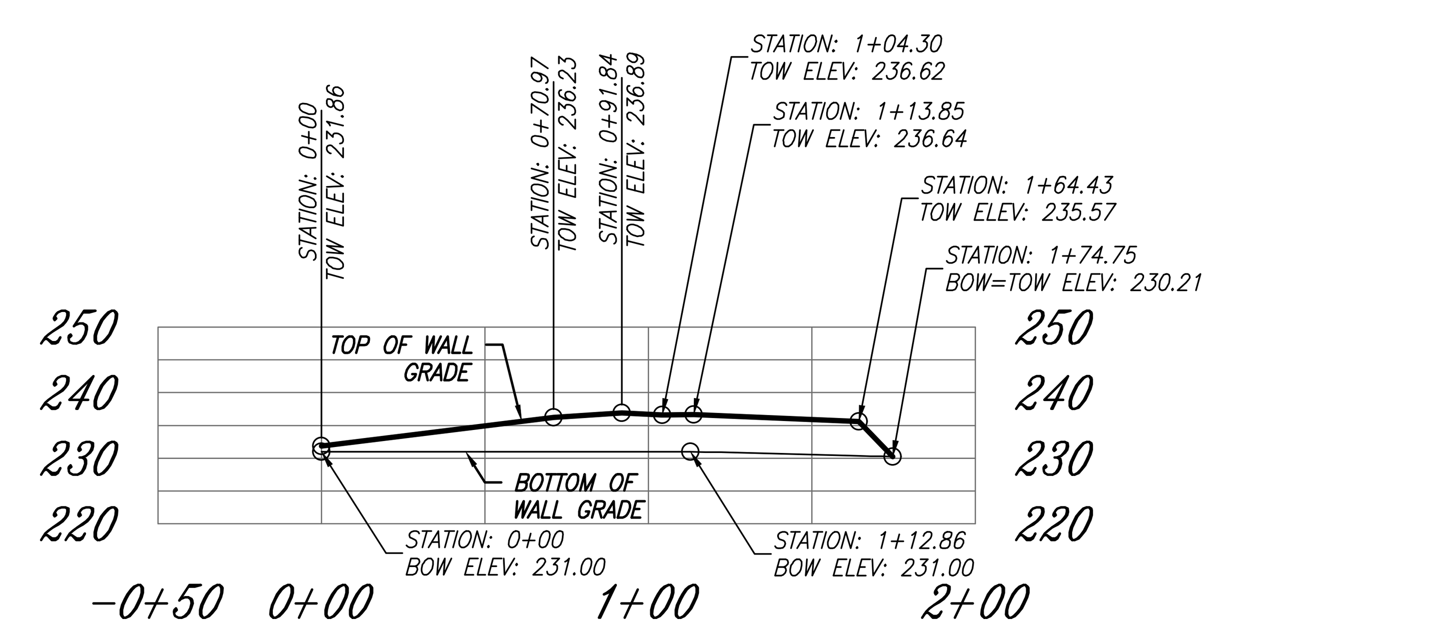
DETAIL FOR WALLS 4 & 5
SCALE: 1" = 20'



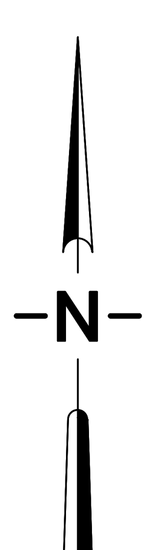
WALL 3

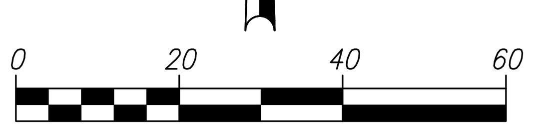


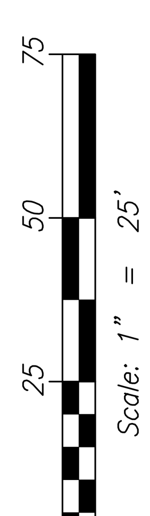
WALL 4



WALL 5







WALLS OVER 4-FEET HIGH REQUIRE STRUCTURAL CALCULATIONS AND A SEPARATE BUILDING PERMIT. STRUCTURAL DESIGN TO BE COMPLETED BY OTHERS.

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4/16/2020

WALL DETAILS SHEET 2

HIGHLAND TERRACE SUBDIVISION PHASE 1

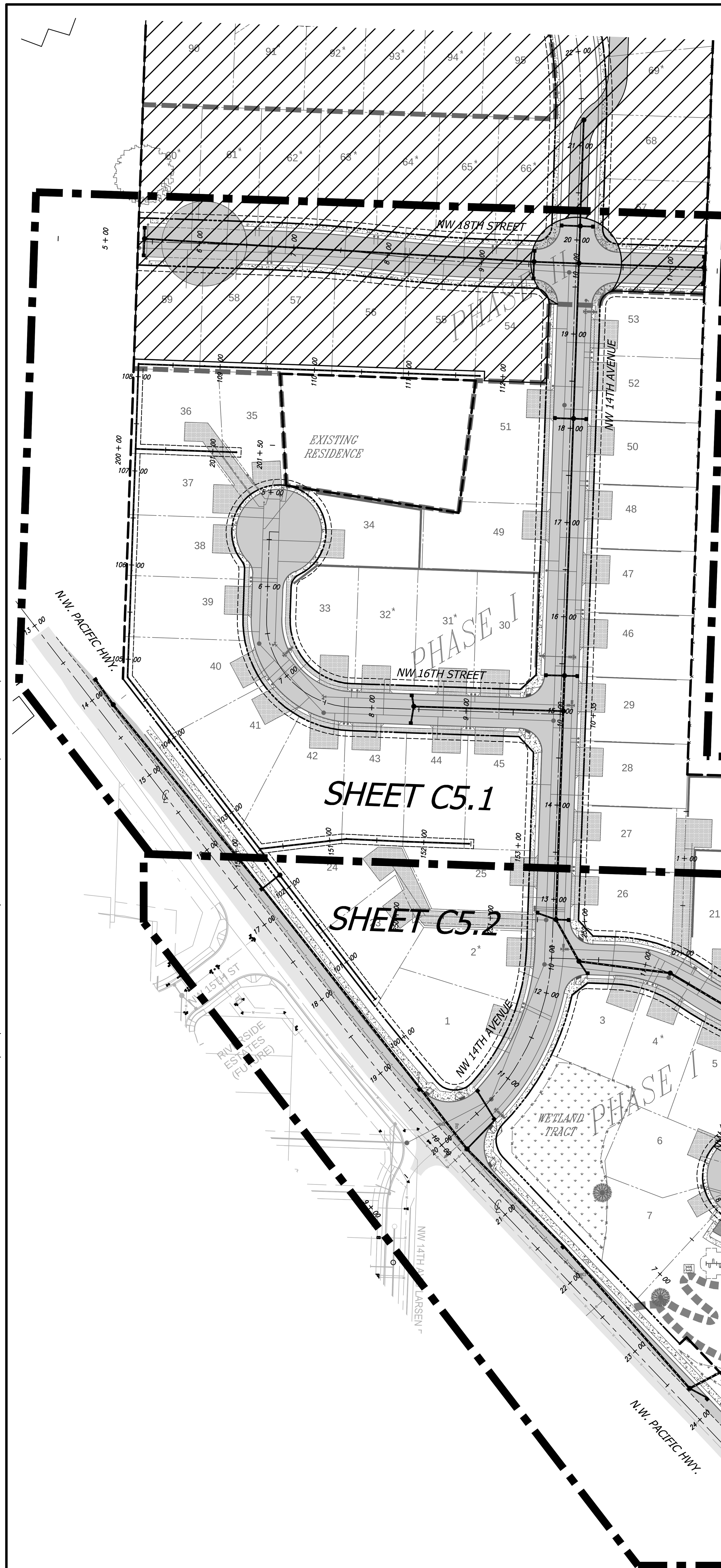
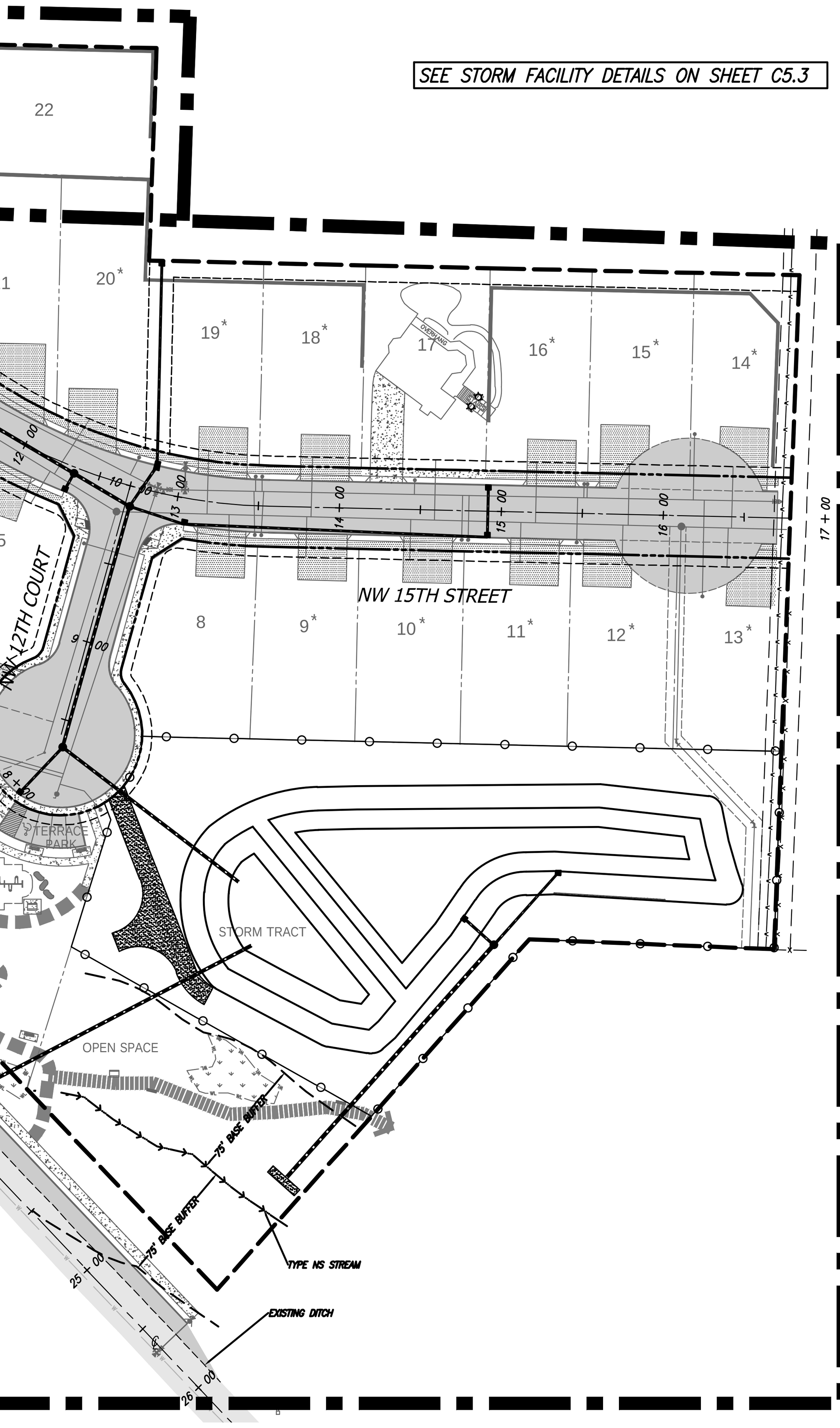
CITY OF LA CENTER
WASHINGTON

APPROVED

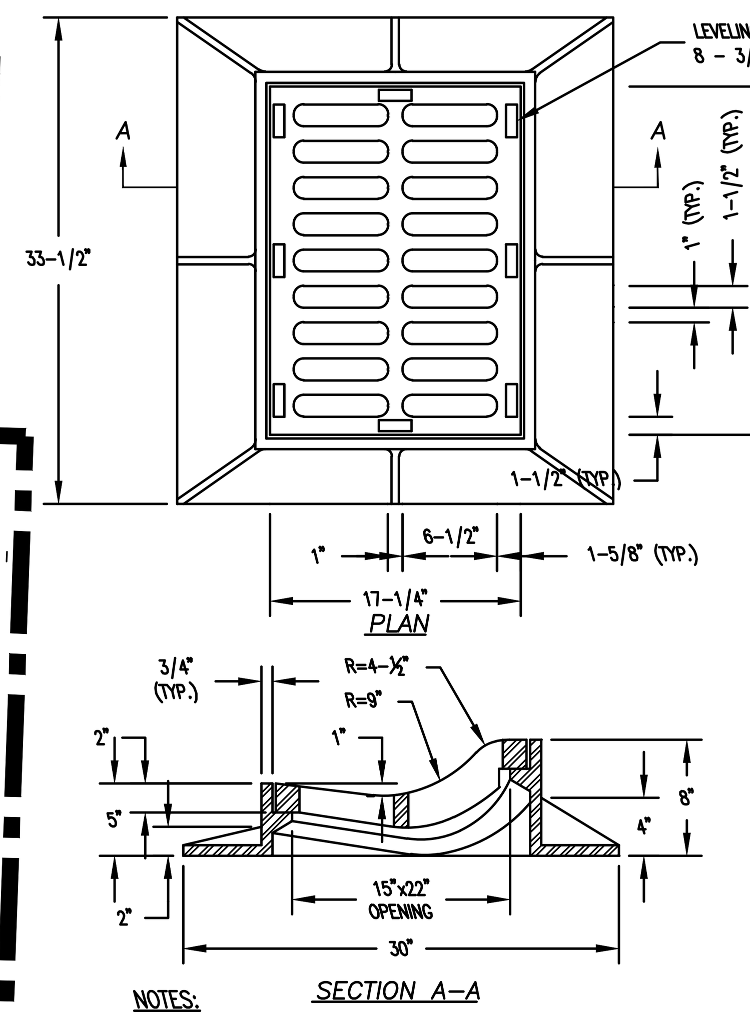
REVISIONS

DESIGNED BY:	NAW
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	PLAN VIEW: 1" = 20' PROFILE: 1" = 50' HORIZ. 1" = 25' VERT.

JOB NUMBER	SHEET
0536	C4.5

SEE STORM FACILITY DETAILS ON SHEET C5.3

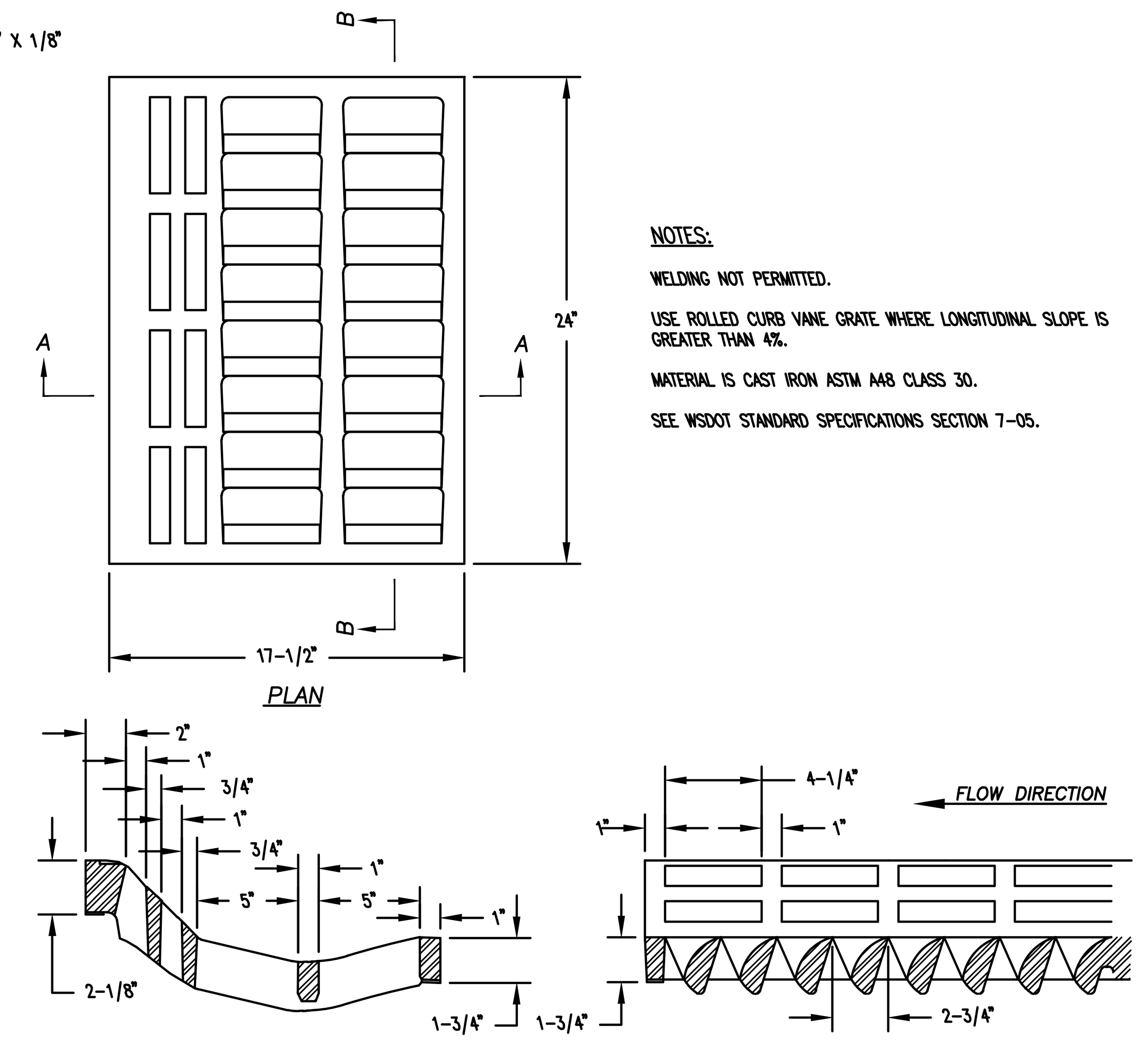


NOTES:

1. WELDING NOT PERMITTED
2. USE ROLLED CURB VANED GRATE WHERE LONGITUDINAL SLOPE IS GREATER THAN 4%.
3. MATERIAL IS CAST IRON ASTM A48 CLASS 30.
4. SEE WSDOT STANDARD SPECIFICATIONS SECTION 7–05.

ROLLED CURB GRATE AND FRAME

ONLY APPLICABLE ALONG ROLLED CURB
NO SCALE



NOTES:

WELDING NOT PERMITTED.

USE ROLLED CURB VANE GRATE WHERE LONGITUDINAL SLOPE IS GREATER THAN 4%.

MATERIAL IS CAST IRON ASTM A48 CLASS 30.

SEE WSDOT STANDARD SPECIFICATIONS SECTION 7–05.

ROLLED CURB VANED GRATE AND FRAME

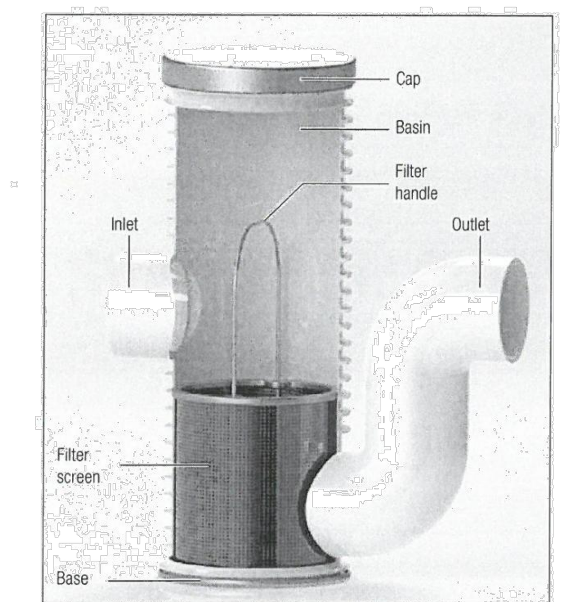
ONLY APPLICABLE ALONG ROLLED CURB
NO SCALE

Orenco® *Technical Data Sheet*

Stormwater Catch Basins

Applications

Orenco®'s Stormwater Catch Basin (SCB) is a cost-effective alternative to concrete or steel catch basins. It is ideal for jurisdictions that require filtration of stormwater before it is released onsite or to a stormwater collection system. It is also well-suited for use in rainwater collection systems. The SCB is designed to screen materials as small as 1/8-inch (3-mm) diameter out of stormwater.



SCB1236-6L Stormwater Catch Basin with level inlet/outlet

General

Orenco's Stormwater Catch Basin (SCB) is based on Orenco's proven Screened Pump Vault* technology and materials. Stormwater flows into the basin vault and is screened through the 1/8-inch (3-mm) filter mesh before flowing out through the basin outlet. The filter has a nominal open area of 50%.

The inlet and outlet couplings on the SCB1236-6L accommodate 6-inch IPS pipe; the inlet and outlet couplings on all other models accommodate 4-inch IPS pipe. All SCBs use durable Orenco fiberglass lids and bases. Additionally, the SCB1236-L and SCB1236-6L come with stainless steel lid screws for enhanced security.

SCBs come with filters that are easy to remove and clean, simplifying maintenance.

Standard Models

SCB0824, SCB0836, SCB1224-L, SCB1236-L, SCB1236-6L

Product Code Diagram

SCB ☐☐-☐

Inlet and outlet:
L = 4-in. (100-mm) dia, level inlet and outlet
6L = 6-in. (150-mm) dia, level inlet and outlet

Basin height:
24 = 24-in. (600-mm)
36 = 36-in. (900-mm)

Basin diamter, nominal:
08 = 8 in. (200 mm)
12 = 12 in. (300 mm)

Stormwater catch basin

Materials of Construction

Cap and base	Fiberglass
Cap screws	Stainless steel (SCB1236-L and -6L only)
Basin	PVC
Inlet and outlet	Schedule 40 PVC
Filter ring and base	Polyurethane
Filter screen	Polyethylene, ⅛-inch (3-mm) screen mesh

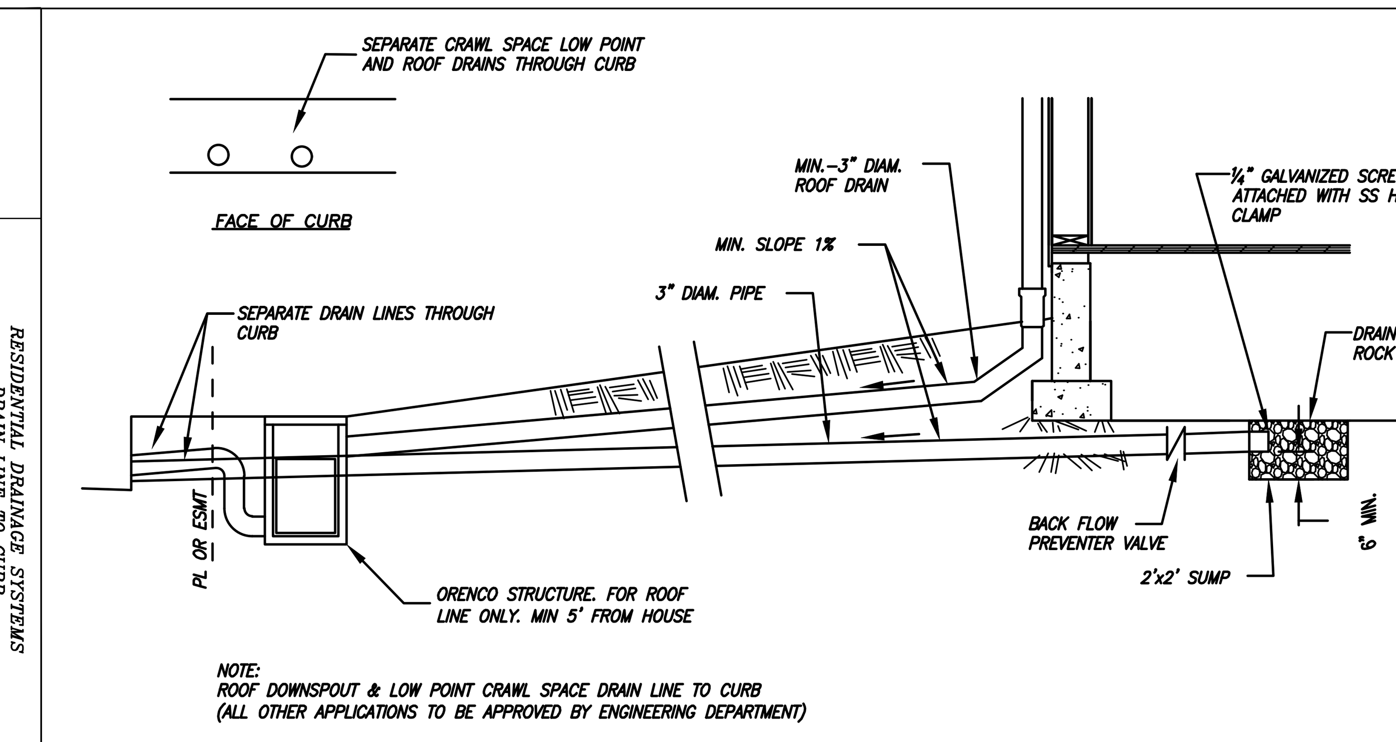
*Orenco's screened pump vault technology is protected under US Patent #4,439,323

Clark County, WA
FEB 17 2017
3 OF 4

Orenco Systems® Inc., 814 Airway Ave., Sutherlin, OR 97479 USA • 800-348-9843 • 541-459-4449 • www.orenco.com

NTD-SCB-1
Rev. 1.4, © 08/14
Page 1 of 2

RESIDENTIAL DRAINAGE SYSTEMS DRAIN LINE TO CURB

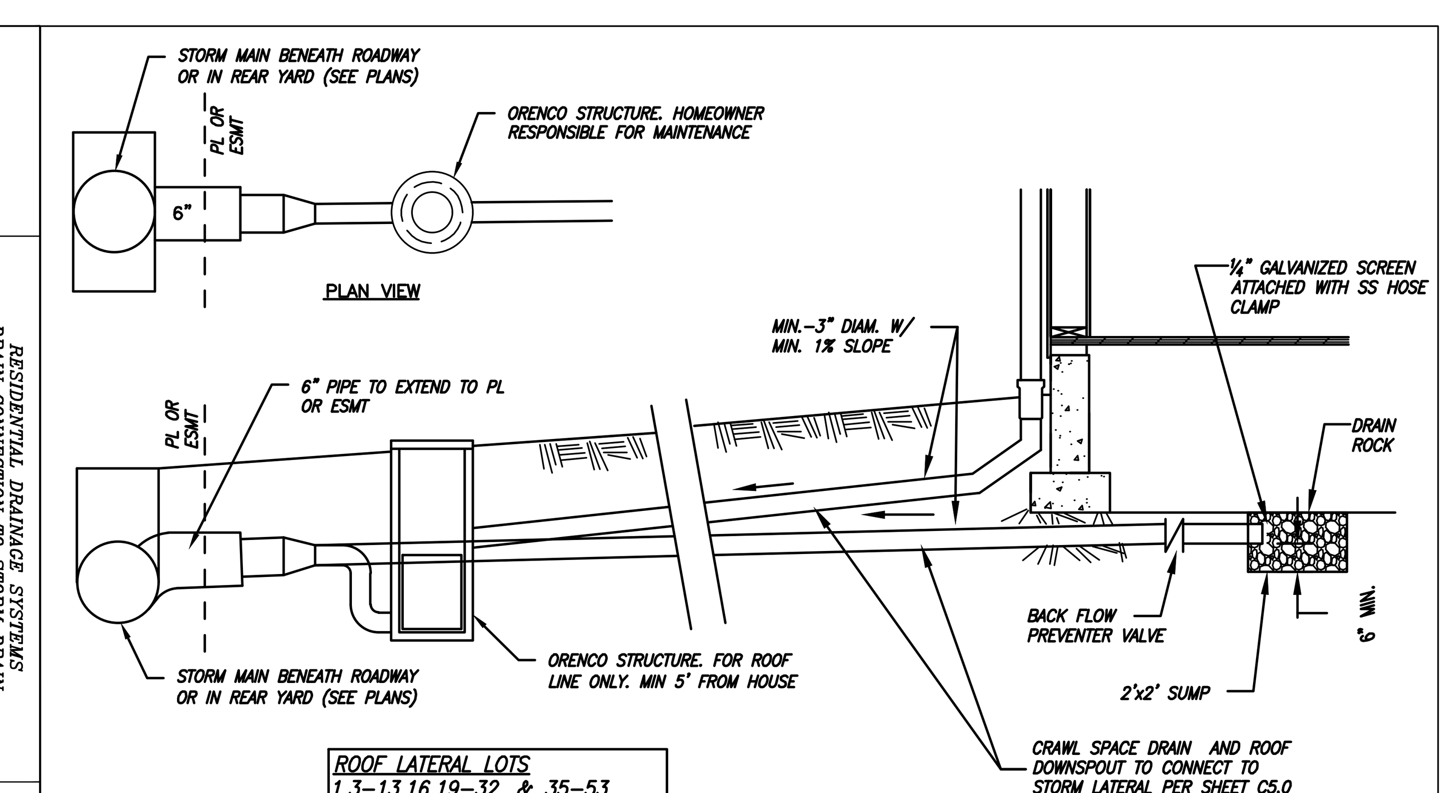


NOTE:
ROOF DOWNSPOUT & LOW POINT CRAWL SPACE DRAIN LINE TO CURB
(ALL OTHER APPLICATIONS TO BE APPROVED BY ENGINEERING DEPARTMENT)

WEEPHOLE LOTS
2,14,15,17,18,33,34, & EXISTING RESIDENCE

STANDARD DETAIL D27A

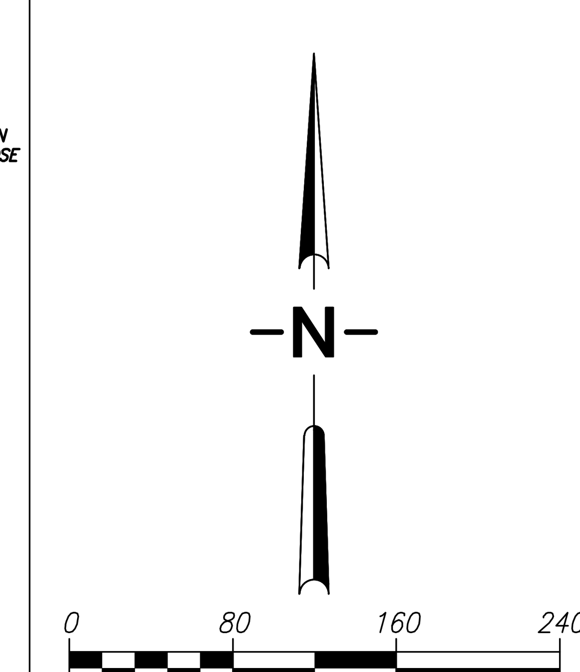
RESIDENTIAL DRAINAGE SYSTEMS DRAIN CONNECTION TO STORM DRAIN



ROOF LATERAL LOTS
1,3–13,16,19–32, & 35–53

NOTE:
ALL OTHER APPLICATIONS TO BE APPROVED BY ENGINEERING DEPARTMENT

STANDARD DETAIL D27B



Scale: 1" = 80'

SGA ENGINEERING & DESIGN

CIVIL ENGINEERING ~ LAND PLANNING
DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE

2005 BROADWAY
VANCOUVER, WA 98663
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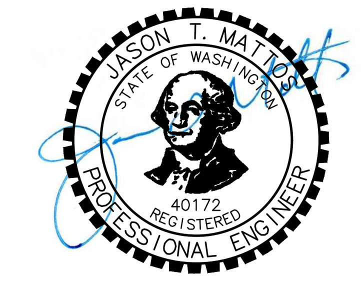


4/16/2020

STORMWATER PLAN OVERVIEW

HIGHLAND TERRACE SUBDIVISION PHASE 1

CITY OF LA CENTER
WASHINGTON

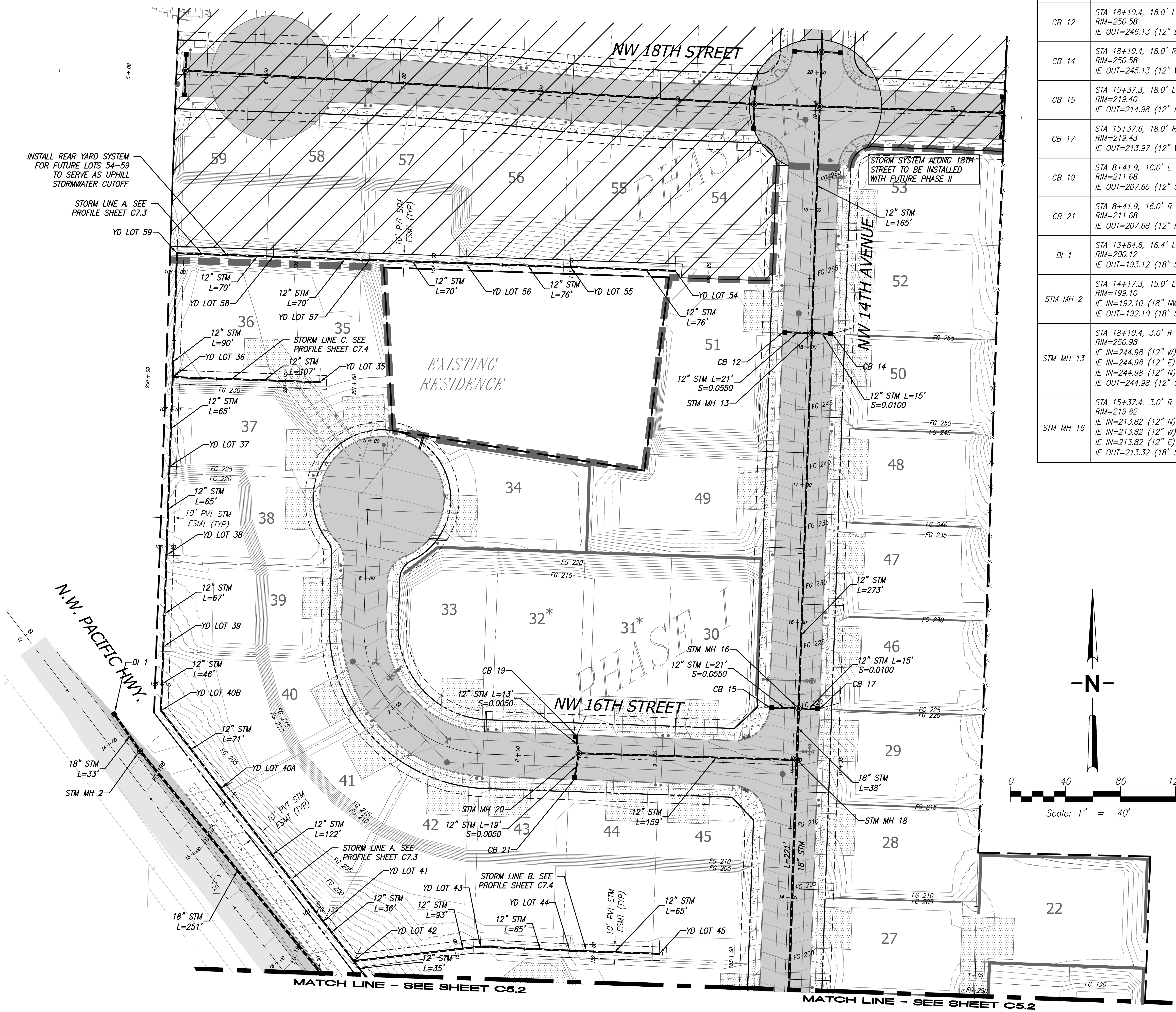
APPROVED

REVISIONS

DESIGNED BY:	NAW
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	1" = 80'

JOB NUMBER	SHEET
0536	C5.0

SGA DRAWING FILE: W:\DWG\0536 – HIGHLAND TERRACE\6– REVISED FINAL ENGINEERING\FINAL ENG 2019\C5.0 STORMWATER PLAN.DWG



STRUCTURE TABLE

STRUCTURE	DETAILS
CB 12	STA 18+10.4, 18.0' L RIM=250.58 IE OUT=246.13 (12" E)
CB 14	STA 18+10.4, 18.0' R RIM=250.58 IE OUT=245.13 (12" W)
CB 15	STA 15+37.3, 18.0' L RIM=219.40 IE OUT=214.98 (12" E)
CB 17	STA 15+37.6, 18.0' R RIM=219.43 IE OUT=213.97 (12" W)
CB 19	STA 8+41.9, 16.0' L RIM=211.68 IE OUT=207.65 (12" S)
CB 21	STA 8+41.9, 16.0' R RIM=211.68 IE OUT=207.68 (12" N)
DI 1	STA 13+84.6, 16.4' L RIM=200.12 IE OUT=193.12 (18" SE)
STM MH 2	STA 14+17.3, 15.0' L RIM=199.10 IE IN=192.10 (18" NW) IE OUT=192.10 (18" SE)
STM MH 13	STA 18+10.4, 3.0' R RIM=250.98 IE IN=244.98 (12" W) IE IN=244.98 (12" E) IE IN=244.98 (12" N) IE OUT=244.98 (12" S)
STM MH 16	STA 15+37.4, 3.0' R RIM=219.82 IE IN=213.82 (12" N) IE IN=213.82 (12" W) IE IN=213.82 (12" E) IE OUT=213.32 (18" S)

STRUCTURE	DETAILS
STM MH 18	STA 14+99.9, 3.0' R RIM=215.51 IE IN=206.79 (12" W) IE IN=206.29 (18" N) IE OUT=206.29 (18" S)
STM MH 20	STA 8+44.5, 3.0' L RIM=212.07 IE IN=207.58 (12" S) IE IN=207.58 (12" N) IE OUT=207.58 (12" E)
YD LOT 36	STA 107+23.4, 0.0' RIM=232.39 IE IN=224.76 (12" N) IE IN=224.76 (12" E) IE OUT=224.76 (12" S)
YD LOT 37	STA 106+58.4, 0.0' RIM=222.38 IE IN=216.15 (12" N) IE OUT=216.15 (12" S)
YD LOT 38	STA 105+93.9, 0.0' RIM=214.03 IE IN=209.38 (12" N) IE OUT=209.38 (12" S)
YD LOT 39	STA 105+27.3, 0.0' RIM=207.30 IE IN=202.72 (12" N) IE OUT=202.72 (12" S)
YD LOT 40A	STA 104+09.6, 0.0' RIM=198.56 IE IN=194.22 (12" NW) IE OUT=194.22 (12" SE)
YD LOT 40B	STA 104+81, 0.0' RIM=202.04 IE IN=197.39 (12" N) IE OUT=197.39 (12" SE)
YD LOT 41	STA 102+87.5, 0.0' RIM=192.11 IE IN=187.81 (12" NW) IE OUT=187.81 (12" SE)
YD LOT 42	STA 102+51.3, 0.0' RIM=190.35 IE IN=186.18 (12" NW) IE IN=186.18 (12" E) IE OUT=186.18 (12" SE)

STRUCTURE	DETAILS
YD LOT 43	STA 151+17.8, 0.0' RIM=198.91 IE IN=194.90 (12" E) IE OUT=194.90 (12" W)
YD LOT 44	STA 151+82.8, 0.0' RIM=200.26 IE IN=195.23 (12" E) IE OUT=195.23 (12" W)
YD LOT 45	STA 152+47.8, 0.0' RIM=202.68 IE OUT=198.58 (12" W)
YD LOT 54	STA 111+75.4, 0.0' RIM=253.70 IE OUT=249.60 (12" W)
YD LOT 55	STA 110+99.4, 0.0' L RIM=251.89 IE IN=247.59 (12" E) IE OUT=247.59 (12" W)
YD LOT 56	STA 110+23.4, 0.0' L RIM=249.43 IE IN=245.31 (12" E) IE OUT=245.31 (12" W)
YD LOT 57	STA 109+53.4, 0.0' L RIM=246.14 IE IN=239.22 (12" E) IE OUT=239.22 (12" W)
YD LOT 58	STA 108+83.4, 0.1' L RIM=241.95 IE IN=237.82 (12" E) IE OUT=237.82 (12" W)
YD LOT 59	STA 108+13.4, 0.0' RIM=240.87 IE IN=234.21 (12" E) IE OUT=234.21 (12" S)

STORM LATERAL TABLE

LOT NUMBER	STATION	LENGTH	LENGTH	DEPTH	FLOWLINE	SIZE AND MATERIAL
	(FROM DOWNSTREAM MH)	(TOTAL LENGTH)	(FROM TC)	(FROM TC)	(IE AT PIPE END)	
22	N/A	142'	126.0'	4.0'	199.29	4" PVC
27	0+62	30'	15.0'	4.0'	194.76	4" PVC
28	1+28	30'	15.0'	4.0'	201.06	4" PVC
29	1+98	30'	15.0'	4.0'	208.95	4" PVC
30	0+89	28'	15.0'	4.0'	210.57	4" PVC
31	N/A	16'	16.3'	4.0'	208.51	4" PVC
32	N/A	15'	15.2'	4.0'	208.48	4" PVC
33	SEE WEEPHOLE DETAIL D27A ON SHEET C5.0					4" PVC
34	SEE WEEPHOLE DETAIL D27A ON SHEET C5.0					4" PVC
EXISTING RESIDENCE	SEE WEEPHOLE DETAIL D27A ON SHEET C5.0					4" PVC
35	N/A	10'	N/A	*4.0'	231.31	4" PVC
36	N/A	10'	N/A	*4.0'	231.11	4" PVC
37	N/A	10'	N/A	*4.0'	220.88	4" PVC
38	N/A	10'	N/A	*4.0'	211.51	4" PVC
39	N/A	10'	N/A	*4.0'	204.74	4" PVC
40	N/A	10'	N/A	*4.0'	198.15	4" PVC
41	N/A	11'	N/A	*4.0'	191.21	4" PVC
42	N/A	11'	N/A	*4.0'	188.48	4" PVC
43	N/A	10'	N/A	*4.0'	196.96	4" PVC
44	N/A	10'	N/A	*4.0'	196.80	4" PVC
45	N/A	10'	N/A	*4.0'	198.10	4" PVC
46	N/A	16'	16.0'	4.0'	219.07	4" PVC
47	0+76	30'	15.0'	4.0'	224.64	4" PVC
48	1+42	30'	15.0'	4.0'	232.20	4" PVC
49	1+16	36'	15.0'	4.0'	229.30	4" PVC
50	2+12	30'	15.0'	4.0'	240.33	4" PVC
51	1+86	36'	15.0'	4.0'	237.29	4" PVC
52	N/A	16'	15.8'	4.0'	249.96	4" PVC
53	0+76	30'	15.0'	4.0'	253.75	4" PVC

SEE STORM LATERAL DETAIL D27B ON SHEET C5.0

* DEPTH AT PIPE END

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LANDSCAPE ARCHITECTURE

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JASON T. MATSON, STATE OF WASHINGTON, 40172 REGISTERED PROFESSIONAL ENGINEER

4/16/2020

STORMWATER PLAN SHEET 1

HIGHLAND TERRACE SUBDIVISION PHASE 1

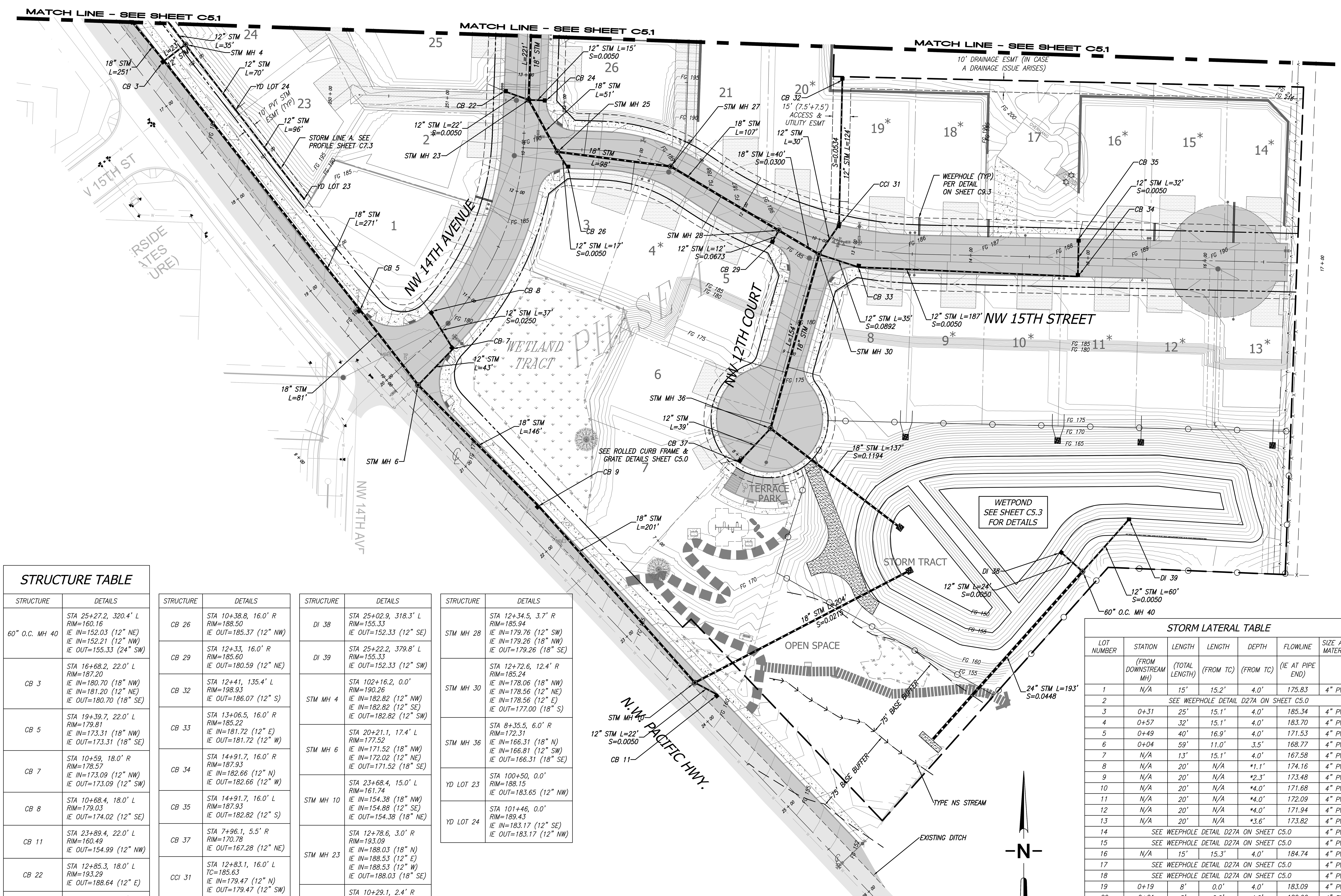
CITY OF LA CENTER, WASHINGTON

APPROVED

REVISIONS

DESIGNED BY: NAW
DRAWN BY: NAW
CHECKED BY: JTM
SCALE: 1" = 40'

JOB NUMBER	SHEET
0536	C5.1



STRUCTURE TABLE

STRUCTURE	DETAILS
60" O.C. MH 40	STA 25+27.2, 320.4' L RIM=160.16 IE IN=152.03 (12" NE) IE IN=152.21 (12" NW) IE OUT=155.33 (24" SW)
CB 3	STA 16+68.2, 22.0' L RIM=187.20 IE IN=180.70 (18" NW) IE IN=181.20 (12" NE) IE OUT=180.70 (18" SE)
CB 5	STA 19+39.7, 22.0' L RIM=179.81 IE IN=173.31 (18" NW) IE OUT=173.31 (18" SE)
CB 7	STA 10+59, 18.0' R RIM=178.57 IE IN=173.09 (12" NW) IE OUT=173.09 (12" SW)
CB 8	STA 10+68.4, 18.0' L RIM=179.03 IE OUT=174.02 (12" SE)
CB 11	STA 23+89.4, 22.0' L RIM=160.49 IE OUT=154.99 (12" NW)
CB 22	STA 12+85.3, 18.0' L RIM=193.29 IE OUT=188.64 (12" E)
CB 24	STA 12+78.6, 18.0' R RIM=192.68 IE OUT=188.60 (12" W)

STRUCTURE	DETAILS
CB 26	STA 10+38.8, 16.0' R RIM=188.50 IE OUT=185.37 (12" NW)
CB 29	STA 12+33, 16.0' R RIM=185.60 IE OUT=180.59 (12" NE)
CB 32	STA 12+41, 135.4' L RIM=198.93 IE OUT=186.07 (12" S)
CB 33	STA 13+06.5, 16.0' R RIM=185.22 IE IN=181.72 (12" E) IE OUT=181.72 (12" W)
CB 34	STA 14+91.7, 16.0' R RIM=187.93 IE IN=182.66 (12" N) IE OUT=182.66 (12" W)
CB 35	STA 14+91.7, 16.0' L RIM=187.93 IE OUT=182.82 (12" S)
CB 37	STA 7+96.1, 5.5' R RIM=170.78 IE OUT=167.28 (12" NE)
CCI 31	STA 12+83.1, 16.0' L TC=185.63 IE IN=179.47 (12" N) IE OUT=179.47 (12" SW)

STRUCTURE	DETAILS
DI 38	STA 25+02.9, 318.3' L RIM=155.33 IE OUT=152.33 (12" SE)
DI 39	STA 25+22.2, 379.8' L RIM=155.33 IE OUT=152.33 (12" SW)
STM MH 4	STA 102+16.2, 0.0' RIM=190.26 IE IN=182.82 (12" NW) IE IN=182.82 (12" SE) IE OUT=182.82 (12" SW)
STM MH 6	STA 20+21.1, 17.4' L RIM=177.52 IE IN=171.52 (18" NW) IE IN=172.02 (12" NE) IE OUT=171.52 (18" SE)
STM MH 10	STA 23+68.4, 15.0' L RIM=161.74 IE IN=154.38 (18" NW) IE IN=154.88 (12" SE) IE OUT=154.38 (18" NE)
STM MH 23	STA 12+78.6, 3.0' R RIM=193.09 IE IN=188.03 (18" N) IE IN=188.53 (12" E) IE IN=188.53 (12" W) IE OUT=188.03 (18" SE)
STM MH 25	STA 10+29.1, 2.4' R RIM=189.00 IE IN=184.79 (18" NW) IE IN=185.29 (12" SE) IE OUT=184.79 (18" E)
STM MH 27	STA 11+27.8, 0.5' L RIM=189.17 IE IN=182.15 (18" W) IE OUT=182.15 (18" SE)

STRUCTURE	DETAILS
STM MH 28	STA 12+34.5, 3.7' R RIM=185.94 IE IN=179.76 (12" SW) IE IN=179.26 (18" NW) IE OUT=179.26 (18" SE)
STM MH 30	STA 12+72.6, 12.4' R RIM=185.24 IE IN=178.06 (18" NW) IE IN=178.56 (12" NE) IE IN=178.56 (12" E) IE OUT=177.00 (18" S)
STM MH 36	STA 8+35.5, 6.0' R RIM=172.31 IE IN=166.31 (18" N) IE IN=166.81 (12" SW) IE OUT=166.31 (18" SE)
YD LOT 23	STA 100+50, 0.0' RIM=188.15 IE OUT=183.65 (12" NW)
YD LOT 24	STA 101+46, 0.0' RIM=189.43 IE IN=183.17 (12" SE) IE OUT=183.17 (12" NW)

STORM LATERAL TABLE

LOT NUMBER	STATION	LENGTH	LENGTH	DEPTH	FLOWLINE	SIZE AND MATERIAL
	(FROM DOWNSTREAM MH)	(TOTAL LENGTH)	(FROM TC)	(FROM TC)	(IE AT PIPE END)	
1	N/A	15'	15.2'	4.0'	175.83	4" PVC
2	SEE WEEPHOLE DETAIL D27A ON SHEET C5.0					
3	0+31	25'	15.1'	4.0'	185.34	4" PVC
4	0+57	32'	15.1'	4.0'	183.70	4" PVC
5	0+49	40'	16.9'	4.0'	171.53	4" PVC
6	0+04	59'	11.0'	3.5'	168.77	4" PVC
7	N/A	13'	15.1'	4.0'	167.58	4" PVC
8	N/A	20'	N/A	*1.1'	174.16	4" PVC
9	N/A	20'	N/A	*2.3'	173.48	4" PVC
10	N/A	20'	N/A	*4.0'	171.68	4" PVC
11	N/A	20'	N/A	*4.0'	172.09	4" PVC
12	N/A	20'	N/A	*4.0'	171.94	4" PVC
13	N/A	20'	N/A	*3.6'	173.82	4" PVC
14	SEE WEEPHOLE DETAIL D27A ON SHEET C5.0					4" PVC
15	SEE WEEPHOLE DETAIL D27A ON SHEET C5.0					4" PVC
16	N/A	15'	15.3'	4.0'	184.74	4" PVC
17	SEE WEEPHOLE DETAIL D27A ON SHEET C5.0					4" PVC
18	SEE WEEPHOLE DETAIL D27A ON SHEET C5.0					4" PVC
19	0+19	8'	0.0'	4.0'	183.09	4" PVC
20	0+21	8'	0.0'	4.0'	182.90	4" PVC
21	0+36	31'	15.0'	4.0'	182.92	4" PVC
23	N/A	11'	N/A	*4.0'	186.72	4" PVC
24	N/A	10'	N/A	*4.0'	189.17	4" PVC
25	N/A	16'	15.8'	4.0'	190.11	4" PVC
26	0+75	36'	15.0'	4.0'	186.31	4" PVC

SEE STORM LATERAL DETAIL D27B ON SHEET C5.0

* DEPTH AT PIPE END

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40172
REGISTERED
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4/16/2020

HIGHLAND TERRACE SUBDIVISION PHASE 1

STORMWATER PLAN SHEET 2

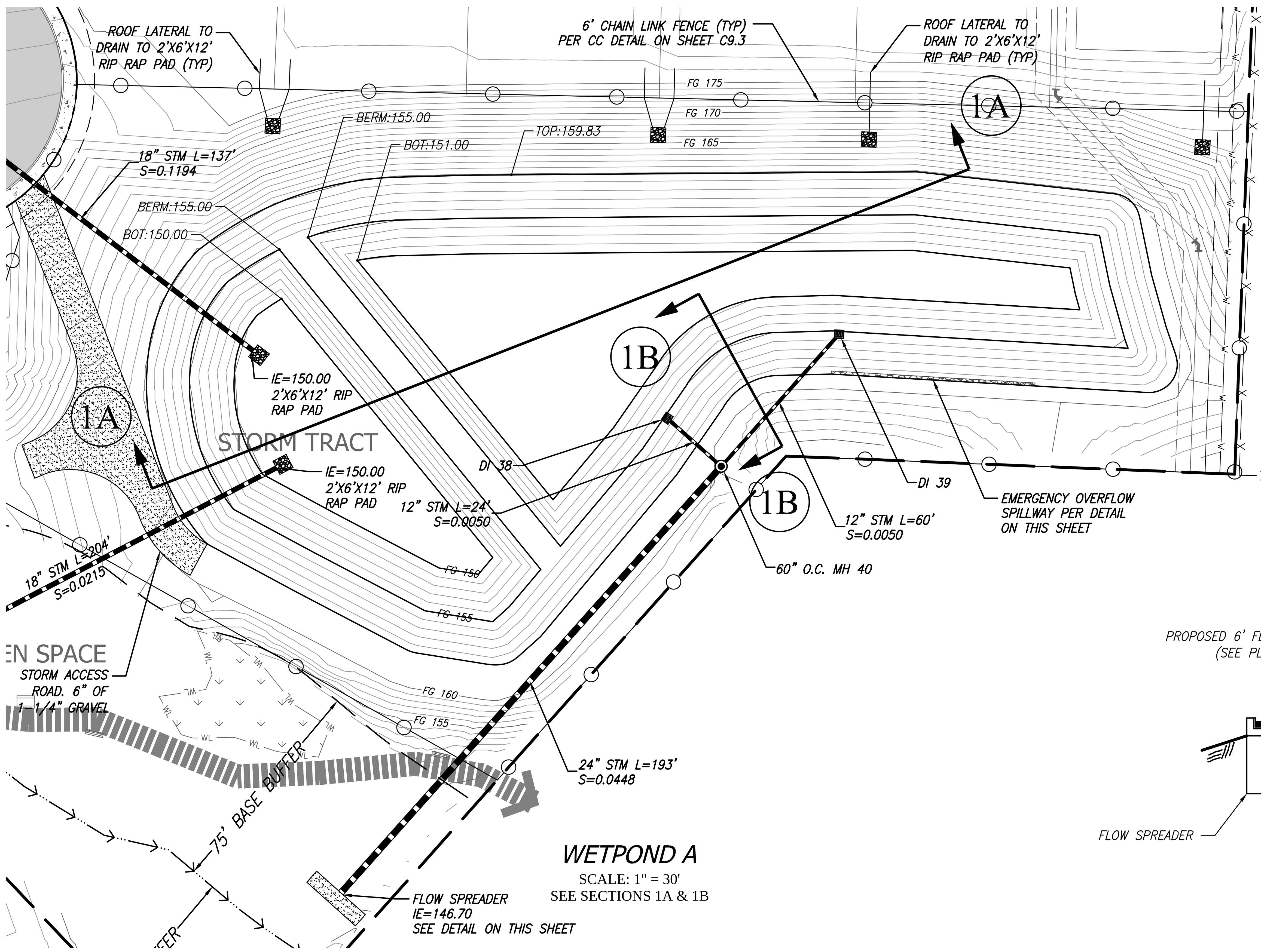
CITY OF LA CENTER
WASHINGTON

APPROVED

REVISIONS

DESIGNED BY:	NAW
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	1" = 40'

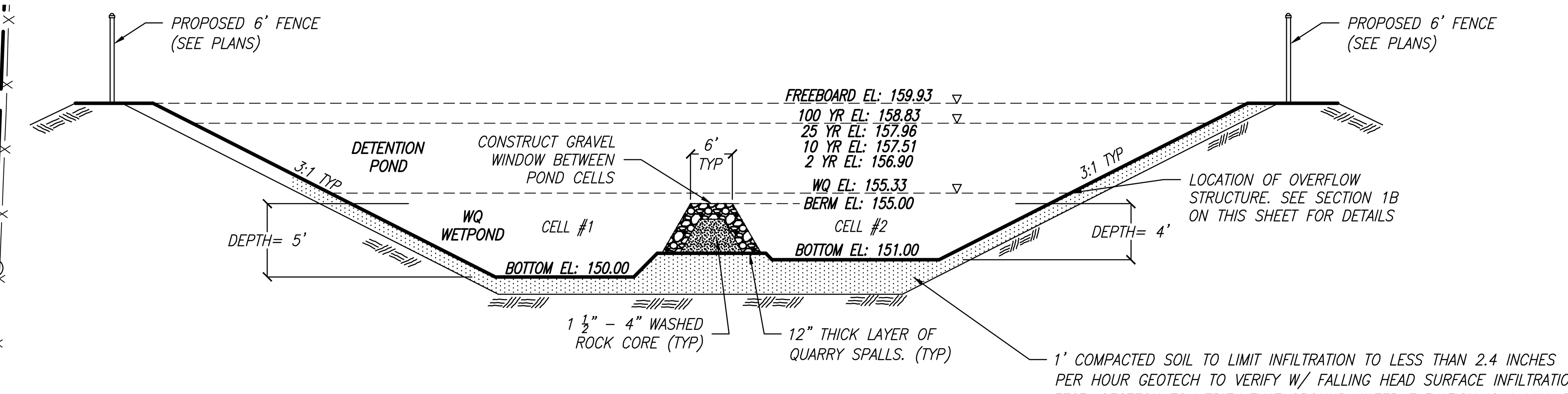
JOB NUMBER	SHEET
0536	C5.2



WETPOND A

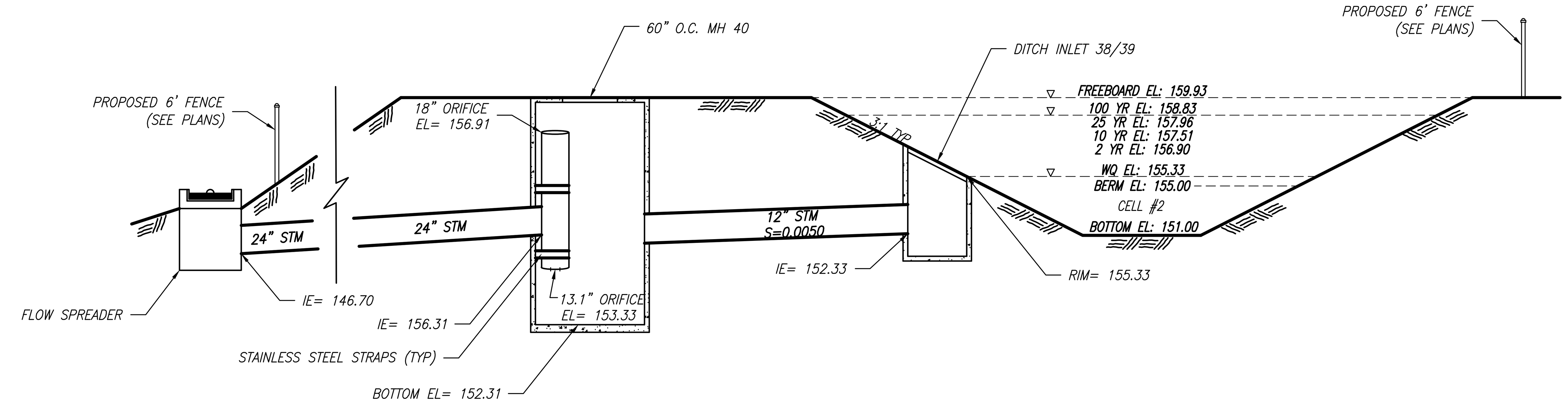
SCALE: 1" = 30'
SEE SECTIONS 1A & 1B

ELEVATION LEGEND
BOT = BOTTOM OF POND
TOP = TOP OF POND
BERM = TOP OF GRAVEL BERM



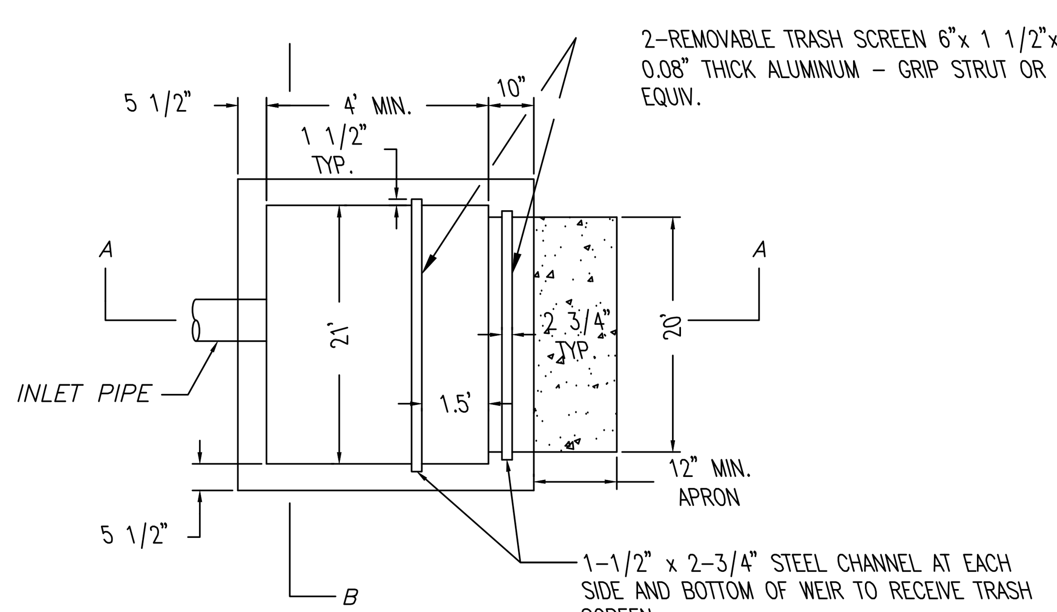
1A WETPOND A

NOT TO SCALE

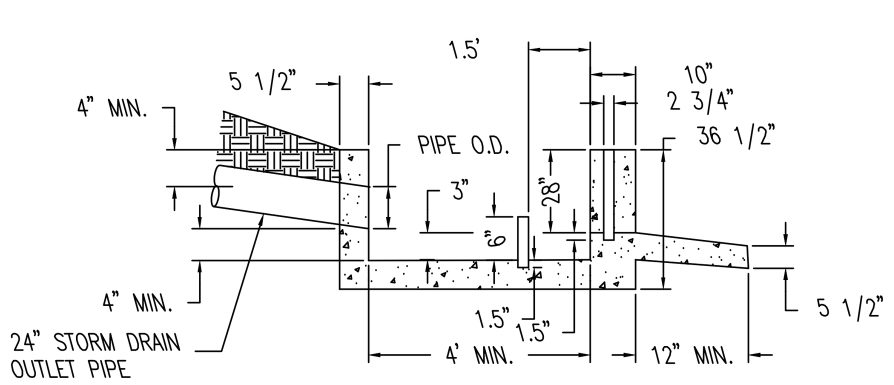


1B WETPOND A

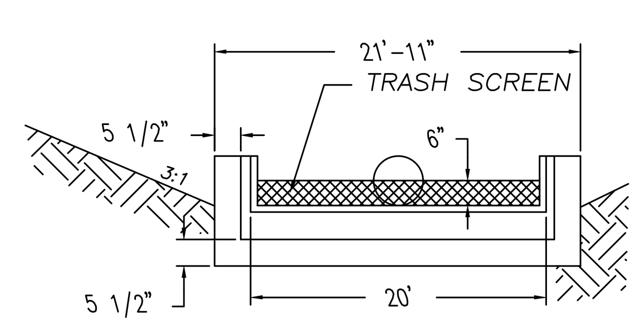
NOT TO SCALE



PLAN VIEW



SECTION A–A



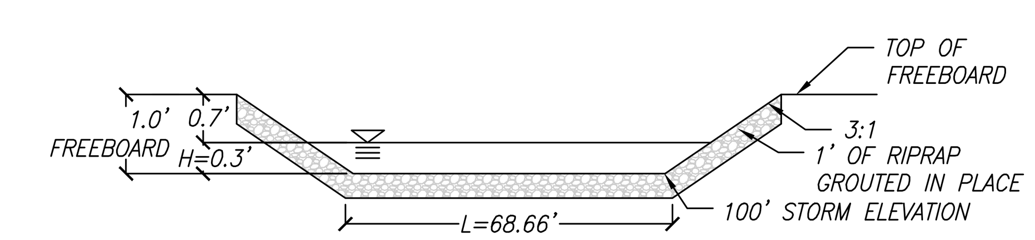
SECTION B–B

NOTE:

1. ALL CONCRETE SHALL BE 3000 PSI.
2. STRUCTURE CAN BE USED AS AN AFFECTIVE TEMPORARY EROSION CONTROL SEDIMENTATION TRAP DURING SITE GRADING.
3. TRASH SCREEN CAN BE LINED WITH FILTER FABRIC FOR SEDIMENT REMOVAL.

FLOW SPREADER

NO SCALE



EMERGENCY OVERFLOW SPILLWAY WETPOND A

NOT TO SCALE

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JASON T. MAT... STATE OF WASHINGTON 40172 REGISTERED PROFESSIONAL ENGINEER
4/16/2020

STORMWATER DETAILS

HIGHLAND TERRACE SUBDIVISION PHASE 1

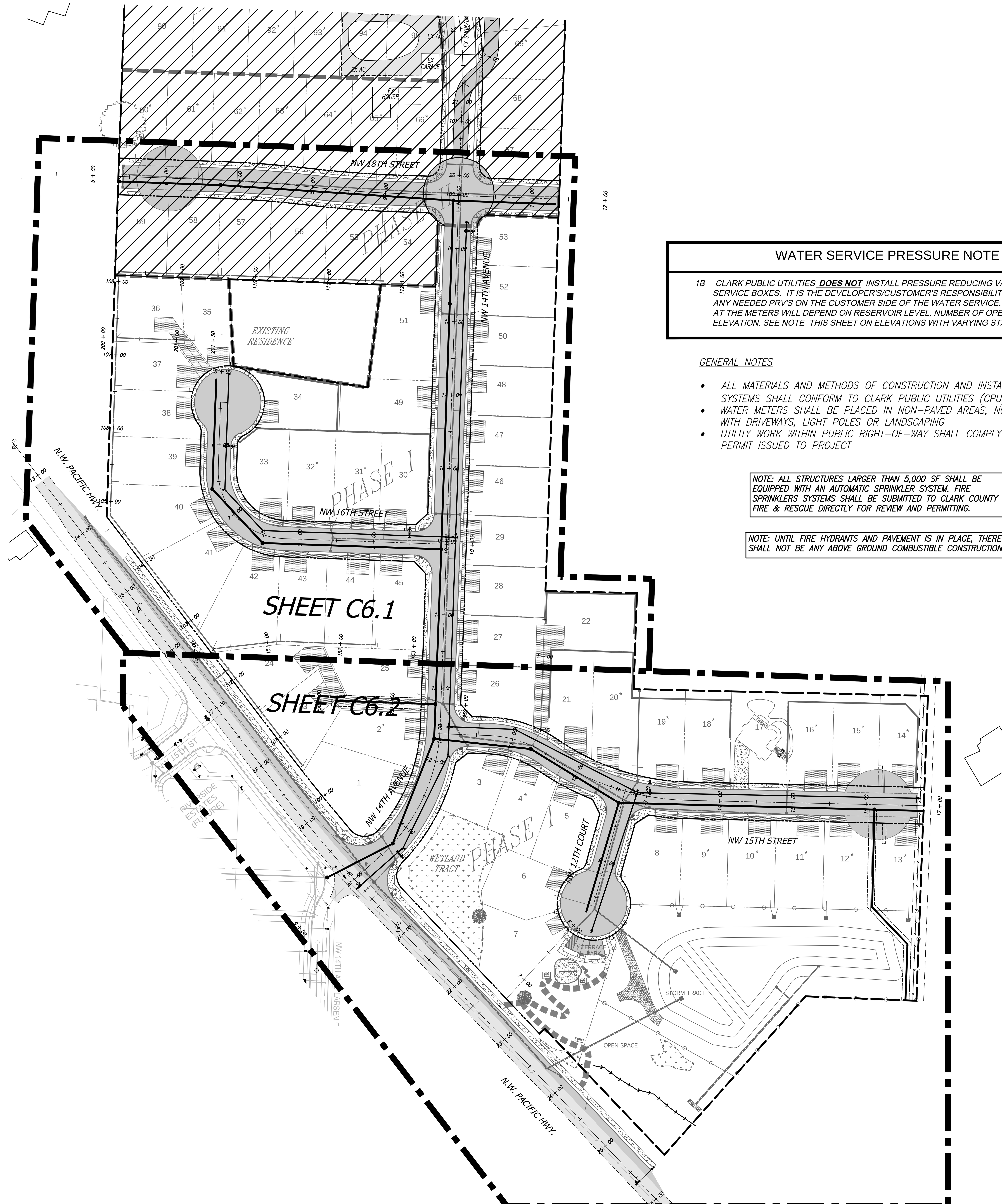
CITY OF LA CENTER WASHINGTON

APPROVED

REVISIONS

DESIGNED BY:	NAW
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	AS SHOWN

JOB NUMBER	SHEET
0536	C5.3



SANITARY LATERAL TABLE

LOT NUMBER	STATION	LENGTH	LENGTH	DEPTH	FLOWLINE	SIZE AND MATERIAL	STATION, OFFSET
	(FROM DOWNSTREAM MH)	(FROM MAIN)	(FROM TC)	(FROM TC)	(IE AT PIPE END)		(AT END) (NON–PERPENDICULAR)
1	0+53	20'	15.2'	6.5'	175.79	4" PVC	
2	1+38	23'	15.4'	6.5'	181.46	4" PVC	
3	0+69	19'	15.0'	6.5'	182.63	4" PVC	
4	0+23	26'	15.0'	6.5'	182.10	4" PVC	
5	0+93	23'	15.1'	6.5'	179.89	4" PVC	
6	1+36	49'	11.1'	4.0'	168.43	4" PVC	
7	0+00	42'	11.1'	4.0'	167.42	4" PVC	0+26, 32.4'
8	0+70	25'	15.1'	5.9'	180.44	4" PVC	
9	1+18	25'	15.0'	6.4'	180.67	4" PVC	
10	1+82	25'	15.0'	6.5'	181.22	4" PVC	
11	2+50	25'	15.0'	6.5'	182.24	4" PVC	
12	3+13	24'	15.0'	6.5'	183.19	4" PVC	
13	0+29	24'	15.0'	6.5'	184.16	4" PVC	
14	0+31	38'	15.0'	6.5'	184.19	4" PVC	
15	3+16	38'	15.0'	6.5'	183.23	4" PVC	
16	2+59	37'	15.0'	6.5'	182.38	4" PVC	
17	1+97	37'	15.0'	6.5'	181.44	4" PVC	
18	1+20	37'	15.0'	6.2'	180.92	4" PVC	
19	0+56	39'	15.1'	5.4'	180.67	4" PVC	
20	0+96	40'	19.6'	6.5'	179.70	4" PVC	
21	0+35	36'	15.0'	6.5'	181.71	4" PVC	
22	0+04	150'	128.6'	6.5'	182.57	4" PVC	
23	1+31	13'	0.0'	6.5'	188.14	4" PVC	0+10, 8.4
24	1+28	64'	0.0'	6.5'	190.58	4" PVC	0+34, 52.2
25	0+24	26'	15.0'	6.5'	188.73	4" PVC	
26	0+72	43'	15.0'	6.5'	183.63	4" PVC	
27	0+68	40'	15.0'	6.5'	192.71	4" PVC	
28	1+33	40'	15.0'	6.5'	199.09	4" PVC	
29	2+04	40'	15.0'	6.5'	207.03	4" PVC	
30	0+58	38'	15.0'	6.5'	208.85	4" PVC	
31	1+18	38'	15.0'	6.5'	206.63	4" PVC	
32	1+81	38'	15.0'	5.4'	207.21	4" PVC	
33	0+50	29'	15.0'	6.5'	209.19	4" PVC	
34	1+10	72'	11.2'	6.5'	220.99	4" PVC	
EXISTING RESIDENCE	1+22	63'	11.4'	6.5'	222.70	4" PVC	0+49, 37.9
35	1+48	30'	12.3'	6.5'	222.59	4" PVC	0+27, 10.0
36	1+46	90'	74.5'	6.5'	222.18	4" PVC	0+67, 58.1
37	1+44	33'	12.7'	6.5'	221.75	4" PVC	
38	0+81	25'	14.1'	6.5'	218.27	4" PVC	
39	0+13	23'	15.1'	6.5'	212.82	4" PVC	
40	0+76	30'	15.4'	6.5'	210.40	4" PVC	
41	0+22	30'	15.5'	6.5'	208.06	4" PVC	
42	2+32	23'	15.1'	6.5'	207.14	4" PVC	
43	1+88	24'	15.0'	5.8'	206.96	4" PVC	
44	1+23	24'	15.0'	5.9'	206.67	4" PVC	
45	1+44	26'	15.0'	6.5'	200.16	4" PVC	
46	0+58	40'	15.0'	6.5'	214.58	4" PVC	
47	1+29	40'	15.0'	6.5'	222.71	4" PVC	
48	1+95	40'	15.0'	6.5'	230.27	4" PVC	
49	1+70	26'	15.0'	6.5'	227.37	4" PVC	
50	2+65	40'	15.0'	6.5'	238.40	4" PVC	
51	2+42	26'	15.0'	6.5'	235.71	4" PVC	
52	3+31	40'	15.0'	6.5'	245.58	4" PVC	
53	0+67	40'	15.0'	6.5'	251.62	4" PVC	

WATER SERVICE PRESSURE NOTE

1B CLARK PUBLIC UTILITIES **DOES NOT** INSTALL PRESSURE REDUCING VALVES (PRV) AT THE WATER SERVICE BOXES. IT IS THE DEVELOPER'S/CUSTOMER'S RESPONSIBILITY TO INSTALL AND MAINTAIN ANY NEEDED PRV'S ON THE CUSTOMER SIDE OF THE WATER SERVICE. THE STATIC WATER PRESSURE AT THE METERS WILL DEPEND ON RESERVOIR LEVEL, NUMBER OF OPERATING WELLS, AND METER ELEVATION. SEE NOTE THIS SHEET ON ELEVATIONS WITH VARYING STATIC PRESSURES.

GENERAL NOTES

- ALL MATERIALS AND METHODS OF CONSTRUCTION AND INSTALLATION FOR WATER SYSTEMS SHALL CONFORM TO CLARK PUBLIC UTILITIES (CPU) STANDARDS
- WATER METERS SHALL BE PLACED IN NON–PAVED AREAS, NOT IN CONFLICT WITH DRIVEWAYS, LIGHT POLES OR LANDSCAPING
- UTILITY WORK WITHIN PUBLIC RIGHT–OF–WAY SHALL COMPLY WITH UTILITY PERMIT ISSUED TO PROJECT

NOTE: ALL STRUCTURES LARGER THAN 5,000 SF SHALL BE EQUIPPED WITH AN AUTOMATIC SPRINKLER SYSTEM. FIRE SPRINKLERS SYSTEMS SHALL BE SUBMITTED TO CLARK COUNTY FIRE & RESCUE DIRECTLY FOR REVIEW AND PERMITTING.

NOTE: UNTIL FIRE HYDRANTS AND PAVEMENT IS IN PLACE, THERE SHALL NOT BE ANY ABOVE GROUND COMBUSTIBLE CONSTRUCTION.

PRIVATE PRV'S RECOMMENDED FOR LOTS WITH STATIC PRESSURE ABOVE 80 PSI.

AT ELEVATION 160 = 125–145 PSI
AT ELEVATION 190 = 115–130 PSI
AT ELEVATION 220 = 100–120 PSI
AT ELEVATION 250 = 90–105 PSI

CONTOURS SHOWN ARE FINISHED GRADE

N

0 80 160 240

Scale: 1" = 80'

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4/16/2020

SANITARY & WATER PLAN OVERVIEW

HIGHLAND TERRACE SUBDIVISION PHASE 1

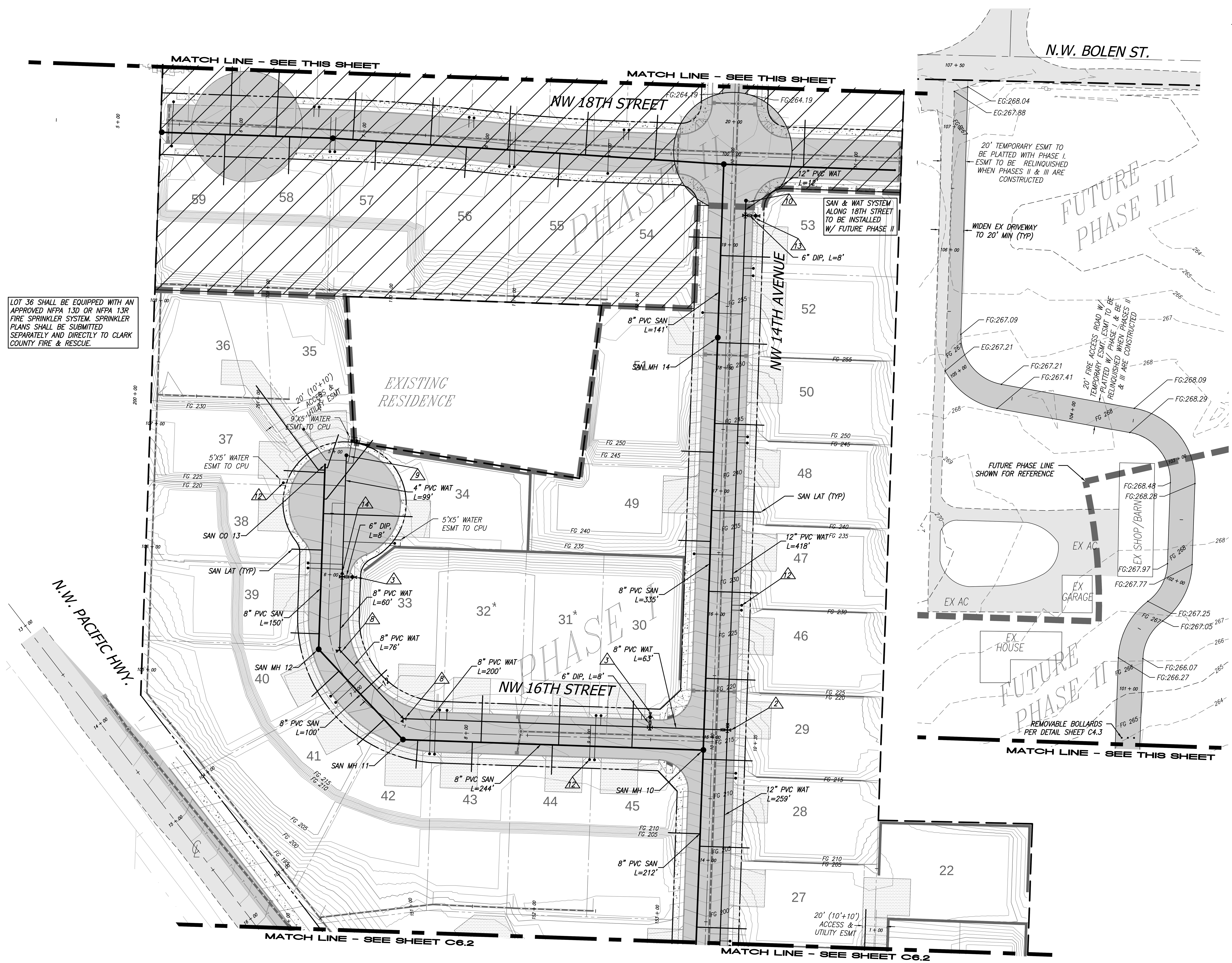
CITY OF LA CENTER WASHINGTON

APPROVED

REVISIONS

DESIGNED BY: NAW
DRAWN BY: NAW
CHECKED BY: JTM
SCALE: 1" = 80'

JOB NUMBER 0536
SHEET C6.0



WATER INSTALLATION NOTES:

1 CONNECT TO EX. 12" WATER LINE

NOTE: CONTRACTOR TO COORDINATE TIE-IN ACTIVITIES WITH CPU INSPECTOR 48-HRS PRIOR TO CONSTRUCTION. WORK WITHIN PUBLIC RIGHT-OF-WAY SHALL COMPLY WITH UTILITY PERMIT ISSUED TO THE PROJECT.

2 INSTALL:

(1) 12" X 8" FLG. TEE
(1) 12" FLG. X M.J. BUTTERFLY VALVE W/ MJ RESTRAINTS
(1) 8" FLG. X M.J. GATE VALVE W/ MEGALUG RESTRAINTS & TB

3 INSTALL:

(1) 8" X 6" M.J. X FLG. TEE
(1) 6" FLG. X M.J. GATE VALVE W/ MEGALUG RESTRAINTS & TB
(1) FULLY RESTRAINED 6" D.I. PIPE (USE SINGLE STICK. LENGTH CALLED OUT IN PLAN VIEW) TO FIRE HYDRANT ASSEMBLY

4 INSTALL:

(1) 8" MJ 22.5° BEND W/ MJ RESTRAINTS & TB

5 INSTALL:

(1) 8" X 4" FLG. TEE W/ TB
(2) 8" FLG. 22.5° BEND W/ MJ RESTRAINTS & TB
(1) 8" FLG. X M.J. GATE VALVE W/ MEGALUG RESTRAINTS
(1) FLG. X M.J. 8" ADAPTORS W/ M.J. RESTRAINT
(1) 4" FLG. X M.J. GATE VALVE W/ MEGALUG RESTRAINTS

6 HOT TAP EX. 8" WATER LINE AND INSTALL:

(1) 8" X 8" TAPPING SLEEVE
(1) 8" GV, FLG X MJ W/ MJ RESTRAINTS
(1) CONCRETE THRUST BLOCK
NOTE: CONTRACTOR TO COORDINATE TIE-IN ACTIVITIES W/ CPU INSPECTOR 48-HRS PRIOR TO CONSTRUCTION.

7 INSTALL:

(1) STANDARD BLOWOFF ASSEMBLY
(1) 4" M.J. CAP W/ MEGALUG RESTRAINTS & TB

8 INSTALL:

(1) 8" MJ 45° BEND W/ MJ RESTRAINTS & TB

9 INSTALL:

(1) STANDARD BLOWOFF ASSEMBLY
(1) 8" M.J. CAP W/ MEGALUG RESTRAINTS & TB

10 INSTALL:

(1) STANDARD BLOWOFF ASSEMBLY
(1) 12" M.J. CAP W/ MEGALUG RESTRAINTS & TB
NOTE: BLOWOFF IS TEMPORARY. TO BE REMOVED WITH PHASE II CONSTRUCTION

11 INSTALL:

(1) 1" IRRIGATION SERVICE-PRIVATE BACKFLOW ASSEMBLY

12 INSTALL (TYP):

INSTALL STANDARD 1" WATER SERVICE W/ 1"X¾" METER STOP PER CLARK PUBLIC UTILITIES STANDARD WATER SERVICE DETAIL (TYP).

13 INSTALL:

(1) 12" X 6" M.J. X FLG. TEE
(1) 6" FLG. X M.J. GATE VALVE W/ MEGALUG RESTRAINTS & TB
(1) FULLY RESTRAINED 6" D.I. PIPE (USE SINGLE STICK. LENGTH CALLED OUT IN PLAN VIEW) TO FIRE HYDRANT ASSEMBLY

14 INSTALL:

(1) 8" X 4" REDUCER WITH MEGALUG RESTRAINTS

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4/16/2020

HIGHLAND TERRACE SUBDIVISION PHASE 1

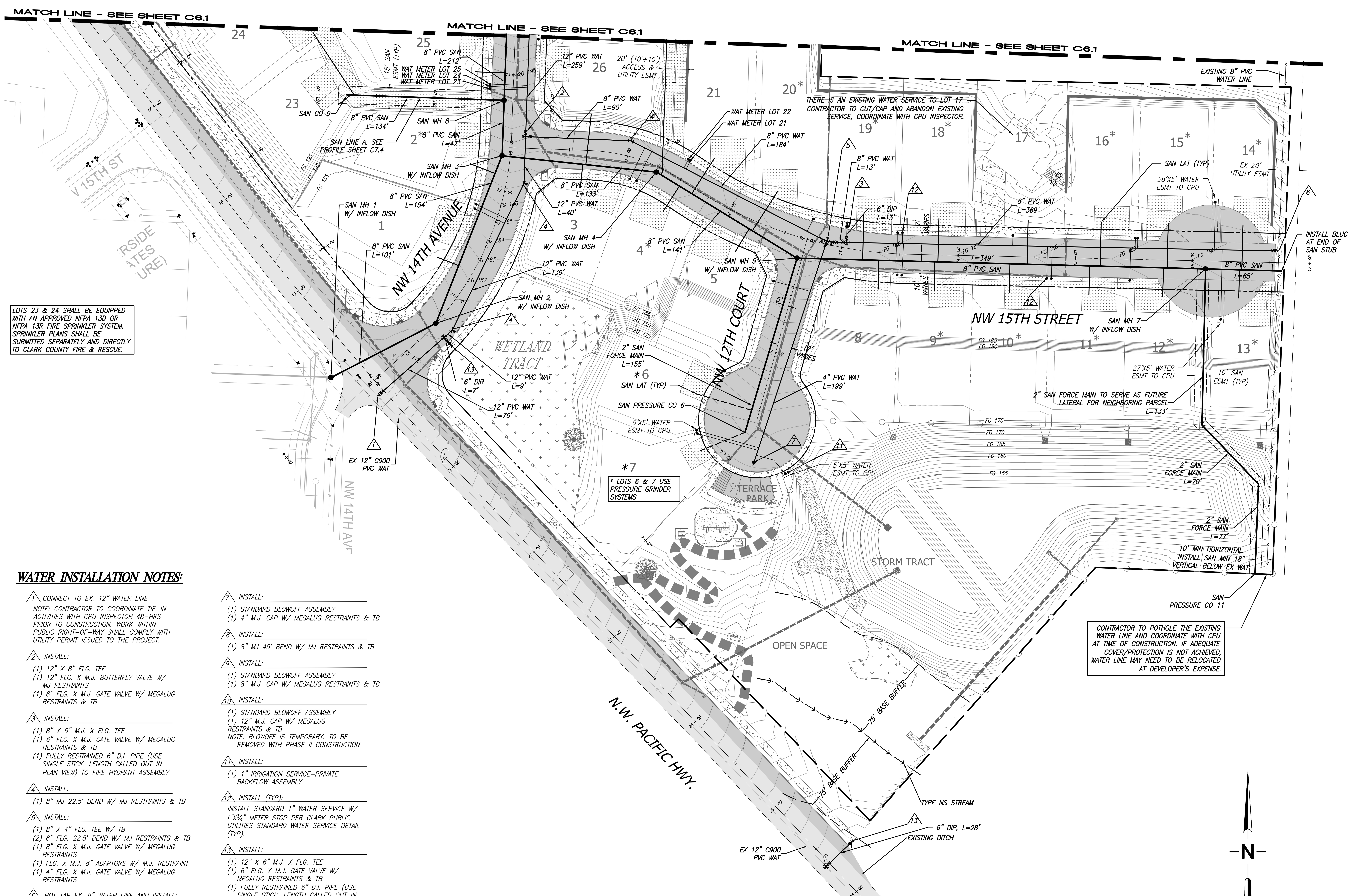
SANITARY & WATER PLAN SHEET 1

CITY OF LA CENTER
WASHINGTON

APPROVED

REVISIONS

DESIGNED BY:	NAW
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	1" = 40'
JOB NUMBER	SHEET
0536	C6.1



WATER INSTALLATION NOTES:

1 CONNECT TO EX. 12" WATER LINE

NOTE: CONTRACTOR TO COORDINATE TIE-IN ACTIVITIES WITH CPU INSPECTOR 48-HRS PRIOR TO CONSTRUCTION. WORK WITHIN PUBLIC RIGHT-OF-WAY SHALL COMPLY WITH UTILITY PERMIT ISSUED TO THE PROJECT.

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(1) 12" FLG. X M.J. BUTTERFLY VALVE W/ MJ RESTRAINTS
(1) 8" FLG. X M.J. GATE VALVE W/ MEGALUG RESTRAINTS & TB

3 INSTALL:

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(1) 6" FLG. X M.J. GATE VALVE W/ MEGALUG RESTRAINTS & TB
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(1) 8" X 4" FLG. TEE W/ TB
(2) 8" FLG. 22.5° BEND W/ MJ RESTRAINTS & TB
(1) 8" FLG. X M.J. GATE VALVE W/ MEGALUG RESTRAINTS
(1) FLG. X M.J. 8" ADAPTORS W/ M.J. RESTRAINT
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(1) 8" X 8" TAPPING SLEEVE
(1) 8" GV, FLG X MJ W/ MJ RESTRAINTS
(1) CONCRETE THRUST BLOCK
NOTE: CONTRACTOR TO COORDINATE TIE-IN ACTIVITIES W/ CPU INSPECTOR 48-HRS PRIOR TO CONSTRUCTION.

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(1) 4" M.J. CAP W/ MEGALUG RESTRAINTS & TB

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(1) 8" MJ 45° BEND W/ MJ RESTRAINTS & TB

9 INSTALL:

(1) STANDARD BLOWOFF ASSEMBLY
(1) 8" M.J. CAP W/ MEGALUG RESTRAINTS & TB

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(1) 6" FLG. X M.J. GATE VALVE W/ MEGALUG RESTRAINTS & TB
(1) FULLY RESTRAINED 6" D.I. PIPE (USE SINGLE STICK. LENGTH CALLED OUT IN PLAN VIEW) TO FIRE HYDRANT ASSEMBLY

14 INSTALL:

(1) 8" X 4" REDUCER WITH MEGALUG RESTRAINTS

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SANITARY & WATER PLAN SHEET 2

HIGHLAND TERRACE SUBDIVISION PHASE 1

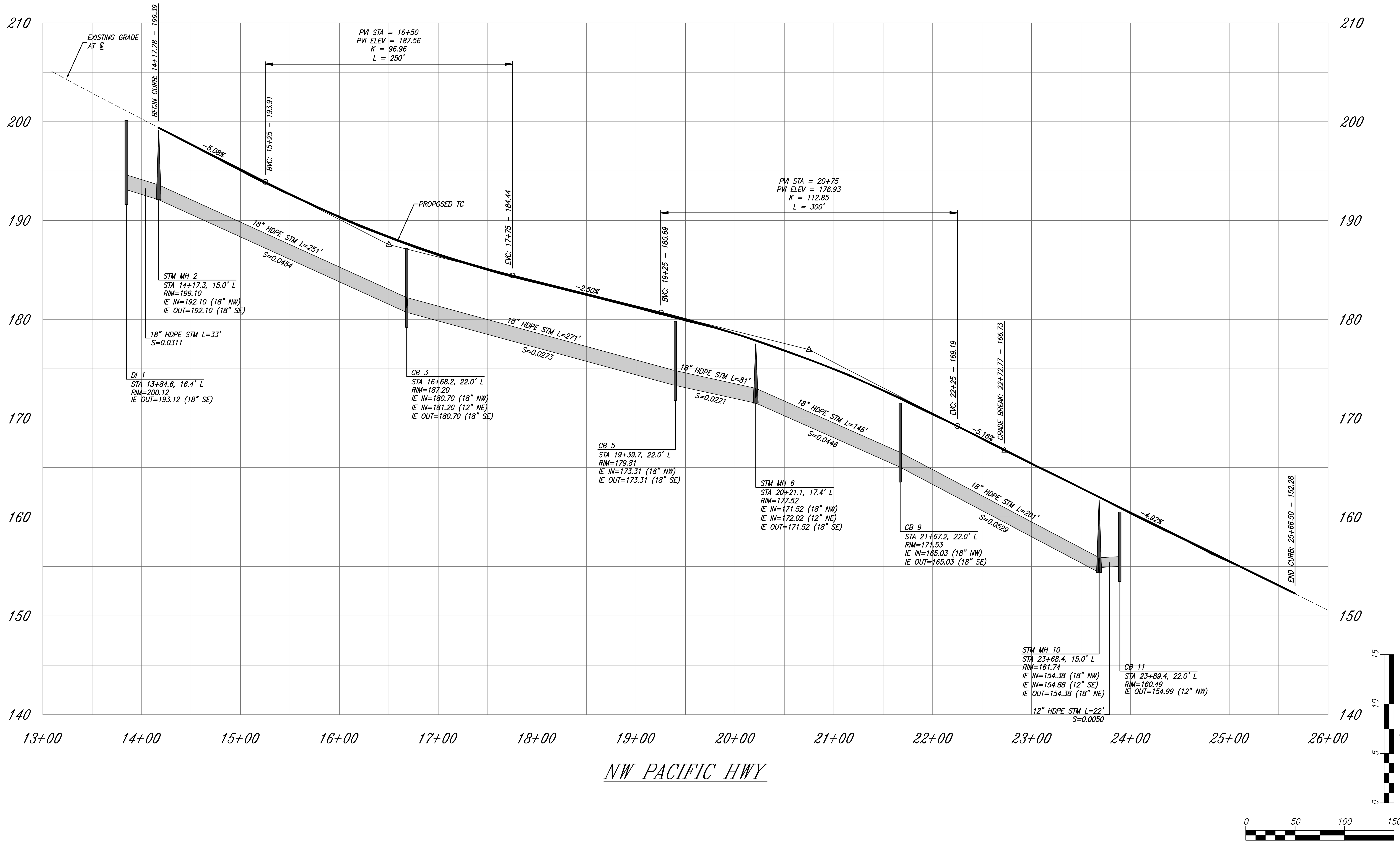
CITY OF LA CENTER WASHINGTON

APPROVED

REVISIONS

DESIGNED BY:	NAW
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	1" = 40'

JOB NUMBER	SHEET
0536	C6.2



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HIGHLAND TERRACE SUBDIVISION PHASE 1

PROFILE SHEET 1

CITY OF LA CENTER
WASHINGTON

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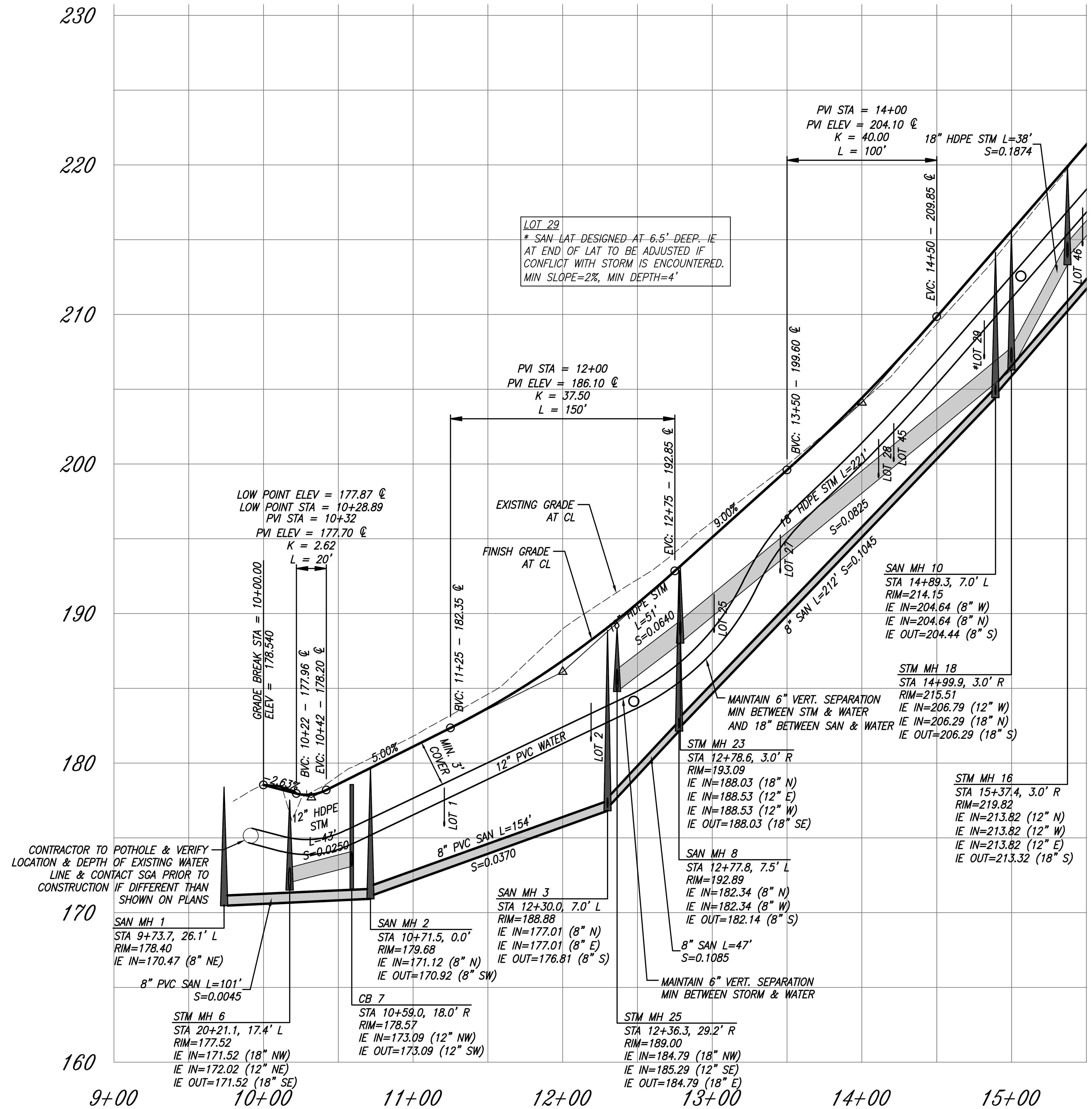
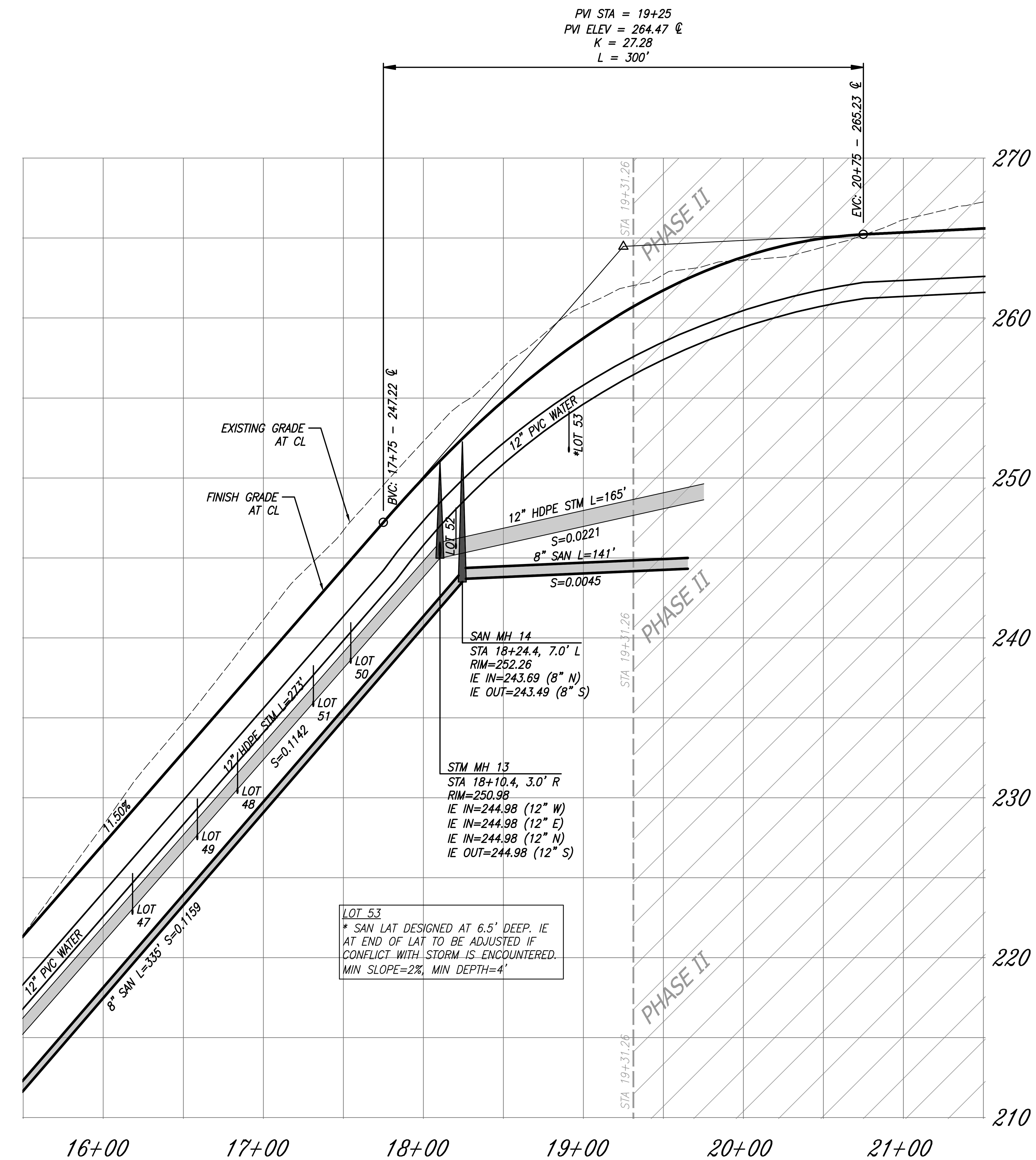
REVISIONS

DESIGNED BY: NAW
DRAWN BY: NAW
CHECKED BY: JTM
SCALE: 1" = 50' HORIZ. 1" = 5' VERT.

JOB NUMBER 0536
SHEET C7.0



NW 14TH AVE



NW 14TH AVE (CONTINUED)

LATERALS SHOWN IN PROFILES ARE SAN LATERALS

Scale: 1" = 5'

Scale: 1" = 50'

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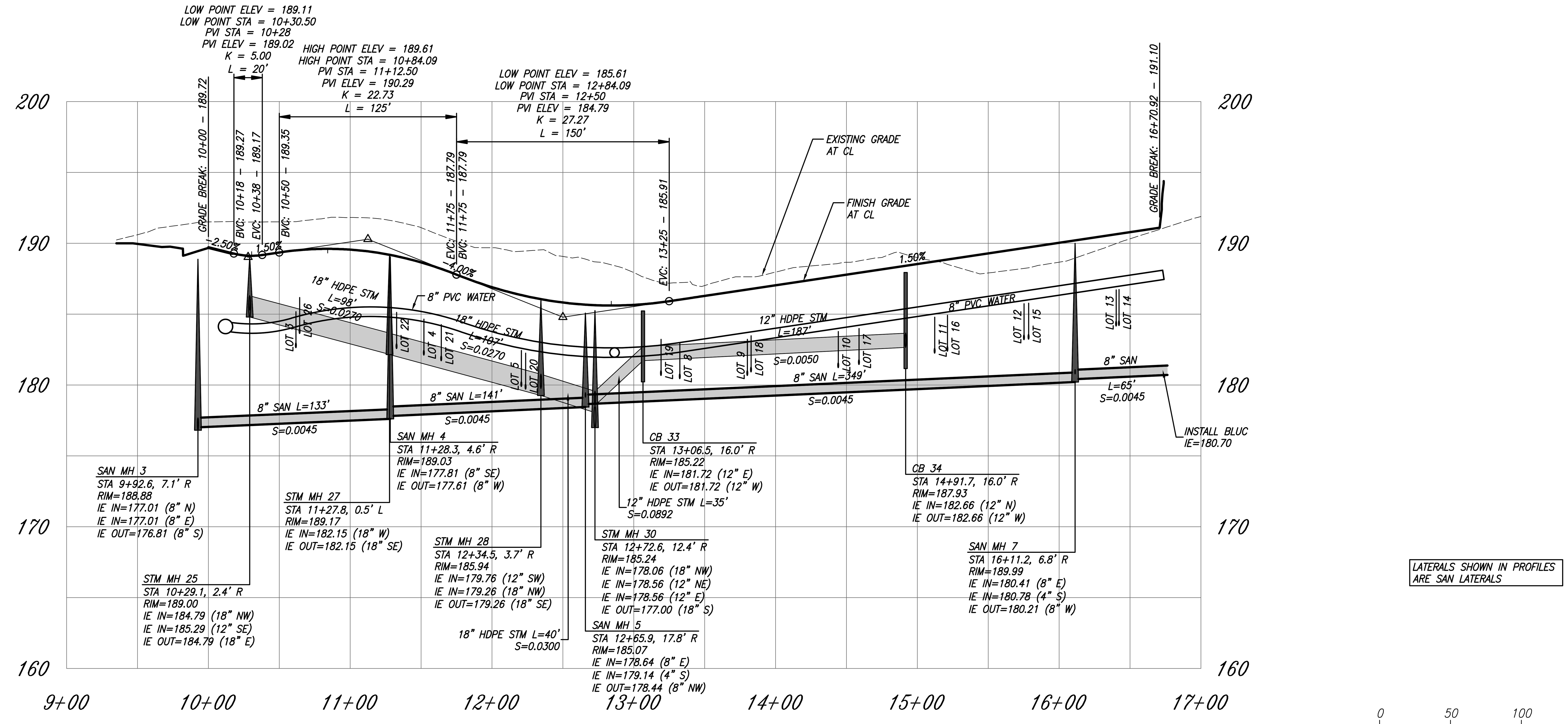
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	1" = 50' HORIZ. 1" = 5' VERT.

JOB NUMBER	SHEET
0536	C7.1

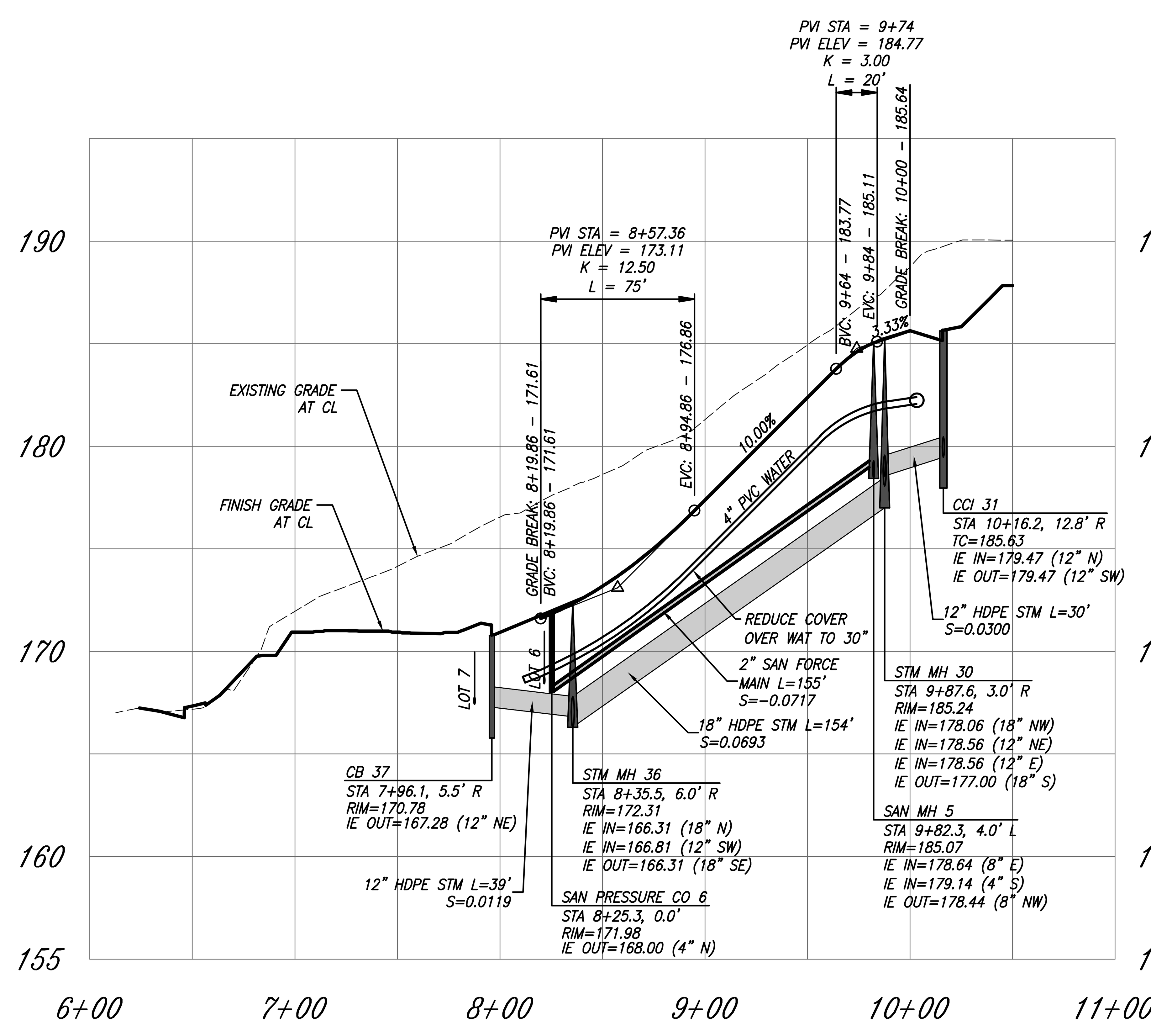


NW 15TH ST

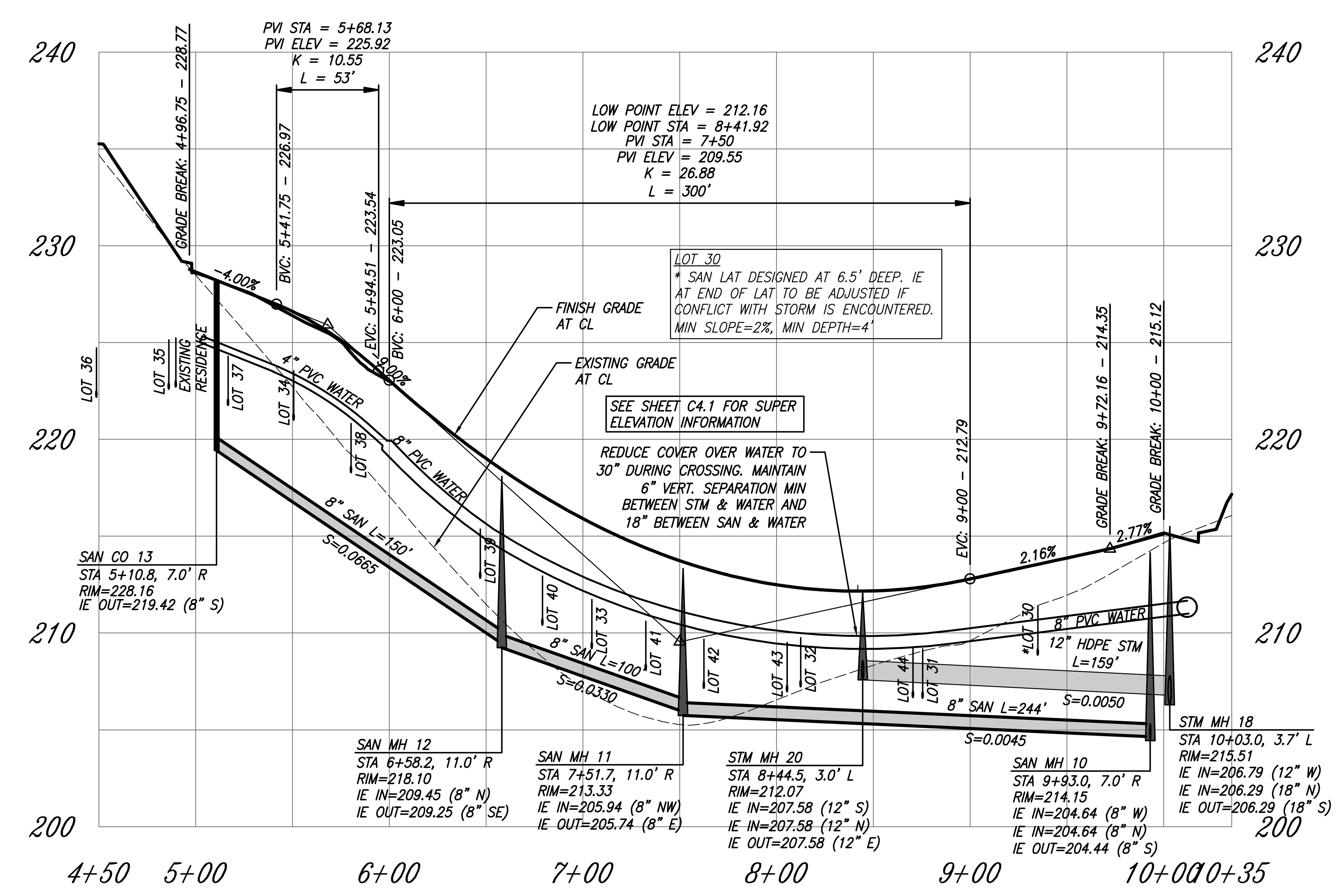
LATERALS SHOWN IN PROFILES ARE SAN LATERALS

Scale: 1" = 5'

Scale: 1" = 50'



NW 12TH CT



NW 16TH ST

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PROFILE SHEET 3

HIGHLAND TERRACE SUBDIVISION PHASE 1

CITY OF LA CENTER WASHINGTON

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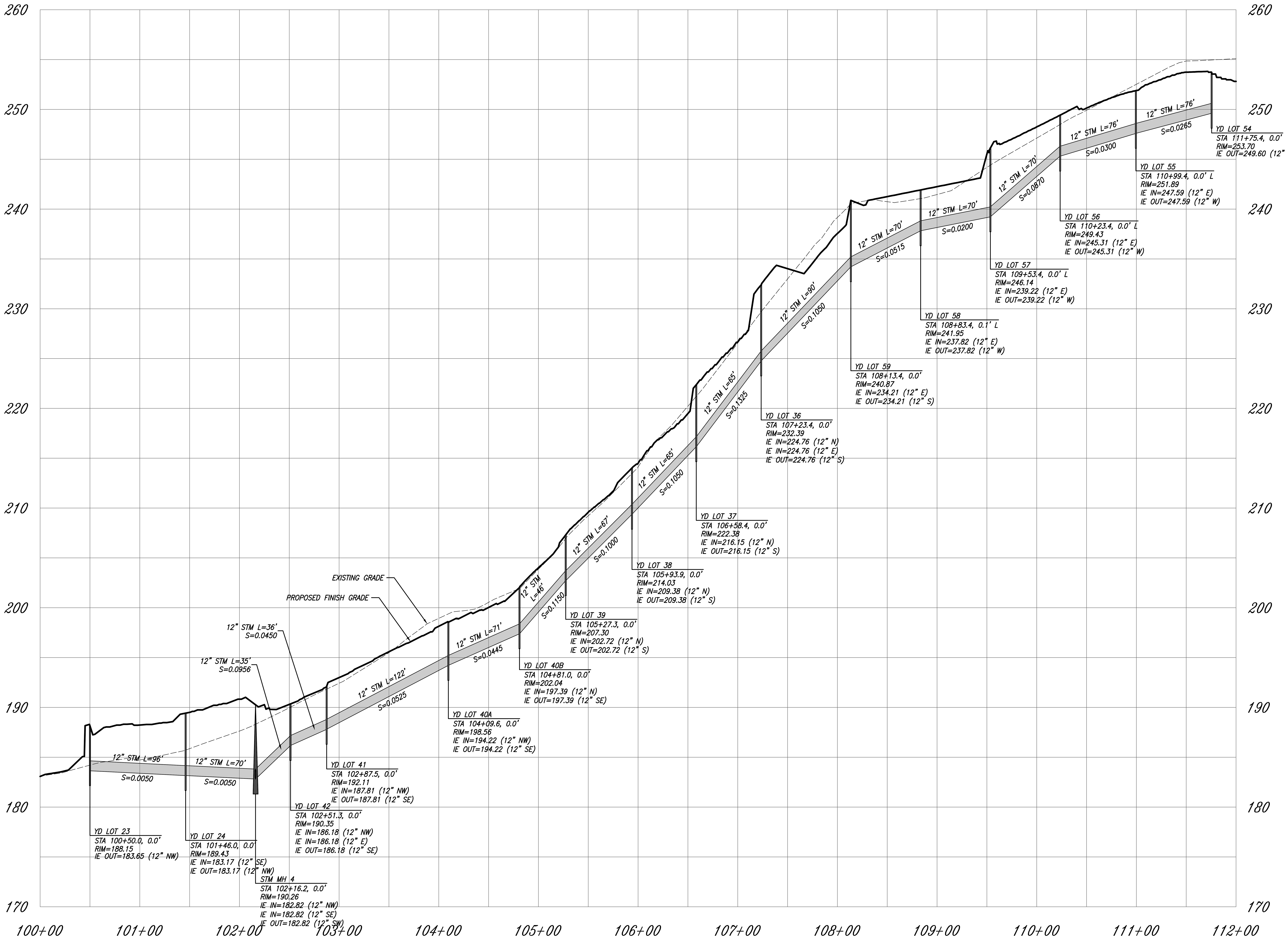
SCALE:	1" = 50' HORIZ. 1" = 5' VERT.

JOB NUMBER	SHEET
0536	C7.2



STORM LINE A

0 5 10 15
Scale: 1" = 5'

0 50 100 150
Scale: 1" = 50'

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4/16/2020

PROFILE SHEET 4

HIGHLAND TERRACE SUBDIVISION PHASE 1

CITY OF LA CENTER WASHINGTON

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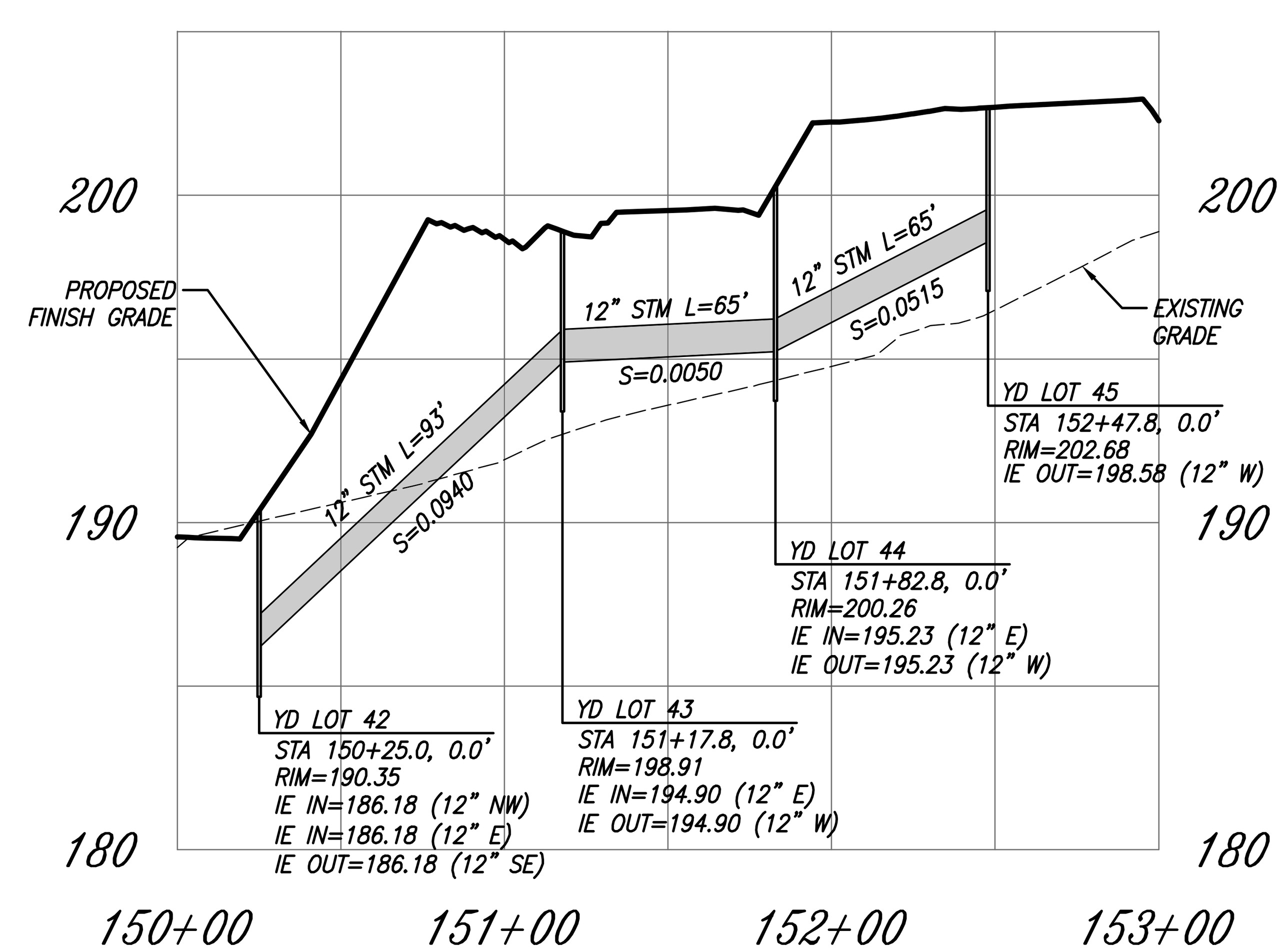
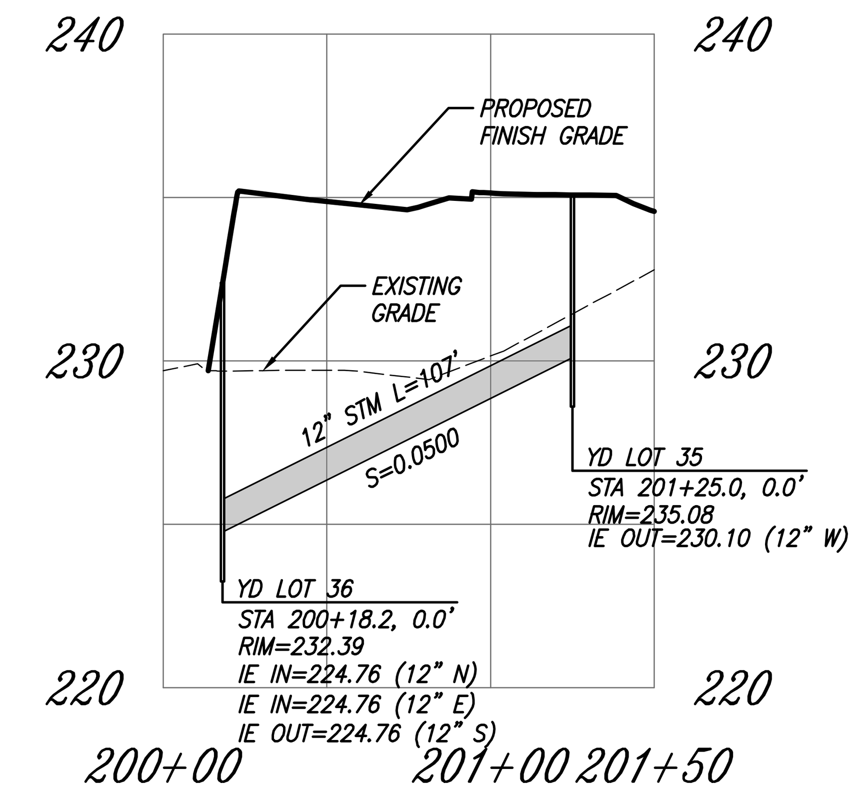
REVISIONS

DESIGNED BY:	NAW
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	1" = 50' HORIZ. 1" = 5' VERT.

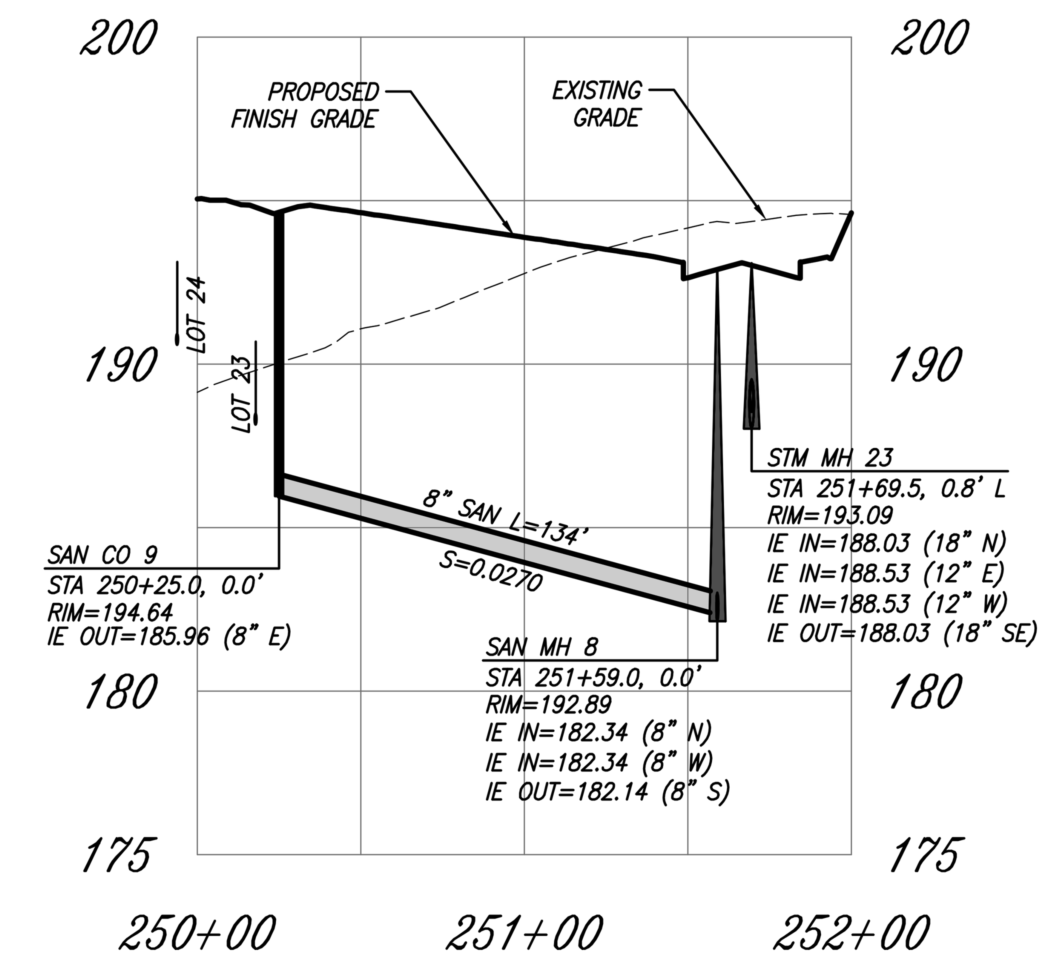
JOB NUMBER	SHEET
0536	C7.3



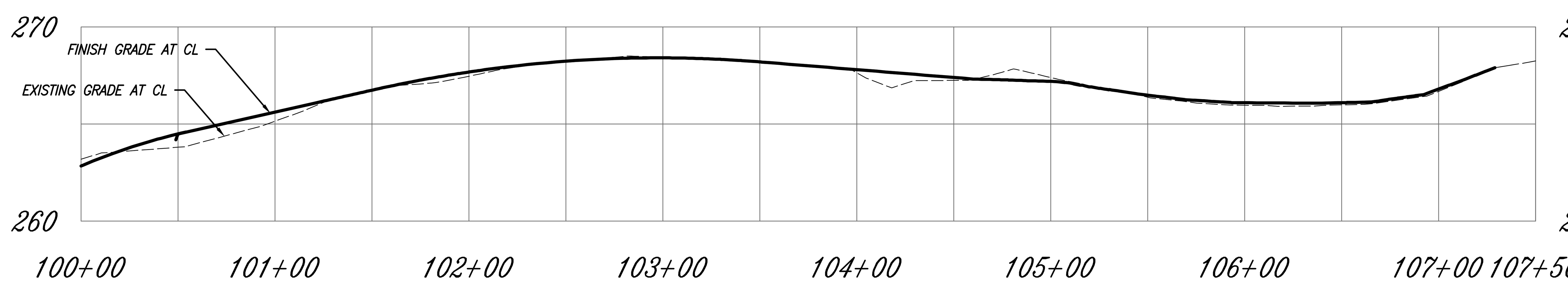
STORM LINE B



STORM LINE C



SAN LINE A



FIRE ACCESS ROAD

SEE SHEET C6.1 FOR SPOT GRADE DETAILS

LATERALS SHOWN IN PROFILES ARE SAN LATERALS

Scale: 1" = 5'

Scale: 1" = 50'

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4/16/2020

PROFILE SHEET 5

HIGHLAND TERRACE SUBDIVISION PHASE 1

CITY OF LA CENTER
WASHINGTON

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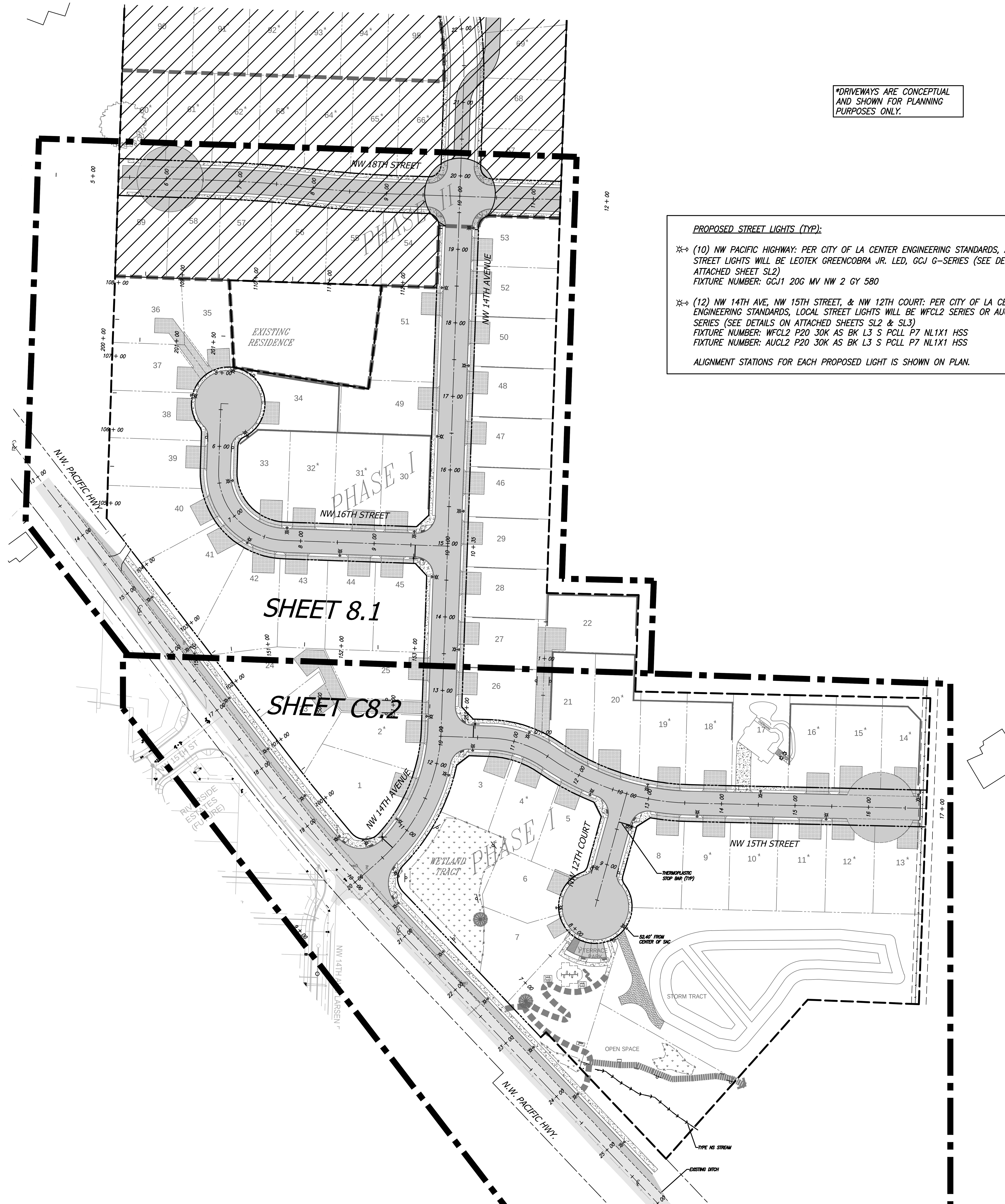
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	1" = 50' HORIZ. 1" = 5' VERT.

JOB NUMBER	SHEET
0536	C7.4

*DRIVEWAYS ARE CONCEPTUAL AND SHOWN FOR PLANNING PURPOSES ONLY.

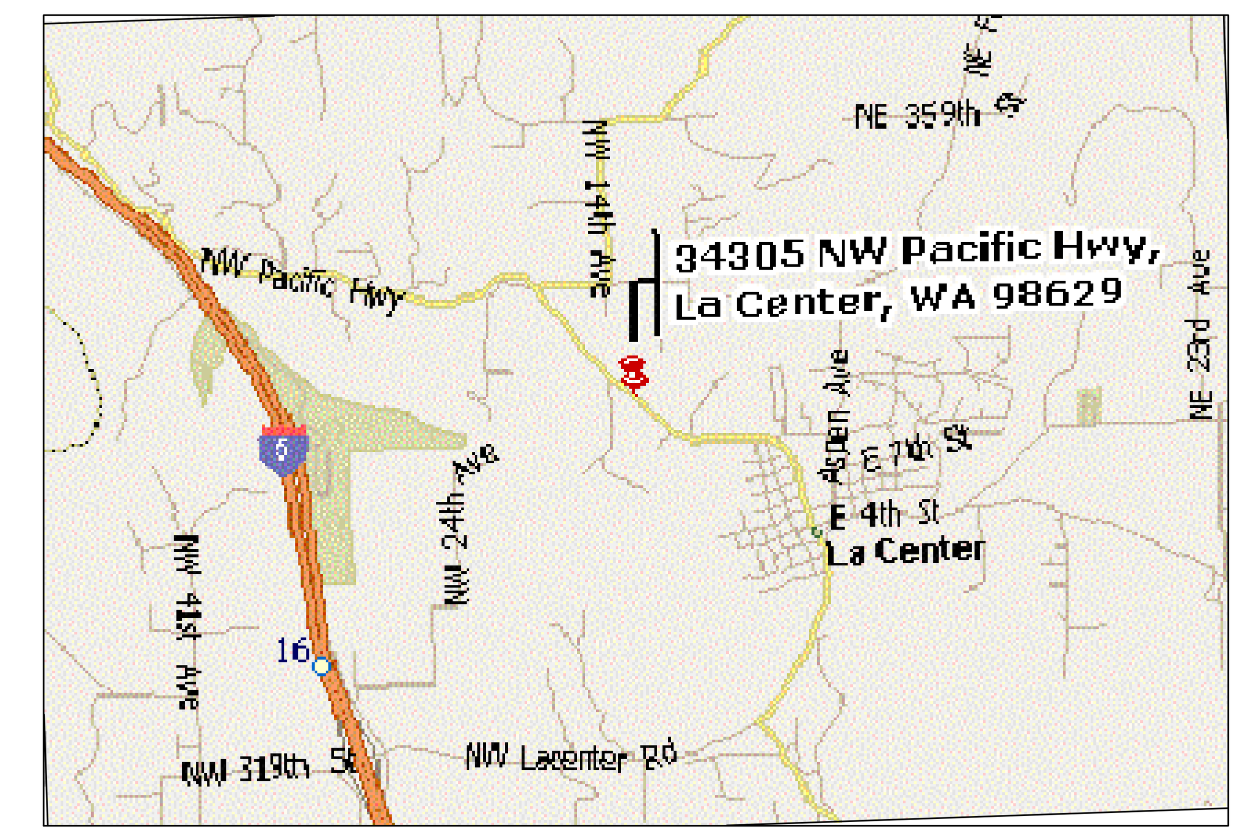


PROPOSED STREET LIGHTS (TYP):

(10) NW PACIFIC HIGHWAY: PER CITY OF LA CENTER ENGINEERING STANDARDS, ARTERIAL STREET LIGHTS WILL BE LEOTEK GREENCOBRA JR. LED, GCJ G–SERIES (SEE DETAIL ON ATTACHED SHEET SL2)
FIXTURE NUMBER: GCJ1 20G MV NW 2 GY 580

(12) NW 14TH AVE, NW 15TH STREET, & NW 12TH COURT: PER CITY OF LA CENTER ENGINEERING STANDARDS, LOCAL STREET LIGHTS WILL BE WFCL2 SERIES OR AUCL2 SERIES (SEE DETAILS ON ATTACHED SHEETS SL2 & SL3)
FIXTURE NUMBER: WFCL2 P20 30K AS BK L3 S PCLL P7 NL1X1 HSS
FIXTURE NUMBER: AUCL2 P20 30K AS BK L3 S PCLL P7 NL1X1 HSS

ALIGNMENT STATIONS FOR EACH PROPOSED LIGHT IS SHOWN ON PLAN.



N

0 80 160 240

Scale: 1" = 80'

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4/16/2020

SIGNING, STRIPING, & LIGHTING OVERVIEW

HIGHLAND TERRACE SUBDIVISION PHASE 1

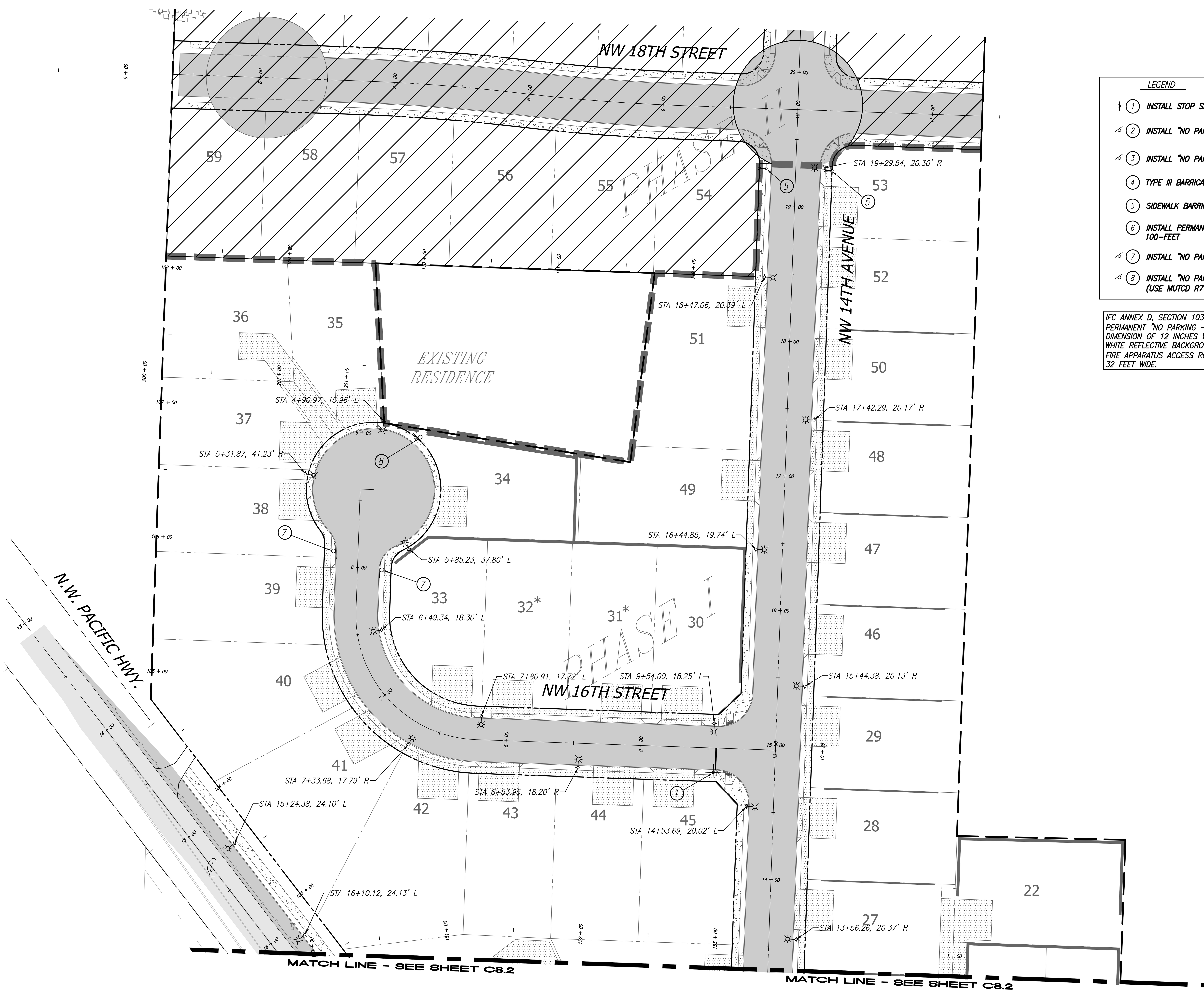
CITY OF LA CENTER
WASHINGTON

APPROVED

REVISIONS

DESIGNED BY:	NAW
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	1" = 80'

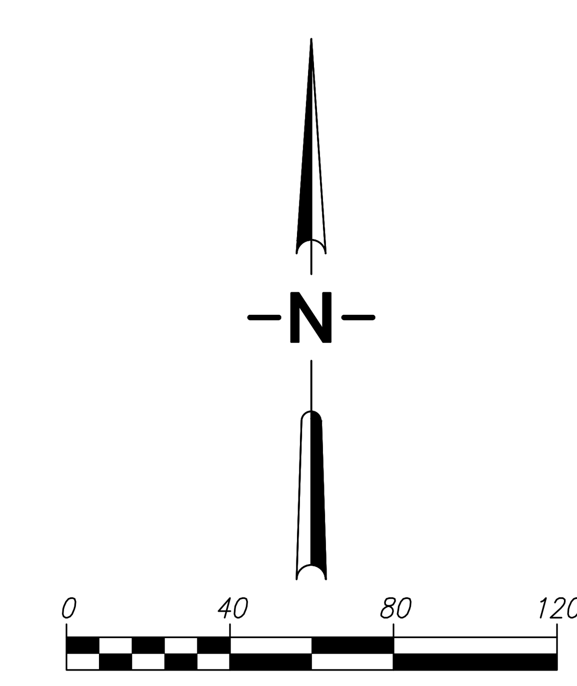
JOB NUMBER	SHEET
0536	C8.0



LEGEND

1. INSTALL STOP SIGN (MUTCD R1-1) AND STREET NAME SIGN (MUTCD D3-1)
2. INSTALL "NO PARKING ANYTIME ← " SIGN (MUTCD R7-1)
3. INSTALL "NO PARKING ANYTIME → " SIGN (MUTCD R7-1)
4. TYPE III BARRICADE
5. SIDEWALK BARRICADE
6. INSTALL PERMANENT WETLAND SIGN ALONG THE STREAM CORRIDOR EVERY 100-FEET
7. INSTALL "NO PARKING - FIRE LANE" SIGN (USE MUTCD R7-1)
8. INSTALL "NO PARKING - FIRE LANE ←→ " WITH DOUBLE ARROWS SIGN (USE MUTCD R7-6)

IFC ANNEX D, SECTION 103; FIRE APPARATUS ACCESS ROADS SHALL BE MARKED WITH PERMANENT "NO PARKING - FIRE LANE", SIGNS SHALL COMPLY WITH A MINIMUM DIMENSION OF 12 INCHES WIDE BY 18 INCHES HIGH AND HAVE RED LETTERS ON A WHITE REFLECTIVE BACKGROUND. FIRE LANE SIGNS SHALL BE POSTED ON ONE SIDE OF FIRE APPARATUS ACCESS ROADS [THAT ARE] MORE THAN 26 FEET WIDE AND LESS THAN 32 FEET WIDE.



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4/16/2020

SIGNING, STRIPING, & LIGHTING SHEET 1

HIGHLAND TERRACE SUBDIVISION PHASE 1

CITY OF LA CENTER WASHINGTON

APPROVED

REVISIONS

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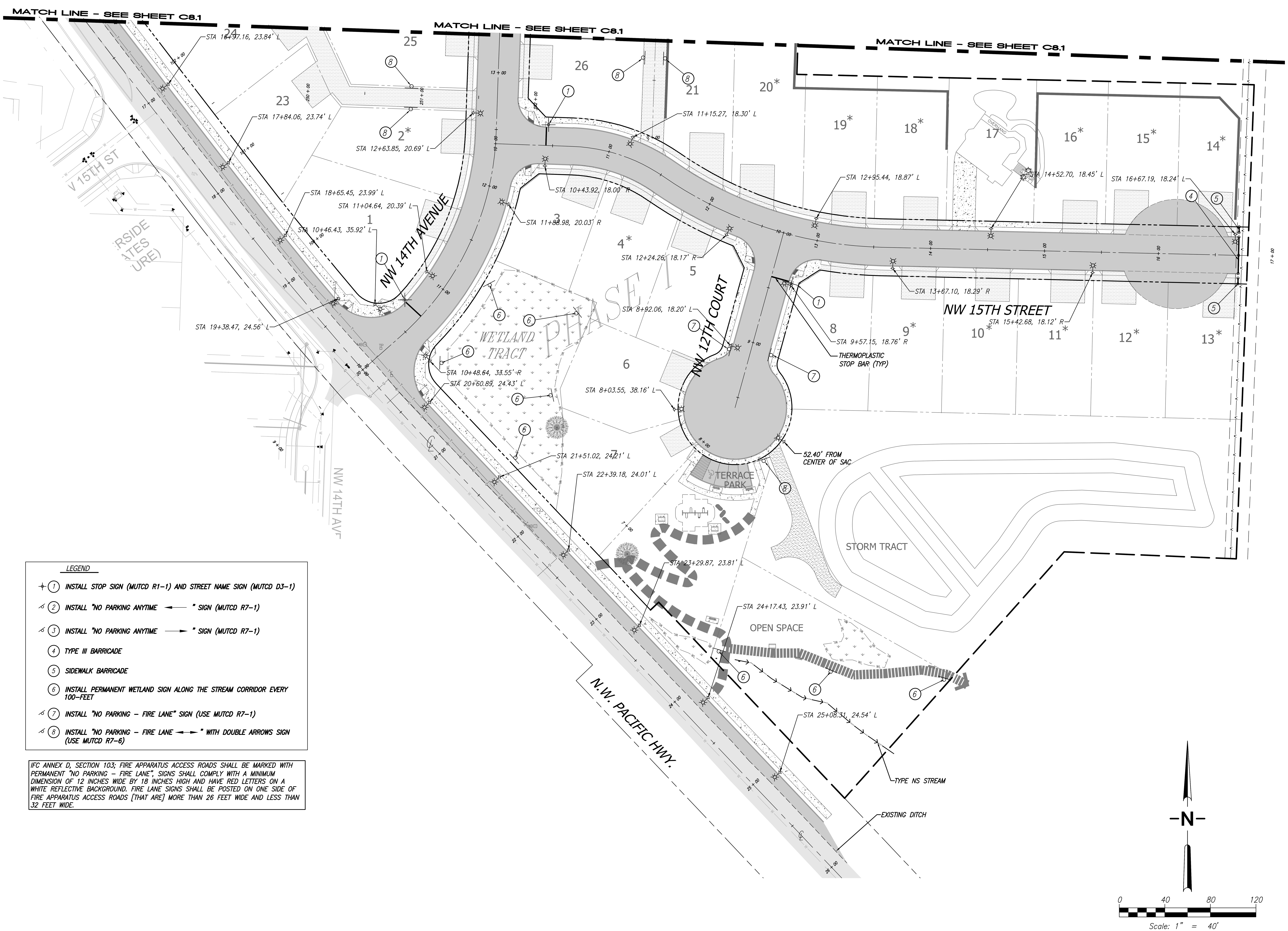
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	1" = 40'

JOB NUMBER	SHEET
0536	C8.1



LEGEND

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(2)	INSTALL "NO PARKING ANYTIME ◄── " SIGN (MUTCD R7-1)
(3)	INSTALL "NO PARKING ANYTIME ──► " SIGN (MUTCD R7-1)
(4)	TYPE III BARRICADE
(5)	SIDEWALK BARRICADE
(6)	INSTALL PERMANENT WETLAND SIGN ALONG THE STREAM CORRIDOR EVERY 100-FEET
(7)	INSTALL "NO PARKING - FIRE LANE" SIGN (USE MUTCD R7-1)
(8)	INSTALL "NO PARKING - FIRE LANE ◄──► " WITH DOUBLE ARROWS SIGN (USE MUTCD R7-6)

IFC ANNEX D, SECTION 103; FIRE APPARATUS ACCESS ROADS SHALL BE MARKED WITH PERMANENT "NO PARKING - FIRE LANE", SIGNS SHALL COMPLY WITH A MINIMUM DIMENSION OF 12 INCHES WIDE BY 18 INCHES HIGH AND HAVE RED LETTERS ON A WHITE REFLECTIVE BACKGROUND. FIRE LANE SIGNS SHALL BE POSTED ON ONE SIDE OF FIRE APPARATUS ACCESS ROADS [THAT ARE] MORE THAN 26 FEET WIDE AND LESS THAN 32 FEET WIDE.

SGA ENGINEERING & DESIGN
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JASON T. MATTOX, STATE OF WASHINGTON, 40172, REGISTERED PROFESSIONAL ENGINEER
4/16/2020

HIGHLAND TERRACE SUBDIVISION PHASE 1

SIGNING, STRIPING, & LIGHTING SHEET 2

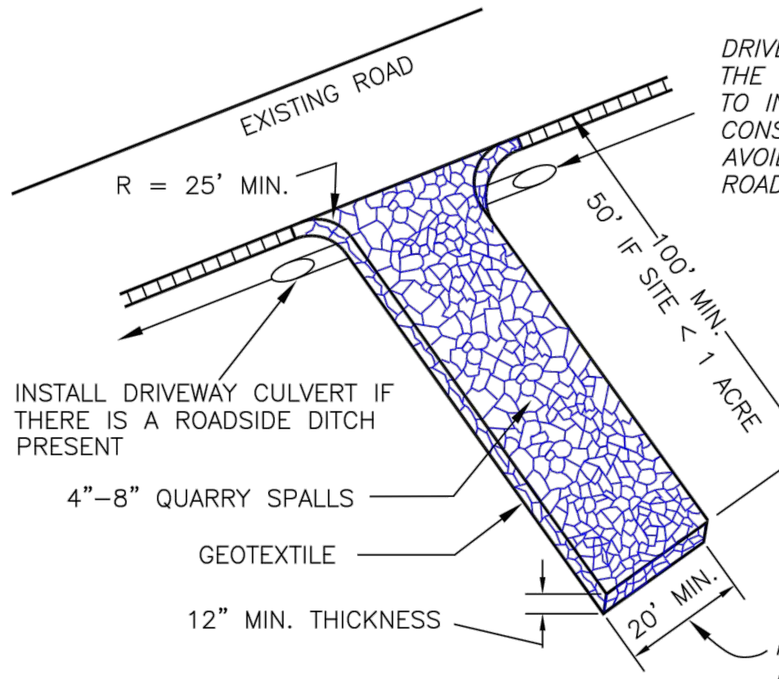
CITY OF LA CENTER
WASHINGTON

APPROVED

REVISIONS

DESIGNED BY:	NAW
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	1" = 40'

JOB NUMBER	SHEET
0536	C8.2



DRIVEWAYS SHALL BE PAVED TO THE EDGE OF R–O–W PRIOR TO INSTALLATION OF THE CONSTRUCTION ENTRANCE TO AVOID DAMAGING OF THE ROADWAY.

IT IS RECOMMENDED THAT THE ENTRANCE BE CROWNED SO THAT RUNOFF DRAINS OFF THE PAD.

INSTALL DRIVEWAY CULVERT IF THERE IS A ROADSIDE DITCH PRESENT

4"–8" QUARRY SPALLS

GEOTEXTILE

12" MIN. THICKNESS

PROVIDE FULL WIDTH OF INGRESS/EGRESS AREA

NOTES:

1. IF THE ENTRANCE SITS ON A SLOPE, PLACE A FILTER FABRIC FENCE DOWN GRADIENT.
2. TOP DRESS THE PAD WITH CLEAN 3" MINUS ROCK WHEN THE CONSTRUCTION ENTRANCE BECOMES CLOGGED WITH SEDIMENTS.
3. ANY SEDIMENT CARRIED FROM THE SITE ONTO THE STREET SHALL BE CLEANED UP IMMEDIATELY.
4. IF EQUIPMENT TRAVELS EXTENSIVELY ON UNSTABILIZED ROADS ON THE SITE, A TIRE AND VEHICLE UNDERCARRIAGE WASH NEAR THE ENTRANCE WILL BE NEEDED. PERFORM WASHING ON CRUSHED ROCK. WASH WATER WILL REQUIRE TREATMENT IN A SEDIMENT POND OR TRAP.

STANDARD CONSTRUCTION ENTRANCE

PLAN #

CITY OF LA CENTER APPROVED

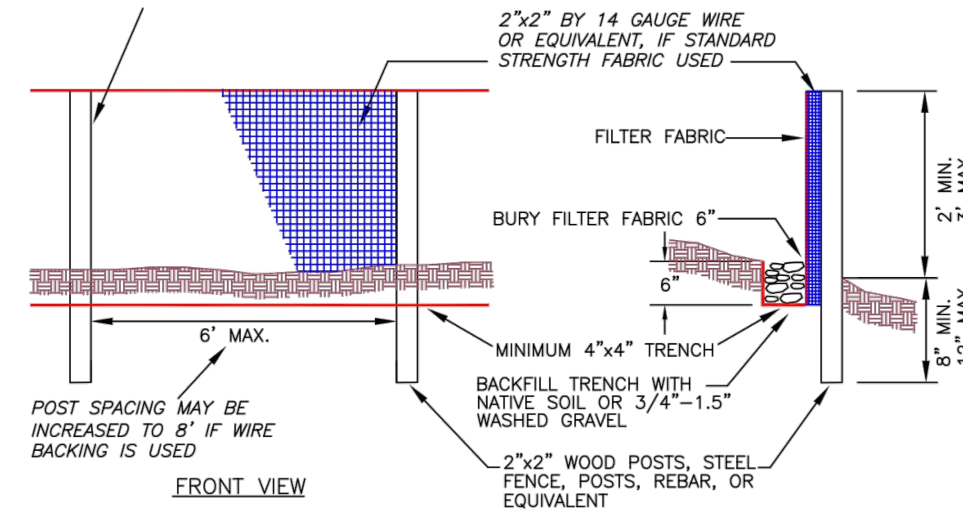
REVISIONS:	DATE:	DRAWN:	DESIGNED:

Bart Stepp, PE 7/23/09

CITY ENGINEER DATE

ER-2

JOINTS IN FILTER FABRIC SHALL BE SPLICED AT POSTS. USE STAPLES, WIRE RINGS, SEWN IN POCKETS OR EQUIVALENT TO ATTACH FABRIC TO POSTS.



FRONT VIEW

SIDE VIEW

NOTE: FILTER FABRIC FENCES SHALL BE INSTALLED ALONG CONTOUR WHENEVER POSSIBLE

MAINTENANCE STANDARDS:

1. SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
2. IF CONCENTRATED FLOWS ARE EVIDENT UPHILL OF THE FENCE, THEY MUST BE INTERCEPTED AND CONVEYED TO A SEDIMENT POND.
3. IT IS IMPORTANT TO CHECK THE UPHILL SIDE OF THE FENCE FOR SIGNS OF THE FENCE CLOGGING AND ACTING AS A BARRIER TO FLOW AND THEN CAUSING CHANNELIZATION OF FLOWS PARALLEL TO THE FENCE. IF THIS OCCURS, REPLACE THE FENCE OR REMOVE THE TRAPPED SEDIMENT.
4. SEDIMENT DEPOSITS SHALL EITHER BE REMOVED WHEN THE DEPOSIT REACHES APPROXIMATELY ONE–THIRD THE HEIGHT OF THE SILT FENCE, OR A SECOND SILT FENCE SHALL BE INSTALLED.
5. SHOULD THE FABRIC ON A SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE PRIOR AND THE BARRIER IS STILL NECESSARY, THE FABRIC SHALL BE REPLACED IMMEDIATELY.
6. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.

FILTER FABRIC FENCE

PLAN #

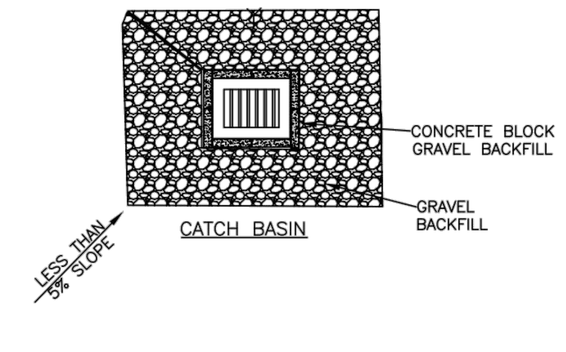
CITY OF LA CENTER APPROVED

REVISIONS:	DATE:	DRAWN:	DESIGNED:

Bart Stepp, PE 7/23/09

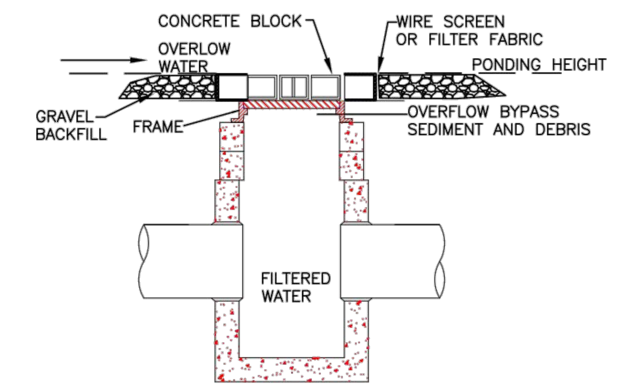
CITY ENGINEER DATE

ER-3



CATCH BASIN

PLAN VIEW



CROSS SECTION

NOTES:

1. DROP INLET SEDIMENT BARRIERS ARE TO BE USED FOR SMALL, NEARLY LEVEL DRAINAGE AREAS (LESS THAN 5%)
2. EXCAVATE A BASIN OF SUFFICIENT SIZE ADJACENT TO THE DROP INLET.
3. THE TOP OF THE STRUCTURE (PONDING HEIGHT) MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNOFF FROM BYPASSING THE INLET. A TEMPORARY DIKE MAY BE NECESSARY ON THE DOWNSLOPE SIDE OF THE STRUCTURE.

BLOCK AND GRAVEL INLET PROTECTION

PLAN #

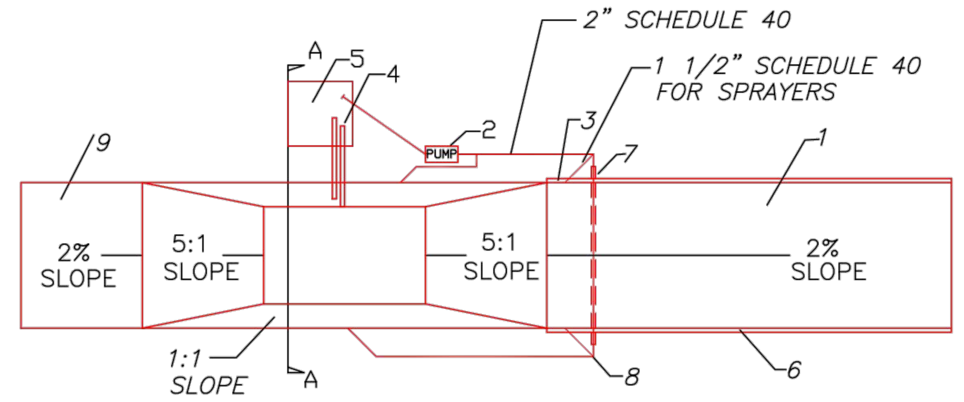
CITY OF LA CENTER APPROVED

REVISIONS:	DATE:	DRAWN:	DESIGNED:

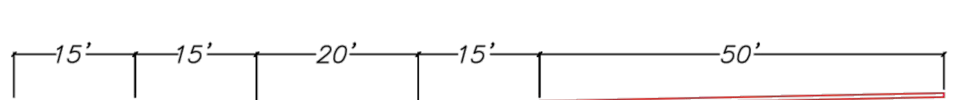
4-5-17

CITY ENGINEER DATE

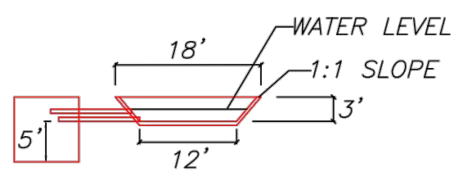
ER-4



WHEEL WASH PLAN



ELEVATION VIEW



SECTION A–A

LEGEND:

1. ASPHALT CONSTRUCTION ENTRANCE 6 IN. ASPHALT TREATED BASE (ATB).
2. 3 IN. TRASH PUMP WITH FLOATS ON THE SUCTION HOSE.
3. MIDPOINT SPRAY NOZZLES, IF NEEDED.
4. 6 IN. SEWER PIPE WITH BUTTERFLY VALVES. BOTTOM ONE IS A DRAIN. LOCATE TOP PIPE'S INVERT 1 FT. ABOVE BOTTOM OF WHEEL WASH.
5. 8 FT. X 8 FT. SUMP WITH 5 FT. OF CATCH. BUILD SO CAN BE CLEANED WITH TRACKHOE.
6. 6–IN. ASPHALT CURB ON THE LOW ROAD SIDE TO DIRECT WATER BACK TO POND.
7. 6–IN. SLEEVE UNDER ROAD.
8. BALL VALVES.
9. 15 FT. ATB APRON TO PROTECT GROUND FROM SPLASHING WATER.

WHEEL WASH

PLAN #

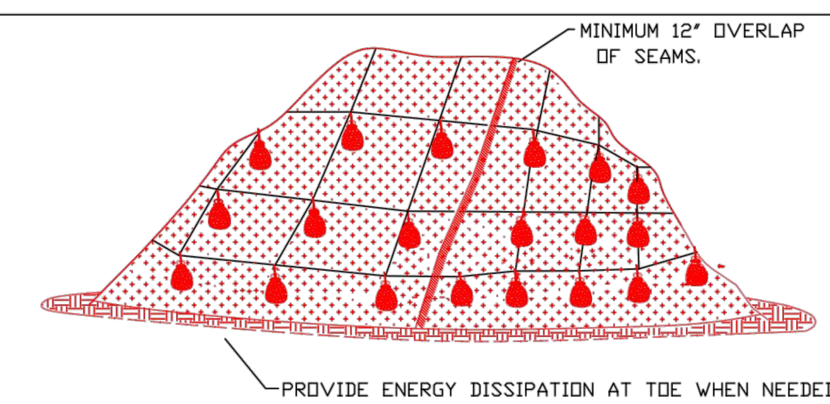
CITY OF LA CENTER APPROVED

REVISIONS:	DATE:	DRAWN:	DESIGNED:

Bart Stepp, PE 7/23/09

CITY ENGINEER DATE

ER-5



PLASTIC SHEETING

NOTES:

1. PLASTIC SHEETING IS USED TO PROVIDE IMMEDIATE PROTECTION TO SLOPES AND STOCKPILES.
2. DO NOT USE PLASTIC COVERING UPSLOPE OF AREAS SUCH AS STEEP AND/OR UNSTABLE SLOPES THAT MIGHT BE ADVERSELY AFFECTED BY CONCENTRATED RUNOFF.
3. WHEN POSSIBLE, INSTALL AN INTERCEPTOR DIKE AT THE TOP OF THE PLASTIC TO DIVERT FLOWS AWAY FROM THE PLASTIC.
4. TOE–IN THE TOP OF THE SHEETING IN A 6"x6" TRENCH BACKFILLED WITH COMPACTED NATIVE MATERIAL.
5. INSTALL A GRAVEL BERM, RIPRAP, OR OTHER SUITABLE PROTECTION AT THE TOP OF THE SLOPE IN ORDER TO DISSIPATE RUNOFF VELOCITY.
6. ANCHOR THE PLASTIC USING SANDBAGS OR OTHER SUITABLE TETHERED ANCHOR SYSTEM SPACED ON A 10' GRID SPACING IN ALL DIRECTIONS.
7. OVERLAP SEAMS 1–2', TAPE, ROLL AND STAKE THE SEAMS AND THEN WEIGH DOWN THE ENTIRE LENGTH.
8. PROVIDE ENERGY DISSIPATION AT TOE WHEN NEEDED.
9. REPLACE TORN SHEETS AND REPAIR OPEN SEAMS. COMPLETELY REMOVE AND REPLACE PLASTIC WHEN IT BEGINS TO DETERIORATE.

PLASTIC SHEETING

PLAN #

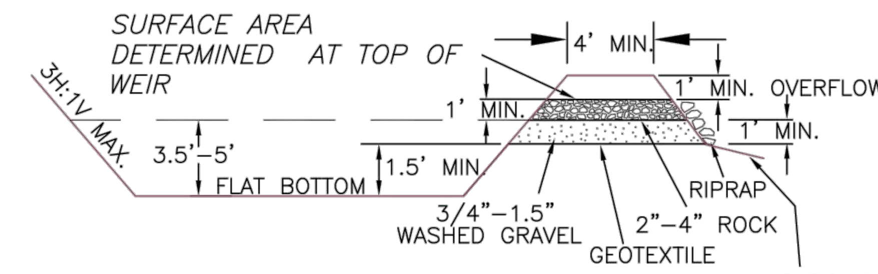
CITY OF LA CENTER APPROVED

REVISIONS:	DATE:	DRAWN:	DESIGNED:

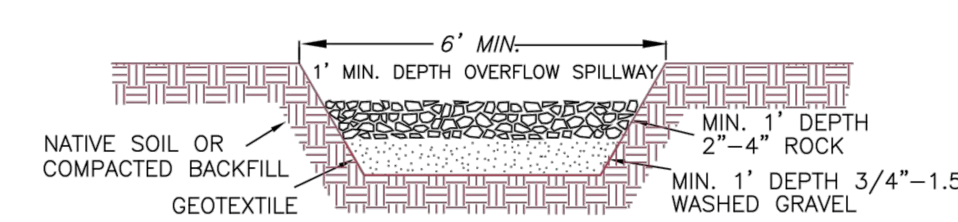
Bart Stepp, PE 7/23/09

CITY ENGINEER DATE

ER-6



NOTE: TRAP MAY BE FORMED BY BERM OR BY PARTIAL OR COMPLETE EXCAVATION



NOTES:

1. SEDIMENT TRAP MAY BE CONSTRUCTED BY EXCAVATION OR BY BUILDING A BERM.
2. OUTFLOW CHANNEL SHALL BE CONSTRUCTED BY EXCAVATION.
3. SEDIMENT TRAPS SHALL BE LIMITED TO LESS THAN 1 ACRE. OR ANY SITE GREATER THAN 1 ACRE, SEE TEMPORARY SEDIMENT POND DETAIL ER–9.
4. SEDIMENT SHALL BE REMOVED BEFORE 1 FOOT ACCUMULATES.

SEDIMENT TRAP

PLAN #

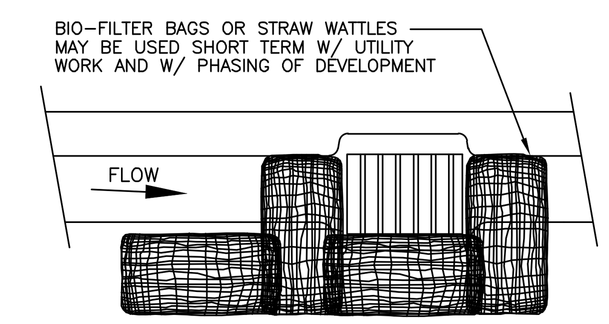
CITY OF LA CENTER APPROVED

REVISIONS:	DATE:	DRAWN:	DESIGNED:

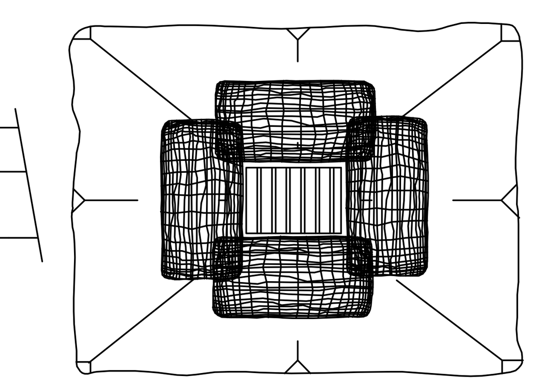
Bart Stepp, PE 7/23/09

CITY ENGINEER DATE

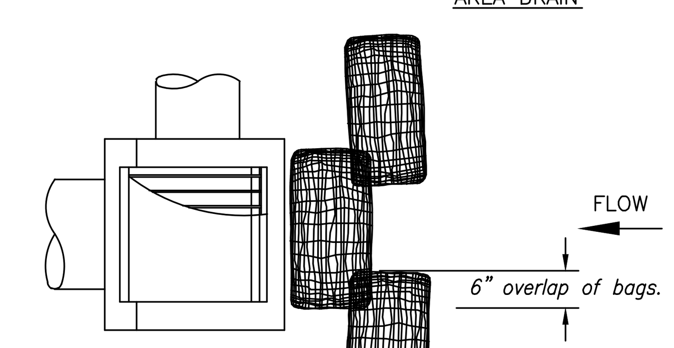
ER-8



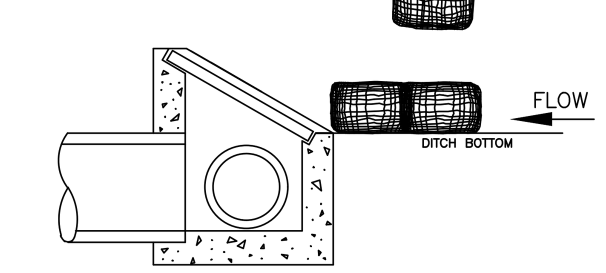
CATCH BASIN



AREA DRAIN



PLAN VIEW



DITCH INLET

NOTES:

1. ADDITIONAL MEASURES MUST BE CONSIDERED DEPENDING ON SOIL TYPE.
2. BIO–FILTER BAGS SHOULD BE STAKED WHERE APPLICABLE USING (2) 1"x2" WOODEN STAKES OR APPROVED EQUAL PER BAG.
3. STRAW WATTLES MUST BE STABILIZED BY ATTACHING WIRE CLIPS TO THE CATCH BASIN PER MANUFACTURES SPECIFICATIONS.
4. INLET PROTECTION MUST BE REGULARLY INSPECTED BY THE EROSION CONTROL INDIVIDUAL TO INSURE PROPER PLACEMENT/FUNCTION AND MAINTENANCE.
5. SEE INLET PROTECTION NOTES STD. PLAN E–3

INLET PROTECTION TYPE 4 BIOFILTER BAGS

NO SCALE

SGA ENGINEERING & DESIGN

CIVIL ENGINEERING ~ LAND PLANNING
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PHONE (360)993-0911
FAX (360)993-0912

4/16/2020

HIGHLAND TERRACE SUBDIVISION PHASE 1

EROSION CONTROL DETAILS

CITY OF LA CENTER

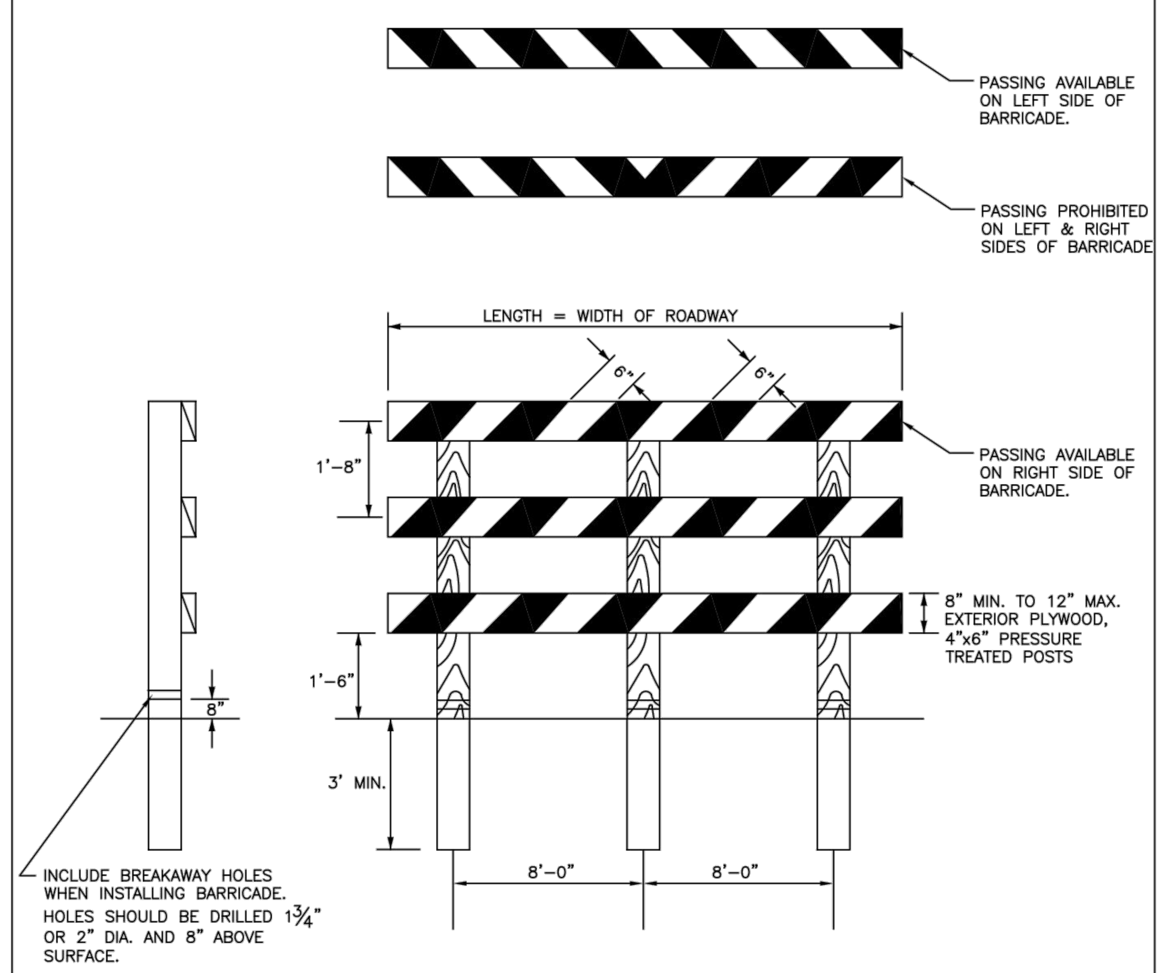
WASHINGTON

APPROVED

REVISIONS

DESIGNED BY:	NAW
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	NTS

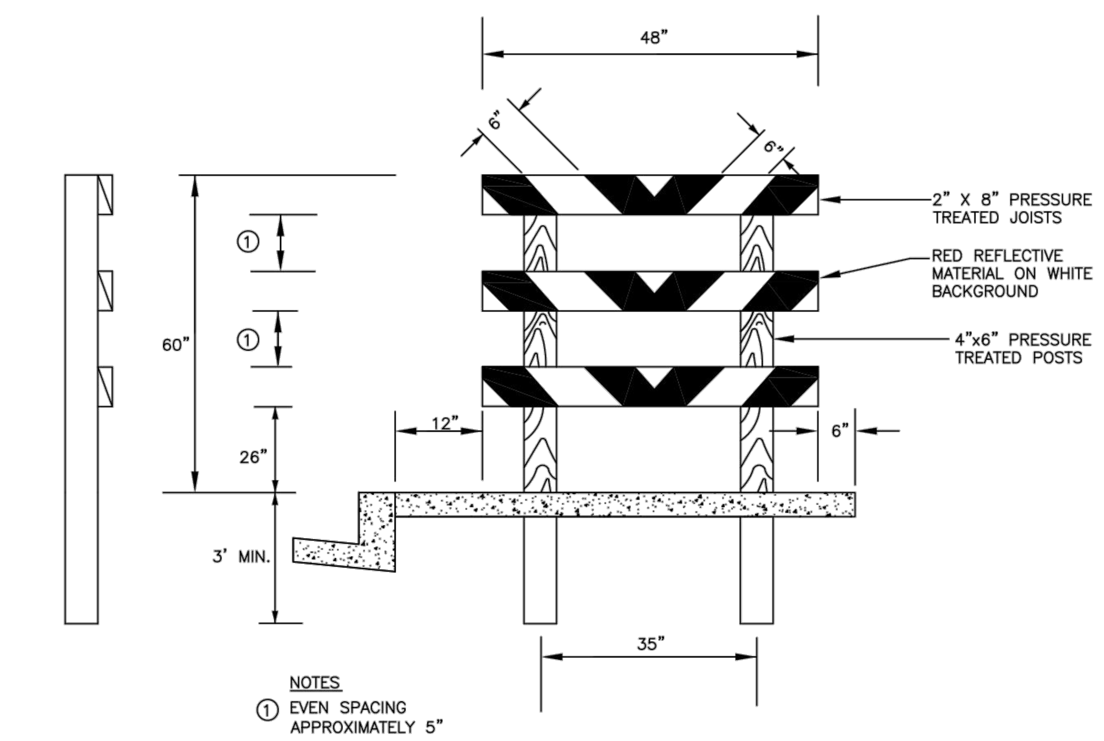
JOB NUMBER	SHEET
0536	C9.0



TYPE III BARRICADE

PLAN #

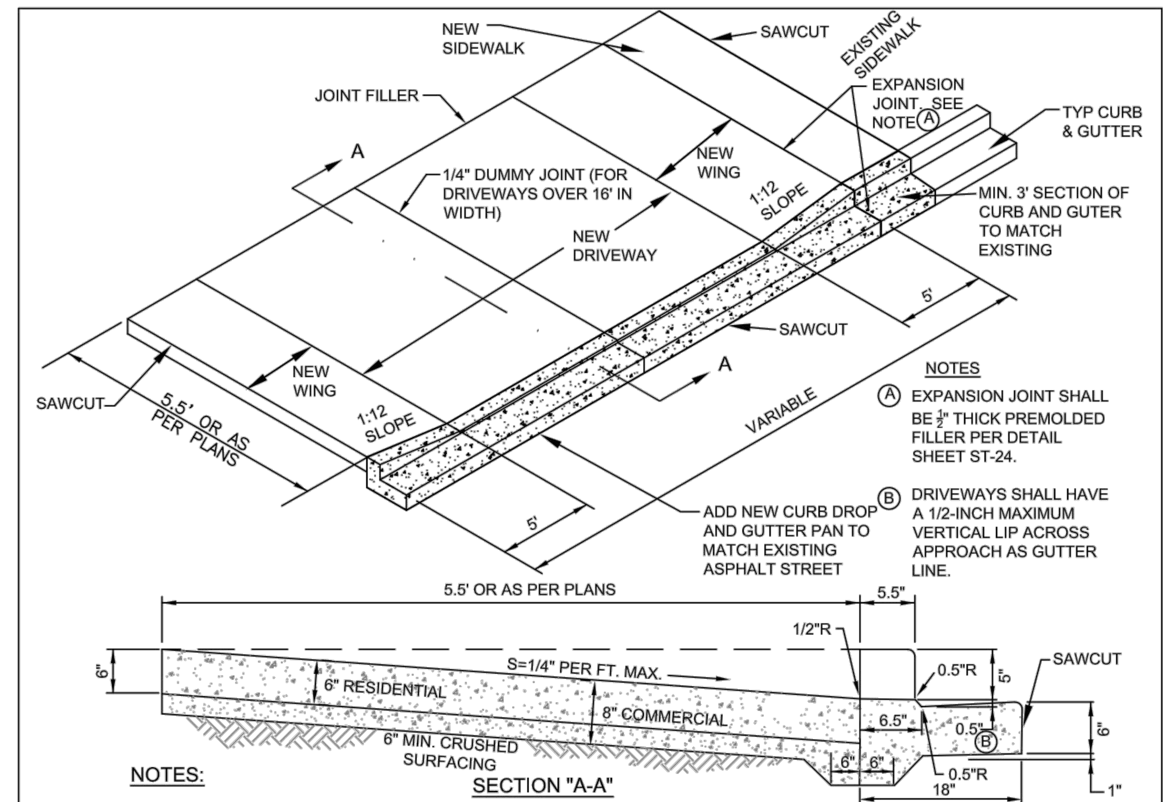
CITY OF LA CENTER APPROVED	REVISIONS:	DATE:	DRAWN:	DESIGNED:	ST-2
Bart Stepp, PE 7/23/09					
CITY ENGINEER DATE					



SIDEWALK BARRICADE

PLAN #

CITY OF LA CENTER APPROVED	REVISIONS:	DATE:	DRAWN:	DESIGNED:	ST-2A
Anthony Pedroza 12/9/14					
CITY ENGINEER DATE					



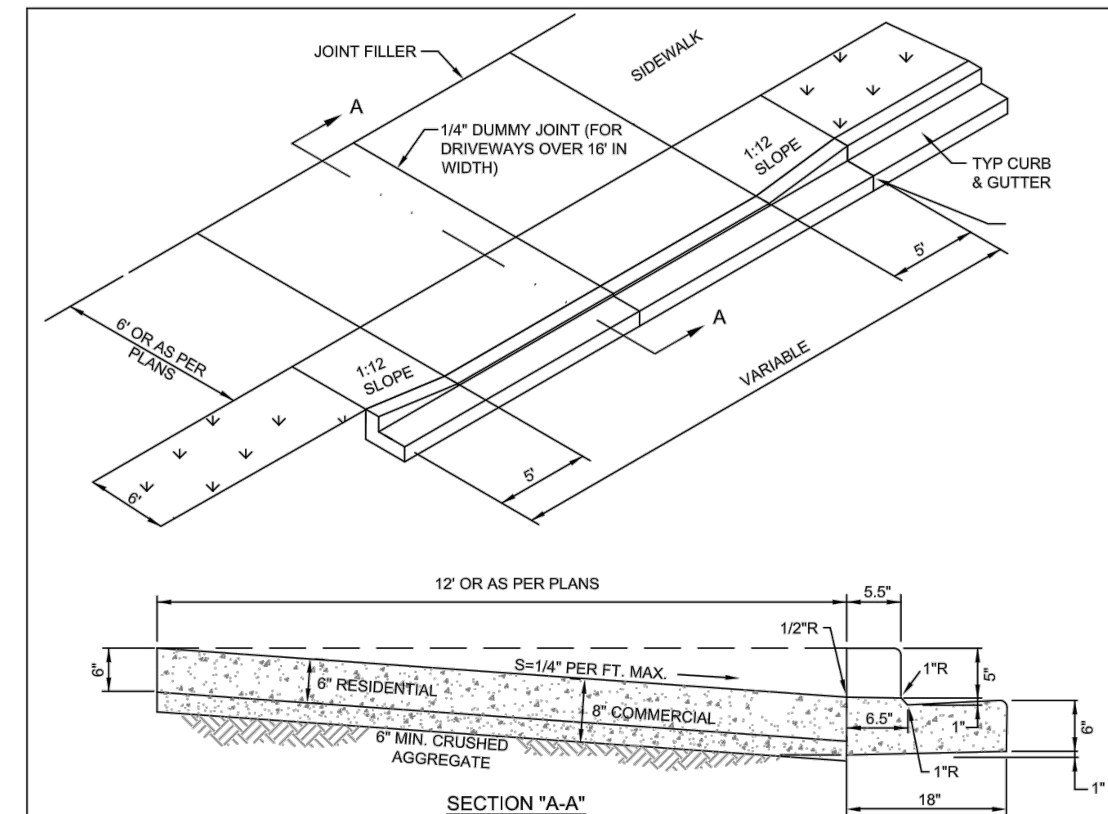
NOTES:

1. CONCRETE SHALL BE CLASS 4000 PER WSDOT 6-02 THE FULL WIDTH OF THE DRIVEWAY, MEDIUM BROOM FINISH PARALLEL TO DRIVEWAY CENTERLINE.
2. TO BE USED FOR SIDEWALK ADJACENT TO CURB ONLY.
3. ALL JOINTS SHALL BE FINISHED WITH A 1/4" RADIUS EDGE UNLESS OTHERWISE NOTED.
4. DRIVEWAYS EXCEEDING 15' IN TOTAL WIDTH SHALL HAVE ADDITIONAL LONGITUDINAL JOINTS AS DIRECTED. 1-1/2" DEEP CUT JOINT SPACING SHALL NOT EXCEED 15'.
5. COMMERCIAL DRIVEWAYS REQUIRE REINFORCING STEEL (6x6-W2.9xW2.9 WWF, MIN)
6. ALL EXISTING EDGES OF S/W, AND CURB AND GUTTER SHALL BE SAW CUT WHEN CONSTRUCTING NEW DRIVEWAY.
7. COMPACT SUBGRADE TO 95 % OF MAXIMUM DENSITY.
8. EXISTING CURB SHALL BE REMOVED TO EXISTING JOINT OR SAWCUT SUCH THAT A MINIMUM OF 3' SECTION OF CURB WILL BE CONSTRUCTED ADJACENT TO THE NEW DRIVEWAY WING.
9. RESIDENTIAL DRIVEWAY LOCATION SHALL BE A MINIMUM OF 5' FROM THE PROPERTY LINE.
10. RESIDENTIAL DRIVEWAY WIDTH CAN NOT EXCEED 40% OF TOTAL LOT FRONTAGE. THE MAXIMUM RESIDENTIAL DRIVEWAY WIDTH IS 25' FOR TWO CAR GARAGES (MINIMUM LOT FRONTAGE OF 62.5') & 30' FOR THREE CAR GARAGES (MINIMUM LOT FRONTAGE OF 75').
11. 6" OF CRUSHED SURFACING PER WSDOT 9-03.9(3) SHALL BE USED UNDER DRIVEWAY AND SIDEWALK.
12. WHEN CUTTING EXISTING CURB AND GUTTER TO PLACE DRIVEWAY, THE CURB AND GUTTER WILL BE REPLACED TO MATCH EXISTING CURB. FOR THE NEW DRIVEWAY NEW CURB DROP AND GUTTER MUST BE CONSTRUCTED TO CONNECT TO THE EXISTING STREET SECTION. CONTRACTOR IS RESPONSIBLE FOR COMPLETING NEW CURB, DRIVEWAY, AND SIDEWALK TO EXPANSION JOINTS.
13. DRIVEWAY WINGS SHALL HAVE A MAXIMUM SLOPE OF 1:12. IF A 1:12 SLOPE CANNOT BE ACHIEVED WITHIN 15' DUE TO THE SLOPE OF THE ROAD, THE WING LENGTH WILL BE 15' REGARDLESS OF THE RESULTING SLOPE.

RESIDENTIAL/COMMERCIAL DRIVEWAY (WITHOUT PLANTER STRIP)

PLAN #

CITY OF LA CENTER APPROVED	REVISIONS:	DATE:	DRAWN:	DESIGNED:	ST-3
	1	4/7/10	BES	BES	
Anthony Pedroza 4/3/17	2	1/9/13	ALC	ALC	
	3	7/18/13	ALC	ALC	
CITY ENGINEER DATE	4	4/3/17	ALC	ALC	



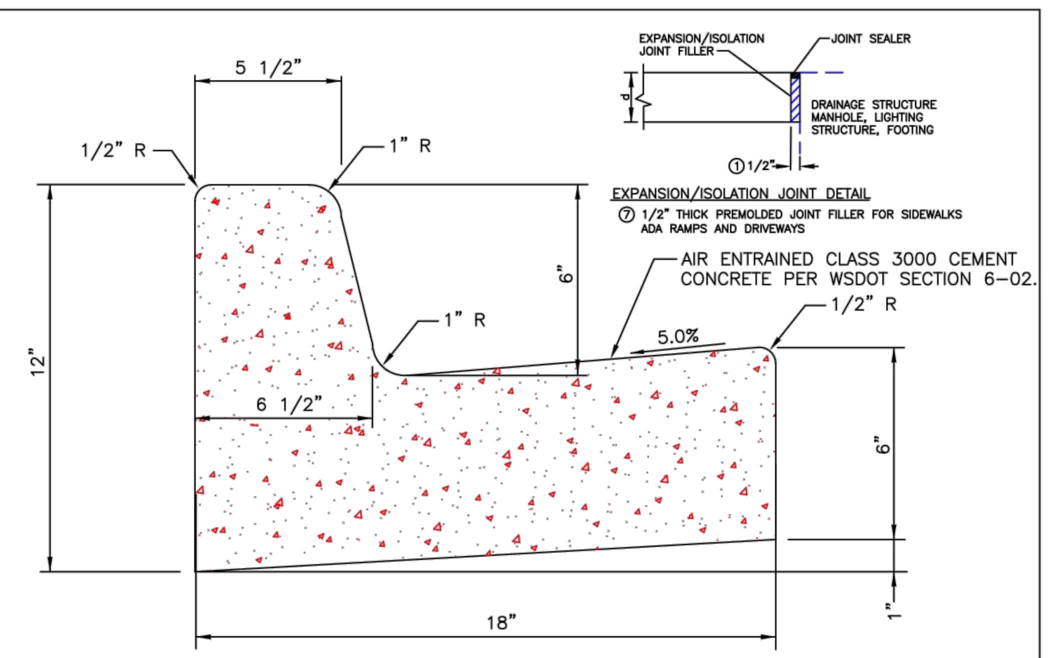
NOTES:

1. CONCRETE SHALL BE CLASS 4000 PER WSDOT 6-02 ALONG FULL WIDTH OF DRIVEWAY, MEDIUM BROOM FINISH PARALLEL TO DRIVEWAY CENTERLINE.
2. TO BE USED WHERE CURB AND SIDEWALK ARE SEPARATED BY A PLANTER STRIP.
3. ALL JOINTS SHALL BE FINISHED WITH 1/4" RADIUS EDGE UNLESS OTHERWISE NOTED.
4. DRIVEWAYS EXCEEDING 15' IN TOTAL WIDTH SHALL HAVE ADDITIONAL LONGITUDINAL JOINTS AS DIRECTED. 1-1/2" DEEP CUT JOINT SPACING SHALL NOT EXCEED 15'.
5. COMMERCIAL DRIVEWAYS REQUIRE REINFORCING STEEL (6x6-W2.9xW2.9 WWF, MIN)
6. ALL EXISTING EDGES SHALL BE SAWCUT.
7. COMPACT SUBGRADE TO 95 % OF MAXIMUM DENSITY.
8. EXISTING CURB SHALL BE REMOVED TO EXISTING JOINT OR SAWCUT SUCH THAT A MINIMUM 3' OF CURB IS CONSTRUCTED ADJACENT TO NEW DRIVEWAY.
9. RESIDENTIAL DRIVEWAY LOCATION SHALL BE A MINIMUM OF 5' FROM THE PROPERTY LINE.
10. RESIDENTIAL DRIVEWAY WIDTH CAN NOT EXCEED 40% OF TOTAL LOT FRONTAGE. THE MAXIMUM RESIDENTIAL DRIVEWAY WIDTH IS 25' FOR TWO CAR GARAGES (MINIMUM LOT FRONTAGE OF 62.5') & 30' FOR THREE CAR GARAGES (MINIMUM LOT FRONTAGE OF 75').
11. ALL SIDEWALKS AND DRIVEWAY APPROACHES SHALL MEET ADA REQUIREMENTS.
12. CONCRETE DEPTH OF 6" OR 8" APPLIES FROM TOP OF WING TO TOP OF WING.
13. DRAIN PIPES SHALL NOT BE PLACED IN APPROACH WINGS.
14. APPROACHES TO ALLEYS SHALL BE TREATED AS COMMERCIAL DRIVEWAYS.
15. 6" OF CRUSHED AGGREGATE SHALL BE USED UNDER DRIVEWAY AND SIDEWALK.

RESIDENTIAL/COMMERCIAL DRIVEWAY (WITH PLANTER STRIP)

PLAN #

CITY OF LA CENTER APPROVED	REVISIONS:	DATE:	DRAWN:	DESIGNED:	ST-4
Bart Stepp, PE 7/23/09					
CITY ENGINEER DATE					



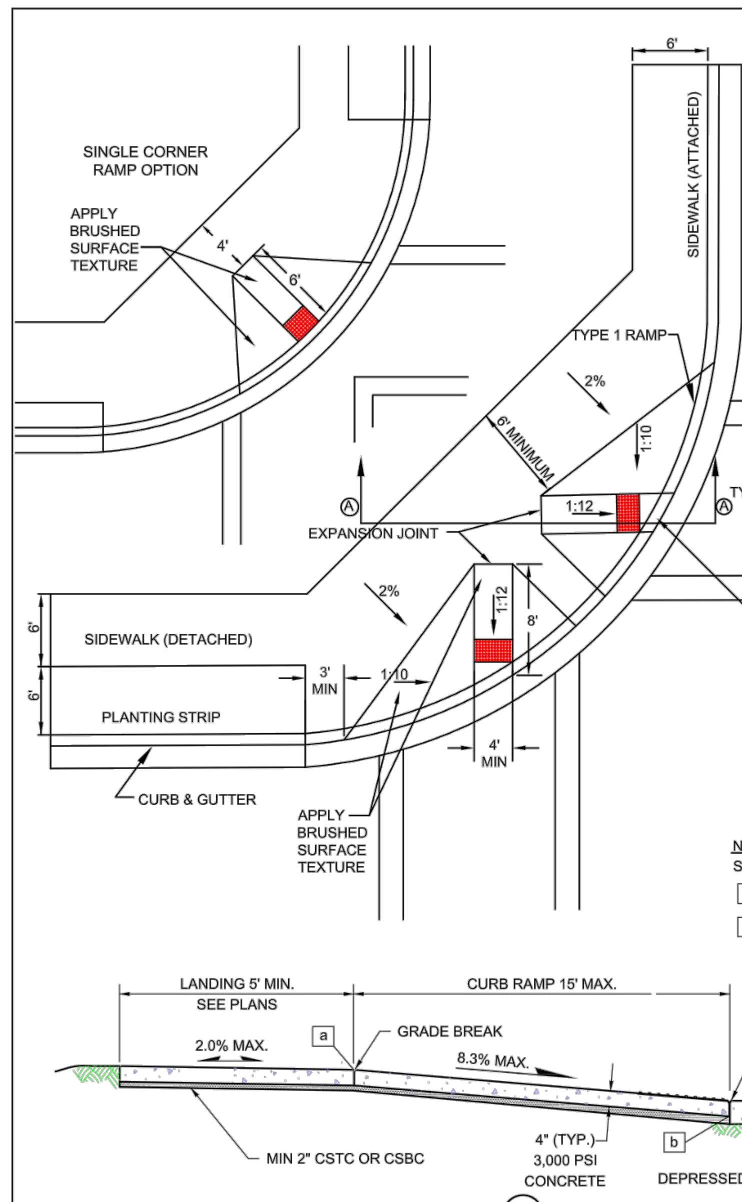
NOTES:

1. CURB AND GUTTER CUTS FOR DRIVEWAYS SHALL NOT BE DONE UNTIL ISSUANCE OF BUILDING AND OR RIGHT-OF-WAY PERMIT.
2. CURB AND GUTTER REPLACEMENT SECTIONS WILL BE REPLACED AS ONE CONTINUOUS UNIT, MONOLITHIC, AS THE DETAIL DEPICTS.
3. CONTRACTION JOINTS SHALL BE PLACED EVERY 15'.
4. CONCRETE SHALL BE AIR ENTRAINED CLASS 3000 CEMENT PER WSDOT SPECIFICATION 6-02 EXCEPT AT DRIVEWAYS WHERE CONCRETE WILL BE CLASS 4000.
5. USE CURB & GUTTER ON ALL NEW ROADS.
6. PROVIDE A 15' TRANSITION BETWEEN EXISTING CURBS AND NEW CURB AND GUTTERS WHERE REQUIRED.
7. INSTALL EXPANSION JOINT PER THIS DETAIL AT 60' ALONG LENGTH OF THE CURB AND GUTTER. THE EXPANSION JOINT SHALL BE PLACED AT THE SAME LOCATION OF THE SIDEWALK EXPANSION JOINT WHEN THE CURB IS ADJACENT TO THE SIDEWALK.

CURB & GUTTER DETAIL

PLAN #

CITY OF LA CENTER APPROVED	REVISIONS:	DATE:	DRAWN:	DESIGNED:	ST-5
	1	9/22/10	BES	BES	
TONY COOPER 9/22/10	2	7/17/13	ALC	ALC	
CITY ENGINEER DATE					



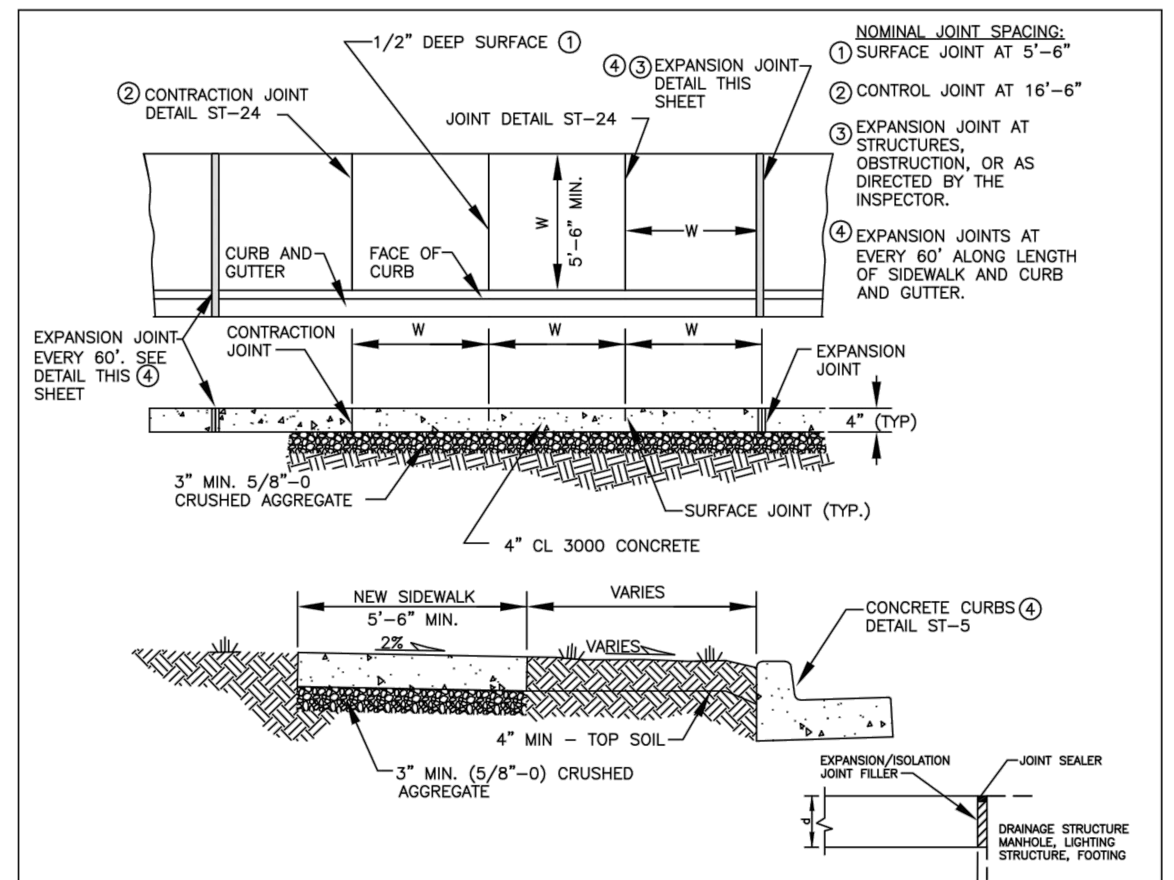
NOTES:

1. ALL CURB RAMPS SHALL MEET ADA MINIMUM REQUIREMENTS.
2. RAMPS TO BE POURED SEPARATELY AND ISOLATED BY 3/8" EXPANSION JOINT MATERIAL.
3. CROSSWALK TO BE CENTERED ON SIGNAL POLE CENTERLINES, CURB RAMPS TO BE CENTERED WITHIN CROSWALK.
4. SIDEWALK SLOPE TO BE 2% MAXIMUM RADIALLY AROUND CORNER SECTION.
5. APPLY HEAVY BROOM FINISH ON ALL SLOPES GREATER THAN 2% IN PLACE OF DIAMOND STAMPING.
6. SEE TRUNCATED DOME DETAIL SHEET 7A
7. RAMPS SHALL HAVE A BRUSHED TEXTURE SURFACE APPLIED TO THE STILL FRESH CONCRETE.

TYPE 1 CURB RAMP

PLAN #

CITY OF LA CENTER APPROVED	REVISIONS:	DATE:	DRAWN:	DESIGNED:	ST-7
	1	4-3-17	ALC	ALC	
Anthony Pedroza 4-3-17					
CITY ENGINEER DATE					



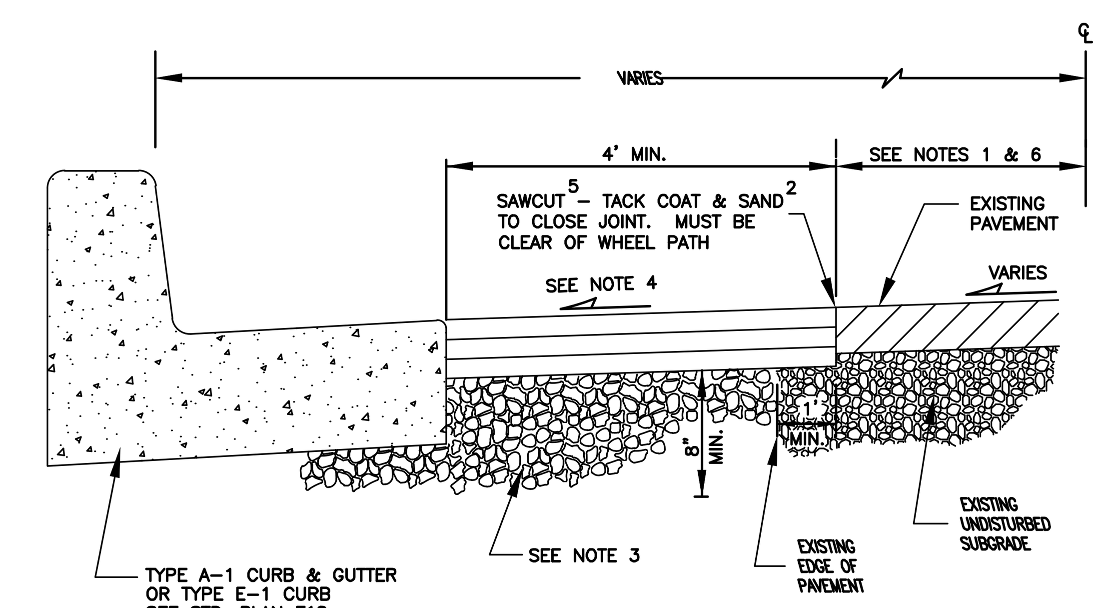
NOTES:

1. CONCRETE SHALL BE 3000 PSI MIN. (CL 3000), 3 1/2" SLUMP (MAX.).
2. COMPACT SUBGRADE AND AGGREGATE TO 95% OF MAXIMUM DRY DENSITY (3" MIN.).
3. FINISH SHALL BE MEDIUM BROOM PERPENDICULAR TO PEDESTRIAN TRAFFIC UNLESS OTHERWISE DIRECTED.
4. IN EXISTING SIDEWALK AREAS MATCH 2" SMOOTH FINISH BORDER AROUND EACH SIDEWALK PANEL IF PRESENT.
5. IF REPLACING EXISTING SIDEWALK THAT IS LESS THAN 5'-6" IN WIDTH THE MINIMUM WIDTH SHALL BE 5'.
6. ALL EXISTING EDGES SHALL BE SAWCUT.
7. CROSS SLOPE OF PLANTER STRIP SHALL BE 2% (TYP.) AND 4:1 (MAX.).
8. PLANTER STRIP IS REQUIRED ONLY FOR MAJOR AND SECONDARY ARTERIALS.

SIDEWALK DETAIL

PLAN #

CITY OF LA CENTER APPROVED	REVISIONS:	DATE:	DRAWN:	DESIGNED:	ST-23
	1	9/28/10	BES	BES	
TONY COOPER 9/28/10	2	7/17/13	ALC	ALC	
CITY ENGINEER DATE					



NOTES:

1. WHERE FRONTAGE IMPROVEMENTS ARE REQUIRED, THE CITY WILL PERFORM PAVEMENT DEFLECTION TESTING TO DETERMINE THE EXTEND OF IMPROVEMENTS.
2. THE EDGES OF ALL EXISTING ASPHALT SURFACES SHALL BE SAWCUT TO PROVIDE A STRAIGHT, CLEAN EDGE. A TACK COAT SHALL BE APPLIED PER THE STANDARD SPECIFICATIONS. ALL JOINTS SHALL BE SEALED WITH CRS-1 AND SANDED.
3. DEPTH OF ASPHALT CONCRETE PAVEMENT AND BASE ROCK OF THE RESTORED ROAD SECTION TO BE PER TYPICAL ROADWAY SECTION AS SHOWN IN THE TRANSPORTATION STANDARD DRAWINGS 1 THROUGH 27, OR AS APPROVED BY REVIEWING AUTHORITY. COMPACT SUBGRADE AND CRUSHED AGGREGATE TO 95% OF MAXIMUM DRY DENSITY.

   MATCH EXISTING PAVEMENT SLOPE. NO FLATTER THAN 2% OR STEEPER THAN 4% WITHOUT SPECIFIC COUNTY APPROVAL.
4. SAWCUT AND REMOVE ANY EXISTING FAILING ASPHALT CONCRETE PAVEMENT.
5. SAWCUT, REMOVE AND RESTORE A MINIMUM OF 1' TO A MAXIMUM HALF STREET WIDTH OF THE EXISTING ROAD SECTION.
6. PAVE WITH MINIMUM OF 0.35 ft. MINIMUM COMPACTED DEPTH A.C.P., OR MATCH EXISTING OR DESIGN SECTION WHICHEVER IS GREATER.
7. LIFTS FOR A.C.P. (CLASS A) SHALL BE INSTALLED AT 0.15 ft. MINIMUM AND 0.35 ft. MAXIMUM FOR NON-SURFACE LIFTS, AND 0.25 ft. MAXIMUM FOR THE FINAL SURFACE LIFT. THE TEMPERATURE SHALL BE 250 DEGREE MINIMUM AND 350 DEGREE MAXIMUM, AND COMPACTED TO 92% OF THEORETICAL MAXIMUM.
8.

PAVEMENT WIDENING (FRONTAGE IMPROVEMENT)

NO SCALE

SGA ENGINEERING & DESIGN
CIVIL ENGINEERING ~ LAND PLANNING
DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE
2005 BROADWAY
VANCOUVER, WA 98663
PHONE (360)993-0911
FAX (360)993-0912

4/16/2020

ROADWAY DETAILS

HIGHLAND TERRACE SUBDIVISION PHASE 1

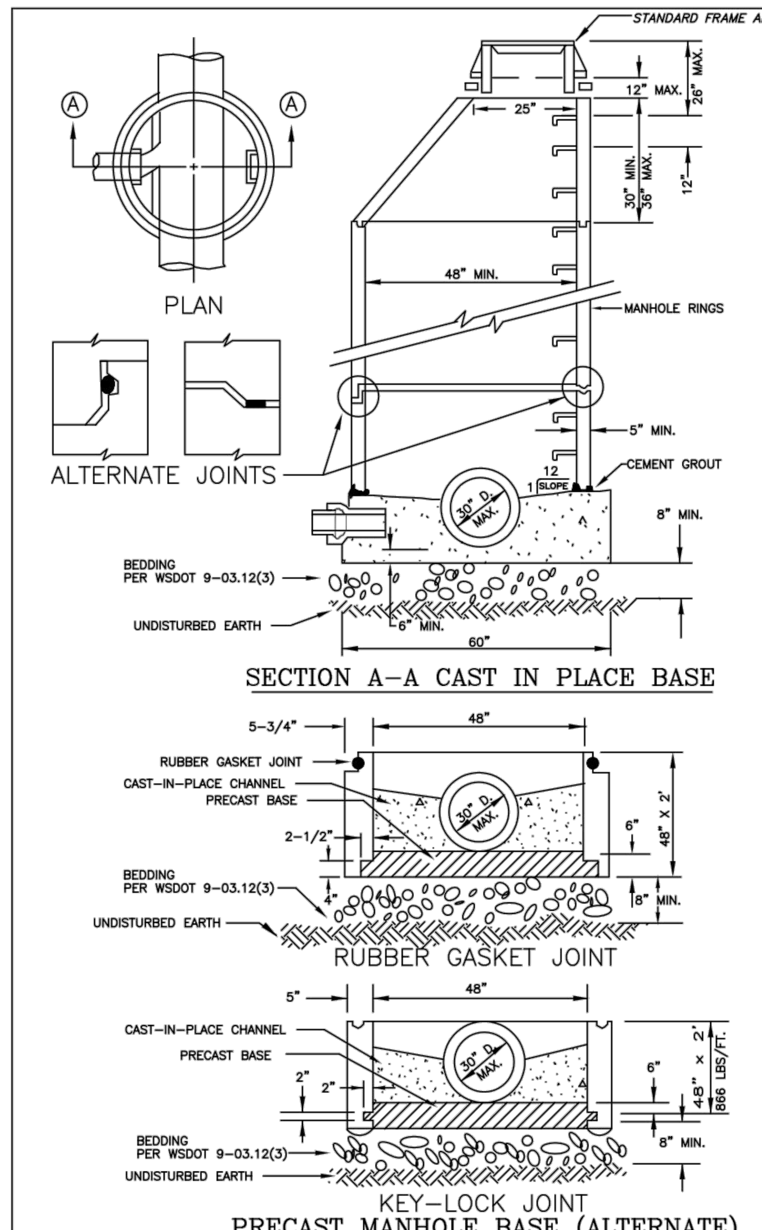
CITY OF LA CENTER WASHINGTON

APPROVED

REVISIONS

DESIGNED BY:	NAW
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	NTS

JOB NUMBER	SHEET
0536	C9.1



1. ALL PRECAST MANHOLE RINGS AND CONES SHALL CONFORM TO ASTM C-478 WITH CAST IN STEPS. (SEE SS-11)
2. IN OVER EXCAVATED AREA PROVIDE SUPPORT FOR THE PIPE AS FOLLOWS: PLACE 3/4" MINUS CRUSHED ROCK OVER UNDISTURBED GROUND IN 6" LAYERS AND COMPACT USING HAND TAMPER.
3. BASE CONCRETE SHALL BE 3000 P.S.I., 2-4 IN. SLUMP. FLOW LINES AND INSIDE SURFACES SHALL BE TROWLED SMOOTH & UNIFORM AT TIME OF POUR. MANHOLE BASE MAY BE MONOLITHICALLY CAST TO 8" ABOVE BARREL OF MAIN SEWER.
4. CHANNELS SHALL CONFORM ACCURATELY TO SEWER GRADE. INSTALL BENCHES TO ELEVATION OF SPRINGLINE OF PIPE.
5. CAST-IN-PLACE, MONOLITHIC MANHOLE MAY BE SUBSTITUTED WITH SPECIFIC APPROVAL OF THE ENGINEER. (SEE SS-9)
6. JOINTS SHALL BE CONSTRUCTED SO AS TO BE WATERTIGHT. KENT-SEAL NO. 2 OR APPROVED EQUAL SHALL BE USED ON TONGUE & GROOVE SECTIONS, AND ON RISER RINGS PREMOLDED "O-RING" MAY BE SUBSTITUTED ON BELL & SPIGOT SECTIONS. ALL JOINTS SHALL BE GROUTED WITH PORTLAND CEMENT CONCRETE GROUT & STRUCK EVEN WITH THE WALL.
7. MANHOLES UNDER 6"-0" IN DEPTH FROM RIM TO SHELF SHALL HAVE A TOP SLAB IN LIEU OF CONE. (SEE SS-8)
8. ALL SEWER MANHOLES TO BE CAPSULATED WITH A HEAT SHRINKABLE SLEEVE SYSTEM, RAPID SEAL OR APPROVED EQUAL.
9. VACUUM TESTING OF MANHOLES WILL BE REQUIRED.
10. LOCKING COVERS ARE REQUIRED IN EASEMENTS, OR AT THE DIRECTION OF THE PUBLIC WORKS DIRECTOR.

STANDARD STORM MANHOLE

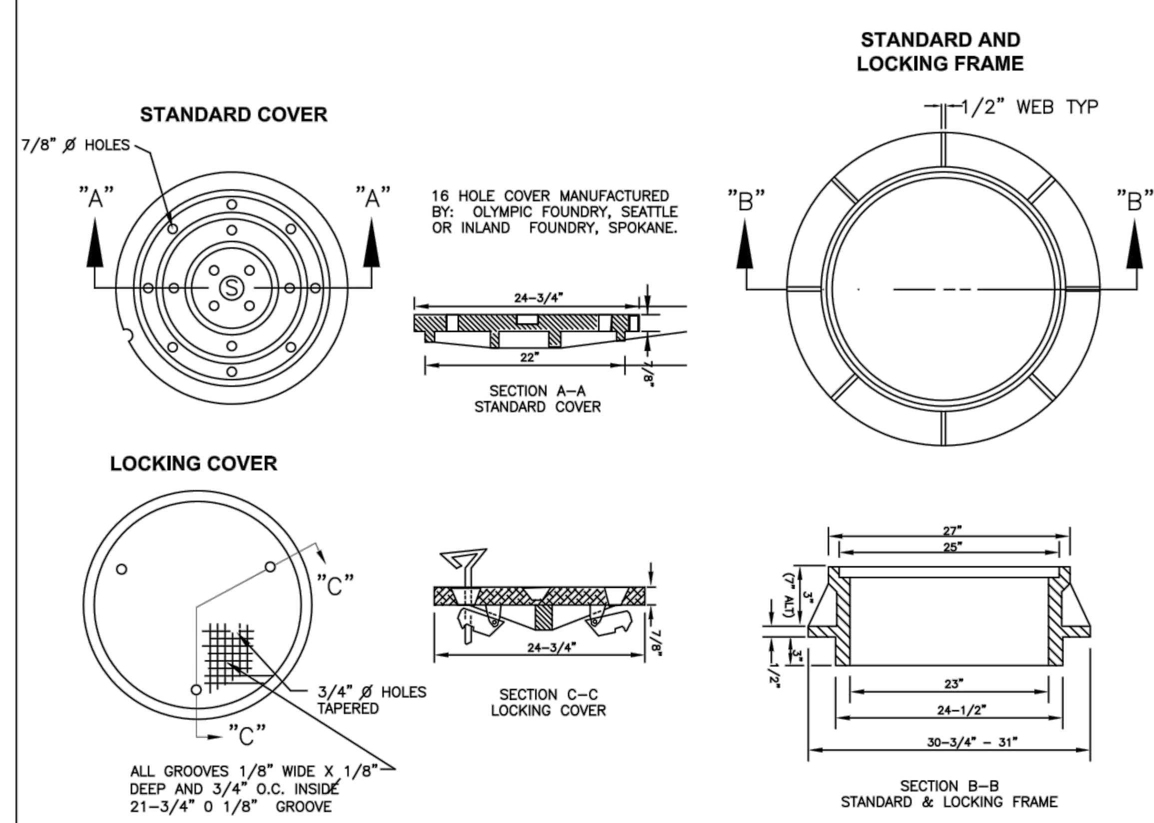
PLAN # SM-2

CITY OF LA CENTER APPROVED

Bart Stepp, PE 7/23/09

CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:



NOTES:

1. COVER & FRAME TO BE MACHINED TO A TRUE BEARING ALL AROUND.
2. MATERIAL SHALL BE OF GREY CAST IRON, A.S.T.M. A-48, CLASS 30.
3. LOCKING LIDS SHALL BE USED ON ALL MANHOLES INSTALLED WITHIN EASEMENTS, OUTSIDE A PAVED SURFACE, OR OUTSIDE THE CITY RIGHT-OF-WAY.

STANDARD MANHOLE FRAMES & COVERS

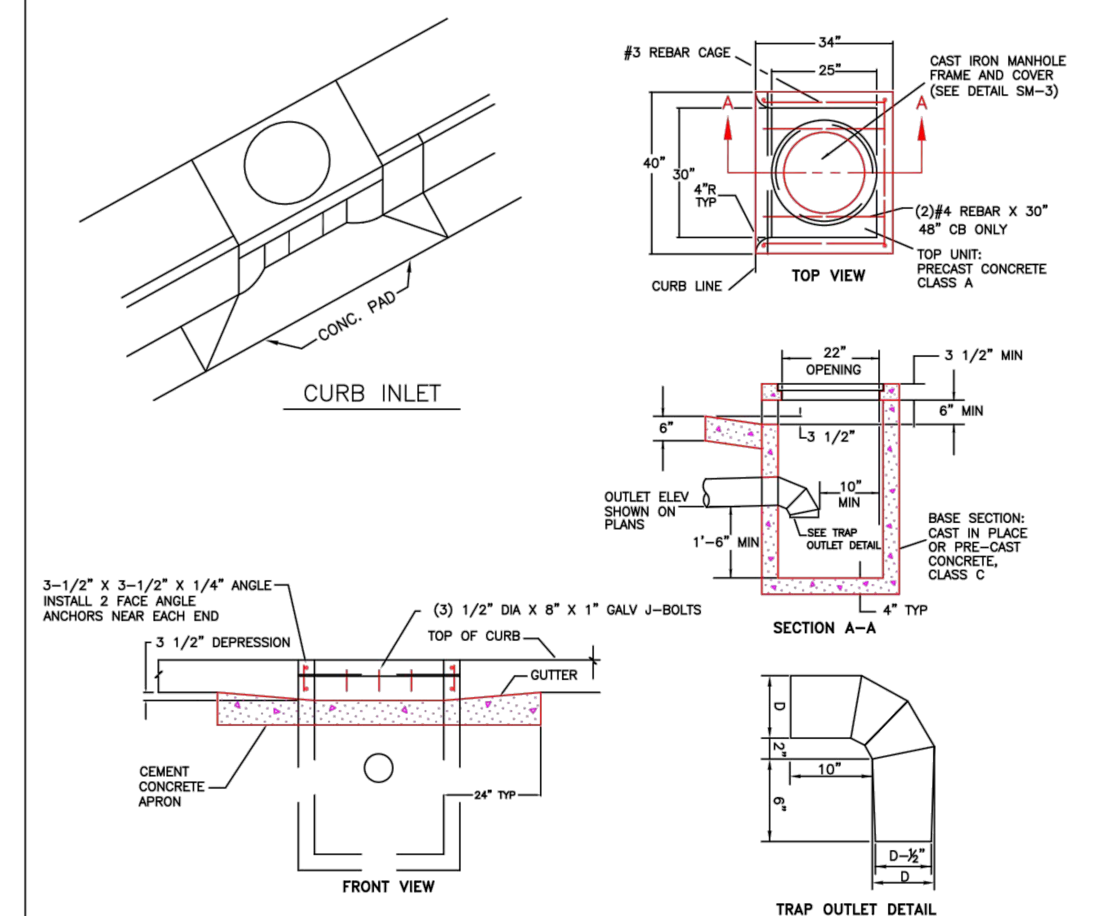
PLAN # SM-3

CITY OF LA CENTER APPROVED

Bart Stepp, PE 7/23/09

CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:



NOTES:

1. LATERALS WILL BE CONSTRUCTED TO ENTER THE BASIN PERPENDICULAR TO THE BASIN WALL. THE LATERAL WILL ENTER ONLY AT THE FRONT OR SIDE OF THE BASIN WITH NO LATERALS ALLOWED TO ENTER THE CATCH BASIN AT THE CORNERS. IF NEEDED, A BEND MAY BE USED AS THE FIRST SECTION OF PIPE OUTSIDE THE BASIN WALL. THE MAXIMUM BEND ALLOWED IS 45 DEGREES.
1. ALL REINFORCED STEEL SHALL HAVE A 1-1/2" CLEAR COVER UNLESS OTHERWISE NOTED, AND SHALL BE GRADE 40 OR GRADE 60 (ASTM A-615).
2. ANY PROTRUDING ENDS OF PIPES SHALL BE TRIMMED FLUSH WITH THE INSIDE WALLS AND GROUTED.
3. THE METAL FRAME AND GRATE SHALL BE SET TO A SLOPE TO CONFORM TO THE PARTICULAR DRAINAGE PROBLEM.
4. ELBOW SECTION SHALL BE REMOVABLE FOR MAINTENANCE PURPOSES USING A BALL AND SPIGOT JOINT.
5. CONTRACTOR IS RESPONSIBLE FOR BLOCKING OUT ADEQUATE SPACE IN CURB AND GUTTER TO INSTALL CURB INLETS.
6. STORM INLETS SHALL BE SPACED TO CAPTURE NO MORE THAN 7,000 SQUARE FEET OF AREA.
7. DIAMETER "D" IS NORMAL DIAMETER OF OUTLET PIPE.

CURB INLET

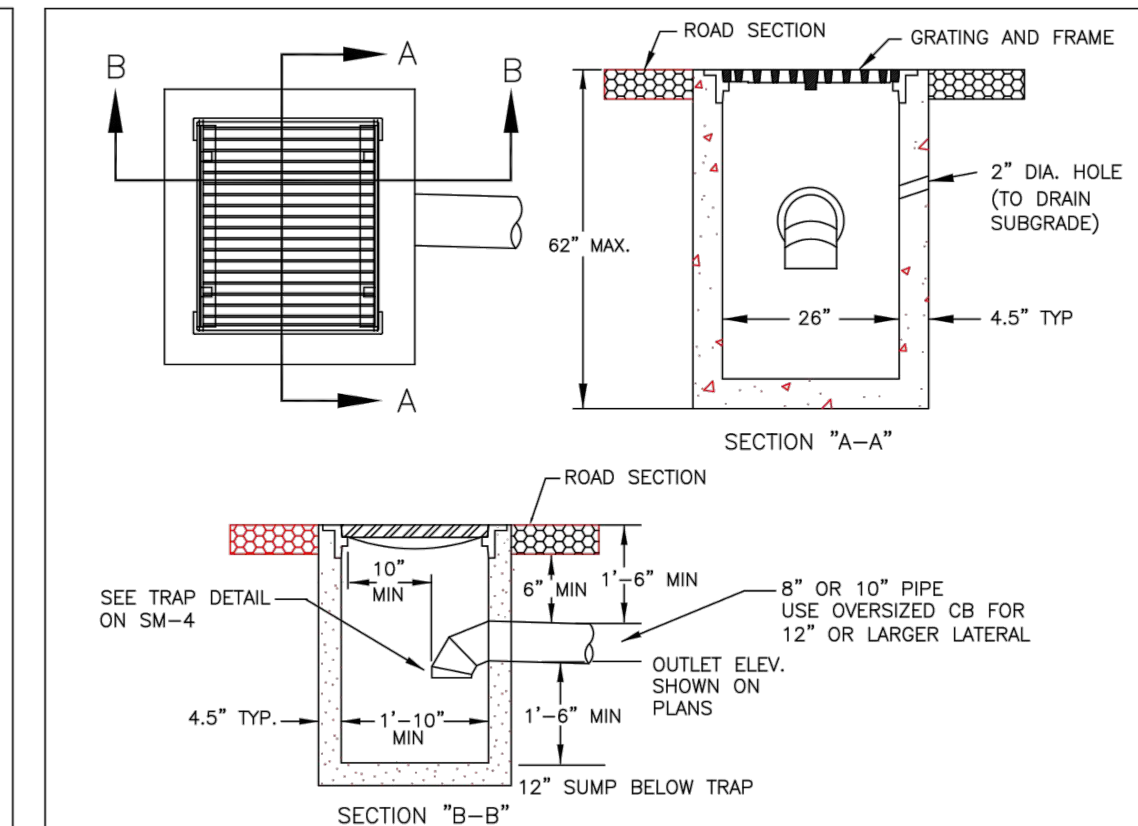
PLAN # SM-4

CITY OF LA CENTER APPROVED

Bart Stepp, PE 9/28/10

CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:
1	9/28/10	BES	BES



NOTES:

1. LATERALS WILL BE CONSTRUCTED TO ENTER THE BASIN PERPENDICULAR TO THE BASIN WALL. THE LATERAL WILL ENTER ONLY AT THE FRONT OR SIDE OF THE BASIN WITH NO LATERALS ALLOWED TO ENTER THE CATCH BASIN AT THE CORNERS. IF NEEDED, A BEND MAY BE USED AS THE FIRST SECTION OF PIPE OUTSIDE THE BASIN WALL. THE MAXIMUM BEND ALLOWED IS 45 DEGREES.
2. ALL REINFORCED STEEL SHALL HAVE A 1-1/2" CLEAR COVER UNLESS OTHERWISE NOTED, AND SHALL BE GRADE 40 OR GRADE 60 (ASTM A-615).
3. ANY PROTRUDING ENDS OF PIPES SHALL BE TRIMMED FLUSH WITH THE INSIDE WALLS AND GROUTED.
4. THE METAL FRAME AND GRATE SHALL BE SET TO A SLOPE TO CONFORM TO THE PARTICULAR DRAINAGE PROBLEM.
5. ELBOW SECTION SHALL BE REMOVABLE FOR MAINTENANCE PURPOSES USING A BALL AND SPIGOT JOINT.

CATCH BASIN

PLAN # SM-5

CITY OF LA CENTER APPROVED

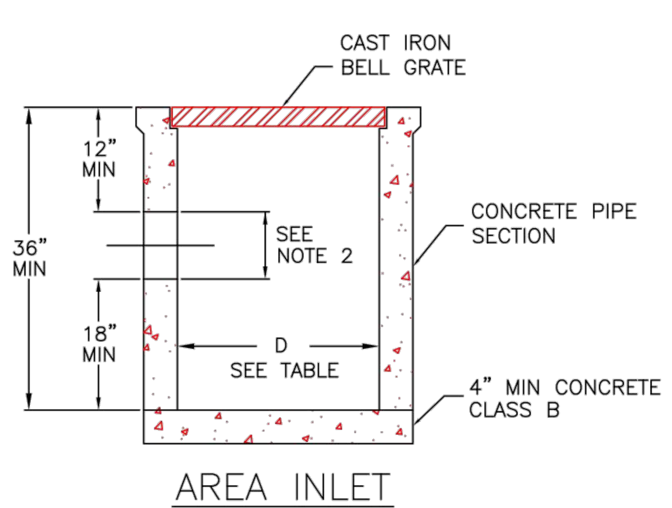
Bart Stepp, PE 7/23/09

CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:

TABLE 1

OUTLET PIPE DIA Ø	INLET DIA (D)
6"	12"
8"	18"
12"	24"



AREA INLET

NOTES:

1. AREA INLETS TO BE CONSTRUCTED FROM CONCRETE PIPE, IN ACCORDANCE WITH ASTM C 14 UNLESS OTHERWISE SHOWN ON THE PLANS OR NOTED IN THE STANDARD SPECIFICATIONS.
2. CUTOUT HOLE SIZE IS EQUAL TO OUTLET PIPE OUTSIDE DIAMETER PLUS AREA INLET WALL THICKNESS.
3. CONNECTION TO OUTLET PIPE TO BE GROUTED AND MADE FLUSH WITH INSIDE OF THE AREA INLET WALL.
4. CAST IRON BELL GRATE SHALL MEET THE STRENGTH REQUIREMENTS OF FEDERAL SPECIFICATION RR-F-621D. THE GRATE SHALL HAVE SLOTS (HOLES) THAT CONSTITUTE 50% OPEN AREA FOR DRAINAGE. INLET BELL SURFACE SHALL BE FINISHED TO ASSURE NON-ROCKING FIT WITH ANY COVER POSITION.

STANDARD AREA INLET

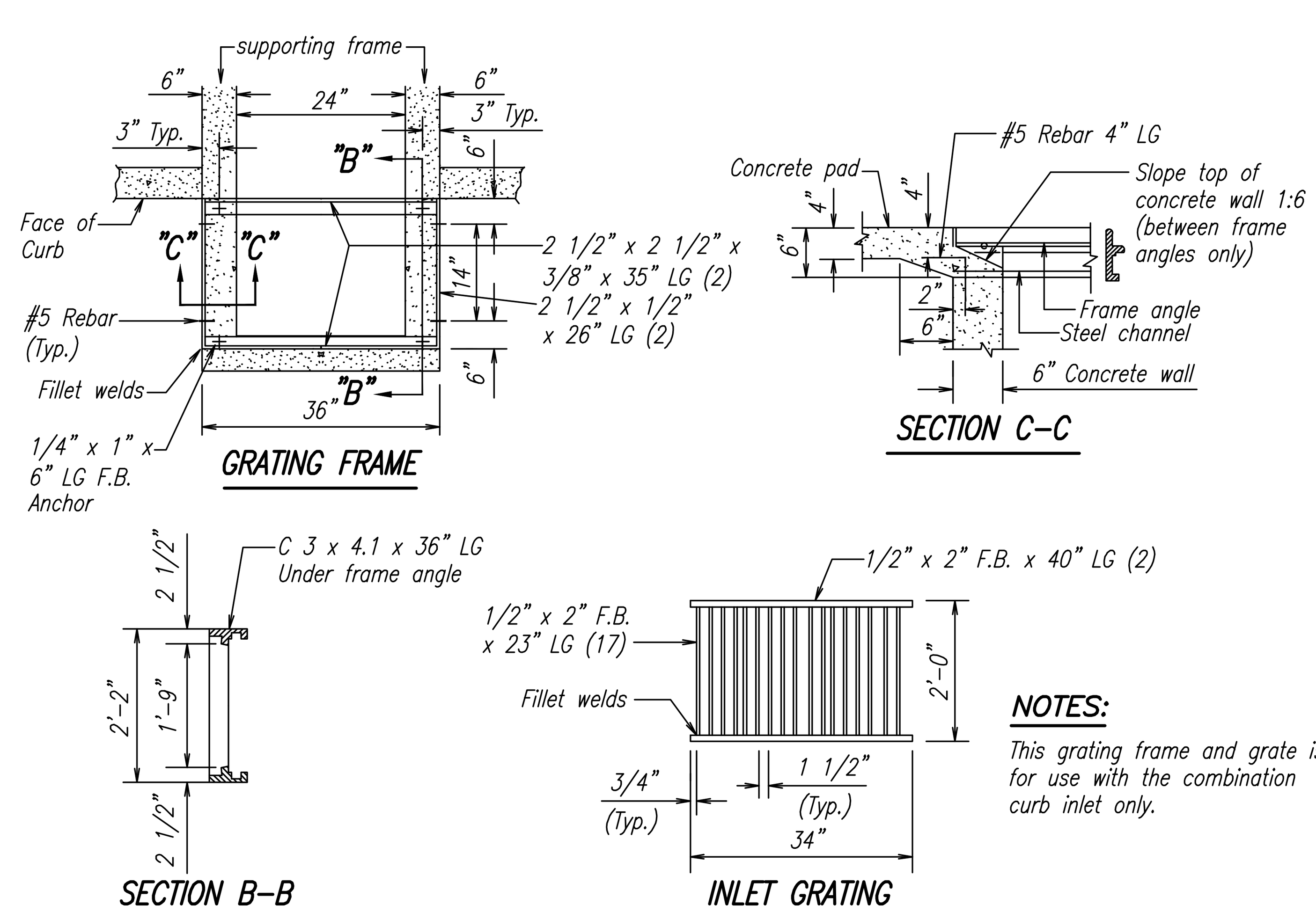
PLAN # SM-10

CITY OF LA CENTER APPROVED

Bart Stepp, PE 7/23/09

CITY ENGINEER DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:

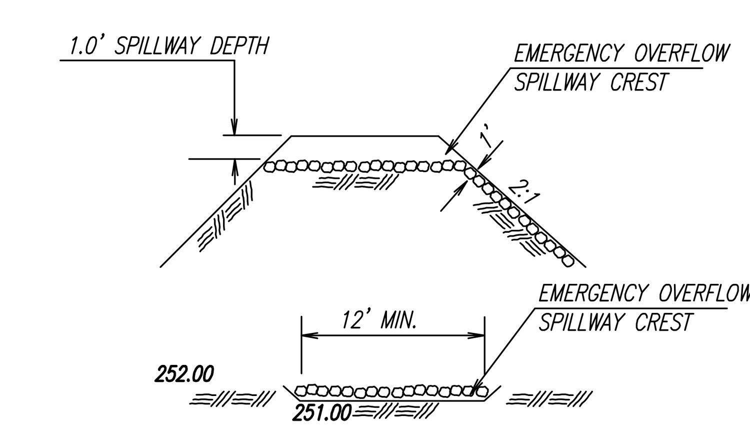


NOTES:

This grating frame and grate is for use with the combination curb inlet only.

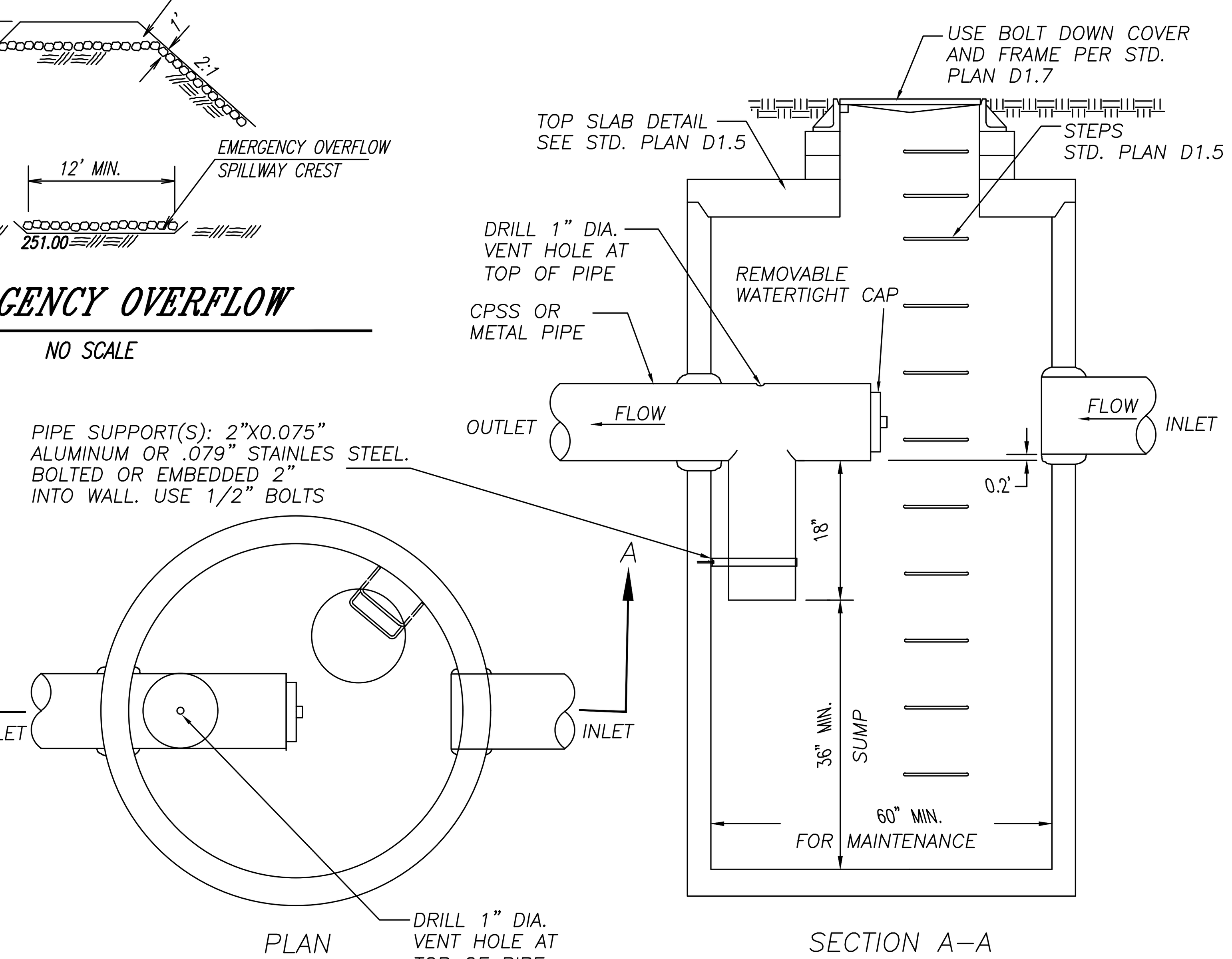
GRATING FRAME AND GRATE

NO SCALE



EMERGENCY OVERFLOW

NO SCALE



NOTES:

1. EXCEPT AS SHOWN OR NOTED, UNITS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS FOR WSDOT CATCH BASIN TYPE 2, 60" MINIMUM DIAMETER. SEE WSDOT STANDARD PLAN B-1e
2. FOR DETAILS SHOWING GRADE RING, LADDER, STEPS, HANDHOLDS, AND TOP SLABS, SEE STD. PLAN D1.5

POLLUTION CONTROL MANHOLE

NO SCALE

SGA ENGINEERING & DESIGN
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JASON T. MATTSON, STATE OF WASHINGTON, 40172 REGISTERED PROFESSIONAL ENGINEER

4/16/2020

STANDARD STORM DETAILS 1

HIGHLAND TERRACE SUBDIVISION PHASE 1

CITY OF LA CENTER

WASHINGTON

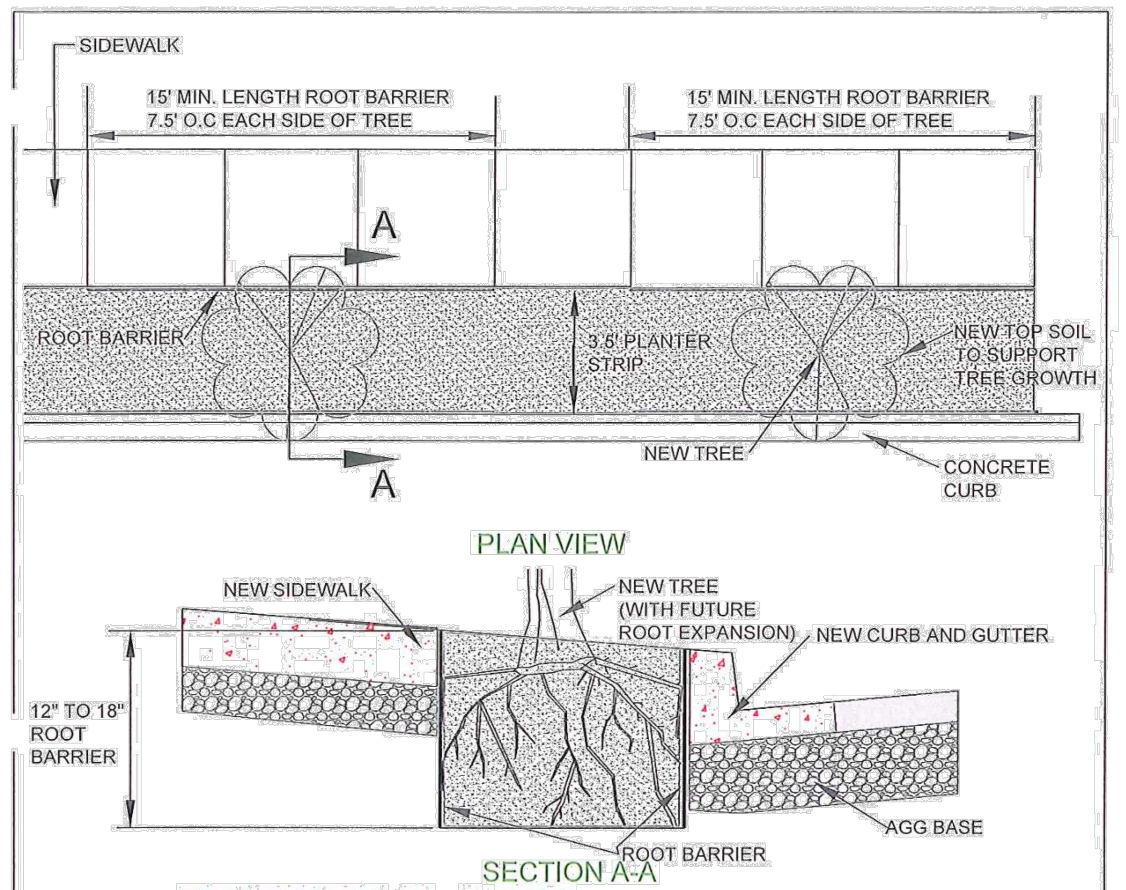
APPROVED

REVISIONS

DESIGNED BY: NAW
DRAWN BY: NAW
CHECKED BY: JTM
SCALE: NTS

JOB NUMBER 0536

SHEET C9.2



CONSTRUCTION NOTES:

1. ROOT BARRIER SHALL BE BLACK, INJECTION MOLDED PANELS OR LINEAR ROLL WITH 90-DEGREE DEFLECTING RIBS.
2. AT A MINIMUM 12" TO MAXIMUM 18" HIGH ROOT BARRIER.
3. ROOT BARRIER SHALL HAVE A MINIMUM WALL THICKNESS OF 0.06" (60 mil) & RIB THICKNESS OF 0.08" (80mil)-THE CONTRACTOR SHALL SUBMIT MANUFACTURER SPECIFICATIONS FOR COMPLIANCE.
4. ROOT BARRIER SHALL BE 15' LONG: 7.5' O.C. FROM THE TREE UNLESS APPROVED BY THE CITY.
5. ROOT BARRIER SHALL BE INSTALLED VERTICAL ADJACENT TO THE SIDEWALK AND CURB.

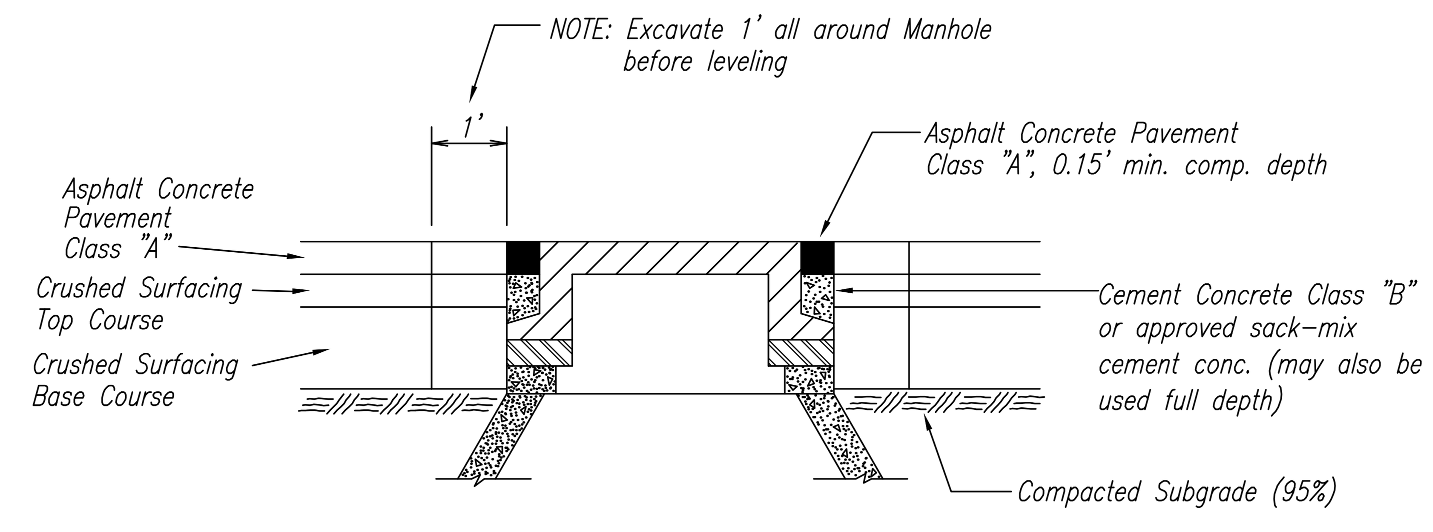
TREE ROOT BARRIER INSTALLATION — PLAN # ST-31

CITY OF LA CENTER APPROVED

TONY COOPER — 1/29/19

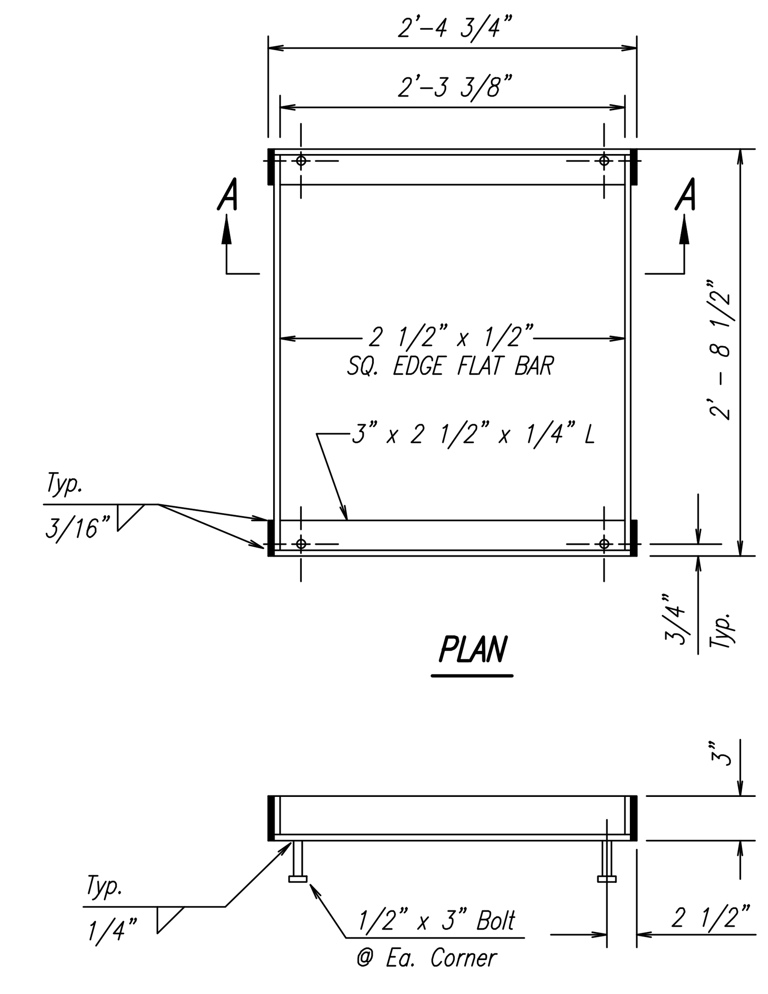
CITY ENGINEER — DATE

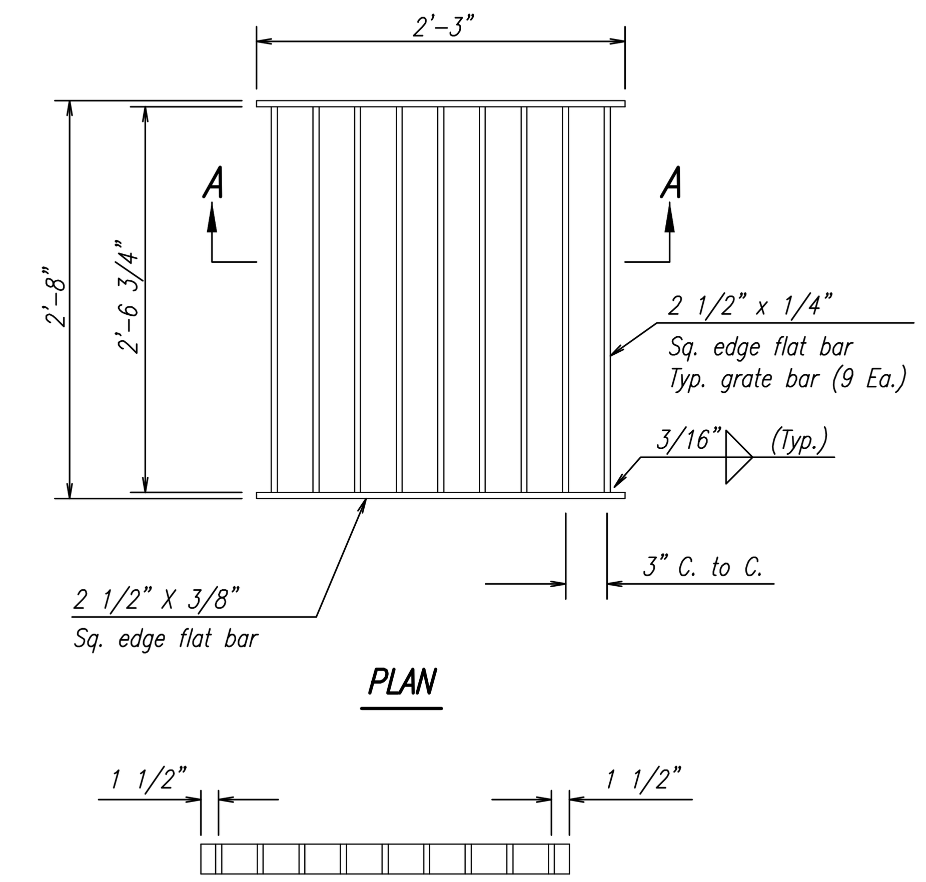
REVISIONS:	DATE:	DRAWN:	DESIGNED:

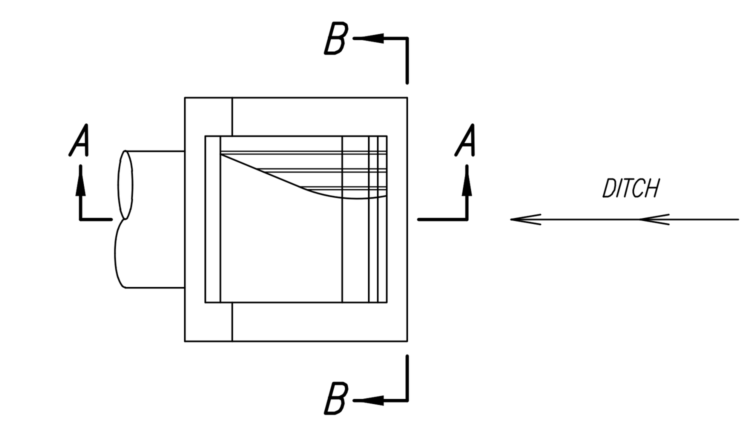


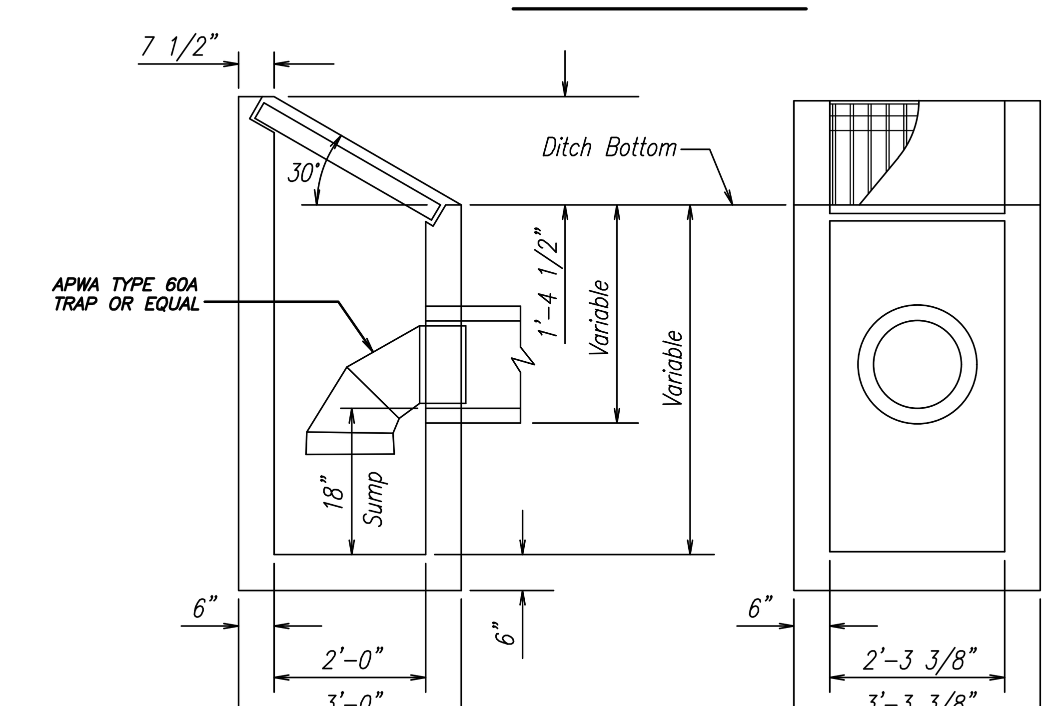
FINAL ADJUSTMENT FOR FACILITIES IN ROADWAY

NO SCALE





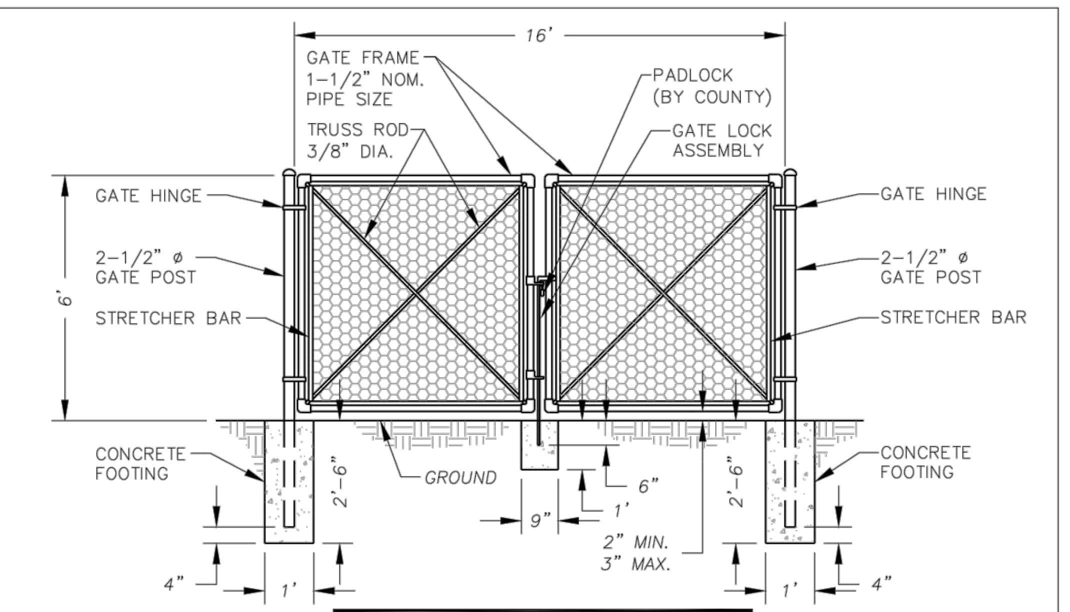




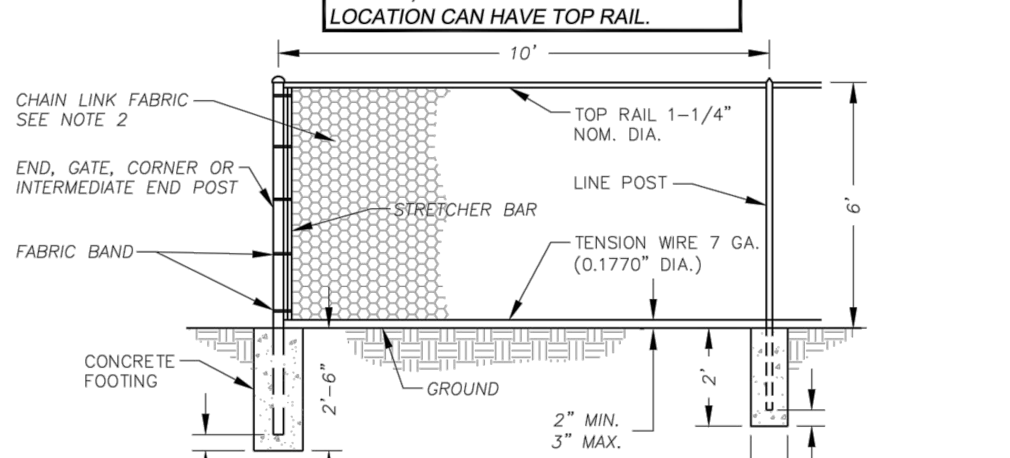
AREA DRAIN TYPE II

NO SCALE

NOTE:
1. For Pipe Size – See Drawing No. 1–B
2. Concrete shall attain a minimum compressive strength of 3000 P.S.I. in 28 days.
3. For frame detail – see Drawing No. 5–A
For grate detail – see Drawing No. 5–B



NOT ALLOWED ADJACENT / ALONG ANY STREET, ONLY OFF-SITE FACILITY LOCATION CAN HAVE TOP RAIL.



NOTES:

1. ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT STATE OF WASHINGTON STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION.
2. CHAIN LINK FENCE FABRIC TO MEET OR EXCEED REQUIREMENTS OF WSDOT STANDARD SPECIFICATIONS 9-16.1(1)B FOR TYPE 1 FENCE (9 GA) 2" DIAMOND. CHAIN LINK FENCE FABRIC SHALL BE HOT DIP GALVANIZED WITH A MINIMUM OF 0.8 OUNCE PER SQUARE FOOT OF SURFACE AREA. FENCING MATERIALS SHALL BE COATED WITH AN ULTRAVIOLET INSENSITIVE PLASTIC OR OTHER INERT MATERIAL AT LEAST 2 MILS IN THICKNESS. ANY PRETREATED OR COATING SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. THE MANUFACTURER'S WRITTEN SPECIFICATIONS DETAILING THE PRODUCT AND METHOD OF FABRICATION SHALL BE PROVIDED TO CLARK COUNTY PRIOR TO CONSTRUCTION. THE COLOR SHALL BE BLACK.

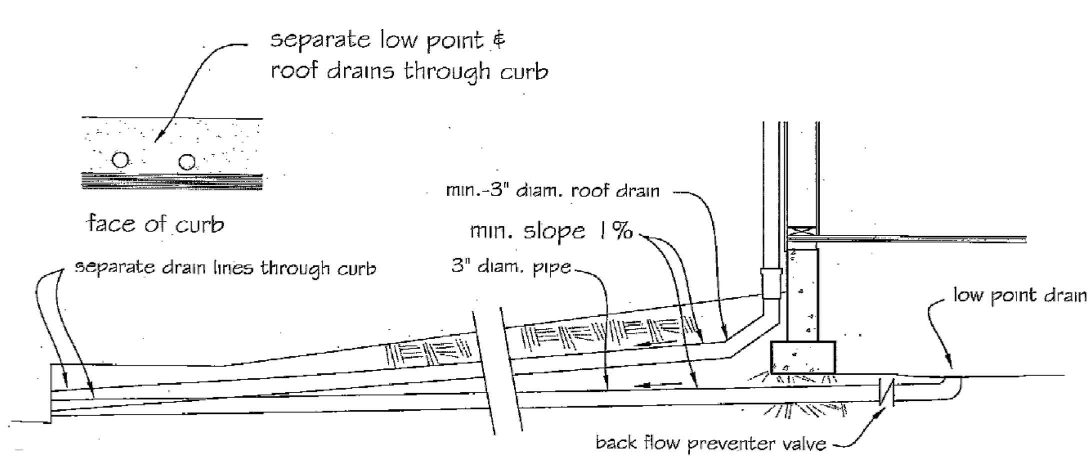
NO.	REVISIONS	DATE	BY

Department of Public Works — CLARK COUNTY WASHINGTON — proud past, promising future

CHAIN LINK FENCE FOR STORMWATER FACILITY

APPROVED — 01/07/16 — COUNTY ENGINEER — DATE

STANDARD DETAIL D26



CURB DRAIN DETAIL

RESIDENTIAL SITE DRAINAGE NOTES

THE 1st CHOICE IS HARD PIPE CONNECTION TO PUBLIC STORM SYSTEM. DRAINAGE TO CURB IS ALLOWED ONLY IF THE FIRST CHOICE IS NOT FEASIBLE.

FOR RESIDENTIAL PROJECTS, IF NO UNDERGROUND STORM SYSTEM IS AVAILABLE, THE OWNER IS REQUIRED TO EITHER HIRE A PROFESSIONAL ENGINEER TO COMPLETE A DOWNSTREAM ANALYSIS PER THE CITY ORDINANCE OR CONSTRUCT AN ON-SITE UNDERGROUND DETENTION SYSTEM OR ABOVE GROUND DETENTION POND. THE DETENTION SYSTEM WILL BE SIZED FOR THE SITE ADDED IMPERVIOUS AREA AND SITE AREA PER THE ORDINANCE. SEE DETAIL SM-19 AND SM-20.

AS A FINAL OPTION ROOF DRAINAGE MAY BE INFILTRATED FOR SINGLE FAMILY HOMES ON-SITE (SEE SM-14 AND SM-15). THIS OPTION CAN ONLY BE USED IF A LICENSED GEOTECHNICAL ENGINEER COMPLETES A SOIL INVESTIGATION AND BORING TO DETERMINE THE FEASIBILITY AND SIZE OF THE INFILTRATION SYSTEM.

3" SCH. 40 PVC SLEEVE WEEP HOLES ARE REQUIRED AT THE PROPERTY LINES THROUGH THE SIDEWALK AND CURB.

RESIDENTIAL DOWNSPOUT DRAINAGE — PLAN # SM-17

CITY OF LA CENTER APPROVED — 4-4-17

CITY ENGINEER — DATE

REVISIONS:	DATE:	DRAWN:	DESIGNED:
1	4-4-17	ALC	ALC

STANDARD DETAILS — DRAINAGE CONSTRUCTION

SGA ENGINEERING & DESIGN
CIVIL ENGINEERING ~ LAND PLANNING
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2005 BROADWAY
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PHONE (360)993-0911
FAX (360)993-0912

JASON T. MATIOTTI — STATE OF WASHINGTON — 40172 — REGISTERED PROFESSIONAL ENGINEER — 4/16/2020

STANDARD STORM DETAILS 2

HIGHLAND TERRACE SUBDIVISION PHASE 1

CITY OF LA CENTER — WASHINGTON

APPROVED

REVISIONS

DESIGNED BY:	NAW
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	NTS

JOB NUMBER	SHEET
0536	C9.3

SANITARY SEWER GENERAL NOTES:

1. ALL MATERIALS, WORKMANSHIP AND INSTALLATION OF SANITARY SEWERS SHALL BE IN CONFORMANCE WITH THE LATEST EDITION OF THE "CITY OF LA CENTER STANDARDS" AND THE LATEST EDITION OF THE "WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION", HEREINAFTER REFERRED TO AS THE "STANDARD SPECIFICATIONS", PREPARED BY THE WASHINGTON STATE CHAPTER OF THE AMERICAN PUBLIC WORKS ASSOCIATION (APWA) AND THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION, EXCEPT AS NOTED HEREIN OR ON THE STANDARD PLANS.
2. ALL SANITARY SEWER CONSTRUCTION IS SUBJECT TO INSPECTION, AND APPROVAL, PRIOR TO COVER BY THE CITY OF LA CENTER. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION. A PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR BEGINNING OF THE CONSTRUCTION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO THE START OF CONSTRUCTION AND TO NOTIFY THE ENGINEER OF ANY POTENTIAL CONFLICTS. THE CONTRACTOR SHALL DIG TEST HOLES OVER ALL EXISTING UTILITIES PRIOR TO CONSTUCTION TO DETERMINE THEIR EXACT LOCATION. CALL 1-800-424-5555, (NORTHWEST UTILITY NOTIFICATION CENTER), FOR MARK-UP OF EXISTING UTILITIES, A MINIMUM OF 2 WORKING DAYS PRIOR TO START OF CONSTRUCTION.
4. ALL PIPE AND FITTINGS SHALL CONFORM TO LCMC 13.10.150 AND THE FOLLOWING:
   A. POLYVINYLCHLORIDE (PVC) SEWER PIPE 15" DIAMETER OR LESS SHALL CONFORM TO ASTM D3034, SDR 35. PVC PIPE 18" DIAMETER AND LARGER SHALL CONFORM TO ASTM F 679. ALL PVC PIPE SHALL HAVE AN INTEGRAL BELL GASKETED JOINT WITH ELASTOMERIC GASKET AND SHALL BE FURNISHED IN 12-1/2 FOOT LAYING LENGTHS.
   B. DUCTILE IRON (DI) PIPE SHALL CONFORM TO ANSI A21.51 OR AWWA C-151, WITH PUSH-ON JOINTS, UNLESS OTHERWISE NOTED.
5. MANHOLES, CLEANOUTS, SERVICE LATERAL CONNECTIONS, TRENCH EXCAVATION, PIPE BEDDING AND STREET RESTORATION, AND APPURTENANCES SHALL CONFORM TO THE DETAILS SHOWN ON THE STANDARD PLANS. ALL OTHER CONSTRUCTION SHALL CONFORM TO THE LATEST STANDARD DETAILS CONTAINED IN THE WSDOT "STANDARD PLANS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION".
6. ALL SANITARY MANHOLES INSTALLED WITHIN AN EASEMENT OR OUTSIDE THE CITY RIGHT-OF-WAY SHALL HAVE LOCKING LID COVERS AND EXTEND ONE FOOT (1') ABOVE GRADE.
7. THE CONTRACTOR SHALL OBTAIN A RIGHT-OF-WAY PERMIT FOR WORK WITHIN THE PUBLIC RIGHT OF WAY. THE CONTRACTOR SHALL SUBMIT AN APPROVED TRAFFIC CONTROL PLAN. INSIDE THE CITY THIS PLAN SHALL BE APPROVED BY THE CITY OF LA CENTER PUBLIC WORKS DIRECTOR OR DESIGNEE AND OUTSIDE THE CITY IT SHALL BE APPROVED BY THE CLARK COUNTY TRAFFIC ENGINEER (360-397-2446). APPROVAL SHALL BE OBTAINED PRIOR TO BEGINNING CONSTRUCTION.
8. ALL PIPES SHALL BE PLUGGED AT THE END OF EACH WORKING DAY.
9. ALL TRENCHES SHALL BE FILLED AND COMPACTED UP TIGHT AT THE END OF EACH WORKING DAY.
10. A CLEANOUT OR MANHOLE IS REQUIRED AT THE END OF ALL LINES.
11. PRE-PAVEMENT AS-BUILTS ARE REQUIRED.

GENERAL SANITARY SEWER NOTES

PLAN #

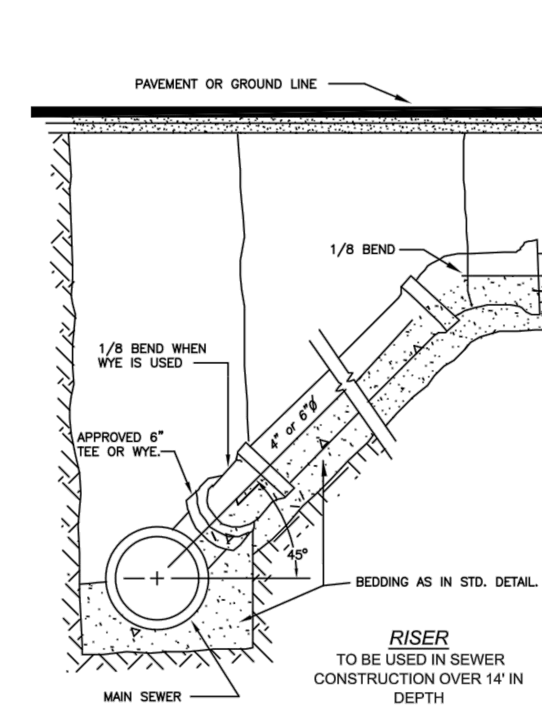
CITY OF LA CENTER APPROVED

REVISIONS:	DATE:	DRAWN:	DESIGNED:

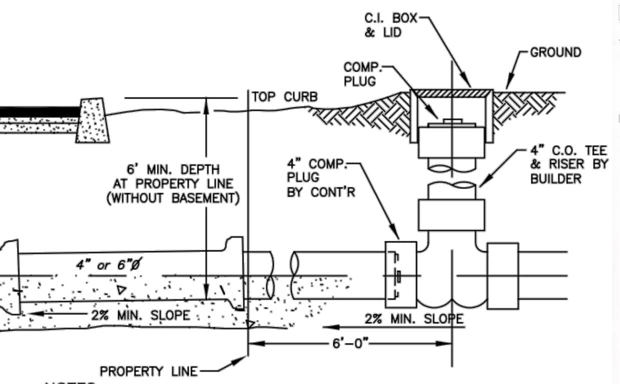
Bart Stepp, PE 7/23/09

CITY ENGINEER DATE

SS-1

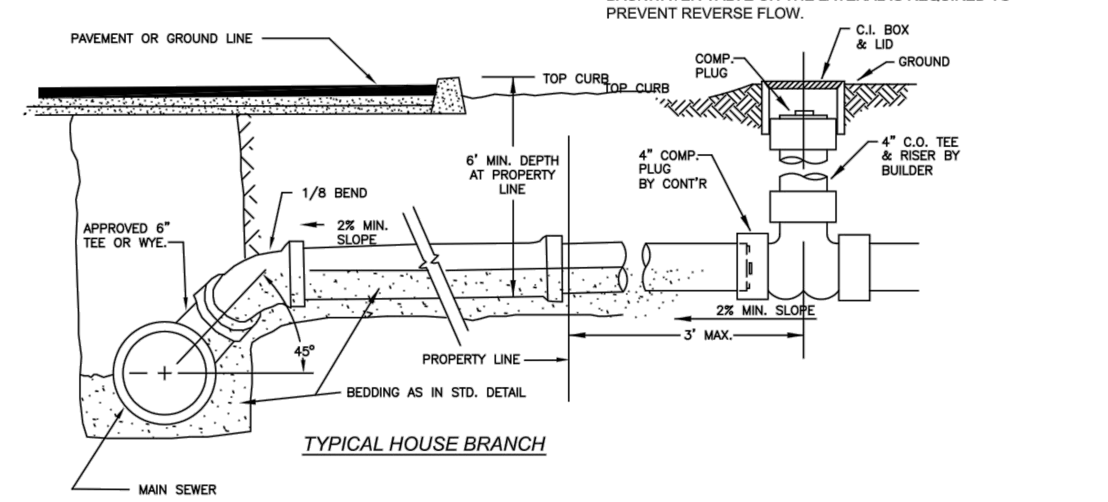


RISER
TO BE USED IN SEWER CONSTRUCTION OVER 14' IN DEPTH



NOTES:

1. ALL SERVICE LATERALS SHALL BE 6" MIN. EXCEPT FOR HOUSE BRANCHES FOR SINGLE FAMILY DWELLINGS AND MULTI-FAMILY DWELLINGS (3 UNITS OR LESS) SHALL BE 4" DIAMETER.
2. SERVICE LATERALS SHALL BE PLUGGED. SERVICE LATERALS SHALL BE CLEARLY MARKED W/10' 2"x4", AND SHALL BE EXTEND 6 FEET BEHIND STREET RIGHT-OF-WAY, AND WRAPPED W/10-GA. WIRE.
3. TRANSITIONS BETWEEN DISSIMILAR PIPE MATERIALS OR SIZES SHALL BE MADE WITH APPROVED ADAPTORS (FERNCO, CAULDER OR EQUAL).
4. INSTALL A CLEANOUT AT THE PROPERTY LINE.
5. IF BUILDING HAS A BELOW GRADE BASEMENT A BACKWATER VALVE ON THE LATERAL IS REQUIRED TO PREVENT REVERSE FLOW.



TYPICAL HOUSE BRANCH

TYPICAL LATERAL CONNECTION

PLAN #

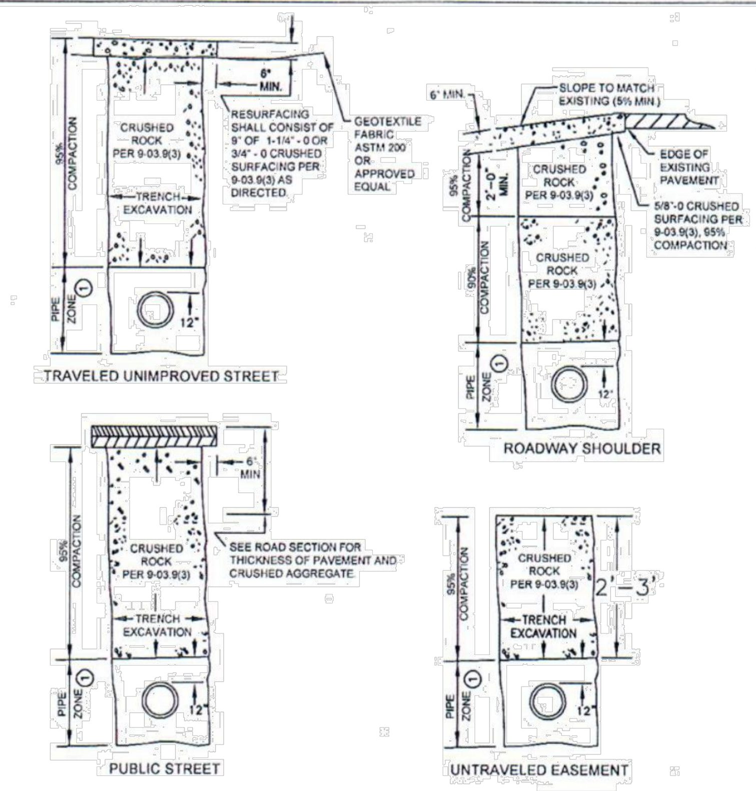
CITY OF LA CENTER APPROVED

REVISIONS:	DATE:	DRAWN:	DESIGNED:

Bart Stepp, PE 7/23/09

CITY ENGINEER DATE

SS-2



NOTES:

1. FOR PIPE ZONE BEDDING REQUIREMENTS, SEE SS-5.
2. COMPACTION PERCENTAGES REFER TO RELATIVE DRY DENSITY AS DETERMINED ACCORDING TO STANDARD SPECIFICATIONS SECTION 2-03.3(14)D.
3. CONTRACTOR MAY USE UP TO 2-1/2" OF 5/8" - 0 OR 3/4" - 0 CRUSHED AGGREGATE IN LIEU OF 1-1/4" - 0 BASE ROCK UNDER SURFACING FOR LEVELING COURSE.
4. ALL EXISTING PAVED SURFACES SHALL BE SAW CUT A MINIMUM OF 6" OUTSIDE OF EDGE OF TRENCH TO PROVIDE A NEAT STRAIGHT EDGE.
5. THE EDGES OF ALL EXISTING ASPHALT SURFACES SHALL BE CLEANED AND A TACK COAT SHALL BE APPLIED. A JOINT SEALER SHALL BE APPLIED AND SHALL CONFORM TO WSDOT STANDARD SPECIFICATIONS, (9-04). ALL JOINTS WILL BE SEALED AND SANDED.
6. ALL BACKFILL SHALL BE MECHANICALLY COMPACTED IN LIFTS WHICH IN NO CASE EXCEED 12" LOOSE.

TYPICAL TRENCH BACKFILL

PLAN #

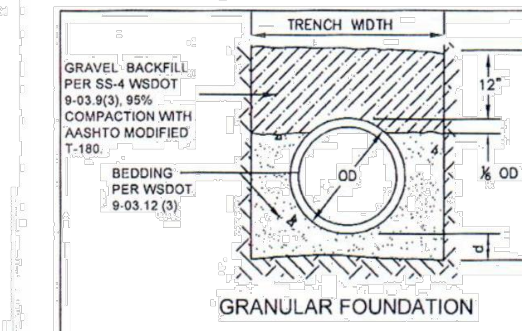
CITY OF LA CENTER APPROVED

REVISIONS:	DATE:	DRAWN:	DESIGNED:

12/14/18

CITY ENGINEER DATE

SS-4

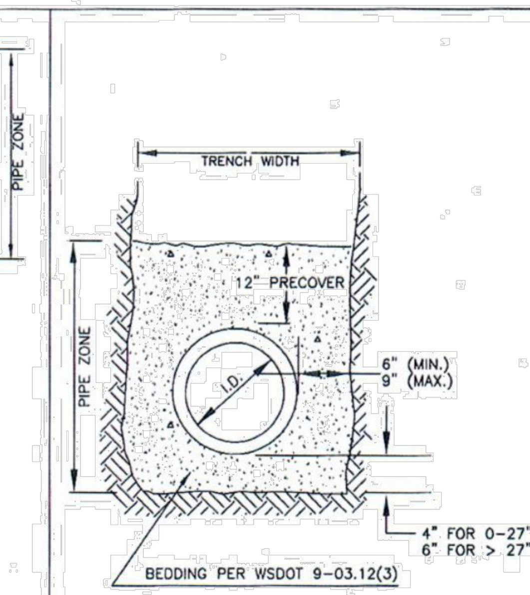


LEGEND:
OD = OUTSIDE DIAMETER
ID = INSIDE DIAMETER
d = DEPTH OF BEDDING MATERIAL BELOW PIPE

DEPTH OF BEDDING MATERIAL BELOW PIPE

ID	d (min)
18" & SMALLER	6"
LARGER THAN 18"	8"

RIGID PIPE



FLEXIBLE PIPE

NOTES:

1. WHERE DIRECTED BY THE PUBLIC WORKS DIRECTOR, CRUSHED ROCK PER WSDOT 9-03.12(3) STABILIZATION SHALL BE PLACED PRIOR TO PLACEMENT OF THE BEDDING. SIZE AND DEPTH ARE DEPENDENT ON SOIL CONDITIONS.
2. BEDDING AND BACKFILL MATERIALS IN THE PIPE ZONE SHALL BE COMPACTED AS SPECIFIED PRIOR TO BACKFILLING THE REMAINDER OF THE TRENCH.
3. FOR ROCK AND OTHER INCOMPRESSIBLE MATERIALS, THE TRENCH SHALL BE OVER EXCAVATED A MINIMUM OF 6" AND REFILLED WITH GRANULAR MATERIALS AS DIRECTED BY THE CITY ENGINEER.
4. TRENCH WIDTH SHALL NOT EXCEED ONE AND ONE-HALF THE INSIDE DIAMETER OF THE PIPE PLUS 18" AT THE TOP OF THE PIPE ZONE.

PIPE BEDDING (RIGID AND FLEXIBLE PIPE)

PLAN #

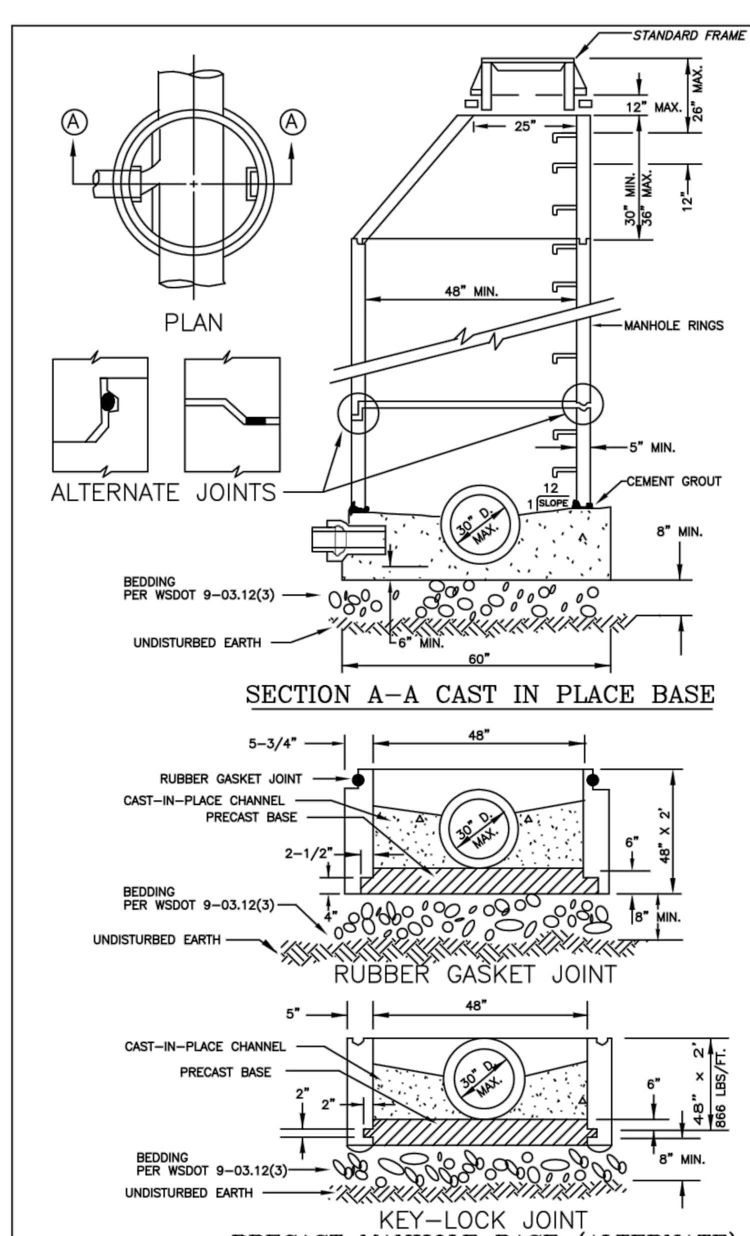
CITY OF LA CENTER APPROVED

REVISIONS:	DATE:	DRAWN:	DESIGNED:
1	11/16/18	ALC	

12/14/18

CITY ENGINEER DATE

SS-5



1. ALL PRECAST MANHOLE RINGS AND CONES SHALL CONFORM TO ASTM C–478 WITH CAST IN STEPS. SEE DRAWING SS–11 FOR DETAILS ON MANHOLE STEPS.
2. IN OVER EXCAVATED AREA PROVIDE SUPPORT FOR THE PIPE AS FOLLOWS: PLACE 3/4" MINUS CRUSHED ROCK OVER UNDISTURBED GROUND IN 6" LAYERS AND COMPACT USING HAND TAMPER.
3. BASE CONCRETE SHALL BE 3000 P.S.I., 2–4 IN. SLUMP. FLOW LINES AND INSIDE SURFACES SHALL BE TROWLED SMOOTH & UNIFORM AT TIME OF POUR. MANHOLE BASE MAY BE MONOLITHICALLY CAST TO 8" ABOVE BARREL OF MAIN SEWER.
4. CHANNELS SHALL CONFORM ACCURATELY TO SEWER GRADE. INSTALL BENCHES TO ELEVATION OF SPRINGLINE OF PIPE.
5. CAST–IN–PLACE, MONOLITHIC MANHOLE MAY BE SUBSTITUTED WITH SPECIFIC APPROVAL OF THE ENGINEER. (SEE SS–9)
6. JOINTS SHALL BE CONSTRUCTED SO AS TO BE WATERTIGHT. KENT–SEAL NO. 2 OR APPROVED EQUAL SHALL BE USED ON TONGUE & GROOVE SECTIONS, AND ON RISER RINGS PREMOLDED "O–RING" MAY BE SUBSTITUTED ON BELL & SPIGOT SECTIONS. ALL JOINTS SHALL BE GROUTED WITH PORTLAND CEMENT CONCRETE GROUT & STRUCK EVEN WITH THE WALL.
7. MANHOLES UNDER 6"–0" IN DEPTH FROM RIM TO SHELF SHALL HAVE A TOP SLAB IN LIEU OF CONE. (SEE SS–8)
8. ALL SEWER MANHOLES TO BE CAPSULATED WITH A HEAT SHRINKABLE SLEEVE SYSTEM, RAPID SEAL OR APPROVED EQUAL.
9. RAINGUARD REQUIRED.
10. VACUUM TESTING OF MANHOLES WILL BE REQUIRED.
11. LOCKING COVERS ARE REQUIRED IN EASEMENTS, OR AT THE DIRECTION OF THE PUBLIC WORKS DIRECTOR.
12. SAMPLING MANHOLES WILL BE CONSTRUCTED TO THESE SPECIFICATIONS.

STANDARD PRECAST MANHOLE

PLAN #

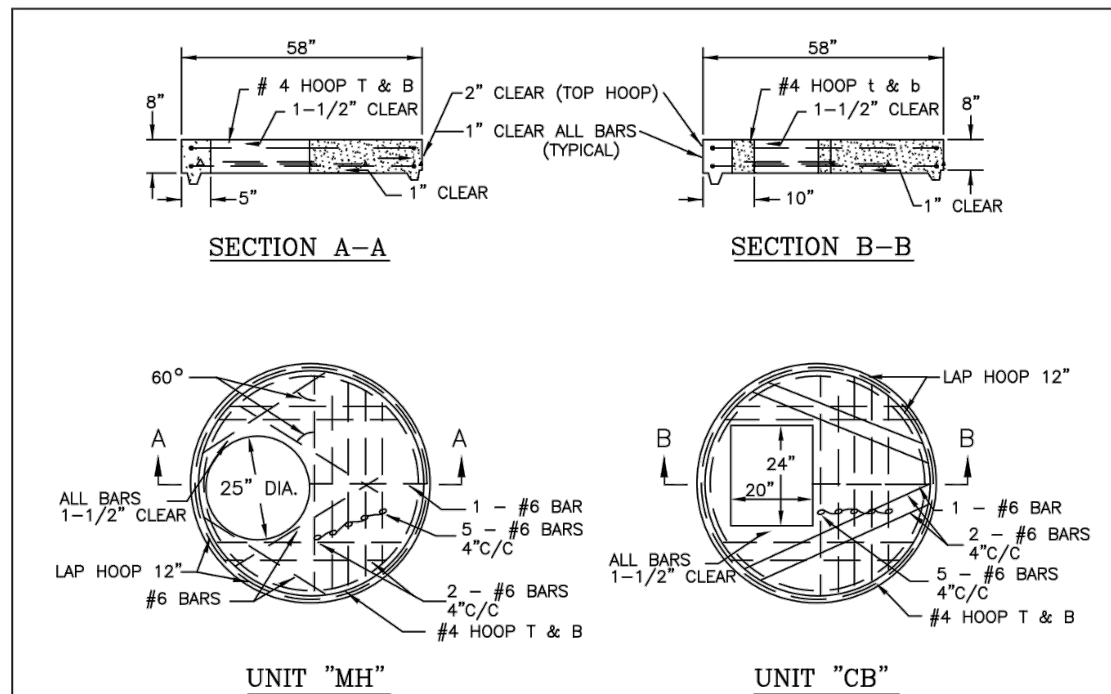
CITY OF LA CENTER APPROVED

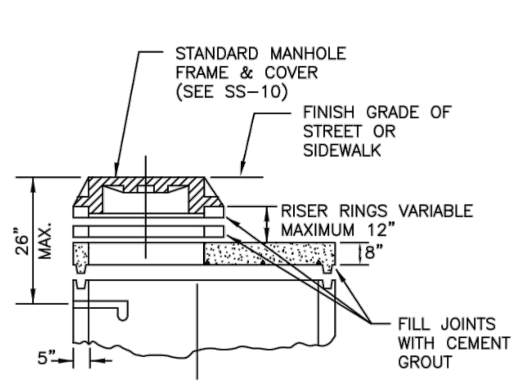
REVISIONS:	DATE:	DRAWN:	DESIGNED:

Bart Stepp, PE 7/23/09

CITY ENGINEER DATE

SS-7





FLAT SLAB ALTERNATE

NOTES:

1. ALL PRECAST SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-478. ALL POURED IN PLACE CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 4,000 P.S.I. & 2" TO 4" SLUMP. MINIMUM OF TWO (2) CYLINDERS TAKEN.
2. ALL REINFORCING SHALL BE GRADE 40 STEEL.
3. MANHOLES UNDER 6'-0" IN DEPTH FROM RIM TO SHELF SHALL HAVE UNIT "MH" TOP SLAB IN LIEU OF CONE.
4. UNIT "CB" TOP SLAB SHALL BE USED WHERE "TYPE 2" CATCH BASIN IS SPECIFIED. STANDARD RISER UNITS AND FRAME AND GRATE FOR CATCH BASIN SHALL BE USED IN CONJUNCTION WITH TYPE "CB" TOP SLAB.
5. RAIN GUARD REQUIRED.

TOP SLAB FOR STANDARD PRECAST MANHOLE

PLAN #

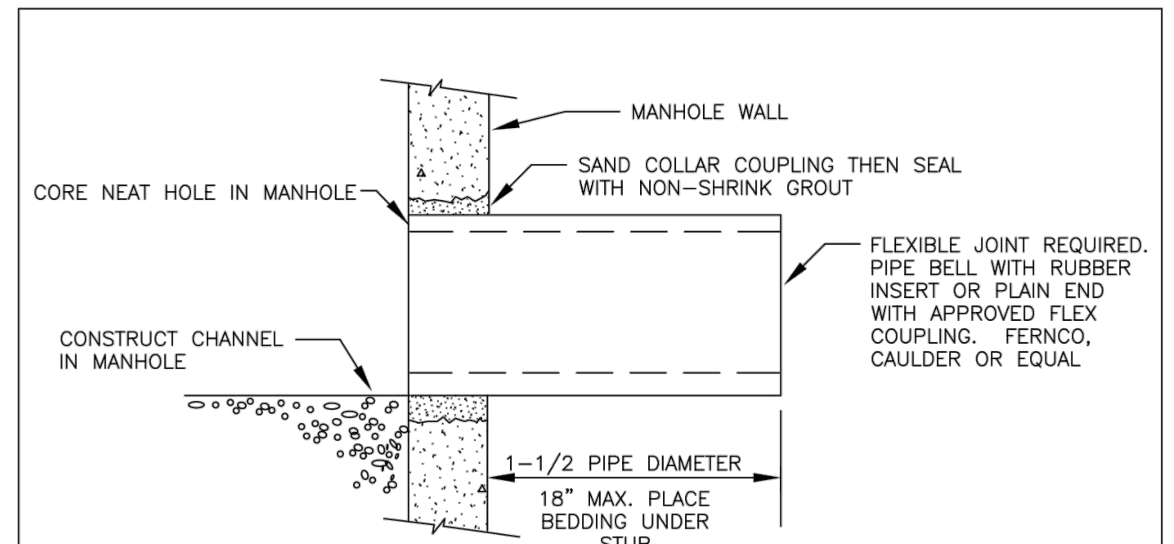
CITY OF LA CENTER APPROVED

REVISIONS:	DATE:	DRAWN:	DESIGNED:
1	10/4/10	BES	BES

Bart Stepp, PE 10/4/10

CITY ENGINEER DATE

SS-8



FOUR TYPES OF CONNECTIONS APPROVED:

1. CONCRETE PIPE, GROUTED WITH NON-SHRINK GROUT.
2. APPROVED EXPANSION TYPE RUBBER BOOT; KOR-N-SEAL OR SEALTITE, (NO FLEX JOINT REQUIRED).
3. GPK PVC EPOXY-SAND COATED MANHOLE ADAPTOR, GROUTED WITH NON-SHRINK GROUT.
4. JOHN MANSVILLE GASKETED SLEEVE TRANSITE COUPLING - CLASS 100, GROUTED WITH NON-SHRINK GROUT AND SEALED WITH NON-HARDENING NEOPRENE, SILCONE OR BUTYL RUBBER WATERPROOF CAULK NEXT TO GASKET - BOTH SIDES OF MANHOLE.

NOTES:

1. CENTER STUB OR SLEEVE IN HOLE W/2" GROUTED SPACE ALL AROUND. CORE HOLE 4" LARGER THAN O.D. OF STUB OR SLEEVE.
2. STANDARD GROUT WILL NOT BE ACCEPTED AS A SUBSITUTE FOR NON-SHRINK GROUT. NON-SHRINK GROUT SHALL BE FIVE STAR, SIKA 212, EUCO N-5 OR AS APPROVED.
3. STUB-OUTS INSTALLED FOR FUTURE EXTENSION ARE TO BE PLUGGED AT BOTH ENDS AND MARKED.

MANHOLE CONNECTION DETAILS

PLAN #

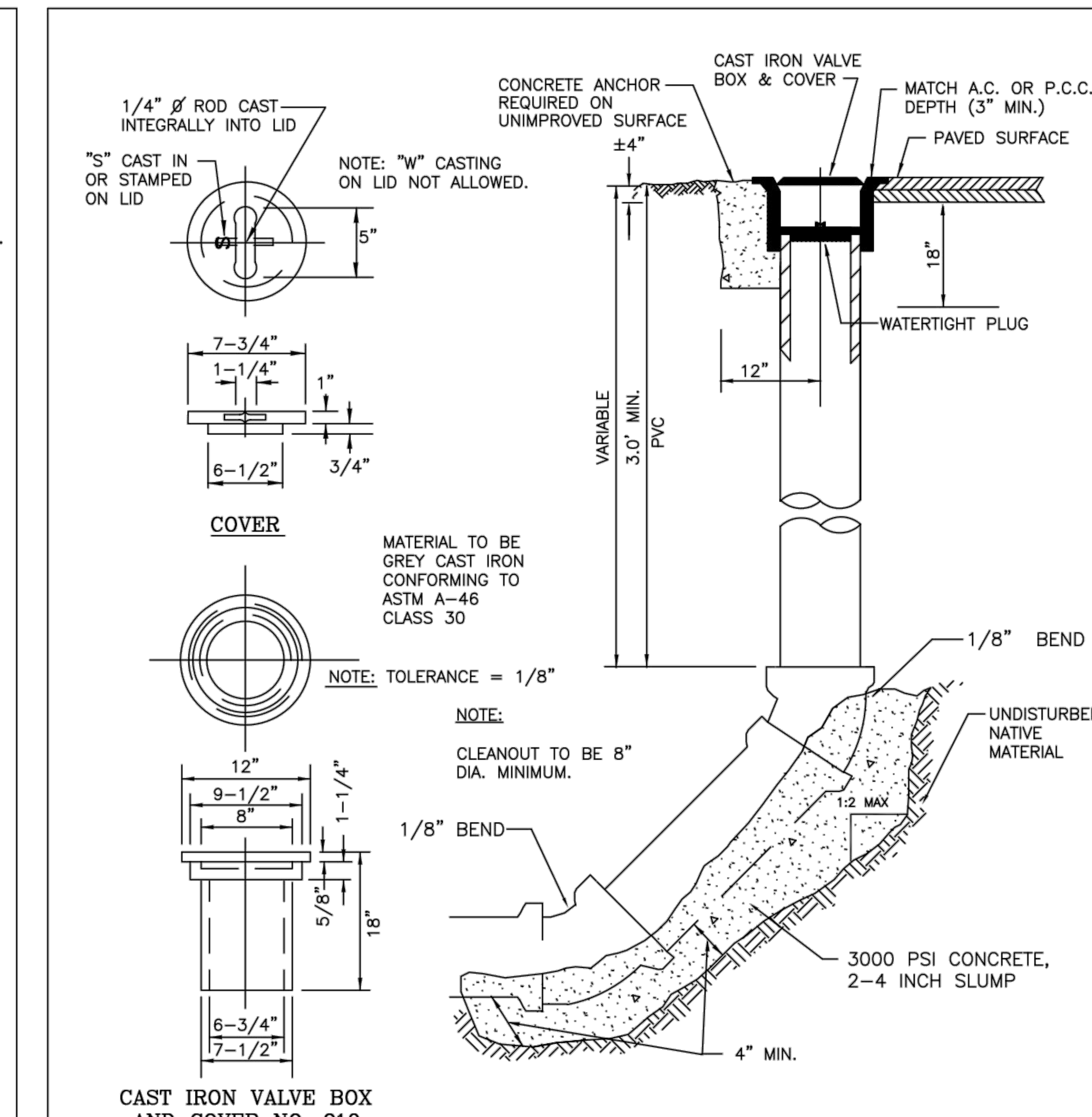
CITY OF LA CENTER APPROVED

REVISIONS:	DATE:	DRAWN:	DESIGNED:

Bart Stepp, PE 7/23/09

CITY ENGINEER DATE

SS-9



STANDARD SEWER CLEANOUT

PLAN #

CITY OF LA CENTER APPROVED

REVISIONS:	DATE:	DRAWN:	DESIGNED:

Bart Stepp, PE 7/23/09

CITY ENGINEER DATE

SS-14

SGA ENGINEERING & DESIGN
CIVIL ENGINEERING ~ LAND PLANNING
DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE
2005 BROADWAY
VANCOUVER, WA 98663
PHONE (360)993-0911
FAX (360)993-0912

STANDARD SANITARY DETAILS

HIGHLAND TERRACE SUBDIVISION PHASE 1

CITY OF LA CENTER
WASHINGTON

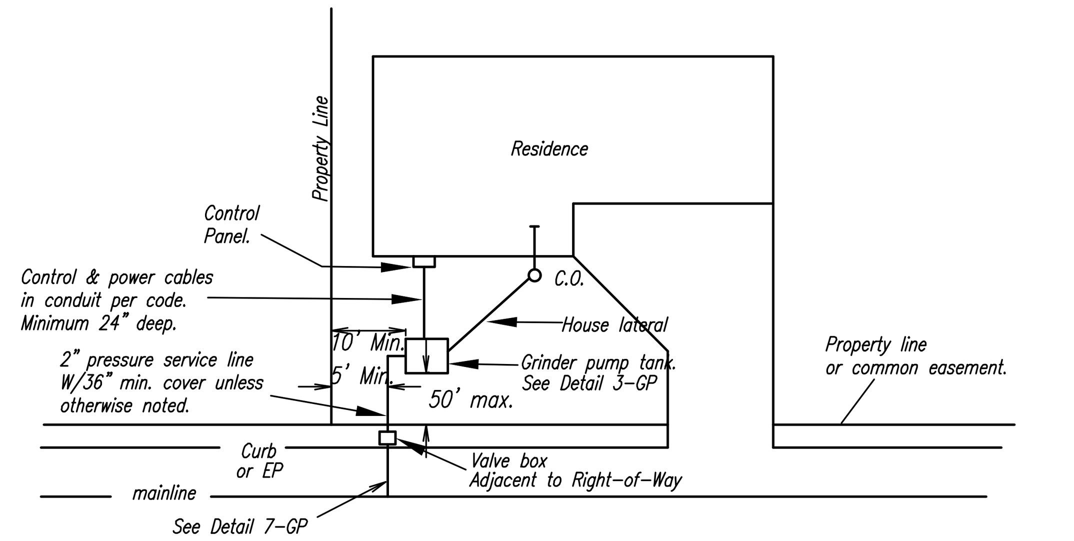
APPROVED

REVISIONS

DESIGNED BY:	NAW
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	NTS

JOB NUMBER	SHEET
0536	C9.4

NOTE AS AN ALTERNATIVE TO THESE DETAILS, A PROPRIETARY SYSTEM SUCH AS THE "ENVIRONMENT ONE" OR "BARNES" SYSTEMS, MAY BE USED UPON APPROVAL.



NOTES:

A. Locate pump and tank minimum 5' from building.

B. Locate tank between building and street.

C. Maintain access to tank.

D. Mount control panel on front of house, as close to tank as possible and visible from tank. District inspector may grant a variance from this requirement. The contractor or owner shall make a request for a variance and receive approval from the District Inspector at the preconstruction conference. If a variance is granted, the owner is required to sign an Indemnification Agreement as provided by the District.

E. Valve box shall be at public R/W or back of common easement.

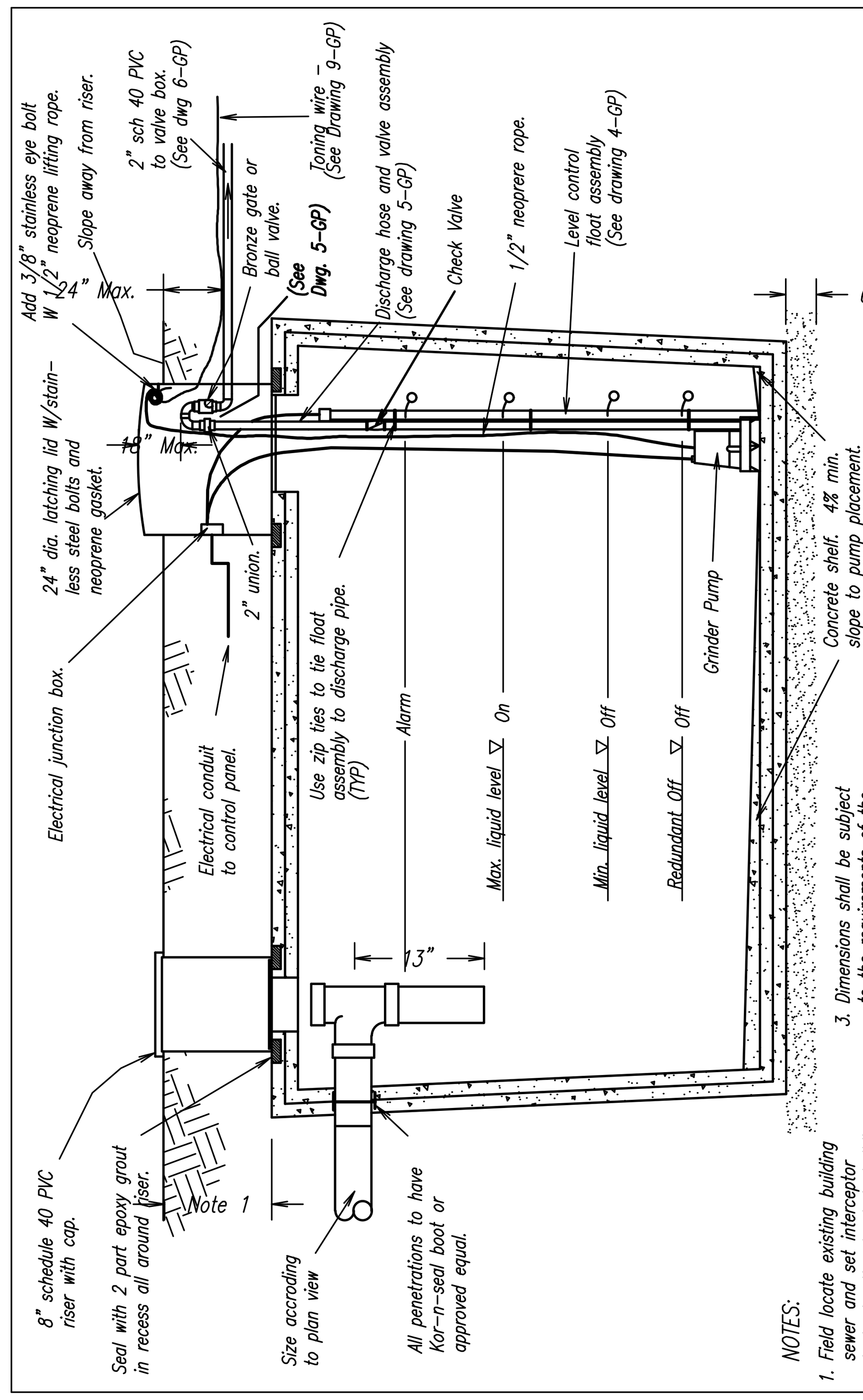
F. Site plan and pump submittal approval required prior to installation.

G. Valve box shall not be in driveway.

H. See Standard Specifications and Drawings for additional details.

TYPICAL GRINDER PUMP PRESSURE SEWER SITE PLAN

2–GP



NOTES:

1. Field locate existing building sewer and set interceptor tank elevation to drain building sewer at min. of 1/4" per foot slope Max. 3" Min 1"

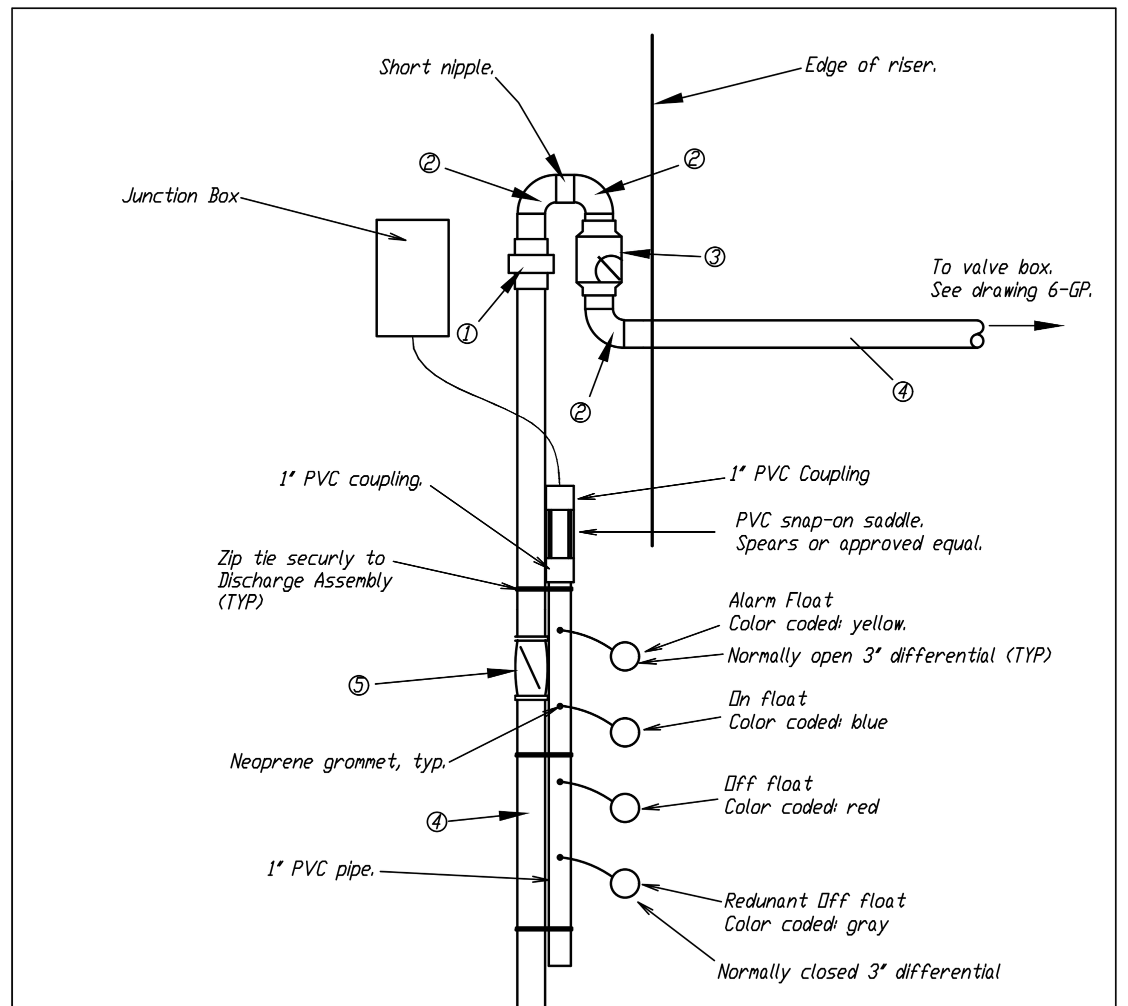
2. See typical grinder pump sewer site plan (drawing 2-GP) for approximate tank and panel locations.

3. Dimensions shall be subject to the requirements of the District specifications.

4. Minimum size shall be 500 gallons. Placed on 9-03.9(3) crushed surface base course.

TYPICAL CONCRETE HOUSE GRINDER PUMP TANK

3–GP



① 2" schedule 40 union.

② 90° bends.

③ PVC gate or ball valve.

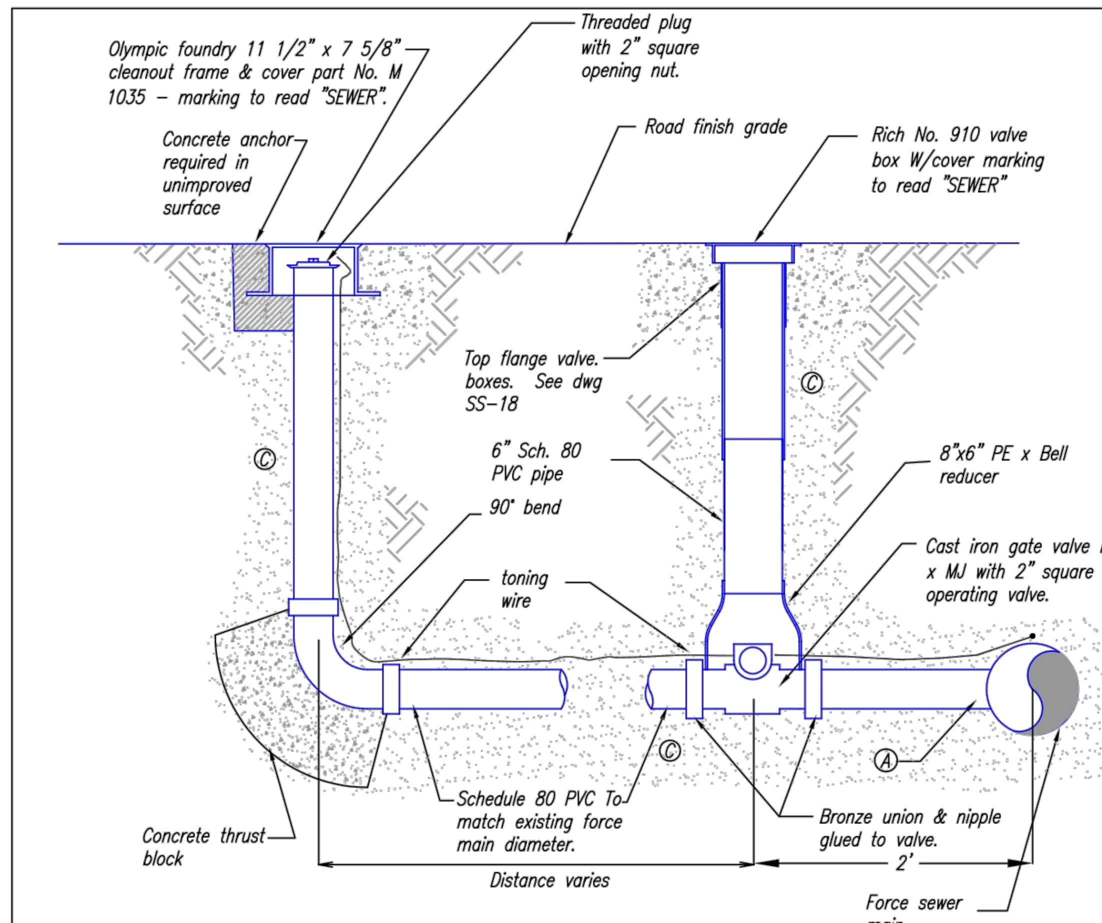
④ 2" schedule 40 PVC.

⑤ Check valve.

Not to scale

GRINDER PUMP DISCHARGE HOSE, VALVE ASSEMBLY & FLOAT ASSEMBLY

5–GP



NOTES:

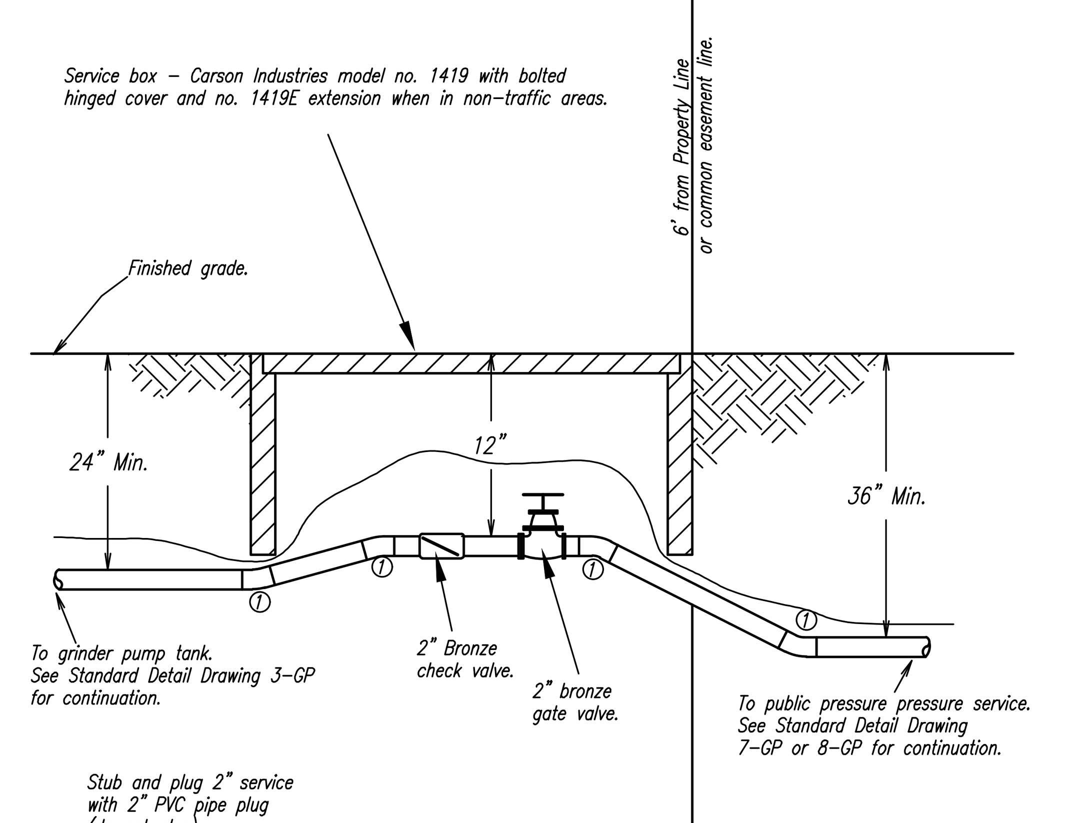
Ⓐ MJ x MJ x MJ Wye or MJ x MY sleeve.

Ⓑ Concrete shall be 3,000 P.S.I.

Ⓒ Bedding and backfill to conform with class of bedding and type of backfill specified for sewer line extension.

TYPICAL PRESSURE CLEANOUT

CITY OF LA CENTER APPROVED	REVISIONS:	DATE:	DRAWN:	DESIGNED:	PLAN #
Bart Stepp, PE 10/4/10	1	10/4/10	BES	BES	SS-19
CITY ENGINEER DATE					

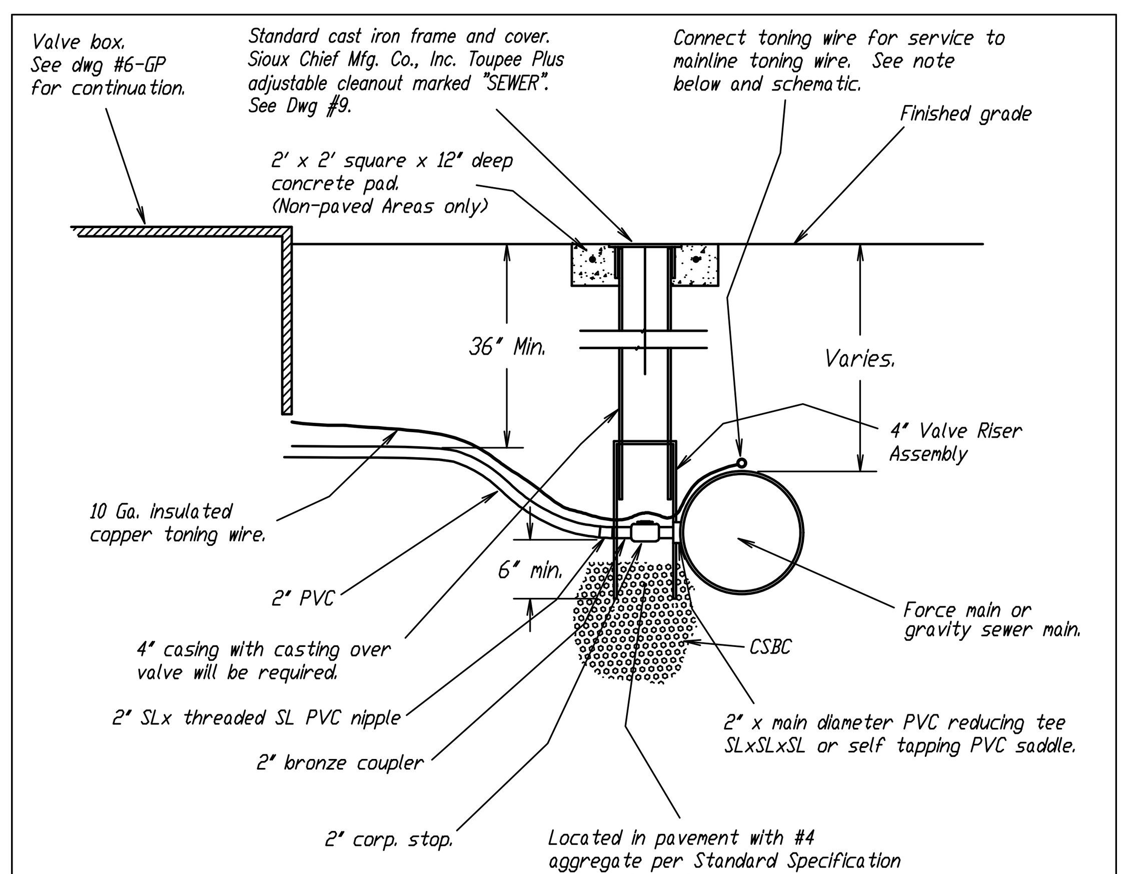


① Schedule 40 PVC 45° bends.

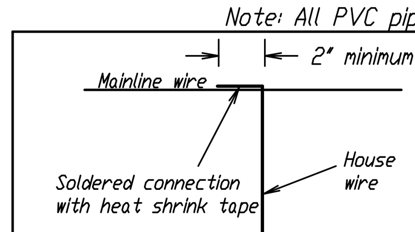
② All PVC pipe and fittings to be schedule 40.

TYPICAL HOUSE GRINDER PUMP VALVE BOX

6–GP



Note: All PVC pipe & fittings shall be schedule 40 PVC.

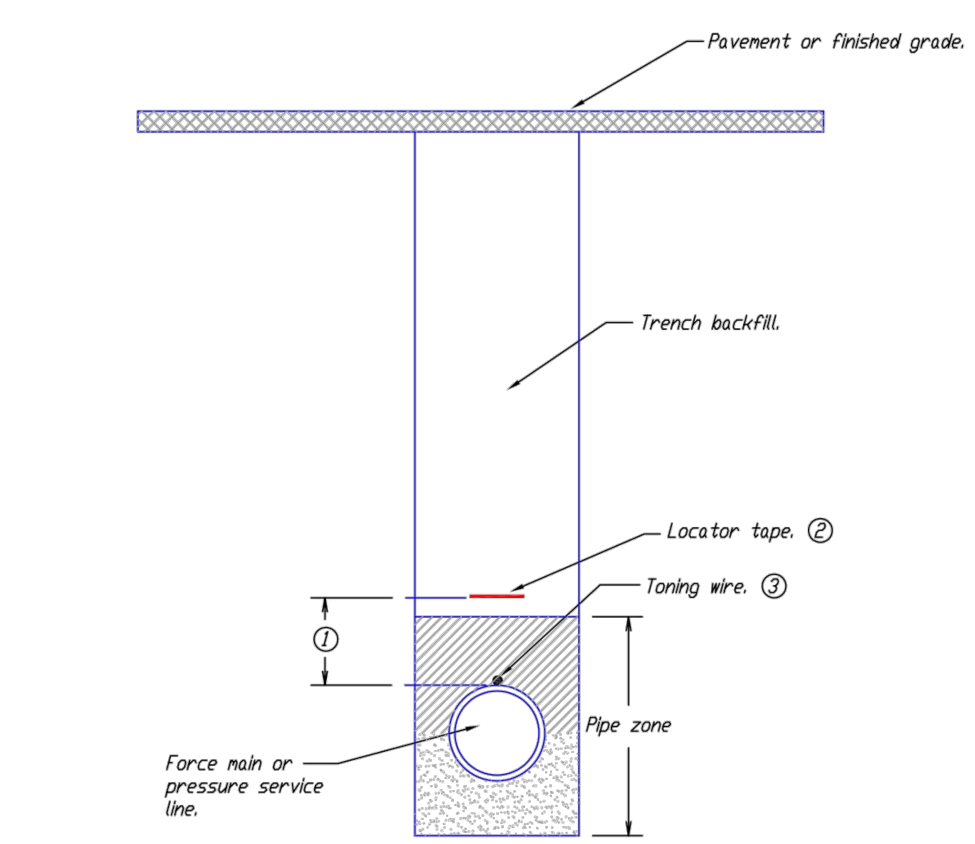


Toning wire connection schematic

1. Bare mainline toning wire (do not sever).
2. Solder house toning wire to mainline (minimum 2" solder cap).
3. Encase with 3M Scotch #2200 vinyl mastic pads (3 1/2" by 4 1/2") or 3M Scotch 33 electrical tape coated Scotchkote electrical coating #1485 (repeat process after first coating dries), or approved equal.
4. Mainline toning wire shall be one piece – no splices.
5. Individual house toning wires shall be one piece.

PRESSURE HOUSE GRINDER PUMP SERVICE CONNECTION

7–GP



① Locator tape to be located eighteen (18) inches above a force main and twelve (12) inches above a pressure service line.

② The locator tape should be marked with continuous three (3) inch wide green six (6) mil thick locator three (3) inch high block letters every three (3) feet with "Warning - Buried Pressure Sewer".

③ A continuous toning wire shall be attached to the top of the pressure service line. The toning wire shall be coated #10 AWG solid copper wire. The toning wire shall end in the valve box with a minimum of one (1) foot coil of wire. The toning wire shall be tested for continuity prior to acceptance. All splices will be soldered a minimum of two (2) inches in length and encased with 3M Scotch #220 vinyl mastic pads (3 1/2" by 4 1/2") or 3M Scotch 33 electrical tape and coated with Scotchkote electrical coating #1485 (repeat process after first coating dries), or approved equal.

TONING WIRE AND LOCATOR TAPE

CITY OF LA CENTER APPROVED	REVISIONS:	DATE:	DRAWN:	DESIGNED:	PLAN #
Bart Stepp, PE 7/23/09					SS-20
CITY ENGINEER DATE					

SGA ENGINEERING & DESIGN
CIVIL ENGINEERING ~ LAND PLANNING
DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE

2005 BROADWAY
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PHONE (360)993-0911
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JASON T. MATTOX · STATE OF WASHINGTON · 40172 · REGISTERED PROFESSIONAL ENGINEER

04/27/2020

PRESSURE SANITARY DETAILS

HIGHLAND TERRACE SUBDIVISION PHASE 1

CITY OF LA CENTER · WASHINGTON

APPROVED

REVISIONS

DESIGNED BY:	NAW
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	NTS

JOB NUMBER	SHEET
0536	C9.5

1W — STANDARD 1" WATER SERVICE WITH 5/8", 3/4" OR 1" WATER METER

NOTES:

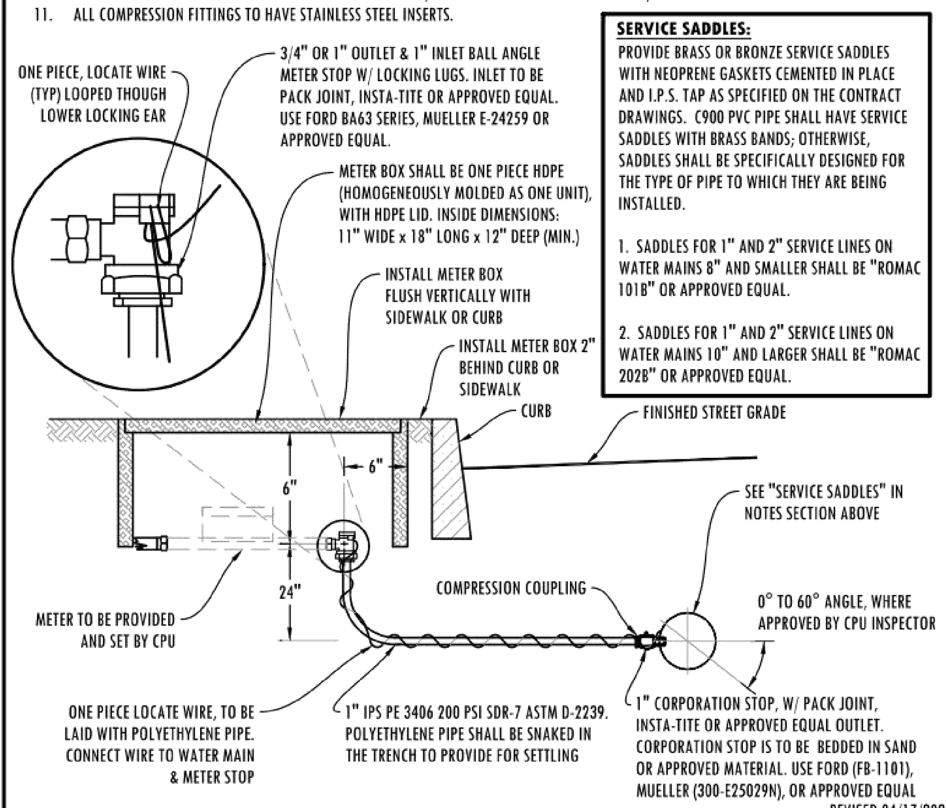
1. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CLARK PUBLIC UTILITIES (CPU) WATER CONSTRUCTION SPECIFICATIONS, STANDARD DETAILS AND THE LATEST EDITION OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" PUBLISHED BY WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT).
2. A WATER UTILITY INSPECTOR SHALL BE AT THE JOB SITE DURING CONSTRUCTION OF ALL WATER FACILITIES. CONTACT 360-992-8019 TWO (2) WORKING DAYS PRIOR TO COMMENCING WORK.
3. WORK WITHIN COUNTY RIGHT-OF-WAY SHALL CONFORM WITH CLARK COUNTY PUBLIC WORKS UTILITY PERMIT REQUIREMENTS AND DETAILS. WORK WITHIN STATE RIGHT-OF-WAY SHALL CONFORM TO WSDOT UTILITY PERMIT REQUIREMENTS AND DETAILS.
4. THE LOCATION OF THE UTILITIES SHALL BE VERIFIED IN ADVANCE TO ALLOW FOR ALIGNMENT ADJUSTMENTS. CALL UTILITY LOCATES TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION (1-800-553-4344).
5. A TAPPING COMPANY APPROVED BY CLARK PUBLIC UTILITIES SHALL BE USED TO MAKE ALL TAPS.
6. LOCATE WIRE SHALL BE COATED, NO. 14 GA. SOFT DRAWN SOLID COPPER.
7. METER BOX ASSEMBLIES SHALL BE ARMORCAST (A6001429A), RAVEN (RMB1118), DFW (DFW486WBC-12) OR APPROVED EQUAL.
8. NO CONNECTIONS WILL BE ALLOWED TO AN EXISTING SERVICE PRIOR TO AN APPROVED PURITY TEST. PURITY TEST SHALL PRECEDE PRESSURE TEST.
9. STUB SERVICES SHALL BE PRESSURE TESTED WITH THE MAIN LINE AND BE CAPABLE OF WITH-STANDING THE MAINS TEST PRESSURE.
10. WATER METER BOX SHALL BE PLACED IN NON-PAVED AREAS, OUT OF CONFLICT WITH DRIVEWAYS, LANDSCAPING AND OTHER UTILITIES.
11. ALL COMPRESSION FITTINGS TO HAVE STAINLESS STEEL INSERTS.

SERVICE SADDLES:

PROVIDE BRASS OR BRONZE SERVICE SADDLES WITH NEOPRENE GASKETS CEMENTED IN PLACE AND I.P.S. TAP AS SPECIFIED ON THE CONTRACT DRAWINGS. C900 PVC PIPE SHALL HAVE SERVICE SADDLES WITH BRASS BANDS; OTHERWISE, SADDLES SHALL BE SPECIFICALLY DESIGNED FOR THE TYPE OF PIPE TO WHICH THEY ARE BEING INSTALLED.

1. SADDLES FOR 1" AND 2" SERVICE LINES ON WATER MAINS 8" AND SMALLER SHALL BE "ROMAC 101B" OR APPROVED EQUAL.

2. SADDLES FOR 1" AND 2" SERVICE LINES ON WATER MAINS 10" AND LARGER SHALL BE "ROMAC 202B" OR APPROVED EQUAL.



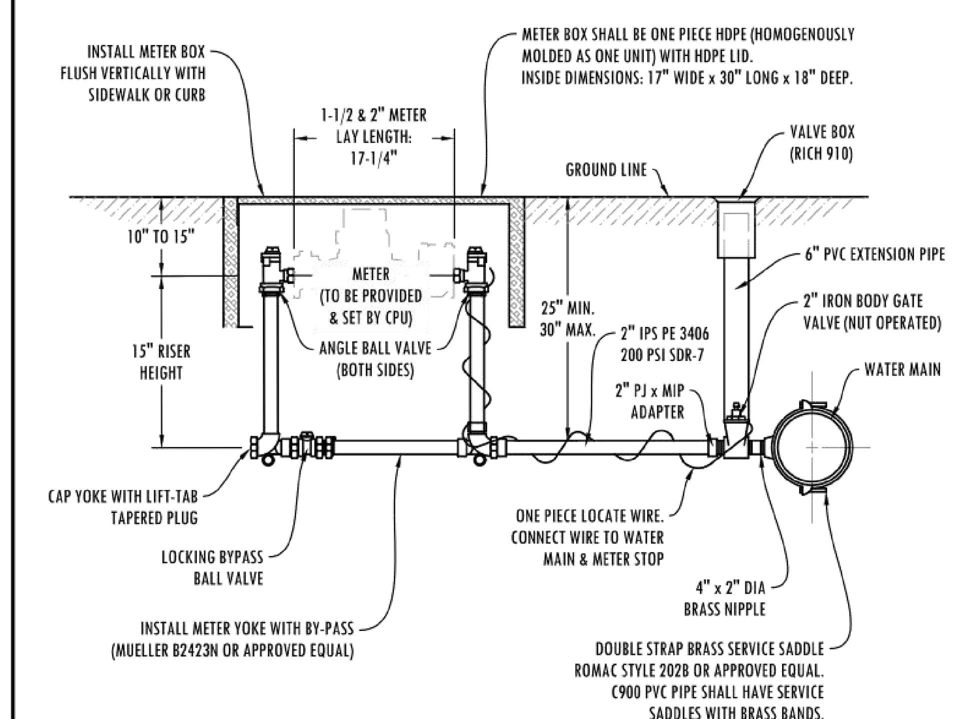
REVISED 04/17/2020

FILE NAME		
1W	STANDARD 1" WATER SERVICE WITH 5/8", 3/4" OR 1" WATER METER	Clark Public Utilities
SHEET 1 OF 1	STANDARD DETAILS	

2W — 2" WATER SERVICE WITH 1-1/2" OR 2" WATER METER

NOTES:

1. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CLARK PUBLIC UTILITIES (CPU) WATER CONSTRUCTION SPECIFICATIONS, STANDARD DETAILS AND THE LATEST EDITION OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" PUBLISHED BY WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT).
2. A WATER UTILITY INSPECTOR SHALL BE AT THE JOB SITE DURING CONSTRUCTION OF ALL WATER FACILITIES. CONTACT 360-992-8019 TWO (2) WORKING DAYS PRIOR TO COMMENCING WORK.
3. WORK WITHIN COUNTY RIGHT-OF-WAY SHALL CONFORM WITH CLARK COUNTY PUBLIC WORKS UTILITY PERMIT REQUIREMENTS AND DETAILS. WORK WITHIN STATE RIGHT-OF-WAY SHALL CONFORM TO WSDOT UTILITY PERMIT REQUIREMENTS AND DETAILS.
4. THE LOCATION OF THE UTILITIES SHALL BE VERIFIED IN ADVANCE TO ALLOW FOR ALIGNMENT ADJUSTMENTS. CALL UTILITY LOCATES TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION (1-800-553-4344).
5. A TAPPING COMPANY APPROVED BY CLARK PUBLIC UTILITIES SHALL BE USED TO MAKE ALL TAPS.
6. LOCATE WIRE SHALL BE COATED, NO. 14 GA. SOFT DRAWN SOLID COPPER.
7. NO CONNECTIONS WILL BE ALLOWED TO AN EXISTING SERVICE PRIOR TO AN APPROVED PURITY TEST. PURITY TEST SHALL PRECEDE PRESSURE TEST.
8. STUB SERVICES SHALL BE PRESSURE TESTED WITH THE MAIN LINE AND BE CAPABLE OF WITH-STANDING THE MAINS TEST PRESSURE.
9. ALL COMPRESSION FITTINGS TO HAVE STAINLESS STEEL INSERTS.

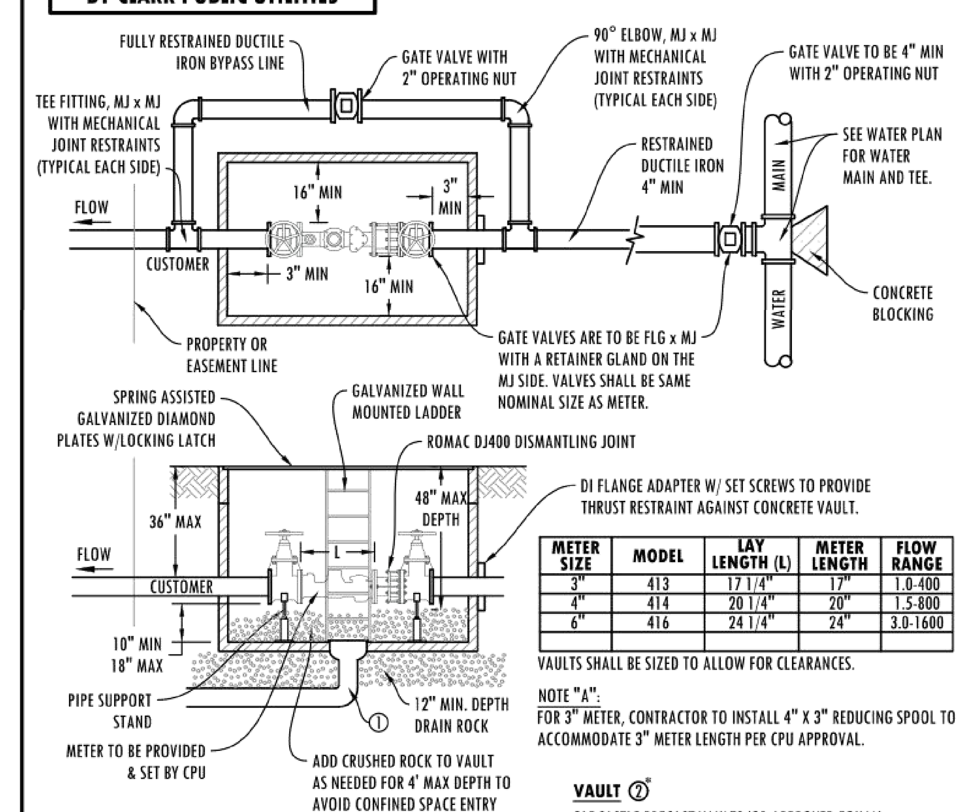


REVISED 04/17/2020

FILE NAME		
2W	2" WATER SERVICE WITH 1-1/2" OR 2" WATER METER	Clark Public Utilities
SHEET 1 OF 1	STANDARD DETAILS	

3W — 3", 4" AND 6" STANDARD METER INSTALLATION DETAILS

ALL METERS SHALL BE INSTALLED BY CLARK PUBLIC UTILITIES



METER SIZE	MODEL	LAY LENGTH (L)	METER LENGTH	FLOW RANGE
3"	413	17 1/4"	17"	1.0-400
4"	414	20 1/4"	20"	1.5-800
6"	416	24 1/4"	24"	3.0-1600

VAULTS SHALL BE SIZED TO ALLOW FOR CLEARANCES.

NOTE "A":
FOR 3" METER, CONTRACTOR TO INSTALL 4" X 3" REDUCING SPOOL TO ACCOMMODATE 3" METER LENGTH PER CPU APPROVAL.

VAULT ②*
OLDCASTLE PRECAST VAULTS (OR APPROVED EQUAL):
3" & 4": #575-LA
6": #676-WA

NOTE:

1. ALL JOINTS SHALL BE RESTRAINED FROM THE MAIN LINE TEE TO PROVIDE FOR METER REMOVAL. PIPE MATERIAL SHALL BE DI.
2. PRIOR TO METER INSTALLATION, GATE VALVES SHALL BE ALIGNED & SPACED W/ RIGID SPOOL (DRILLED WITH HOLES SO AS NOT TO ALLOW WATER PASSAGE). CONTACT CPU WATER UTILITY FOR DISTANCE BETWEEN METER GATE VALVES PRIOR TO INSTALLATION. (360-992-8022)
3. TEN PIPE DIAMETERS OF STRAIGHT PIPE REQ'D. IN & OUT OF METER.
4. INSTALL VAULT IN SOFT-SCAPE AREA, VERTICALLY FLUSH WITH CURB OR SIDEWALK.
5. IF VAULT MUST BE LOCATED IN A WALKING AREA, A NON-SKID TRAFFIC RATED LID SHALL BE REQUIRED.

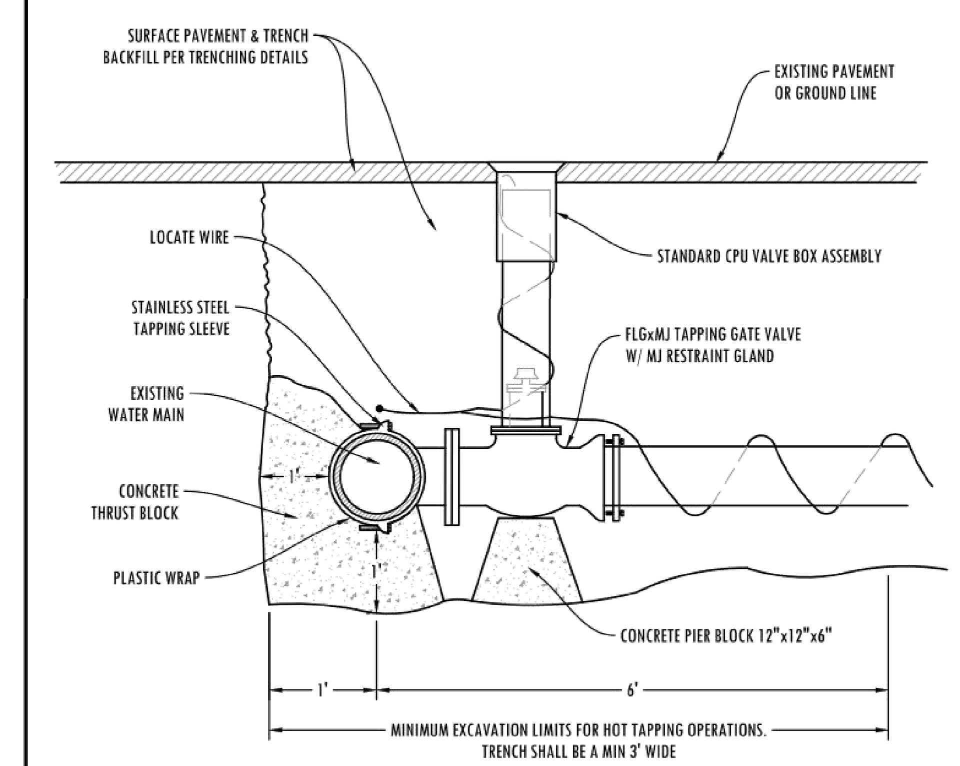
① A 4-INCH DRAIN LINE SHALL BE EXTENDED TO AN APPROVED DRAINAGE OUTLET. IN LOCATIONS W/ NO FEASIBLE DRAINAGE SYSTEM, DRAIN MAY BE CONNECTED TO A CPU APPROVED DRYWELL SYSTEM.

②* VAULTS SHALL BE PRE-APPROVED PRIOR TO INSTALLATION

REVISED 04/17/2020

FILE NAME		
3W	3", 4" AND 6" STANDARD METER INSTALLATION DETAILS	Clark Public Utilities
SHEET 1 OF 1	STANDARD DETAILS	

4W — STANDARD HOT TAP



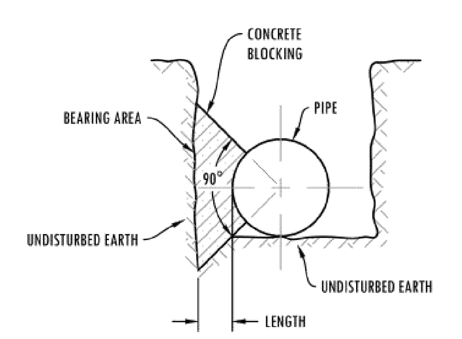
NOTES:

1. LAYOUT AND TAP LOCATION SHALL BE APPROVED BY THE CPU INSPECTOR PRIOR TO EXCAVATING. CONTACT THE CPU INSPECTOR 2 DAYS IN ADVANCE PRIOR TO SCHEDULING THE HOT TAP.
2. HOT TAPS MAY ONLY BE DONE BY A CPU APPROVED TAPPING CONTRACTOR
3. THE CPU INSPECTOR SHALL BE AT THE WORKSITE DURING TAPPING OPERATIONS.
4. THRUST BLOCK SHALL BE POURED AGAINST FIRM UNDISTURBED SOIL. USE PLASTIC OR OTHER PROTECTIVE MATERIAL BETWEEN PIPE/FITTINGS AND THRUST BLOCK.
5. TRENCH EXCAVATIONS OVER 4' WILL REQUIRE SHORING OR OTHER MEASURES CONSISTENT WITH APPLICABLE LOCAL, STATE OR FEDERAL SAFETY CODES.

REVISED 04/17/2020

FILE NAME		
4W	STANDARD HOT TAP	Clark Public Utilities
SHEET 1 OF 1	STANDARD DETAILS	

5W — THRUST BLOCK



THRUST BLOCK NOTES:

1. CAST IN PLACE BLOCKING SHALL BE POURED WITHOUT DIRECT CONTACT TO THE PIPE OR FITTINGS.
2. PROTECTIVE MATERIAL SUCH AS PLASTIC OR APPROVED EQUAL SHALL BE PLACED BETWEEN THE CONCRETE AND PIPE OR FITTING.
3. BLOCKING SHALL BE DESIGNED FOR STATIC PRESSURE OF 200 PSI OR 1.5 TIMES THE WORKING PRESSURE, WHICHEVER IS GREATER.
4. CAST IN PLACE BLOCKING SHALL BE POURED AGAINST FIRM UNDISTURBED SOIL WITH MINIMUM BEARING PRESSURE OF 2,000 LB/SQ.FT.
5. CONCRETE FOR ALL BLOCKING SHALL HAVE A 28-DAY MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI.
6. CONCRETE BLOCKING FOR VERTICAL BENDS SHALL REQUIRE SITE SPECIFIC ENGINEERING DESIGN.
7. LAYOUT TO BE APPROVED BY THE INSPECTOR PRIOR TO AND AFTER CONCRETE PLACEMENT.
8. ALL THRUST BLOCKS SHALL BE PLACED IN CENTER OF TEE OR BEND.
9. THESE DETAILS IN NO WAY LIMIT THE SIZE OR LOCATION OF ADDITIONAL BLOCKING WHEN REQUESTED BY THE UTILITY.
10. THRUST BLOCKS ON WATER MAINS AND FITTINGS 12" OR LARGER SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER AND APPROVED BY CLARK PUBLIC UTILITIES PRIOR TO CONSTRUCTION.

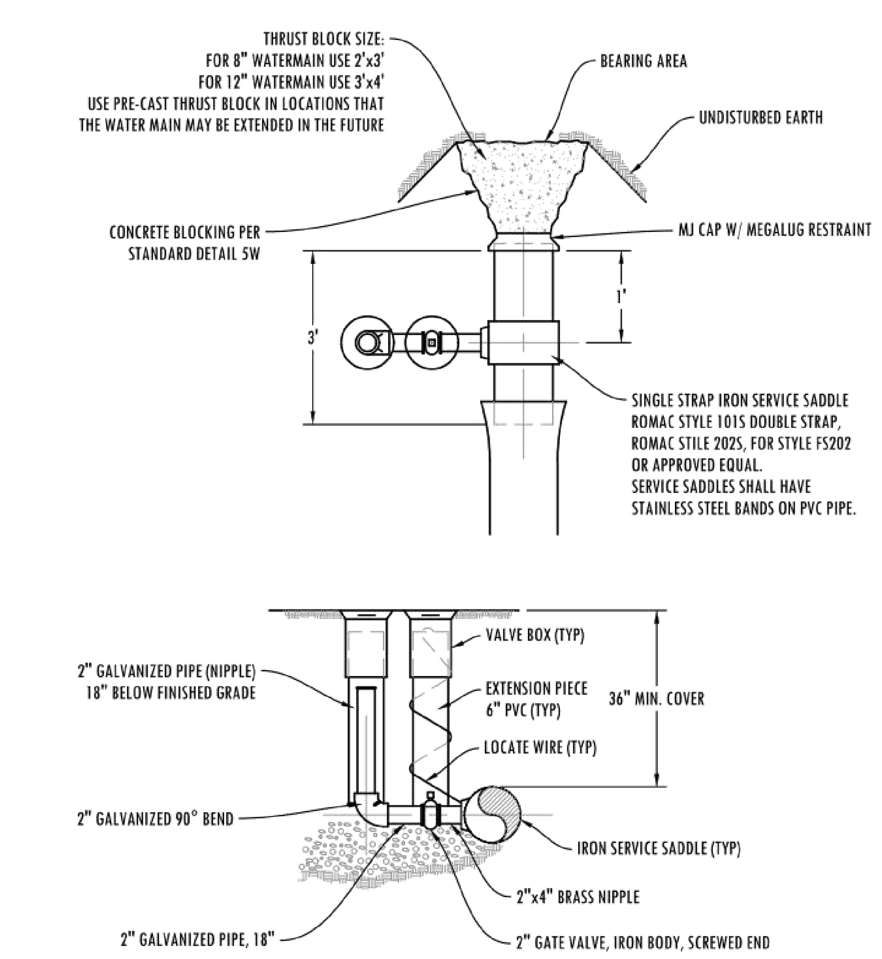
PIPE SIZE	HORIZ. FITTINGS (BENDS)	BEARING AREA (SF)	MINIMUM BLOCK SIZE (FT.)	MINIMUM LENGTH OF BLOCKING (FT.-IN.)
4"	TEE	1.9	1.5' x 1.5'	0'-6"
	90°	2.7	2.0' x 2.0'	0'-6"
	45°	1.4	1.5' x 1.5'	0'-6"
	22-1/2°	0.7	1.5' x 1.5'	0'-6"
6"	TEE	2.8	2.0' x 2.0'	0'-6"
	90°	4.0	2.0' x 2.0'	0'-6"
	45°	2.2	1.5' x 1.5'	0'-6"
	22-1/2°	1.1	1.5' x 1.5'	0'-6"
	11-1/4°	0.8	1.5' x 1.5'	0'-6"
8"	TEE	5.0	2.0' x 3.0'	0'-8"
	90°	7.1	3.0' x 4.0'	0'-8"
	45°	3.8	2.0' x 2.0'	0'-6"
	22-1/2°	2.0	1.5' x 1.5'	0'-6"
	11-1/4°	1.5	1.5' x 1.5'	0'-6"
10"	TEE	7.9	3.0' x 4.0'	0'-8"
	90°	11.1	3.0' x 4.0'	0'-8"
	45°	6.0	3.0' x 4.0'	0'-8"
	22-1/2°	3.1	2.0' x 2.0'	0'-6"
	11-1/4°	2.3	2.0' x 2.0'	0'-6"
12"	TEE	11.3	3.0' x 4.0'	0'-8"
	90°	16.0	4.0' x 4.0'	1'-0"
	45°	8.7	3.0' x 4.0'	0'-8"
	22-1/2°	4.4	2.0' x 3.0'	0'-8"
	11-1/4°	3.3	2.0' x 2.0'	0'-6"

TABLE ASSUMES SOIL BEARING OF 2,000 LB/SQ.FT AND DESIGN WORKING PRESSURE OF 200 PSI

REVISED 04/17/2020

FILE NAME		
5W	THRUST BLOCK	Clark Public Utilities
SHEET 1 OF 1	STANDARD DETAILS	

6W — STANDARD END BLOW-OFF ASSEMBLY



REVISED 04/17/2020

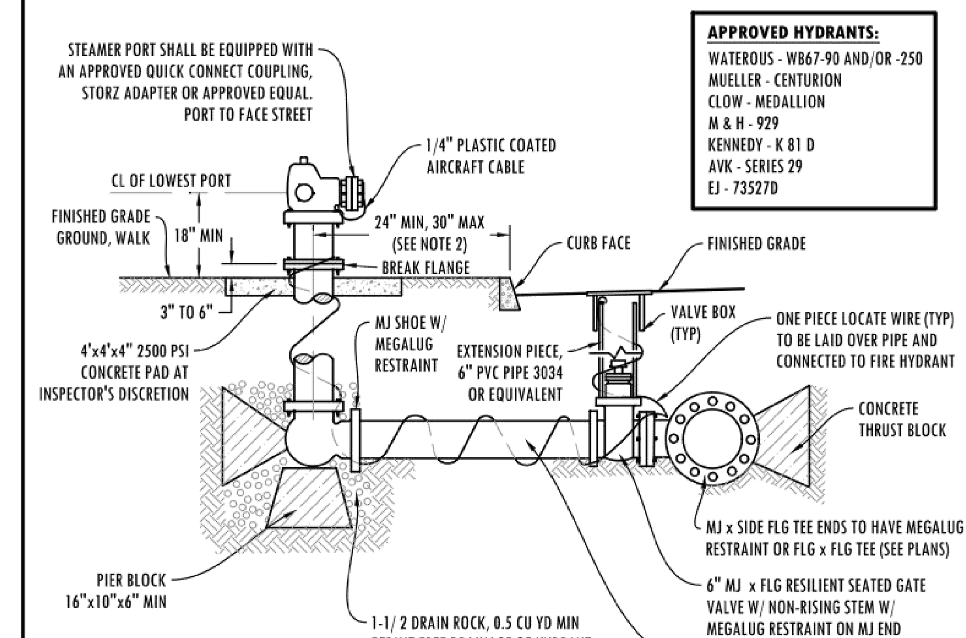
FILE NAME		
6W	STANDARD END BLOW-OFF ASSEMBLY	Clark Public Utilities
SHEET 1 OF 1	STANDARD DETAILS	

7W — STANDARD FIRE HYDRANT ASSEMBLY

NOTES:

1. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CLARK PUBLIC UTILITIES (CPU) WATER CONSTRUCTION SPECIFICATIONS, STANDARD DETAILS AND THE 2000 EDITION OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" PUBLISHED BY WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT).
2. A CPU WATER UTILITY INSPECTOR SHALL BE AT THE JOB SITE DURING CONSTRUCTION OF ALL WATER FACILITIES. CONTACT 360-992-8019 TWO (2) WORKING DAYS PRIOR TO COMMENCING WORK.
3. WORK WITHIN COUNTY RIGHT-OF-WAY SHALL CONFORM WITH CLARK COUNTY PUBLIC WORKS UTILITY PERMIT REQUIREMENTS AND DETAILS. WORK WITHIN STATE RIGHT-OF-WAY SHALL CONFORM TO WSDOT UTILITY PERMIT REQUIREMENTS AND DETAILS.
4. THE LOCATION OF THE UTILITIES SHALL BE VERIFIED IN ADVANCE TO ALLOW FOR ALIGNMENT ADJUSTMENTS. CALL UTILITY LOCATES TWO(2) WORKING DAYS PRIOR TO CONSTRUCTION (1-800-553-4344).
5. LOCATE WIRE SHALL BE NON-COATED, NO. 14 GA. SOFT DRAWN SOLID COPPER.
6. FIRE HYDRANT INSTALLATIONS SHALL BE INSPECTED PRIOR TO BACKFILLING.
7. WHERE HYDRANTS ARE SET BEHIND SIDEWALK, DISTANCE FROM BACK OF SIDEWALK TO HYDRANT C/L SHALL BE 18" MIN., 24" MAX.
8. FIRE HYDRANTS SHALL BE SHOP PAINTED PRIOR TO INSTALLATION W/STANDARD A.W.W.A, GLOSS B, YELLOW

APPROVED HYDRANTS:
WATEROUS - WB67-90 AND/OR -250
MUELLER - CENTURION
CLOW - MEDALLION
M & H - 929
KENNEDY - K 81 D
AVK - SERIES 29
EJ - 7352TD



FIRE HYDRANT NOTES:

1. FIRE HYDRANT INSTALLATIONS SHALL BE INSPECTED PRIOR TO BACKFILLING.
2. WHERE HYDRANTS ARE SET BEHIND SIDEWALK, DISTANCE FROM BACK OF SIDEWALK TO HYDRANT C/L SHALL BE 18" MIN., 24" MAX.
3. FIRE HYDRANTS SHALL BE SHOP PAINTED PRIOR TO INSTALLATION W/STANDARD A.W.W.A, GLOSS B, YELLOW

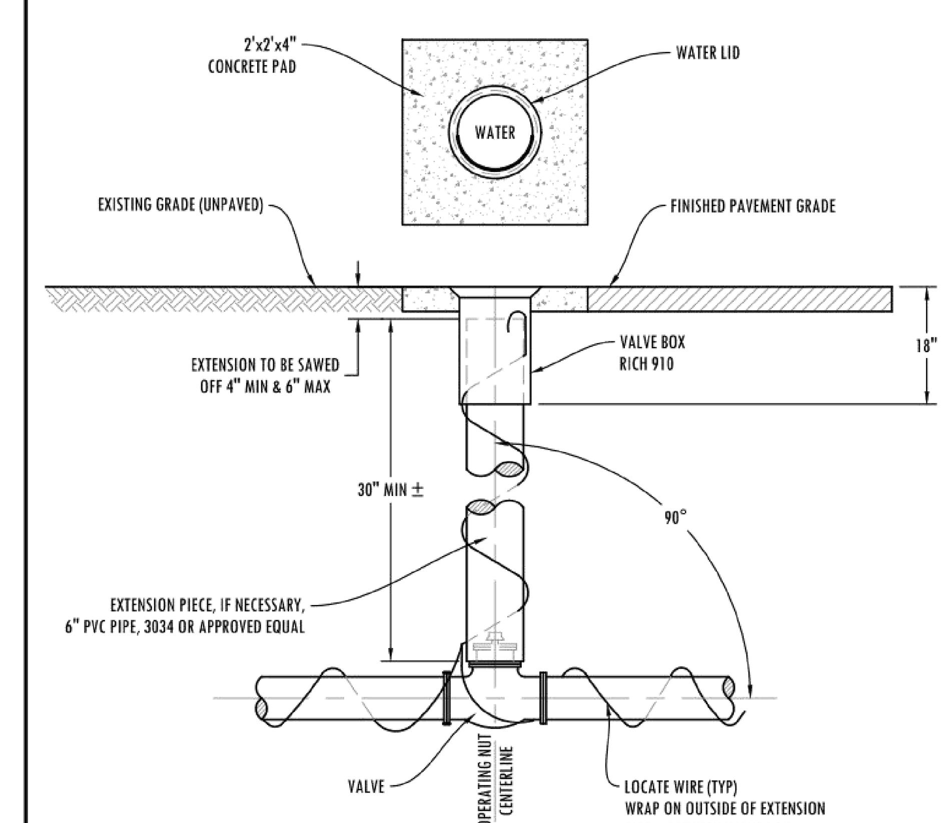
REVISED 04/17/2020

FILE NAME		
7W	STANDARD FIRE HYDRANT ASSEMBLY	Clark Public Utilities
SHEET 1 OF 1	STANDARD DETAILS	

8W — STANDARD VALVE BOX ASSEMBLY

NOTES:

1. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CLARK PUBLIC UTILITIES (CPU) WATER CONSTRUCTION SPECIFICATIONS, STANDARD DETAILS AND THE 2000 EDITION OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" PUBLISHED BY WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT).
2. LOCATE WIRE SHALL BE NON-COATED, NO. 14 GA. SOFT DRAWN SOLID COPPER.



REVISED 04/17/2020

FILE NAME		
8W	STANDARD VALVE BOX ASSEMBLY	Clark Public Utilities
SHEET 1 OF 1	STANDARD DETAILS	

REVISED 04/17/2020

Clark Public Utilities

CALL 48 HOURS BEFORE YOU DIG 1-800-553-4344 NORTHWEST UTILITY NOTIFICATION CENTER

WATER MAIN INSTALLATION

STANDARD DETAILS

FILE NAME CPU W-SD

SHEET 1 OF 4

SGA ENGINEERING & DESIGN
CIVIL ENGINEERING ~ LAND PLANNING
DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE

2005 BROADWAY
VANCOUVER, WA 98663
PHONE (360)993-0911
FAX (360)993-0912

HIGHLAND TERRACE SUBDIVISION PHASE 1

CPU STANDARD WATER DETAILS 1

CITY OF LA CENTER

WASHINGTON

APPROVED

REVISIONS

DESIGNED BY:	NAW
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	NTS

JOB NUMBER	SHEET
0536	C9.6

SGA ENGINEERING & DESIGN

CIVIL ENGINEERING ~ LAND PLANNING
DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE

2005 BROADWAY
VANCOUVER, WA 98663
PHONE (360)993-0911
FAX (360)993-0912

HIGHLAND TERRACE SUBDIVISION PHASE 1

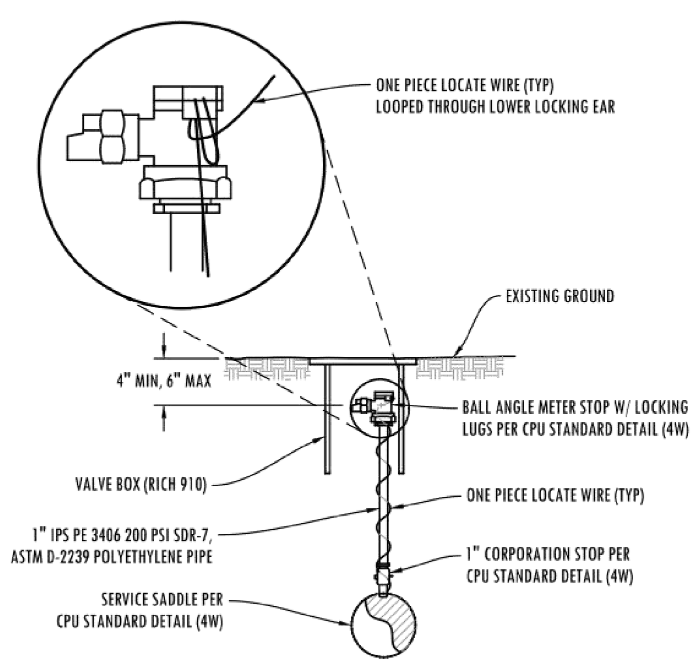
CPU STANDARD WATER DETAILS 2

CITY OF LA CENTER, WASHINGTON

9W — STANDARD MANUAL AIR RELEASE VALVE

NOTES:

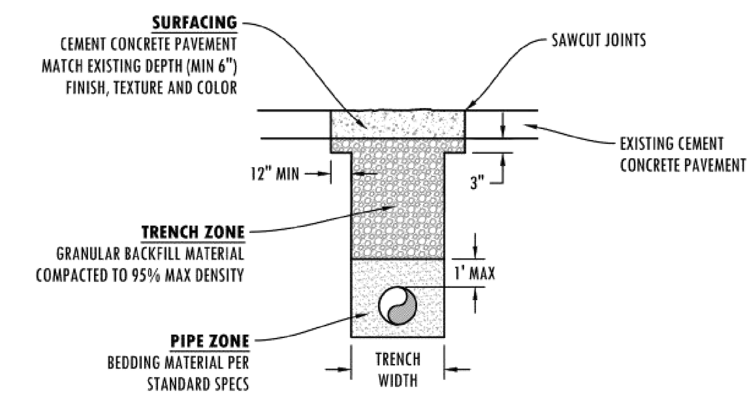
1. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CLARK PUBLIC UTILITIES (CPU) WATER CONSTRUCTION SPECIFICATIONS, STANDARD DETAILS AND THE 2000 EDITION OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" PUBLISHED BY WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT).
2. A WATER UTILITY INSPECTOR SHALL BE AT THE JOB SITE DURING CONSTRUCTION OF ALL WATER FACILITIES. CONTACT 360-992-8019 TWO (2) WORKING DAYS PRIOR TO COMMENCING WORK.
3. WORK WITHIN COUNTY RIGHT-OF-WAY SHALL CONFORM WITH CLARK COUNTY PUBLIC WORKS UTILITY PERMIT REQUIREMENTS AND DETAILS. WORK WITHIN STATE RIGHT-OF-WAY SHALL CONFORM TO WSDOT UTILITY PERMIT REQUIREMENTS AND DETAILS.
4. THE LOCATION OF THE UTILITIES SHALL BE VERIFIED IN ADVANCE TO ALLOW FOR ALIGNMENT ADJUSTMENTS. CALL UTILITY LOCATES TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION (1-800-553-4344).
5. A TAPPING COMPANY APPROVED BY CLARK PUBLIC UTILITIES SHALL BE USED TO MAKE ALL TAPS.
6. LOCATE WIRE SHALL BE NON-COATED, NO. 14 GA. SOFT DRAWN SOLID COPPER.
7. NO CONNECTIONS WILL BE ALLOWED TO AN EXISTING SERVICE PRIOR TO AN APPROVED PURITY TEST. PURITY TEST SHALL PRECEDE PRESSURE TEST.
8. STUB SERVICES SHALL BE PRESSURE TESTED WITH THE MAIN LINE AND BE CAPABLE OF WITH-STANDING THE MAINS TEST PRESSURE.
9. ALL COMPRESSION FITTINGS TO HAVE STAINLESS STEEL INSERTS.



REVISED 04/17/2020

FILE NAME		
9W	STANDARD MANUAL AIR RELEASE VALVE	Clark Public Utilities
SHEET 1 OF 1	STANDARD DETAILS	

10W — CEMENT CONCRETE PAVEMENT TYPE 'E' RESTORATION



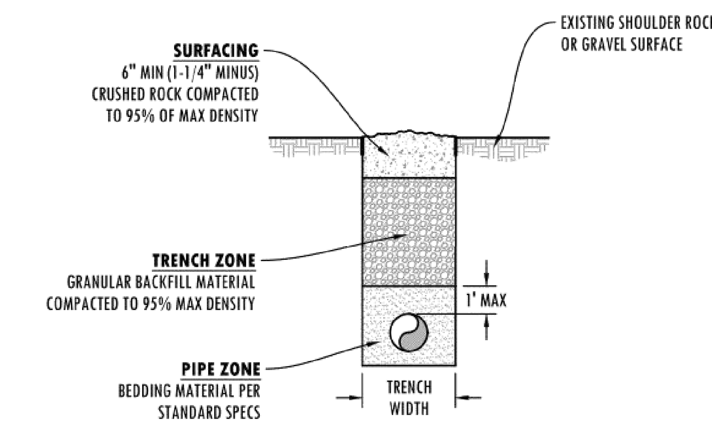
TRENCHING NOTES:

1. SEE CLARK COUNTY OR WSDOT UTILITY PERMIT, WHICHEVER IS APPLICABLE, FOR ADDITIONAL TRENCH BACKFILL AND SURFACING REQUIREMENTS.
2. NATIVE MATERIALS MAY BE SUBSTITUTED FOR IMPORTED GRANULAR MATERIAL PROVIDING IT IS PRE-APPROVED BY THE COUNTY ENGINEER OR AUTHORIZED REPRESENTATIVE.
3. TRENCH EXCAVATION, BEDDING, AND BACKFILL FOR WATER MAINS SHALL BE IN ACCORDANCE WITH SECTION 7-10 OF THE MOST CURRENT STANDARD SPECIFICATIONS. BED PIPE PER SUBSECTION 7-10.3(9) OF THE STANDARD SPECIFICATIONS.
4. IN THE TRENCH ZONE, USE METHOD C COMPACTION PER SECTION 2-03.3(14).

REVISED 04/17/2020

FILE NAME		
10W	CEMENT CONCRETE PAVEMENT TYPE 'E' RESTORATION	Clark Public Utilities
SHEET 1 OF 1	STANDARD DETAILS	

11W — ROADWAY SHOULDERS, GRAVEL SURFACE TYPE 'B' RESTORATION



TRENCHING NOTES:

1. SEE CLARK COUNTY OR WSDOT UTILITY PERMIT, WHICHEVER IS APPLICABLE, FOR ADDITIONAL TRENCH BACKFILL AND SURFACING REQUIREMENTS.
2. NATIVE MATERIALS MAY BE SUBSTITUTED FOR IMPORTED GRANULAR MATERIAL PROVIDING IT IS PRE-APPROVED BY THE COUNTY ENGINEER OR AUTHORIZED REPRESENTATIVE.
3. TRENCH EXCAVATION, BEDDING, AND BACKFILL FOR WATER MAINS SHALL BE IN ACCORDANCE WITH SECTION 7-10 OF THE MOST CURRENT STANDARD SPECIFICATIONS. BED PIPE PER SUBSECTION 7-10.3(9) OF THE STANDARD SPECIFICATIONS.
4. IN THE TRENCH ZONE, USE METHOD C COMPACTION PER SECTION 2-03.3(14).

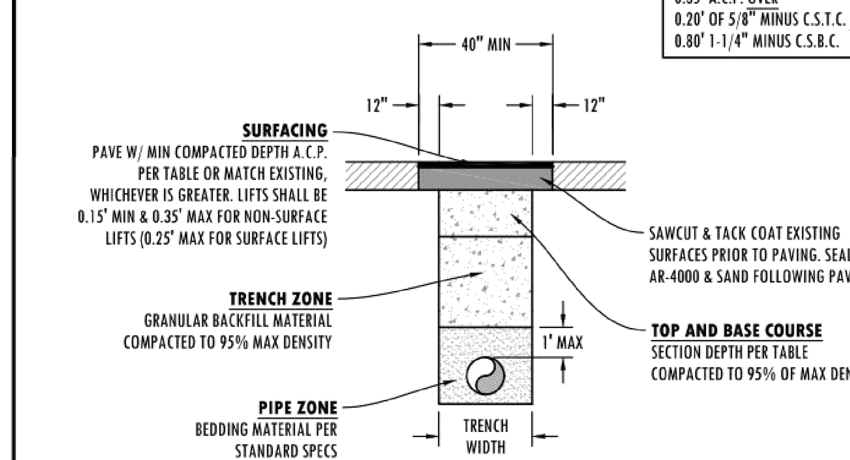
REVISED 04/17/2020

FILE NAME		
11W	ROADWAY SHOULDERS, GRAVEL SURFACE TYPE 'B' RESTORATION	Clark Public Utilities
SHEET 1 OF 1	STANDARD DETAILS	

12W — ASPHALT CONCRETE PAVEMENT TYPE 'C1' & 'C2' RESTORATION

TYPE 'C' PAVEMENT SECTION

TYPE 'C-1' (COLLECTOR OR ARTERIAL) 0.50' A.C.P. OVER 0.80' OF 1-1/4" MINUS C.S.B.C.
TYPE 'C-2' (RESIDENTIAL) 0.35' A.C.P. OVER 0.20' OF 5/8" MINUS C.S.T.C. OVER 0.80' 1-1/4" MINUS C.S.B.C.



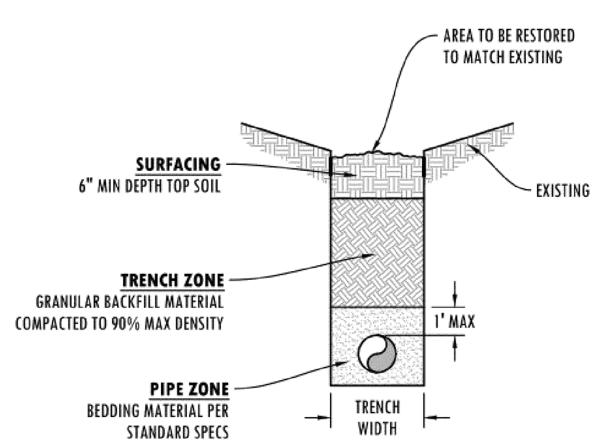
TRENCHING NOTES:

1. SEE CLARK COUNTY OR WSDOT UTILITY PERMIT, WHICHEVER IS APPLICABLE, FOR ADDITIONAL TRENCH BACKFILL AND SURFACING REQUIREMENTS.
2. NATIVE MATERIALS MAY BE SUBSTITUTED FOR IMPORTED GRANULAR MATERIAL PROVIDING IT IS PRE-APPROVED BY THE COUNTY ENGINEER OR AUTHORIZED REPRESENTATIVE.
3. TRENCH EXCAVATION, BEDDING, AND BACKFILL FOR WATER MAINS SHALL BE IN ACCORDANCE WITH SECTION 7-10 OF THE MOST CURRENT STANDARD SPECIFICATIONS. BED PIPE PER SUBSECTION 7-10.3(9) OF THE STANDARD SPECIFICATIONS.
4. IN THE TRENCH ZONE, USE METHOD C COMPACTION PER SECTION 2-03.3(14).

REVISED 04/17/2020

FILE NAME		
12W	ASPHALT CONCRETE PAVEMENT TYPE 'C1' & 'C2' RESTORATION	Clark Public Utilities
SHEET 1 OF 1	STANDARD DETAILS	

13W — NATIVE BACKFILL OUTSIDE ROADWAY TYPE 'A' RESTORATION



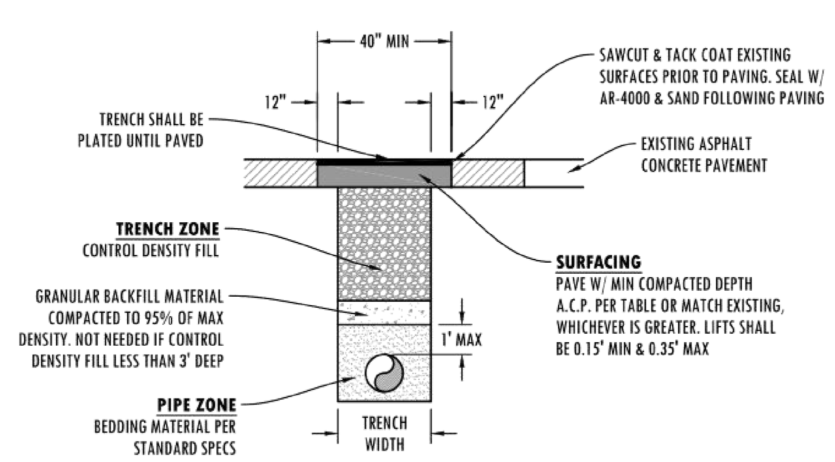
TRENCHING NOTES:

1. SEE CLARK COUNTY OR WSDOT UTILITY PERMIT, WHICHEVER IS APPLICABLE, FOR ADDITIONAL TRENCH BACKFILL AND SURFACING REQUIREMENTS.
2. NATIVE MATERIALS MAY BE SUBSTITUTED FOR IMPORTED GRANULAR MATERIAL PROVIDING IT IS PRE-APPROVED BY THE COUNTY ENGINEER OR AUTHORIZED REPRESENTATIVE.
3. TRENCH EXCAVATION, BEDDING, AND BACKFILL FOR WATER MAINS SHALL BE IN ACCORDANCE WITH SECTION 7-10 OF THE MOST CURRENT STANDARD SPECIFICATIONS. BED PIPE PER SUBSECTION 7-10.3(9) OF THE STANDARD SPECIFICATIONS.
4. IN THE TRENCH ZONE, USE METHOD C COMPACTION PER SECTION 2-03.3(14).

REVISED 04/17/2020

FILE NAME		
13W	NATIVE BACKFILL OUTSIDE ROADWAY TYPE 'A' RESTORATION	Clark Public Utilities
SHEET 1 OF 1	STANDARD DETAILS	

14W — CONTROL DENSITY FILL - ASPHALT CONCRETE PAVEMENT TYPE 'D' RESTORATION



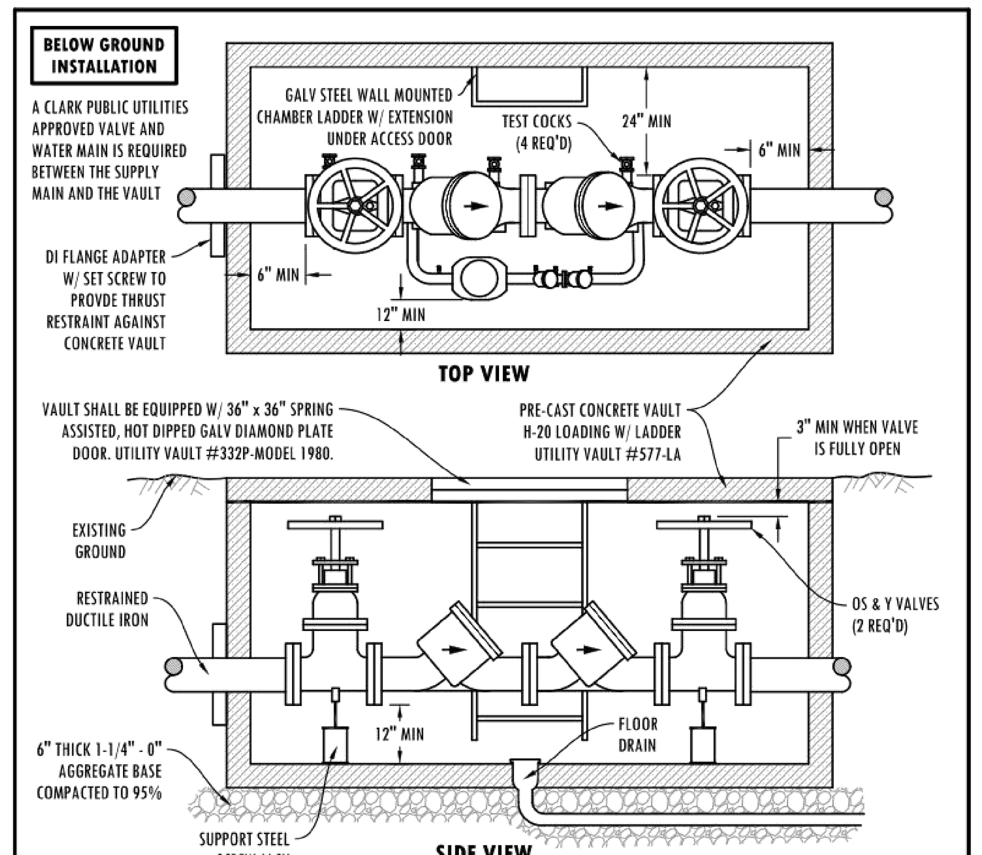
TRENCHING NOTES:

1. SEE CLARK COUNTY OR WSDOT UTILITY PERMIT, WHICHEVER IS APPLICABLE, FOR ADDITIONAL TRENCH BACKFILL AND SURFACING REQUIREMENTS.
2. NATIVE MATERIALS MAY BE SUBSTITUTED FOR IMPORTED GRANULAR MATERIAL PROVIDING IT IS PRE-APPROVED BY THE COUNTY ENGINEER OR AUTHORIZED REPRESENTATIVE.
3. TRENCH EXCAVATION, BEDDING, AND BACKFILL FOR WATER MAINS SHALL BE IN ACCORDANCE WITH SECTION 7-10 OF THE MOST CURRENT STANDARD SPECIFICATIONS. BED PIPE PER SUBSECTION 7-10.3(9) OF THE STANDARD SPECIFICATIONS.
4. IN THE TRENCH ZONE, USE METHOD C COMPACTION PER SECTION 2-03.3(14).

REVISED 04/17/2020

FILE NAME		
14W	CONTROL DENSITY FILL - ASPHALT CONCRETE PAVEMENT TYPE 'D' RESTORATION	Clark Public Utilities
SHEET 1 OF 1	STANDARD DETAILS	

15W — STANDARD DCDA (DOUBLE CHECK DETECTOR ASSEMBLY) 2-1/2" & LARGER



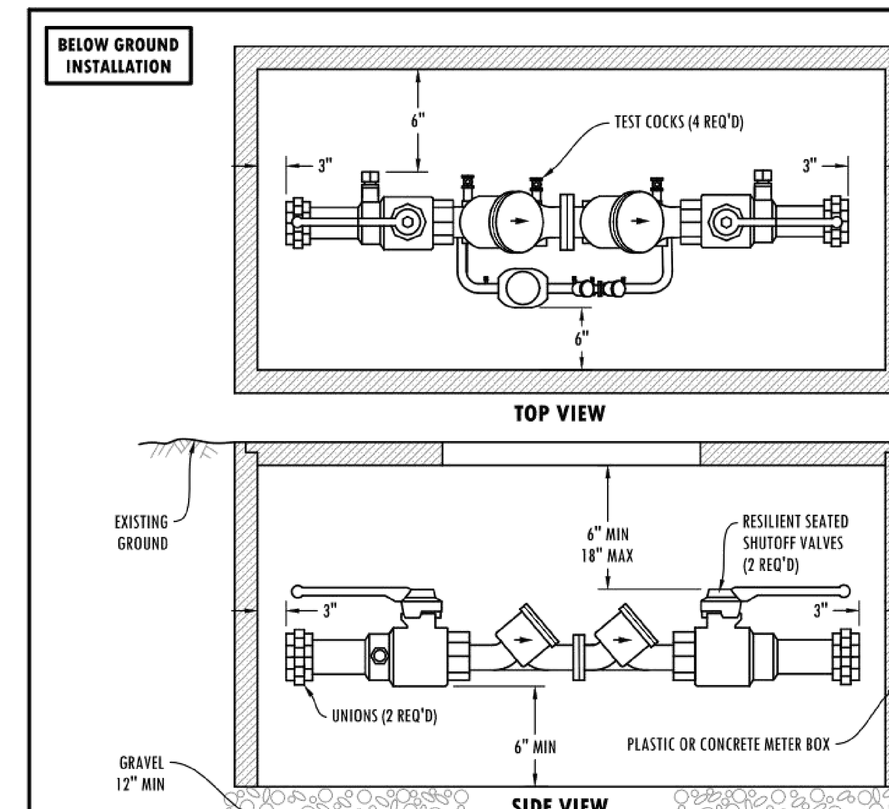
NOTES:

1. APPROVED DOUBLE CHECK VALVE ASSEMBLY TO LAY HORIZONTAL WITH THE GROUND.
2. DESIGNED FOR BACK SIPHONAGE AND BACK PRESSURE.
3. THE WATER LINE SHALL BE DISINFECTED, FLUSHED, AND PRESSURE TESTED PRIOR TO INSTALLING THE BACKFLOW ASSEMBLY. THE BACKFLOW ASSEMBLY SHALL BE PROTECTED FROM FREEZING AND FLOODING.
4. THE D.C.V.A. MAY BE INSTALLED ABOVE OR BELOW GROUND PROVIDED ALL CLEARANCES ARE MET.
5. ALL PIPE, VALVE, AND FITTING JOINTS, FROM THE SUPPLY MAIN, SHALL BE RESTRAINED.
6. FIRE DEPT. CONNECTION SHALL NOT EXIT THROUGH THE TOP OF THE VAULT.
7. GROUT PIPE ENTRANCE AND EXIT, IN VAULT, WITH WATER-TITE GROUT.
8. ALL VAULTS SHALL BE PRE-APPROVED PRIOR TO INSTALLATION.
9. VAULTS SHALL BE INSTALLED AT PROPERTY LINE OR EASEMENT LINE AND ON OWNERS PROPERTY.
10. VAULTS SHALL HAVE A MINIMUM OF 3' CLEARANCE FROM ALL STRUCTURES.
11. THE BACKFLOW ASSEMBLY SHALL BE TESTED AFTER INSTALLATION AND PRIOR TO ACCEPTANCE AND ALSO YEARLY THEREAFTER BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER. TEST RESULTS SHALL BE SENT TO CLARK PUBLIC UTILITIES WATER SERVICES.

REVISED 04/17/2020

FILE NAME		
15W	STANDARD DCDA (DOUBLE CHECK DETECTOR ASSEMBLY) 2-1/2" & LARGER	Clark Public Utilities
SHEET 1 OF 1	STANDARD DETAILS	

16W — STANDARD DCDA (DOUBLE CHECK DETECTOR ASSEMBLY) 2" & SMALLER



NOTES:

1. APPROVED DOUBLE CHECK VALVE ASSEMBLY TO LAY HORIZONTAL WITH GROUND.
2. DESIGNED FOR BACK SIPHONAGE AND BACK PRESSURE.
3. TEST COCKS TO EITHER FACE OUTWARDS OR UPWARDS FROM ASSEMBLY.
4. DISINFECT, PRESSURE TEST AND THOROUGHLY FLUSH LINES PRIOR TO INSTALLATION OF BACKFLOW PREVENTER.
5. THE DCVA MAY BE INSTALLED ABOVE OR BELOW THE GROUND PROVIDED ALL CLEARANCES ARE MET
6. DO NOT INSTALL IN AN AREA SUBJECT TO FLOODING.
7. MUST BE PROTECTED FROM FREEZING CONDITIONS.
8. THE BACKFLOW ASSEMBLY SHALL BE A STATE APPROVED MODEL.
9. A PLUMBING PERMIT IS REQUIRED. PLEASE CONTACT YOUR LOCAL PLUMBING PERMIT CENTER.
10. MUST BE TESTED AFTER INSTALLATION AND YEARLY THEREAFTER BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER. TEST RESULTS SHALL BE SENT TO CLARK PUBLIC UTILITIES WATER SERVICES.

REVISED 04/17/2020

FILE NAME		
16W	STANDARD DCDA (DOUBLE CHECK DETECTOR ASSEMBLY) 2" & SMALLER	Clark Public Utilities
SHEET 1 OF 1	STANDARD DETAILS	

Clark Public Utilities — REVISED 04/17/2020

CALL 48 HOURS BEFORE YOU DIG 1-800-553-4344 "It's the Law" NORTHWEST UTILITY NOTIFICATION CENTER

FILE NAME		
CPU W-SD	WATER MAIN INSTALLATION	STANDARD DETAILS
SHEET 2 OF 4		

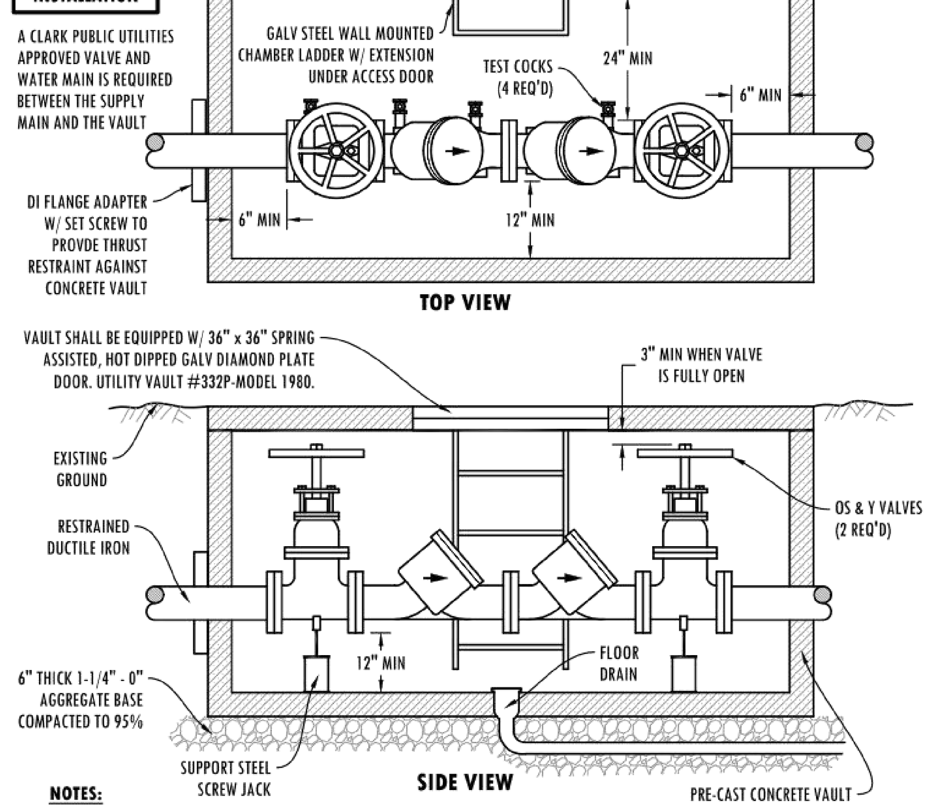
APPROVED

REVISIONS

DESIGNED BY:	NAW
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	NTS

JOB NUMBER	SHEET
0536	C9.7

BELOW GROUND INSTALLATION



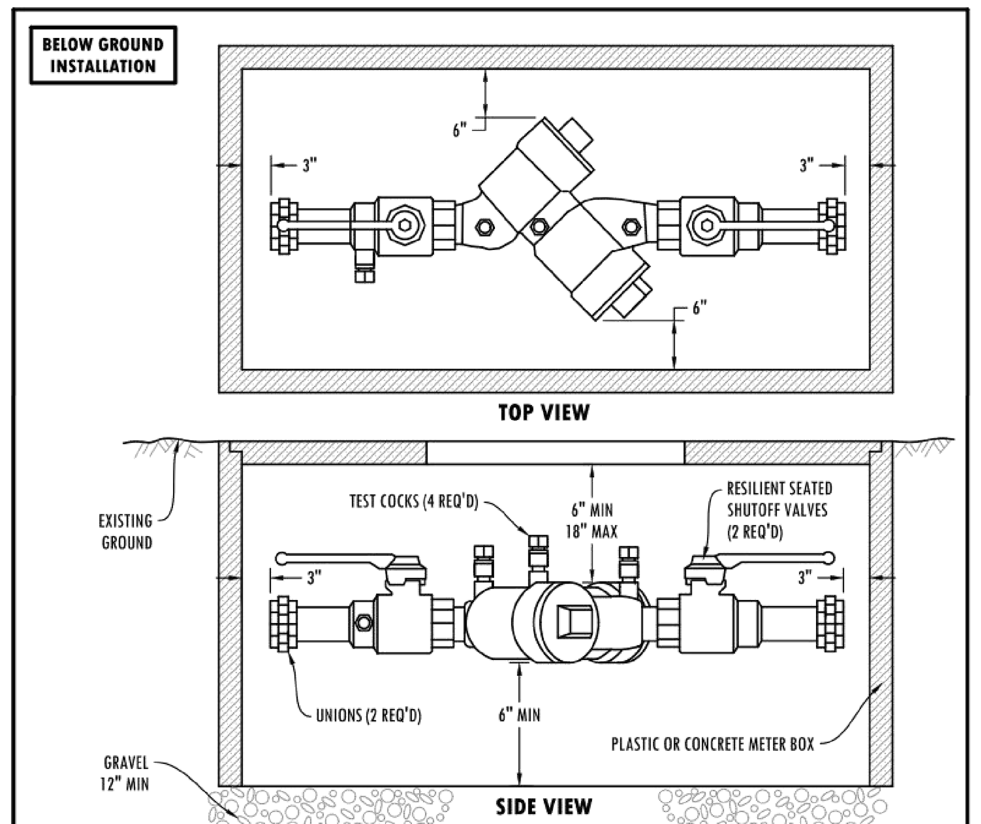
NOTES:

1. APPROVED DOUBLE CHECK VALVE ASSEMBLY TO LAY HORIZONTAL WITH THE GROUND.
2. DESIGNED FOR BACK SIPHONAGE AND BACK PRESSURE.
3. THE WATER LINE SHALL BE DISINFECTED, FLUSHED, AND PRESSURE TESTED PRIOR TO INSTALLING THE BACKFLOW ASSEMBLY. THE BACKFLOW ASSEMBLY SHALL BE PROTECTED FROM FREEZING AND FLOODING.
4. THE D.C.V.A. MAY BE INSTALLED ABOVE OR BELOW GROUND PROVIDED ALL CLEARANCES ARE MET.
5. ALL PIPE, VALVE, AND FITTING JOINTS, FROM THE SUPPLY MAIN, SHALL BE RESTRAINED.
6. FIRE DEPT. CONNECTION SHALL NOT EXIT THROUGH THE TOP OF THE VAULT.
7. GROUT PIPE ENTRANCE AND EXIT, IN VAULT, WITH WATER-TITE GROUT.
8. ALL VAULTS SHALL BE PRE-APPROVED PRIOR TO INSTALLATION.
9. VAULTS SHALL BE INSTALLED AT PROPERTY LINE OR EASEMENT LINE AND ON OWNERS PROPERTY.
10. VAULTS SHALL HAVE A MINIMUM OF 3' CLEARANCE FROM ALL STRUCTURES.
11. THE BACKFLOW ASSEMBLY SHALL BE TESTED AFTER INSTALLATION AND PRIOR TO ACCEPTANCE AND ALSO YEARLY THEREAFTER BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER. TEST RESULTS SHALL BE SENT TO CLARK PUBLIC UTILITIES WATER SERVICES.

REVISED 04/17/2020

FILE NAME: 17W | STANDARD DCVA (DOUBLE CHECK VALVE ASSEMBLY) 2-1/2" & LARGER | Clark Public Utilities
SHEET 1 OF 1 | STANDARD DETAILS

BELOW GROUND INSTALLATION



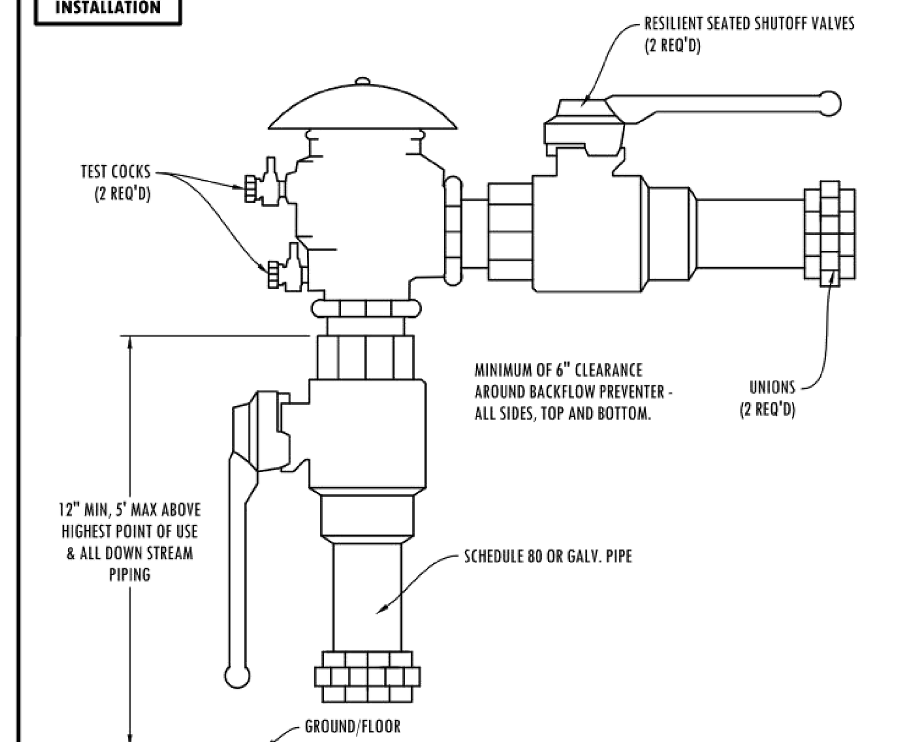
NOTES:

1. APPROVED DOUBLE CHECK VALVE ASSEMBLY TO LAY HORIZONTAL WITH GROUND.
2. DESIGNED FOR BACK SIPHONAGE AND BACK PRESSURE.
3. TEST COCKS TO EITHER FACE OUTWARDS OR UPWARDS FROM ASSEMBLY.
4. DISINFECT, PRESSURE TEST AND THOROUGHLY FLUSH LINES PRIOR TO INSTALLATION OF BACKFLOW PREVENTER.
5. THE DCVA MAY BE INSTALLED ABOVE OR BELOW THE GROUND PROVIDED ALL CLEARANCES ARE MET
6. DO NOT INSTALL IN AN AREA SUBJECT TO FLOODING.
7. MUST BE PROTECTED FROM FREEZING CONDITIONS.
8. THE BACKFLOW ASSEMBLY SHALL BE A STATE APPROVED MODEL.
9. A PLUMBING PERMIT IS REQUIRED. PLEASE CONTACT YOUR LOCAL PLUMBING PERMIT CENTER.
10. MUST BE TESTED AFTER INSTALLATION AND YEARLY THEREAFTER BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER. TEST RESULTS SHALL BE SENT TO CLARK PUBLIC UTILITIES WATER SERVICES.

REVISED 04/17/2020

FILE NAME: 18W | STANDARD DCVA (DOUBLE CHECK VALVE ASSEMBLY) 2" & SMALLER | Clark Public Utilities
SHEET 1 OF 1 | STANDARD DETAILS

ABOVE GROUND INSTALLATION

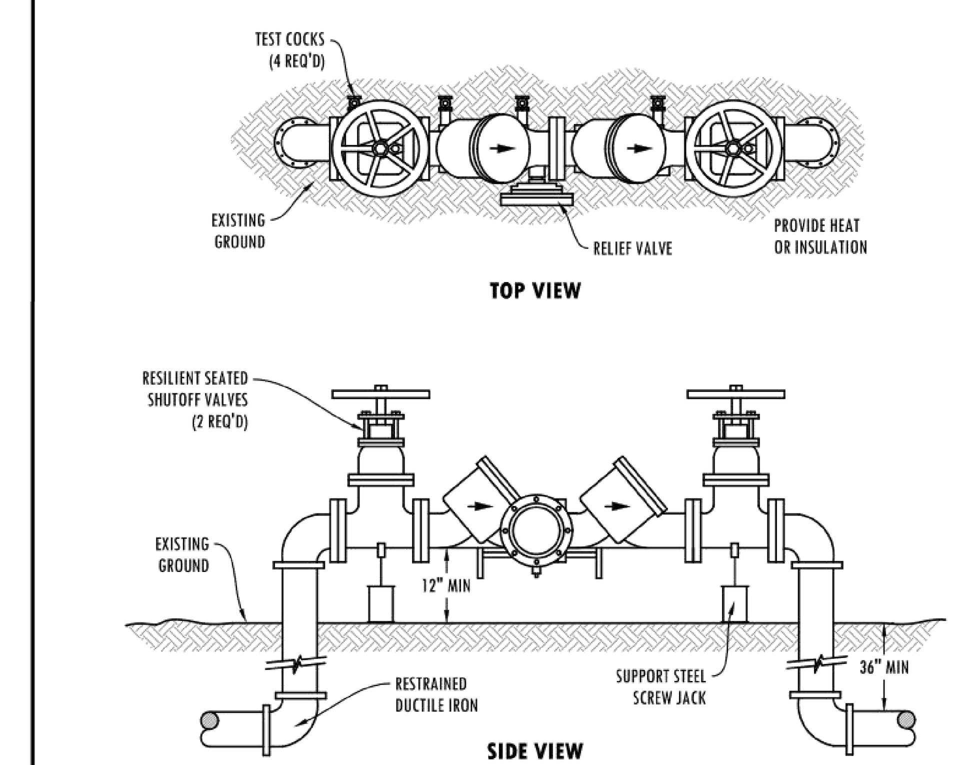


1. APPROVED PRESSURE VALVE BREAKER ASSEMBLY MUST BE INSTALLED VERTICALLY, 12" MIN TO 5' MAX ABOVE THE HIGHEST POINT OF USE AND ALL DOWNSTREAM PIPING.
2. DESIGNED FOR BACK SIPHONAGE ONLY, NOT BACK PRESSURE.
3. DISINFECT, PRESSURE TEST AND THOROUGHLY FLUSH LINES PRIOR TO INSTALLATION OF BACKFLOW PREVENTER.
4. IF A PVBA IS INSTALLED INDOORS, CONSIDERATION MUST BE GIVEN TO WATER LEAKAGE IF THE BACKFLOW PREVENTER FAILS (EXCESSIVE WATER SPILLAGE).
5. THE BACKFLOW ASSEMBLY SHALL BE PROTECTED FROM FREEZING AND FLOODING.
6. THE BACKFLOW ASSEMBLY SHALL BE A STATE APPROVED MODEL.
7. A PLUMBING PERMIT IS REQ'D. PLEASE CONTACT YOUR LOCAL PLUMBING PERMIT CENTER.
8. MUST BE TESTED AFTER INSTALLATION AND YEARLY THEREAFTER BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER. TEST RESULTS SHALL BE SENT TO CLARK PUBLIC UTILITIES WATER SERVICES.

REVISED 04/17/2020

FILE NAME: 19W | STANDARD PVBA (PRESSURE VACUUM BREAKER ASSEMBLY) 2" & SMALLER | Clark Public Utilities
SHEET 1 OF 1 | STANDARD DETAILS

ABOVE GROUND INSTALLATION



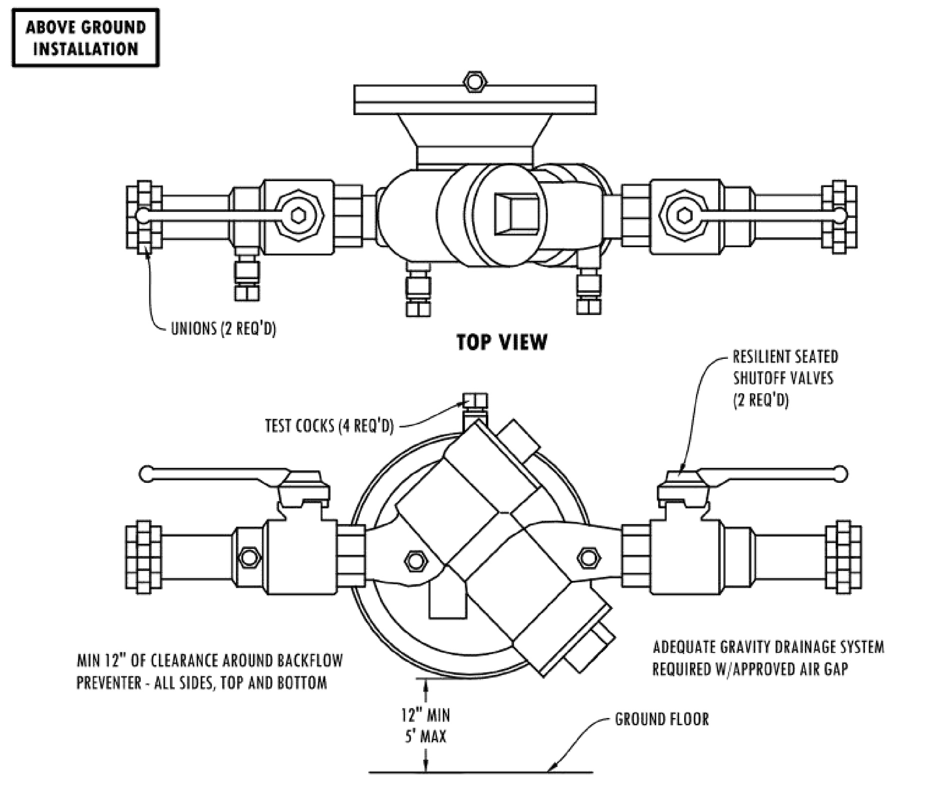
NOTES:

1. APPROVED REDUCED PRESSURE BACKFLOW ASSEMBLY TO LAY HORIZONTAL WITH THE GROUND.
2. DESIGNED FOR BACK SIPHONAGE AND BACK PRESSURE.
3. THE WATER LINE SHALL BE DISINFECTED, FLUSHED, AND PRESSURE TESTED PRIOR TO INSTALLING THE BACKFLOW ASSEMBLY. THE BACKFLOW ASSEMBLY SHALL BE PROTECTED FROM FREEZING AND FLOODING.
4. THE R.P.B.A. MAY BE INSTALLED ABOVE OR BELOW GROUND PROVIDED ALL CLEARANCES ARE MET.
5. ALL PIPE, VALVE, AND FITTING JOINTS, FROM THE SUPPLY MAIN, SHALL BE RESTRAINED.
6. FIRE DEPT. CONNECTION SHALL NOT EXIT THROUGH THE TOP OF THE VAULT.
7. GROUT PIPE ENTRANCE AND EXIT, IN VAULT, WITH WATER-TITE GROUT.
8. THE BACKFLOW ASSEMBLY SHALL BE TESTED AFTER INSTALLATION AND PRIOR TO ACCEPTANCE AND ALSO YEARLY THEREAFTER BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER. TEST RESULTS SHALL BE SENT TO CLARK PUBLIC UTILITIES WATER SERVICES.

REVISED 04/17/2020

FILE NAME: 20W | STANDARD RPBA (REDUCED PRESSURE BACKFLOW ASSEMBLY) 2-1/2" & LARGER | Clark Public Utilities
SHEET 1 OF 1 | STANDARD DETAILS

ABOVE GROUND INSTALLATION



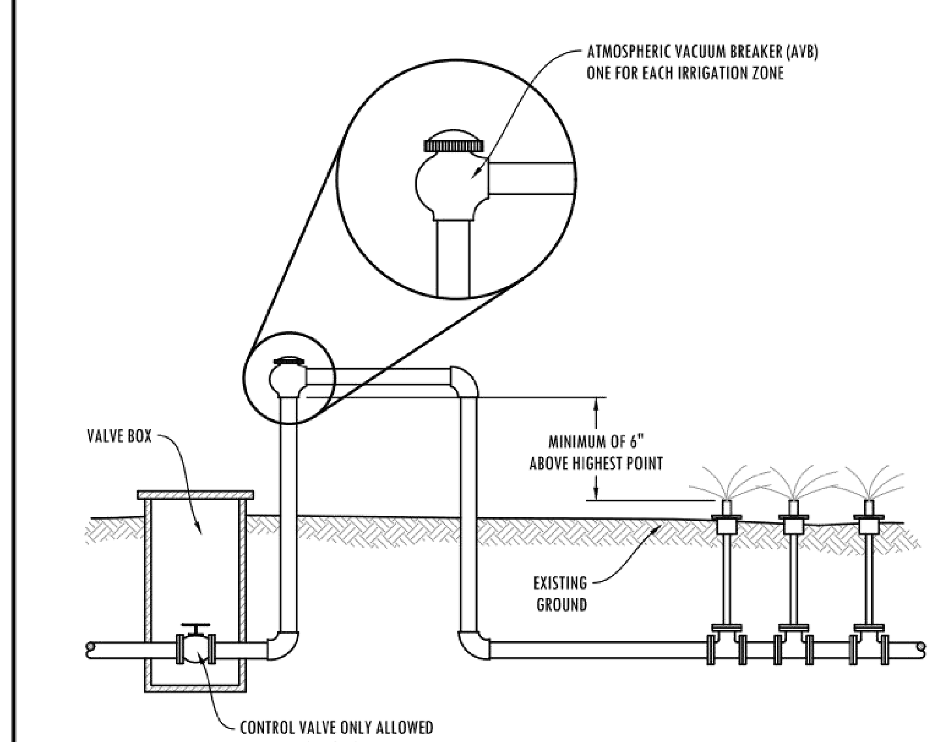
NOTES:

1. APPROVED REDUCED PRESSURE BACKFLOW ASSEMBLY TO BE INSTALLED ABOVE GROUND WITH MINIMUM CLEARANCES.
2. DESIGNED FOR BACK SIPHONAGE AND BACK PRESSURE.
3. TEST COCKS TO EITHER FACE OUTWARDS OR UPWARDS FROM ASSEMBLY.
4. DISINFECT, PRESSURE TEST AND THOROUGHLY FLUSH LINES PRIOR TO INSTALLATION OF BACKFLOW PREVENTER.
5. DO NOT INSTALL IN AN AREA SUBJECT TO FLOODING.
6. MUST BE PROTECTED FROM FREEZING CONDITIONS.
7. THE BACKFLOW ASSEMBLY SHALL BE A STATE APPROVED MODEL.
8. A PLUMBING PERMIT IS REQUIRED. PLEASE CONTACT YOUR LOCAL PLUMBING PERMIT CENTER.
9. MUST BE TESTED AFTER INSTALLATION AND YEARLY THEREAFTER BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER. TEST RESULTS SHALL BE SENT TO CLARK PUBLIC UTILITIES WATER SERVICES.
10. ABOVE GROUND INSTALLATION REQUIRED.

REVISED 04/17/2020

FILE NAME: 21W | STANDARD RPBA (REDUCED PRESSURE BACKFLOW ASSEMBLY) 2" & SMALLER | Clark Public Utilities
SHEET 1 OF 1 | STANDARD DETAILS

ABOVE GROUND INSTALLATION

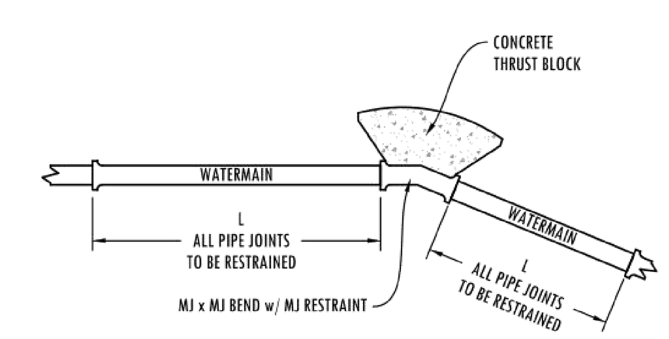


NOTES:

1. ONE AVB IS REQUIRED ON EACH IRRIGATION ZONE. NO CONTROL VALVES ALLOWED DOWNSTREAM (AFTER) AND AVB.
2. EACH AVB MUST BE INSTALLED A MINIMUM OF 6" ABOVE THE HIGHEST POINT OF WATER IN THE ZONE IT SERVES.
3. NO CHEMICAL FERTILIZER MAY BE INTRODUCED INTO AN IRRIGATION SYSTEM EQUIPPED WITH AN AVB.
4. NO PUMPS, AIR FITTINGS OR BACK PRESSURE SOURCE IS ALLOWED ON THE DOWNSTREAM SIDE (AFTER) AN AVB.
5. MUST BE PROTECTED FROM FREEZING.

REVISED 04/17/2020

FILE NAME: 22W | STANDARD AVB (ATMOSPHERIC VACUUM BREAKER) | Clark Public Utilities
SHEET 1 OF 1 | STANDARD DETAILS



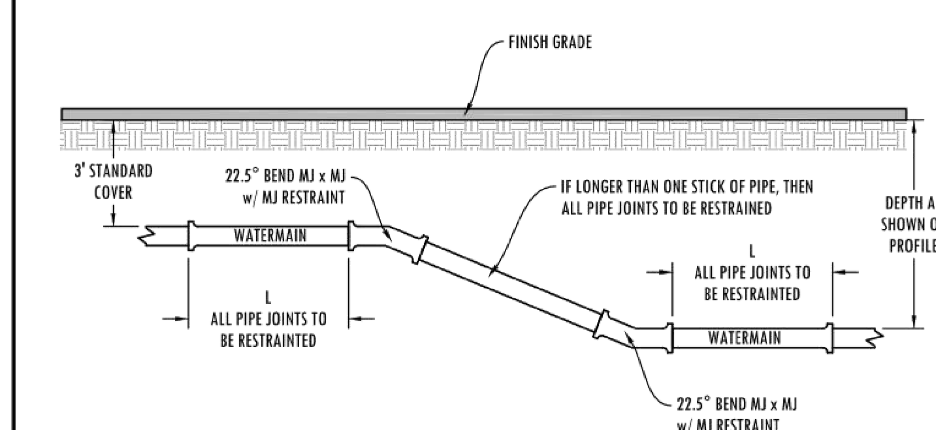
PVC PIPE				
FITTING	6" DIA PIPE L	8" DIA PIPE L	12" DIA PIPE L	16" DIA PIPE L
11-1/4° BEND	10'	10'	10'	10'
22-1/2° BEND	10'	10'	10'	12'
45° BEND	10'	13'	20'	24'
90° BEND	24'	32'	45'	60'

DIP PIPE (WITHOUT POLY BAG ENCASEMENT)				
FITTING	6" DIA PIPE L	8" DIA PIPE L	12" DIA PIPE L	16" DIA PIPE L
11-1/4° BEND	10'	10'	10'	10'
22-1/2° BEND	10'	10'	10'	10'
45° BEND	10'	11'	15'	20'
90° BEND	19'	26'	36'	46'

NOTE: THESE ARE THE MINIMUM PIPE RESTRAINT LENGTHS UNLESS STATED OTHERWISE ON THE PLANS

REVISED 04/17/2020

FILE NAME: 23W | HORIZONTAL BEND WATER MAIN INSTALLATION DETAIL | Clark Public Utilities
SHEET 1 OF 1 | STANDARD DETAILS



NOTE:
CALL CPU INSPECTOR TO BE ON-SITE TO OBSERVE. TRENCH BOTTOM SUBGRADE MUST BE FIRM AND UNDISTURBED.
PIPE BEDDING (5/8"-0: AGG BASE) SHALL BE A MINIMUM OF 6" EACH SIDE AND TOP AND BOTTOM OF PIPE COMPACTED.

PVC & DIP (WITHOUT POLY BAG ENCASEMENT)				
FITTING	6" DIA PIPE L	8" DIA PIPE L	12" DIA PIPE L	16" DIA PIPE L
11-1/4° BEND	10'	10'	12'	14'
22-1/2° BEND	12'	15'	21'	27'

NOTE: THESE ARE THE MINIMUM PIPE RESTRAINT LENGTHS UNLESS STATED OTHERWISE ON THE PLANS

REVISED 04/17/2020

FILE NAME: 24W | VERTICAL FITTING WATER MAIN INSTALLATION DETAIL | Clark Public Utilities
SHEET 1 OF 1 | STANDARD DETAILS

REVISED 04/17/2020
Clark Public Utilities

WATER MAIN INSTALLATION
STANDARD DETAILS
FILE NAME: CPU W-SD
SHEET 3 OF 4

SGA ENGINEERING & DESIGN
CIVIL ENGINEERING ~ LAND PLANNING
DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE
2005 BROADWAY
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CPU STANDARD WATER DETAILS 3

HIGHLAND TERRACE SUBDIVISION PHASE 1

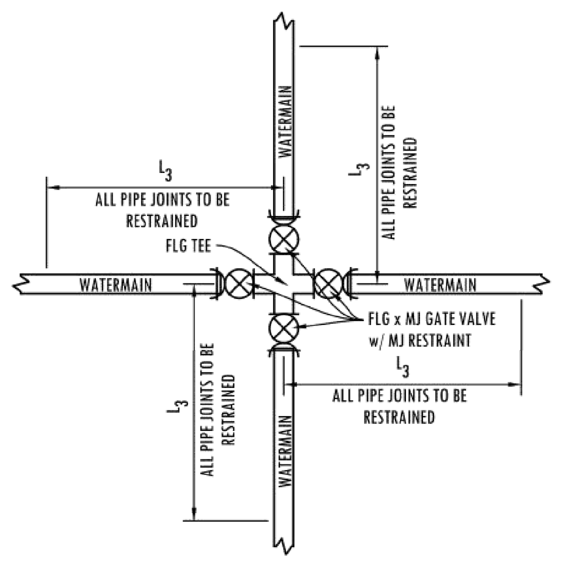
CITY OF LA CENTER
WASHINGTON

APPROVED

REVISIONS

DESIGNED BY: NAW
DRAWN BY: NAW
CHECKED BY: JTM
SCALE: NTS

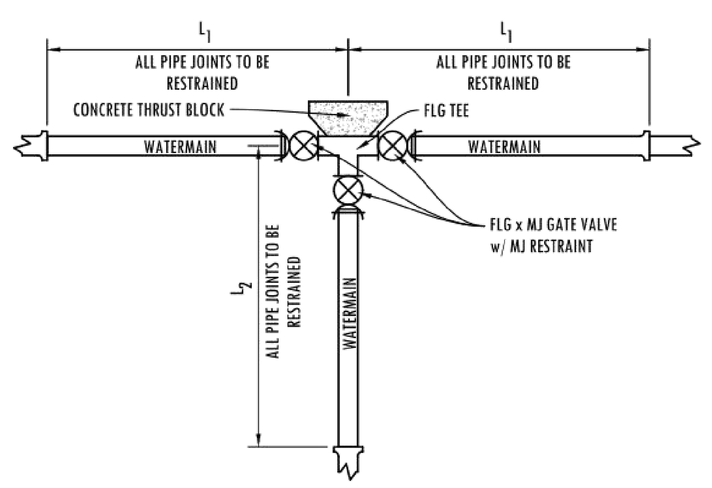
JOB NUMBER 0536
SHEET C9.8



PVC PIPE			
PIPE SIZE	L_1	L_2	L_3
6"	12'	12'	12'
8"	15'	15'	15'
12"	20'	20'	20'
16"	20'	52'	52'

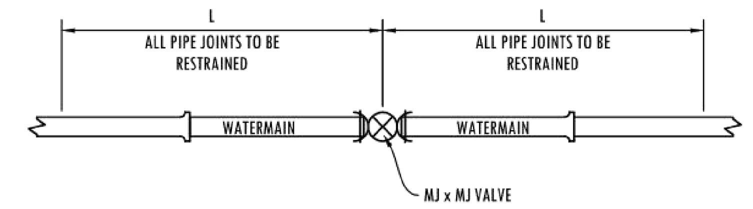
DIP PIPE (WITHOUT POLY BAG ENCASEMENT)			
PIPE SIZE	L_1	L_2	L_3
6"	10'	10'	10'
8"	14'	14'	14'
12"	19'	19'	19'
16"	20'	34'	34'

NOTE: THESE ARE THE MINIMUM PIPE RESTRAINT LENGTHS UNLESS STATED OTHERWISE ON THE PLANS



REVISED 04/17/2020

FILE NAME	TYPICAL FITTING & VALVE INSTALLATION DETAIL	Clark Public Utilities
25W		
SHEET 1 OF 1	STANDARD DETAILS	



PVC PIPE		
PIPE SIZE	L_1	L_2
6"	60'	30'
8"	80'	40'
12"	110'	55'
16"	140'	70'

DIP PIPE (WITHOUT POLY BAG ENCASEMENT)		
PIPE SIZE	L_1	L_2
6"	40'	20'
8"	50'	25'
12"	70'	35'
16"	90'	45'

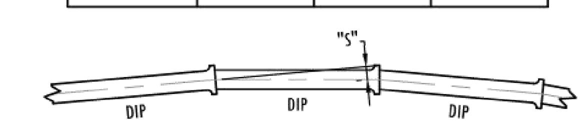
L_1: REQUIRED LENGTH WHEN PIPE JOINT RESTRAINT IS ONLY EFFECTIVE IN TENSION (SUCH AS FIELD-LOK GASKETS OR OTHER SIMILAR RESTRAINT SYSTEMS)

L_2: REQUIRED LENGTH WHEN PIPE JOINT RESTRAINT IS ONLY EFFECTIVE IN BOTH TENSION AND COMPRESSION (SUCH AS A MJ SLEEVE WITH MJ RESTRAINT OR A PROPRIETARY INTEGRAL BELL & SPIGOT RESTRAINT SYSTEM).

REVISED 04/17/2020

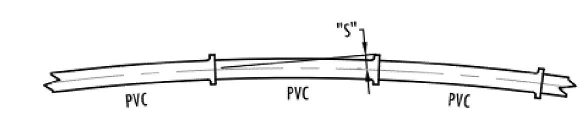
FILE NAME	TYPICAL IN-LINE VALVE INSTALLATION DETAIL	Clark Public Utilities
26W		
SHEET 1 OF 1	STANDARD DETAILS	

ALLOWABLE DIP JOINT DEFLECTION			
PIPE SIZE	ALLOWABLE DEFLECTION ANGLE	ALLOWABLE OFFSET "S"	
		PIPE L=18'	PIPE L=20'
6"	3°	11"	12"
8"	3°	11"	12"
12"	3°	11"	12"



NOTE: DEFLECTIONS IN ALIGNMENT FOR DIP SHALL BE MADE BY DEFLECTING THE PIPE JOINTS PER THE ATTACHED DEFLECTION TABLE

ALLOWABLE PVC PIPE BENDING		
PIPE SIZE	ALLOWABLE MINIMUM BENDING RADIUS	ALLOWABLE OFFSET "S"
6"	200'	12"
8"	250'	9.5"
12"	350'	7"
NO BENDING OF PVC PIPE ALLOWED FOR PIPE LARGER THAN 12" DIAMETER		



NOTE: DEFLECTIONS IN ALIGNMENT FOR PVC PIPE SHALL BE MADE BY BENDING THE PIPE AND NOT DEFLECTING PIPE JOINTS

REVISED 04/17/2020

FILE NAME	DUCTILE PIPE DEFLECTION & PVC PIPE BEND DETAIL	Clark Public Utilities
27W		
SHEET 1 OF 1	STANDARD DETAILS	

1. PIPE FITTINGS SHALL BE GRAY-IRON OR DUCTILE IRON AND SHALL CONFORM TO AWWA STANDARD C110. DUCTILE IRON (COMPACT) FITTINGS CONFORMING TO AWWA STANDARD C153 MAY BE SUBSTITUTED IN LIEU OF AWWA C110 FITTINGS FOR FITTING SIZES 3-INCHES THROUGH 24-INCHES IN DIAMETER. FITTINGS SHALL BE MECHANICAL JOINT OR FLANGED AS REQUIRED AND SHOWN ON THE PLANS.
2. DUCTILE IRON AND GREY IRON MECHANICAL JOINT FITTINGS SHALL BE PRESSURE RATED FOR 350 PSI. DUCTILE IRON AND GREY IRON FLANGED JOINT FITTINGS SHALL BE PRESSURE RATED FOR 250 PSI.
3. FITTINGS SHALL BE MORTAR LINED AND SEAL COATED.
4. BELOW GROUND USE FLANGE ADAPTERS - THE FLANGE ADAPTER TO CONNECT PLAIN END PVC PIPE OR DIP TO FLANGED FITTINGS SHALL BE A DUCTILE IRON FITTING CONFORMING TO ANSI/AWWA C153/A21.53. FITTING SHALL BE MECHANICAL JOINT ON ONE END AND FLANGED ON THE OPPOSITE END.
5. DUCTILE IRON AND GREY IRON SOLID SLEEVES SHALL BE OF THE LONG BODY DESIGN AND BOTH ENDS MECHANICAL JOINT.
6. GASKETS FOR FLANGED JOINTS SHALL BE 1/8" THICK, FULL FACED WITH AT LEAST (3) BULB TYPE RIBS MOLDED INTO BOTH FACES.
7. MECHANICAL JOINT GASKETS SHALL BE STANDARD STYRENE BUTADIENE RUBBER (SBR) GASKETS
8. BOLTS AND NUTS SHALL BE CARBON STEEL AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 OR ASTM A193 GRADE B7 WITH ASTM A194 GRADE 2H HEAVY HEX NUTS.
9. GATE VALVES (4" TO 8") - GATE VALVES FOR BURIED SERVICE SHALL BE THE RESILIENT-SEAT TYPE, WITH AN IRON BODY, NON-RISING STEM, BOLTED BONNET, LEFT OPENING AND SHALL CONFORM TO AWWA STANDARD C509 AND C515. THE WEDGE SHALL BE TOTALLY ENCAPSULATED WITH RUBBER. ALL GATE VALVES SHALL BE RATED AT 250 PSI FOR AWWA SERVICE. THE INTERIOR AND EXTERIOR SHALL BE FUSION-BONDED EPOXY AND ALL COATINGS AND/OR LININGS SHALL CONFORM TO AWWA STANDARD C550 AND SHALL BE SUITABLE FOR POTABLE WATER SERVICE AND NSF CERTIFIED.
10. BUTTERFLY VALVES (10" AND LARGER) - BUTTERFLY VALVES SHALL BE SHORT BODY CLASS 250 VALVES CONFORMING TO THE REQUIREMENTS OF AWWA STANDARD C504. BUTTERFLY VALVES SHALL BE RUBBER SEATED AND TIGHT CLOSING. VALVE BODIES SHALL BE HIGH STRENGTH CAST IRON OR HIGH STRENGTH DUCTILE IRON. VALVE INTERIOR AND EXTERIOR SURFACES SHALL BE COATED WITH EPOXY IN ACCORDANCE WITH AWWA C504 AND SHALL BE SUITABLE FOR POTABLE WATER SERVICE AND NSF 61 CERTIFIED.

REVISED 04/17/2020

FILE NAME	FITTING & VALVE SPECIFICATIONS	Clark Public Utilities
0-FV		
SHEET 1 OF 1	STANDARD DETAILS	

GENERAL INSTALLATION NOTES:

1. INSTALL WATER MAIN WITH 3.0 FEET OF MINIMUM COVER UNLESS OTHERWISE NOTED. DEPTH MAY INCREASE AT UTILITY AND CULVERT CROSSINGS.
2. LOCATE WIRE SHALL BE COATED (BLUE INSULATED), NO. 14 GA. SOFT DRAWN SOLID COPPER. USE WATERPROOF CONNECTORS AT ALL WIRE SPLICES.
3. NEW AND REPAIRED WATER MAINS SHALL BE DISINFECTED PER AWWA C651 PRIOR TO BEING PLACED INTO SERVICE. CONNECTION TO AN EXISTING WATER MAIN MAY ONLY BE DONE AFTER PROPER DISINFECTION, TESTING, FLUSHING AND APPROVAL BY CPU.
4. WHENEVER A PIPE IS CUT AND NOT RECONNECTED, THE CUT ENDS SHALL BE CAPPED OR PLUGGED, AS DIRECTED BY THE CPU INSPECTOR.
5. ALL WATER SERVICES, BLOW-OFF ASSEMBLIES, AIR RELEASE VALVES, FIRE HYDRANT ASSEMBLIES, VALVE BOXES AND THRUST BLOCKING SHALL BE INSTALLED PER THE STANDARD SPECIFICATIONS AND DETAILS.
6. WATER MAINS BEING INSTALLED NEAR TELEPHONE/CABLE COMMUNICATIONS SHALL HAVE A MINIMUM 12" HORIZONTAL AND 6" VERTICAL CLEARANCE.
7. WATER MAINS BEING INSTALLED NEAR UNDERGROUND ELECTRICAL LINES SHALL HAVE A MINIMUM 60" HORIZONTAL AND 6" VERTICAL CLEARANCE.
8. REQUIRED SEPARATION BETWEEN WATER LINES AND SANITARY SEWER LINES SHALL BE AS FOLLOWS:

   HORIZONTAL SEPARATIONS (PARALLEL)
   A MINIMUM SEPARATION OF TEN (10) FEET (MEASURED EDGE TO EDGE) BETWEEN SANITARY SEWER LINES AND WATER LINES SHALL BE MAINTAINED WHENEVER POSSIBLE. WHEN CONDITIONS PREVENT THE MINIMUM TEN (10) FOOT HORIZONTAL SEPARATION THE ENGINEER SHALL BE NOTIFIED.

   VERTICAL SEPARATION (PERPENDICULAR)
   WATER LINES CROSSING SANITARY SEWER LINES SHALL BE LAID ABOVE THE SEWER LINES TO PROVIDE A SEPARATION OF AT LEAST 18" BETWEEN THE INVERT OF THE WATER PIPE AND THE CROWN OF THE SANITARY SEWER PIPE. A LENGTH OF WATER PIPE SHALL BE CENTERED AT THE POINT OF CROSSING AND SHALL BE THE LONGEST STANDARD LENGTH AVAILABLE FROM THE MANUFACTURER.
9. THE CONTRACTOR SHALL USE CONSTRUCTION METHODS THAT PROTECT THE PIPE INTERIORS, FITTINGS AND VALVES AGAINST CONTAMINATION.
10. ANY PIPE, FITTINGS OR VALVES THAT CANNOT BE DISINFECTED WITH THE MAIN LINE BY CHLORINE FOR 24 HOURS SHALL HAVE THE INTERIORS SWABBED WITH A 1% HYPOCHLORITE SOLUTION BEFORE INSTALLATION.
11. CONCRETE THRUST BLOCKS SHALL BE CONSTRUCTED AT ALL TEES, BENDS, DEAD ENDS AND WHERE INDICATED ON THE PLANS.
12. ALL MJ FITTINGS SHALL BE RESTRAINED USING MJ MECHANICAL RESTRAINT FOLLOWER GLANDS APPROPRIATE FOR THE PIPE MATERIAL.
13. 6" WATER PIPE LEADING TO FIRE HYDRANTS SHALL BE DIP AND SHALL BE ONE CONTINUOUS PIECE OF PIPE. IF THE RUN IS LONGER THAN ONE PIECE OF PIPE, THEN ALL PIPE JOINTS SHALL BE MECHANICALLY RESTRAINED WITH "FIELD-LOK" GASKETS OR OTHER CPU APPROVED RESTRAINTS.

REVISED 04/17/2020

FILE NAME	GENERAL INSTALLATION NOTES	Clark Public Utilities
0-GI		
SHEET 1 OF 1	STANDARD DETAILS	

GENERAL NOTES:

1. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CLARK PUBLIC UTILITIES (CPU) WATER CONSTRUCTION SPECIFICATIONS, STANDARD DETAILS AND THE MOST CURRENT EDITION OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" PUBLISHED BY WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT).
2. A CPU WATER UTILITY INSPECTOR SHALL BE AT THE JOB SITE DURING CONSTRUCTION OF ALL WATER FACILITIES. CONTACT 360-992-8019 TWO WORKING DAYS PRIOR TO COMMENCING WORK.
3. WORK WITHIN COUNTY RIGHT-OF-WAY SHALL CONFORM WITH CLARK COUNTY PUBLIC WORKS UTILITY PERMIT REQUIREMENTS AND DETAILS. WORK WITHIN STATE RIGHT-OF-WAY SHALL CONFORM TO WSDOT UTILITY PERMIT REQUIREMENTS AND DETAILS.
4. VALVE SHALL BE 2" SQUARE OPERATING NUT OR AS SPECIFIED ON PLANS.
5. THE LOCATION OF THE UTILITIES SHALL BE VERIFIED IN ADVANCE TO ALLOW FOR ALIGNMENT ADJUSTMENTS. CALL UTILITY LOCATES TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION (1-800-424-5555).
6. ONLY TAPPING COMPANIES APPROVED BY CLARK PUBLIC UTILITIES SHALL BE USED TO MAKE ALL TAPS.
7. ACTUAL ROAD ALIGNMENTS MAY VARY FROM RIGHT-OF-WAY INDICATED. THE CONTRACTOR SHALL VERIFY THE PROPOSED PIPE ALIGNMENT AND REPORT DIFFERENCES TO THE CPU INSPECTOR. ALL ALIGNMENT CHANGES MUST BE APPROVED BY THE CPU INSPECTOR PRIOR TO INSTALLATION.
8. DRIVEWAYS DISTURBED BY CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR TO "LIKE" OR BETTER CONDITION. REFER TO PLAN FOR APPROXIMATE LOCATIONS AND TYPES.
9. CONTRACTOR SHALL VERIFY EXISTING UTILITY CULVERTS, CONDUITS AND LINE LOCATION PRIOR TO CONSTRUCTION. DUE TO FIELD CONDITIONS, THE CONTRACTOR SHALL FIELD ADJUST THE VERTICAL AND HORIZONTAL ALIGNMENT OF THE WATER MAIN TO CLEAR THE UTILITY IN CONFLICT AND PROVIDE THE MIN. 3.0 FEET OF COVER AS APPROVED BY THE CPU INSPECTOR. ALL CULVERTS WHICH ARE DISTURBED BY CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR IN ACCORDANCE WITH THE SPECIFICATIONS.
10. FENCES DISTURBED BY CONSTRUCTION SHALL BE RESTORED OR REPLACED BY THE CONTRACTOR TO "LIKE" OR BETTER CONDITION.
11. CONTRACTOR SHALL VERIFY EXISTING SIGN AND MAILBOX LOCATIONS PRIOR TO CONSTRUCTION. SIGNS & MAILBOXES THAT ARE DISTURBED BY CONSTRUCTION SHALL BE RELOCATED BACK FROM EDGE OF PAVEMENT, 1.0 FEET CLEAR OF WATER MAIN. ANY SIGNS OR MAILBOXES DAMAGED SHALL BE REPAIRED OR REPLACED AS PER THE SPECIFICATIONS.
12. THE LOCATIONS OF ALL EXISTING UTILITIES ARE FOR INFORMATIONAL PURPOSES ONLY. MANY LOCATIONS ARE PER SCHEMATIC RECORD DRAWINGS. THE CURRENT AND EXACT LOCATIONS OF FACILITIES MUST BE VERIFIED PRIOR TO CONSTRUCTION. THE CONTRACTOR PERFORMING THE WORK SHALL COMPLY WITH THE PROVISIONS OF FACILITIES AT LEAST 48 BUSINESS DAY HOURS PRIOR TO EXCAVATION. CALL 1-800-553-4344 FOR UTILITY LOCATE SERVICE.
13. THE WATER FACILITIES SHALL BECOME THE PROPERTY OF CLARK PUBLIC UTILITIES AFTER A SATISFACTORY BACTERIA AND PRESSURE TEST HAVE BEEN PERFORMED BY THE UTILITY. ALL MATERIALS AND WORKMANSHIP ARE SUBJECT TO A ONE YEAR WARRANTY, COMMENCING AT ACCEPTANCE OF FINAL TESTING. REPLACEMENT AND/OR REPAIRS OF DEFECTIVE MATERIALS SHALL BE THE DEVELOPERS/OWNERS RESPONSIBILITY.
14. WHEN ASBESTOS CONCRETE PIPE IS ENCOUNTERED, THE CONTRACTOR SHALL SUPPLY WORKERS WHO ARE CERTIFIED TO WORK ON ASBESTOS CONCRETE PIPE.
15. THE CONTRACTOR SHALL TRANSFER AND/OR ABANDON EXISTING SERVICES AS DIRECTED BY THE INSPECTOR.
16. THE INSTALLED WATER MAIN SHALL BE PRESSURE TESTED AT A MINIMUM OF 200 PSI OR 1.5 TIMES THE WORKING PRESSURE, WHICHEVER IS GREATER. THE TEST WILL BE PERFORMED BY THE CLARK PUBLIC UTILITIES INSPECTOR. THE CONTRACTOR SHALL PROVIDE ASSISTANCE AS NEEDED.
17. THE INSTALLED WATER MAIN SHALL BE THOROUGHLY DISINFECTED AND FLUSHED IN ACCORDANCE WITH THE CLARK PUBLIC UTILITIES STANDARDS AND REQUIREMENTS. ONLY CLARK PUBLIC UTILITIES EMPLOYEES ARE PERMITTED TO FILL AND FLUSH THE WATER MAIN. THE CONTRACTOR SHALL PROVIDE ASSISTANCE AS NEEDED. IN AREAS WHERE THE DE-CHLORINATION OF FLUSHED WATER IS NOT POSSIBLE, THE CONTRACTOR SHALL PROVIDE WATER TRUCKS TO FLUSH INTO.
18. PRIOR TO ACCEPTING THE SYSTEM OR ALLOWING THE MAIN TO BE PUT IN SERVICE, A WATER SAMPLE SHALL BE TAKEN BY THE CLARK PUBLIC UTILITIES INSPECTOR AND A TEST PERFORMED BY AN ACCREDITED LAB TO INSURE NO HAZARD EXISTS.

REVISED 04/17/2020

FILE NAME	GENERAL NOTES	Clark Public Utilities
0-GN		
SHEET 1 OF 1	STANDARD DETAILS	

MECHANICAL JOINT RESTRAINT SPECIFICATIONS

1. MECHANICAL JOINT RESTRAINT SHALL BE ACCOMPLISHED BY A RESTRAINT DEVICE CONSISTING OF A FOLLOWER GLAND UTILIZING MULTIPLE GRIPPING WEDGES. GLAND BODY AND WEDGES SHALL BE DUCTILE IRON AND EPOXY COATED.
2. T-BOLTS AND NUTS SHALL BE HIGH STRENGTH LOW ALLOY STEEL T-BOLTS AND STEEL SHALL MEET AWWA C111 COMPOSITION SPECIFICATIONS.
3. RESTRAINT GLAND SHALL UTILIZE A STANDARD MECHANICAL JOINT GASKET.
4. THE FOLLOWING IS THE APPROVED LIST OF RESTRAINED JOINT SYSTEMS FOR MECHANICAL JOINTS AND DIP:
   - 4.1 "ROMAGRIP", ROMAC INDUSTRIES.
   - 4.2 "SERIES 1000 TUFGRIP", TYLER UNION.
   - 4.3 "MEGALUG", EBAA IRON, INC.
   - 4.4 APPROVED EQUIVALENT
5. THE FOLLOWING IS THE APPROVED LIST OF RESTRAINED JOINT SYSTEMS FOR MECHANICAL JOINTS AND PVC:
   - 5.1 "ROMAGRIP FOR PVC", ROMAC INDUSTRIES.
   - 5.2 "SERIES 2000 FOR PVC TUFGRIP", TYLER UNION.
   - 5.3 "MEGALUG SERIES 2000 PV", EBAA IRON, INC.
   - 5.4 APPROVED EQUIVALENT

DUCTILE IRON PIPE RESTRAINED JOINT SPECIFICATIONS

1. PIPE JOINT RESTRAINT FOR DIP SHALL BE ACCOMPLISHED WITH A PIPE BELL/SPIGOT INTEGRAL LOCK MECHANISM.
2. AS AN ALTERNATIVE AND WHERE ALLOWED BY CLARK PUBLIC UTILITIES, A BOLTLESS RESTRAINING GASKETS FOR DIP TYTON JOINT STYLE PIPE MAY BE USED. THE RESTRAINT GASKET SHALL BE A BOLTLESS GASKET WITH INTEGRAL RESTRAINING SYSTEM UTILIZING STAINLESS STEEL PARTS AND SHALL BE PRESSURE RATED FOR 350 PSI. THE GASKETS SHALL BE IN CONFORMANCE WITH ANSI/AWWA C111/A21.11 AND CERTIFIED TO NSF/ANSI 6. THE FOLLOWING IS THE APPROVED LIST OF DIP PIPE JOINT RESTRAINED GASKET SYSTEMS:
   - 2.1 "FIELD LOK 350 GASKET", U.S. PIPE AND FOUNDRY CO.
   - 2.2 "GRIPPER GASKET", GRIPPER GASKET LLC.
   - 2.3 APPROVED EQUIVALENT

PVC PIPE RESTRAINED JOINT SPECIFICATIONS

1. PVC PIPE JOINT RESTRAINT FOR MAY BE ACCOMPLISHED BY UTILIZING A PROPRIETARY PVC PIPE WHICH UTILIZES A PIPE BELL/SPIGOT INTEGRAL JOINT RESTRAINT MECHANISM. THE FOLLOWING IS THE APPROVED LIST OF PROPRIETARY PVC C-900 PIPE JOINT RESTRAINED SYSTEMS:
   - 1.1 "EAGLE LOC 900", JM EAGLE
   - 1.2 "CERTA-LOK C900/RJ", CERTAINTEED
   - 1.3 "DIAMOND LOK-21", DIAMOND PLASTICS INC.
   - 1.4 "RIEBERLOK" GASKET
   - 1.4 APPROVED EQUIVALENT
2. AS AN ALTERNATIVE, PVC PIPE MAY BE COUPLED TO CREATE A RESTRAINED JOINT BY UTILIZING A GREY IRON OR DUCTILE IRON MECHANICAL JOINT LONG PATTERN SLEEVE WITH A RESTRAINT FOLLOWER GLAND UTILIZING MULTIPLE GRIPPING WEDGES.

REVISED 04/17/2020

FILE NAME	MECHANICAL JOINT & PIPE JOINT RESTRAINT SPECIFICATIONS	Clark Public Utilities
0-MJ		
SHEET 1 OF 1	STANDARD DETAILS	

EXISTING WATER SERVICES:

THE CONTRACTOR SHALL TRANSFER, MOVE AND/OR ABANDON EXISTING WATER SERVICES AS DIRECTED BY THE CLARK PUBLIC UTILITIES INSPECTOR.

1. EXISTING WATER SERVICES TO BE ABANDONED SHALL BE EXCAVATED TO THE CORP. STOP AT THE WATER MAIN AND THE CORP STOP SHALL BE CLOSED. THE METER BOX SHALL BE REMOVED AND THE WATER SERVICE LINE CAN BE ABANDONED IN PLACE. THE EXISTING METER SHALL BE RETURNED TO CLARK PUBLIC UTILITIES WATER DEPT. ROAD REPAIR SHALL BE AS REQUIRED BY THE CLARK COUNTY RIGHT OF WAY PERMIT REQUIREMENTS.
2. WHEN AN EXISTING WATER SERVICE IS TO BE MOVED, THE CONTRACTOR SHALL EXPOSE A PORTION OF THE EXISTING WATER SERVICE SO THAT THE CLARK PUBLIC UTILITIES INSPECTOR CAN EVALUATE THE MATERIAL SIZE AND CONDITION OF THE EXISTING WATER SERVICE LINE.

THE INSPECTOR WILL DETERMINE WHETHER THE WATER SERVICE LINE CAN BE EXTENDED OR SHORTENED. IF THE INSPECTOR DETERMINES THE EXISTING WATER SERVICE LINE IS SUBSTANDARD, THEN A NEW POLYETHYLENE (PE) SERVICE LINE SHALL BE INSTALLED FROM THE WATER MAIN (MINIMUM SIZE 1" DIA).

ALL EXISTING WATER SERVICE LINES THAT ARE LESS THAN 1" DIAMETER SHALL BE CONSIDERED SUBSTANDARD AND SHALL BE REPLACED WITH A NEW 1", 1-1/2", OR 2" WATER SERVICE LINE PER CLARK PUBLIC UTILITIES STANDARDS.

MAIN LINE PIPE MATERIAL:

UNLESS OTHERWISE STATED ON THE PLAN, ALL MAIN LINE PIPE SHALL BE EITHER DUCTILE IRON PIPE (DIP), POLYVINYL CHLORIDE PIPE (PVC) OR HIGH-DENSITY POLYETHYLENE PIPE (HDPE). ALL PIPE SHALL BE SUITABLE FOR POTABLE WATER SERVICE IN ACCORDANCE WITH ANSI/NSF 61 STANDARDS.

A. DUCTILE IRON PIPE SHALL CONFORM TO ANSI A21.51 OR AWWA C151. USE PUSH-ON JOINTS EXCEPT WHERE OTHER JOINT TYPES ARE NOTED ON THE CONTRACT DRAWINGS. ALL DUCTILE IRON PIPE SHALL BE GAUGED FOR DIP 12" DIAMETER AND SMALLER. UNLESS SPECIFICALLY NOTED ON THE CONTRACT DRAWINGS, 3"-12" PIPE SHALL BE PRESSURE CLASS 350 AND PIPE SIZES GREATER THAN 12" DIAMETER SHALL BE THICKNESS CLASS 52.

B. POLYVINYL CHLORIDE (PVC) PRESSURE PIPE (4"-30"). USE UN-PLASTICIZED PVC PLASTIC PIPE WITH INTEGRAL BELL AND SPIGOT JOINTS. USE PUSH-ON JOINTS EXCEPT WHERE OTHER JOINT TYPES ARE NOTED ON THE CONTRACT DRAWINGS. PIPE SHALL MEET THE REQUIREMENTS OF DR 18, UNLESS OTHERWISE NOTED ON THE DRAWING. UNLESS SPECIFICALLY NOTED ON THE CONTRACT DRAWINGS, 4"-12" PIPE SHALL MEET THE REQUIREMENTS OF AWWA C900 AND 14"-30" PIPE SHALL MEET THE REQUIREMENTS OF AWWA C905.

C. HIGH-DENSITY POLYETHYLENE PIPE (HDPE) SHALL BE BLACK WITH A MINIMUM OF TWO EQUALLY SPACED BLUE COLORED STRIPES EXTRUDED INTO THE OUTER SHELL IN CONFORMANCE WITH THE UNIFORM COLOR CODE (UCC). UNLESS OTHERWISE NOTED ON THE DRAWINGS, PIPE SHALL BE IRON PIPE SIZE (IPS) AND HAVE A WALL-THICKNESS DIMENSION RATIO (DR) OF 9. SMALL DIAMETER PIPE (3/4"-3"), SHALL CONFORM TO ANSI/AWWA C901 AND LARGE DIAMETER PIPE (4"-65") PIPE SHALL CONFORM TO ANSI/AWWA C906.

REVISED 04/17/2020

FILE NAME	MAIN LINE PIPE MATERIAL & EXISTING WATER SERVICE NOTES	Clark Public Utilities
0-PM		
SHEET 1 OF 1	STANDARD DETAILS	

REVISED 04/17/2020

Clark Public Utilities

CALL 48 HOURS BEFORE YOU DIG 1-800-553-4344 "It's the Law" NORTHWEST UTILITY NOTIFICATION CENTER

WATER MAIN INSTALLATION

STANDARD DETAILS

FILE NAME CPU W-SD SHEET 4 OF 4

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LANDSCAPE ARCHITECTURE

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VANCOUVER, WA 98663
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FAX (360)993-0912

CPU STANDARD WATER DETAILS 4

HIGHLAND TERRACE SUBDIVISION PHASE 1

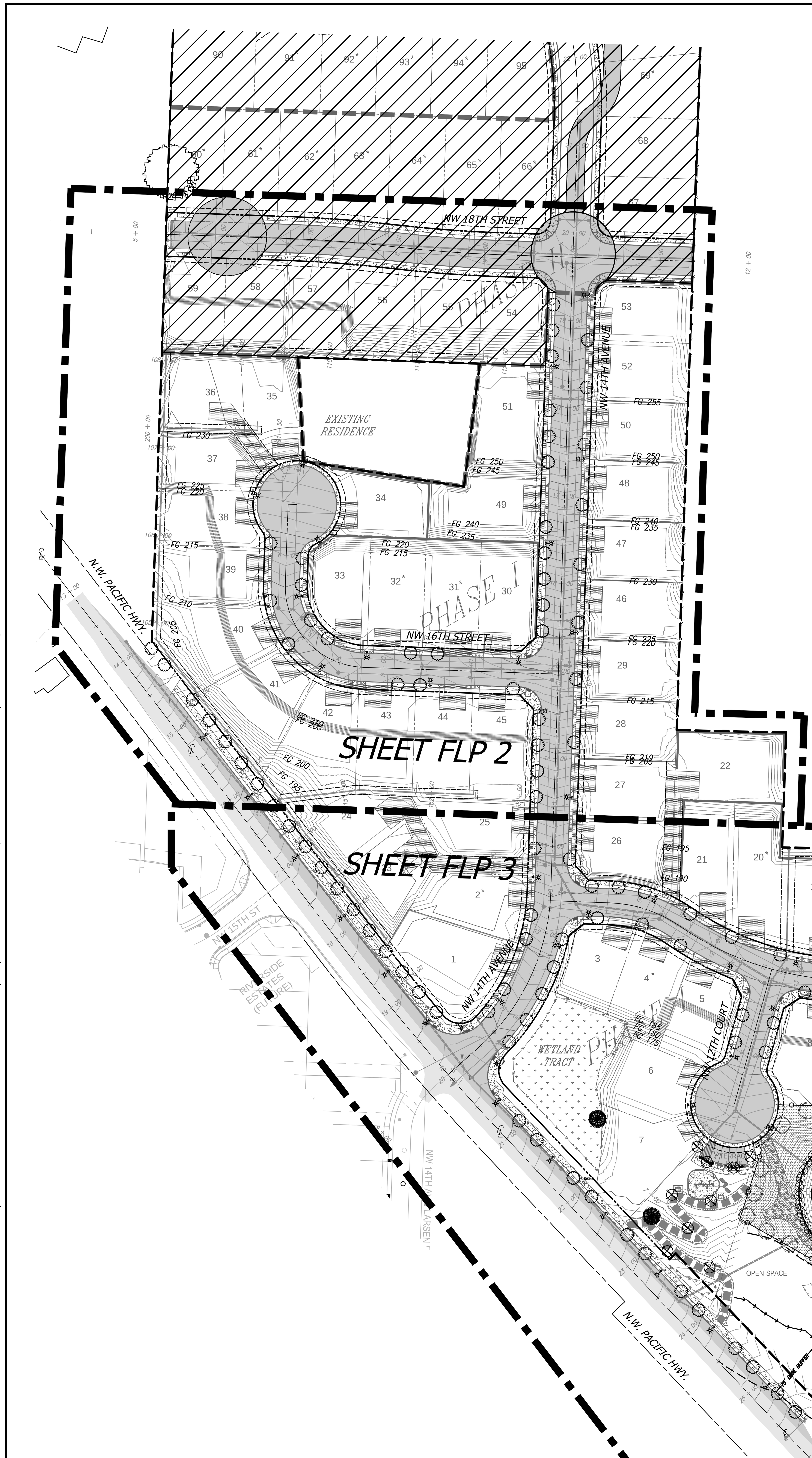
CITY OF LA CENTER WASHINGTON

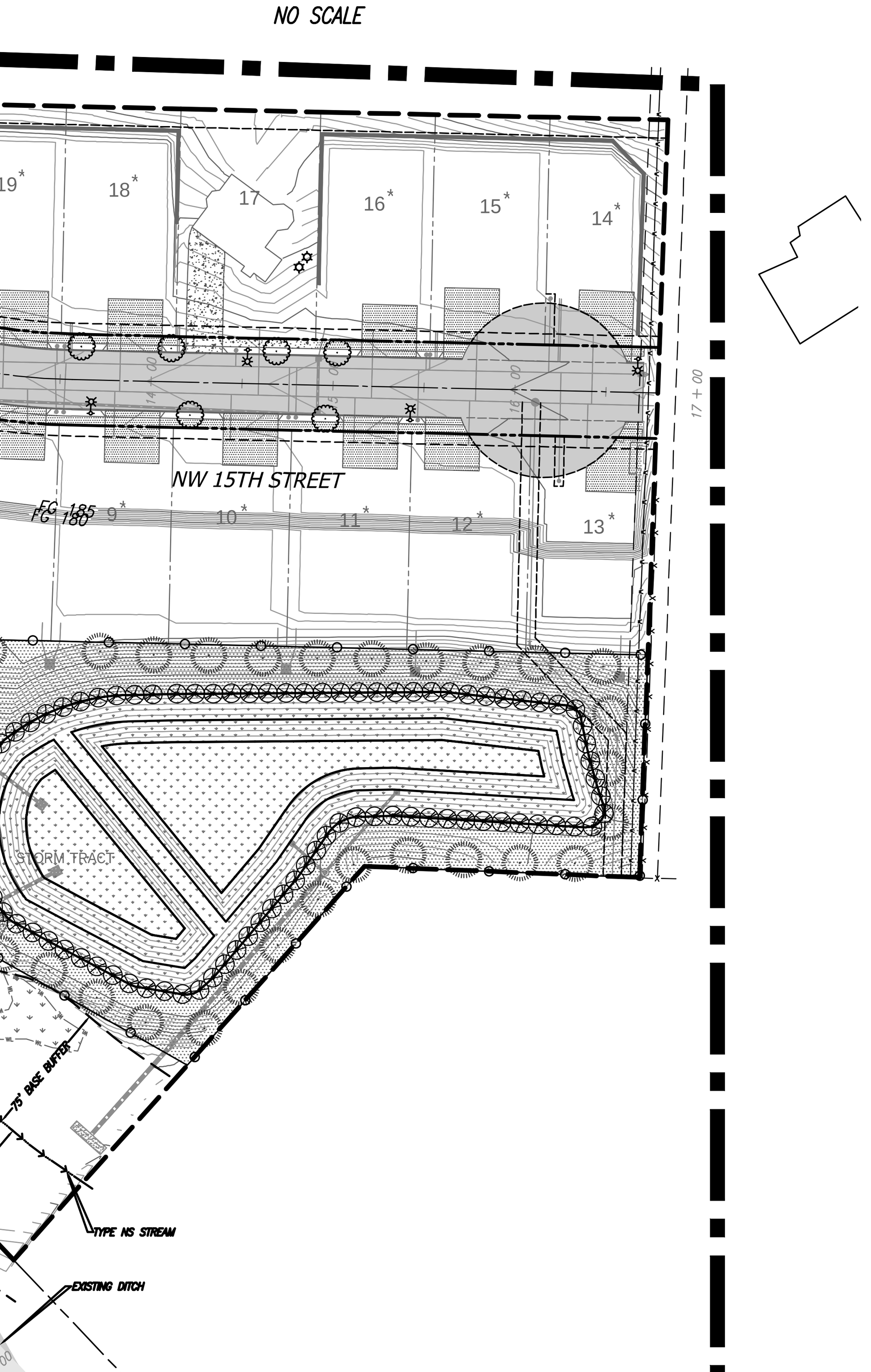
APPROVED

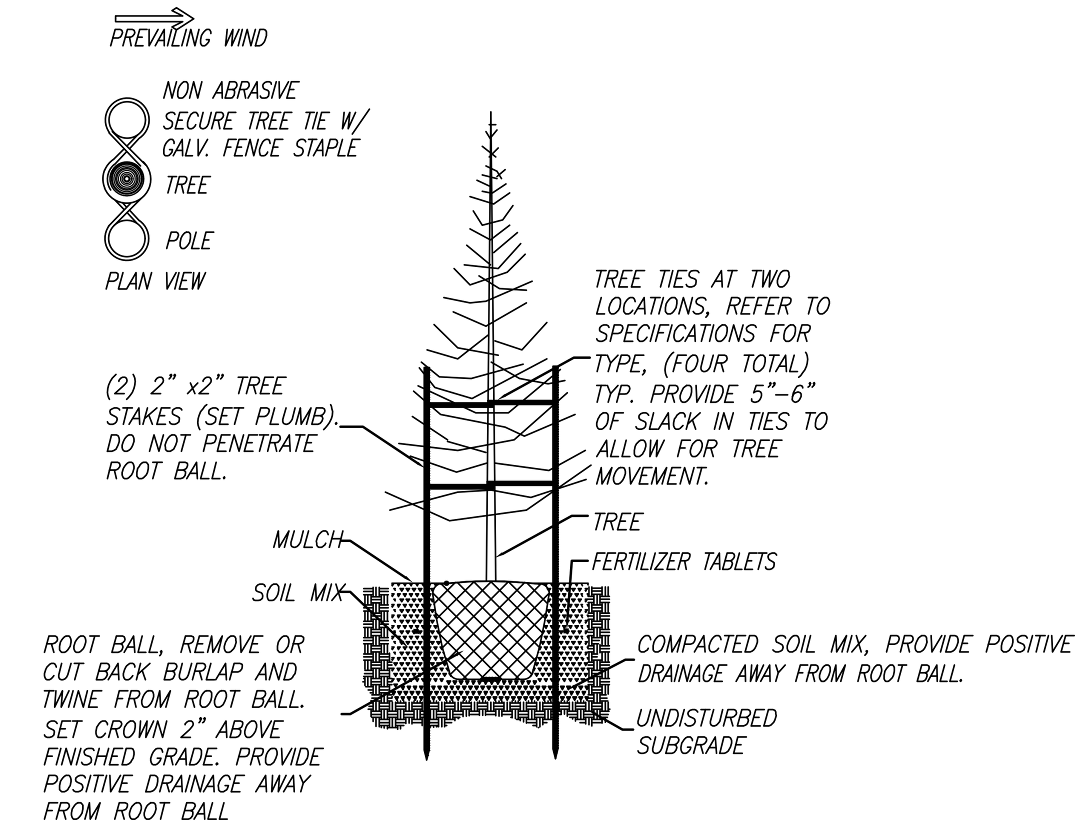
REVISIONS

DESIGNED BY: NAW
DRAWN BY: NAW
CHECKED BY: JTM
SCALE: NTS

JOB NUMBER 0536
SHEET C9.9

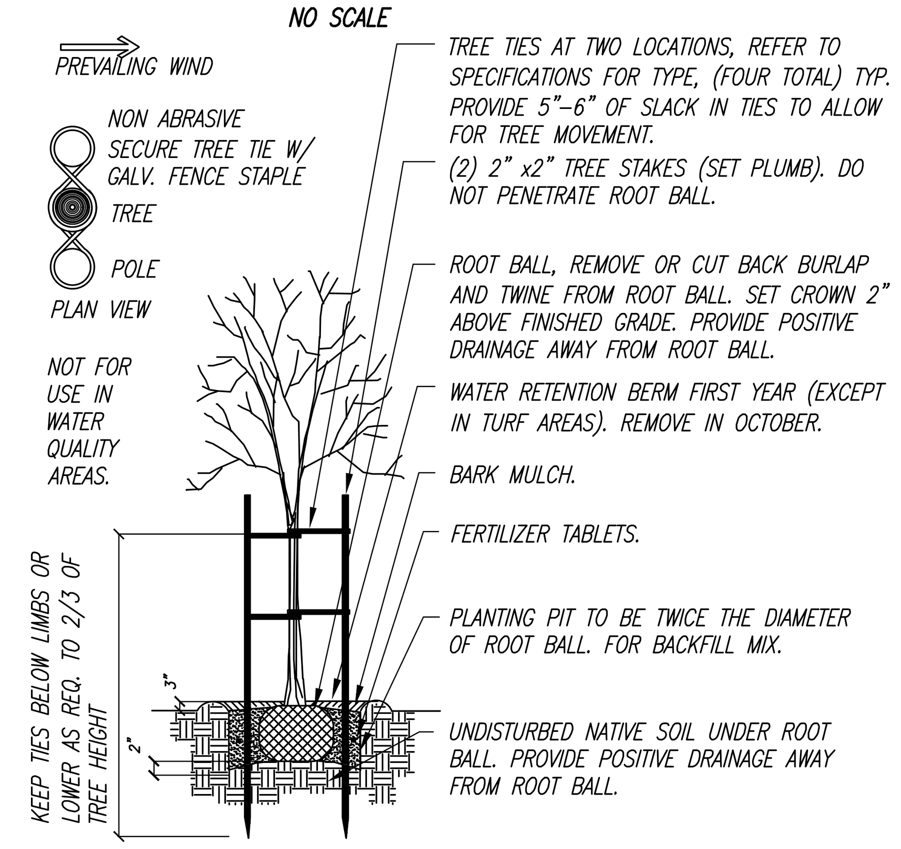






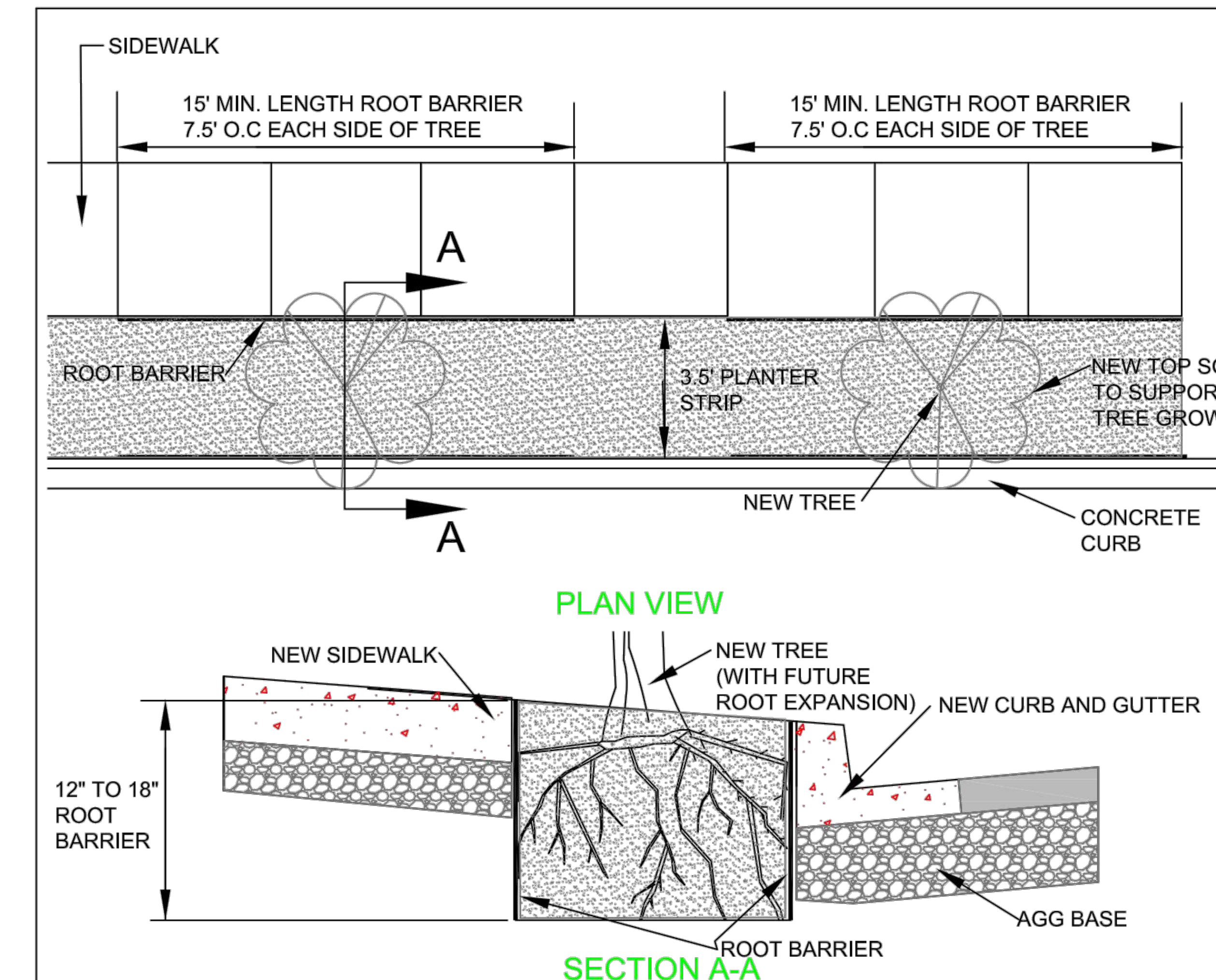
Evergreen Tree Planting Details

NO SCALE



B&B Deciduous Tree Planting Details

NO SCALE



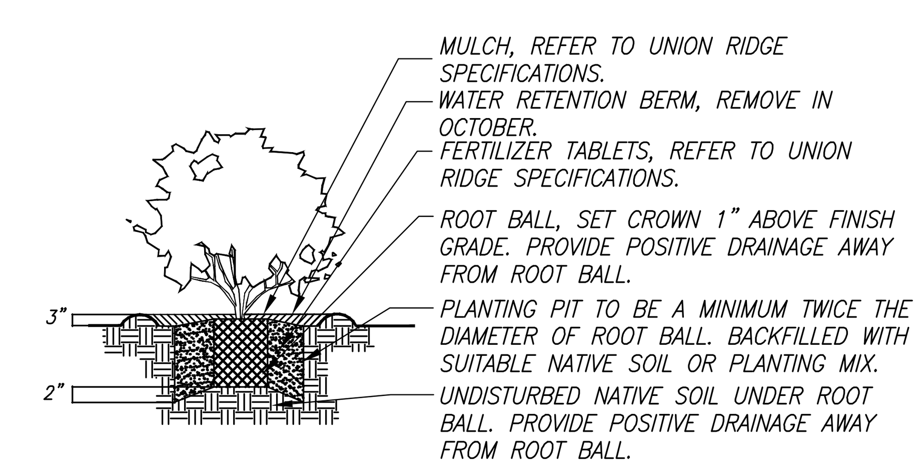
CONSTRUCTION NOTES:

1. ROOT BARRIER SHALL BE BLACK, INJECTION MOLDED PANELS OR LINEAR ROLL WITH 90-DEGREE DEFLECTING RIBS.
2. AT A MINIMUM 12" TO MAXIMUM 18" HIGH ROOT BARRIER.
3. ROOT BARRIER SHALL HAVE A MINIMUM WALL THICKNESS OF 0.06" (60 mil) & RIB THICKNESS OF 0.08" (80mil)-THE CONTRACTOR SHALL SUBMIT MANUFACTURER SPECIFICATIONS FOR COMPLIANCE.
4. ROOT BARRIER SHALL BE 15' LONG; 7.5' O.C. FROM THE TREE UNLESS APPROVED BY THE CITY.
5. ROOT BARRIER SHALL BE INSTALLED VERTICAL ADJACENT TO THE SIDEWALK AND CURB.

TREE ROOT BARRIER INSTALLATION

CITY OF LA CENTER	CITY OF LA CENTER APPROVED	REVISIONS:	DATE:	DRAWN:	DESIGNED:	PLAN #
	TONY COOPER 1/29/19					ST-31
	CITY ENGINEER DATE					

INSTALL ROOT BARRIER WITH TREES THAT ARE PLACED IN THE PLANTER STRIP TO PROTECT CONCRETE



Shrub Planting Details

NO SCALE

IRRIGATION NOTES

IRRIGATION TO BE INSTALLED PER CITY OF LA CENTER STANDARDS. PRIOR TO INSTALLATION OF THE IRRIGATION SYSTEM, CONTRACTOR SHALL RECEIVE APPROVAL OF IRRIGATION DESIGN FROM CITY OPERATIONS STAFF.

PARK CONSTRUCTION TIMELINE

PARK SHALL BE CONSTRUCTED WITH PHASE I PER THE DEVELOPER AGREEMENT.

*DRIVEWAYS ARE CONCEPTUAL AND SHOWN FOR PLANNING PURPOSES ONLY.

N

0 80 160 240

Scale: 1" = 80'

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FAX (360)993-0912

STATE OF WASHINGTON LICENSED LANDSCAPE ARCHITECT
04/08/2020
SCOTT A. TAYLOR
LICENSE NO. 1247
EXPIRES ON 6-25-2021

FINAL LANDSCAPE PLAN OVERVIEW

HIGHLAND TERRACE SUBDIVISION PHASE 1

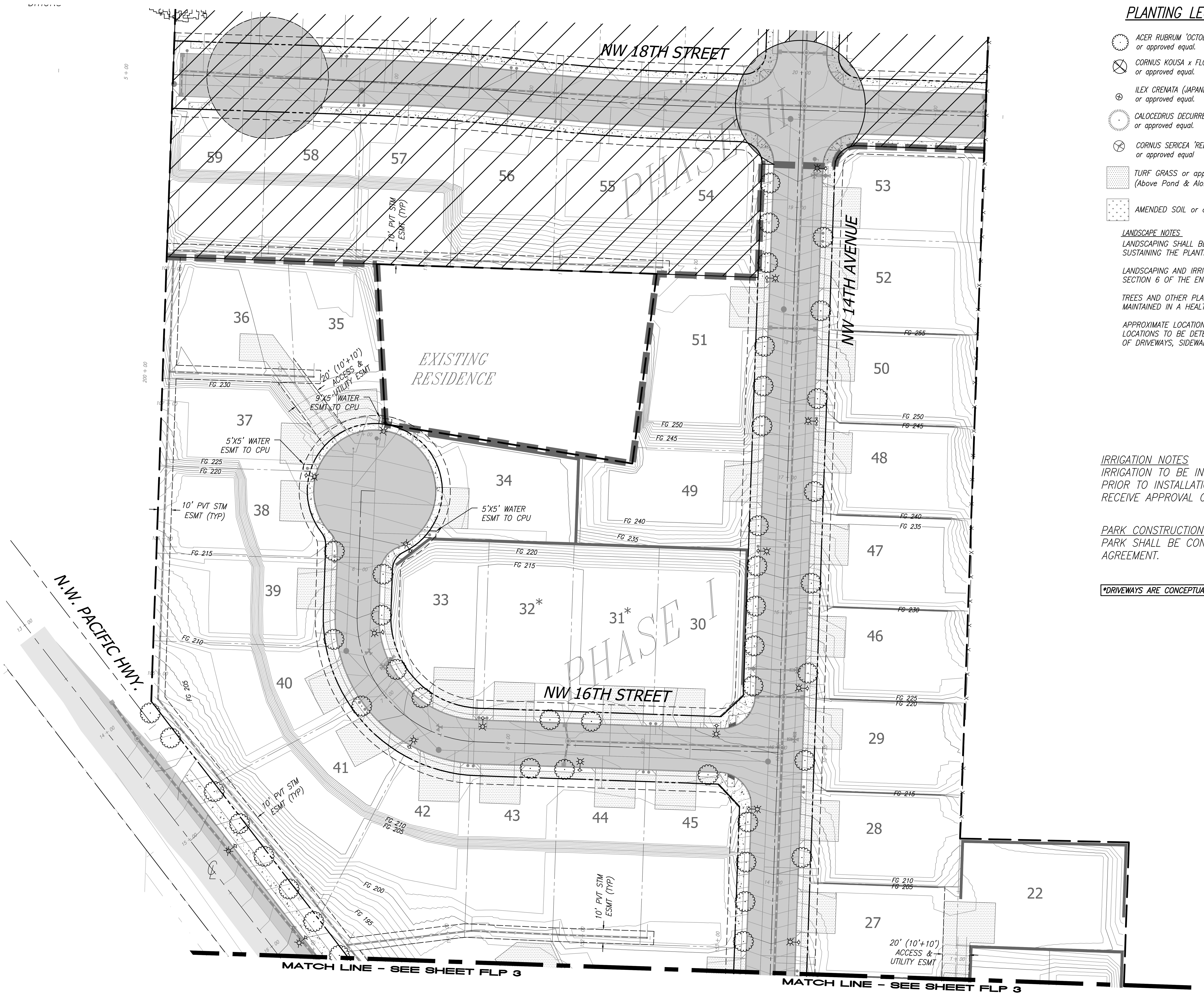
CITY OF LA CENTER
WASHINGTON

APPROVED

REVISIONS

DESIGNED BY: SAT
DRAWN BY: SAT
CHECKED BY: JTM
SCALE: 1" = 80'

JOB NUMBER	SHEET
0536	FLP 1



PLANTING LEGEND

	SIZE	SPACING	QUANTITY
ACER RUBRUM 'OCTOBER GLORY MAPLE' or approved equal.	2" CAL.	30' O.C.	96
CORNUS KOUSA x FLORIDA 'STELLAR PINK DOGWOOD' or approved equal.	2" CAL	30' O.C.	9
ILEX CRENATA (JAPANESE HOLLY) or approved equal.	1-3 GAL.	3' O.C.	13
CALOCEDRUS DECURRENS 'INCENSE CEDAR' or approved equal.	5-6' TALL	30' OC	33
CORNUS SERICEA 'REDTWIG DOGWOOD' or approved equal	1 GALLON	10' O.C. MINIMUM	87
TURF GRASS or approved equal (Above Pond & Along Trail Only)	N/A	AS SHOWN	30,653 SF
AMENDED SOIL or approved equal	N/A	AS SHOWN	35,116 SF

LANDSCAPE NOTES

LANDSCAPING SHALL BE WATERED WITH AN IRRIGATION SYSTEM CAPABLE OF SUSTAINING THE PLANTINGS IN A HEALTHY CONDITION YEAR AROUND.

LANDSCAPING AND IRRIGATION SHALL MEET CITY OF LA CENTER STANDARDS. SEE SECTION 6 OF THE ENGINEERING STANDARDS FOR CONSTRUCTION.

TREES AND OTHER PLANTINGS SHALL BE PRUNED, WATERED, FERTILIZED AND MAINTAINED IN A HEALTHY CONDITION.

APPROXIMATE LOCATIONS FOR TREES ARE SHOWN ON THE PLAN. EXACT LOCATIONS TO BE DETERMINED BY DEVELOPER OR BUILDER AFTER CONSTRUCTION OF DRIVEWAYS, SIDEWALKS AND BUILDINGS.

IRRIGATION NOTES

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HIGHLAND TERRACE SUBDIVISION PHASE 1

FINAL LANDSCAPE PLAN SHEET 1

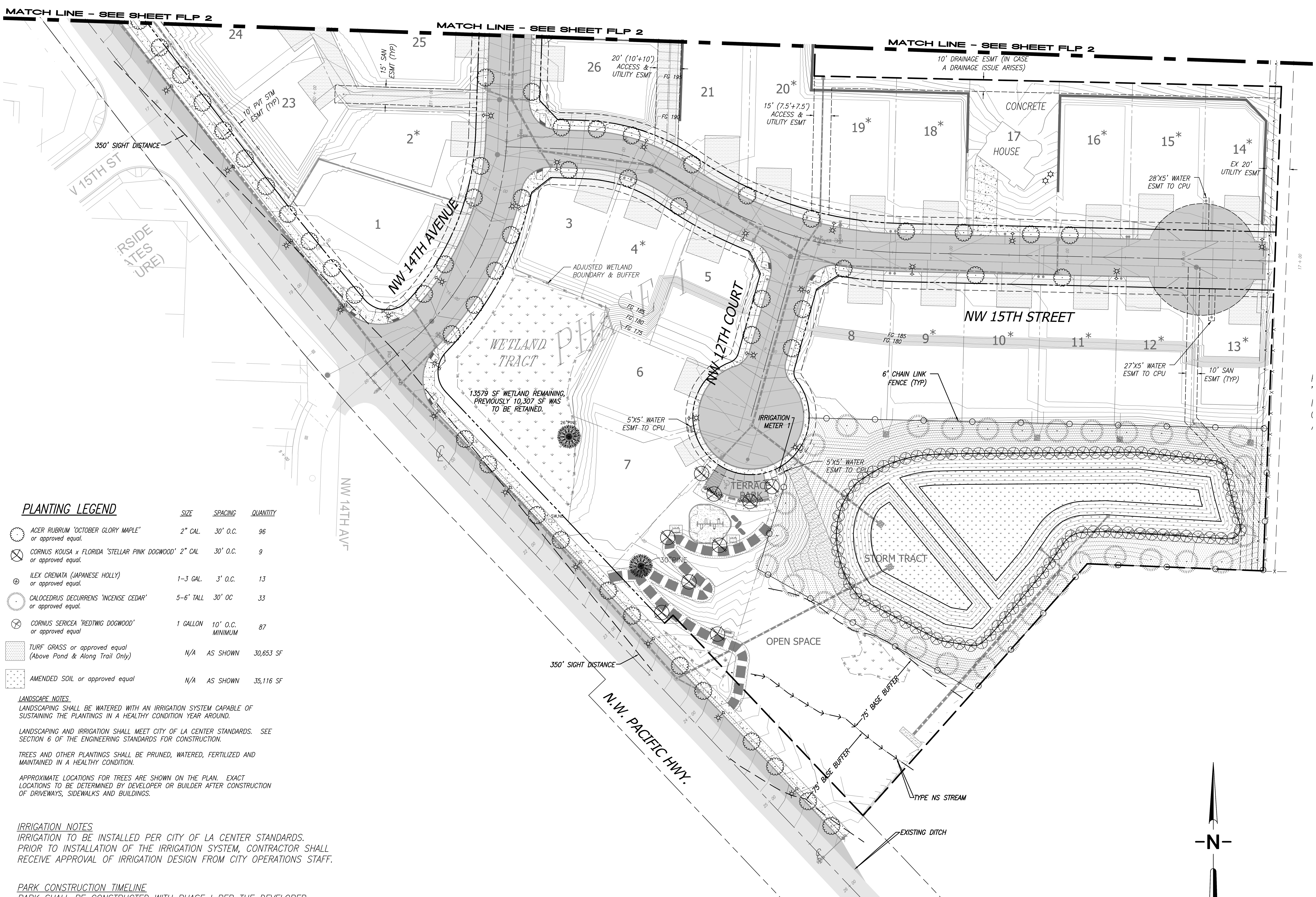
CITY OF LA CENTER WASHINGTON

APPROVED

REVISIONS

DESIGNED BY: SAT
DRAWN BY: SAT
CHECKED BY: JTM
SCALE: 1" = 40'

JOB NUMBER	SHEET
0536	FLP 2



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FINAL LANDSCAPE PLAN SHEET 2

HIGHLAND TERRACE SUBDIVISION PHASE 1

CITY OF LA CENTER WASHINGTON

APPROVED

REVISIONS

DESIGNED BY: SAT
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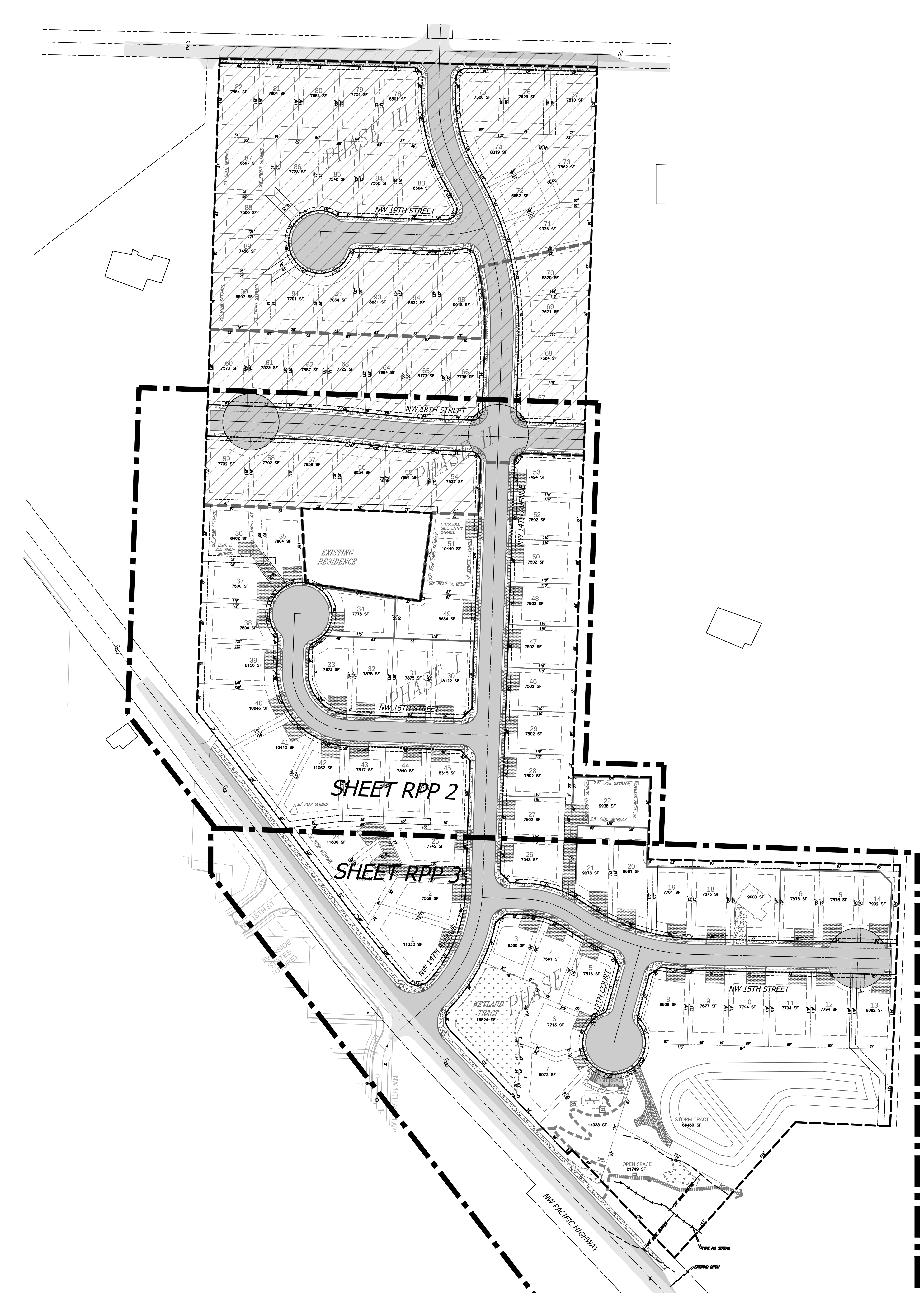
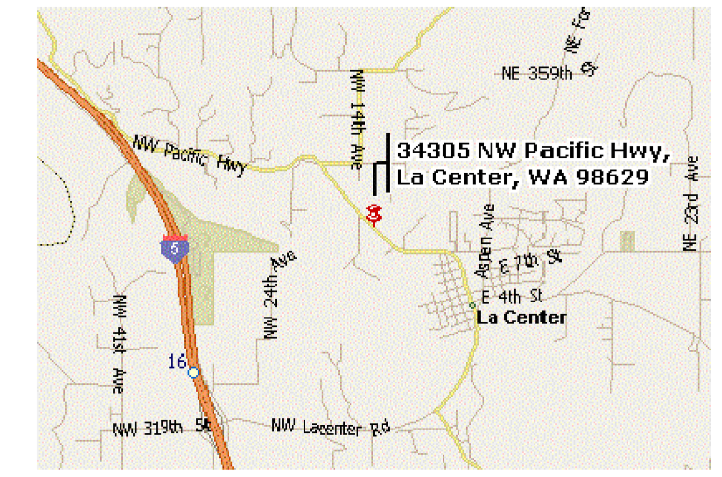
SCALE: 1" = 40'

JOB NUMBER 0536
SHEET FLP 3





VICINITY MAP

HIGHLAND TERRACE SUBDIVISION

BEING A PORTION OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 5 NORTH, RANGE 1 EAST OF THE WILLAMETTE MERIDIAN CLARK COUNTY, WASHINGTON

APRIL 2019

TAX PARCEL #'S	258636-000, 258704-000, 258703-000, 258702-000, 258727-000, 258644-000
APPLICANT:	EVERGREEN HOMES, NW 13217 NW 30TH COURT VANCOUVER, WA 98685 ATTN: CHRIS SUNDROM
CONTACT:	SGA ENGINEERING, PLLC. ATTN: SCOTT TAYLOR 2005 BROADWAY STREET VANCOUVER, WA 98660 PHONE: (360) 993-0911 FAX: (360) 993-0912 EMAIL: STAYLOR@SGAENGINEERING.COM

EXISTING SITE DATA:

PRESENT USE	4 SINGLE FAMILY RESIDENCES ON ACERAGE
EXISTING ZONING	R-7.5
GROSS SITE AREA	25.3 ACRES (1,103,203 S.F.)
TRANSIT ROUTES & STOPS	NONE WITHIN 1/4 MILE OF SITE
EXISTING WATER	PRIVATE WELLS
EXISTING SEWER	PRIVATE SEPTIC

ENVIRONMENTAL DATA:

100 YEAR FLOOD PLAIN	NONE KNOWN
DRAINAGE COURSES	SHOWN BY TOPO CONTOURS
UNSTABLE GROUND	NONE KNOWN
HIGH WATER WATER TABLE OR IMPERMEABLE SOILS	YES
WETLANDS OR WATER BODIES	SITE CONTAINS WETLANDS AND MAN-MADE PONDS
SEVERE EROSION POTENTIAL	NONE KNOWN
WEAK FOUNDATIONAL SOILS	NONE KNOWN
SIGNIFICANT VEGETATION OR WILDLIFE HABITAT	NONE KNOWN
SLOPES IN EXCESS OF 15%	YES

EXISTING CONDITIONS DISCLAIMER:

EXISTING CONDITIONS SHOWN ON THIS PLAN WAS COMPILED FROM INFORMATION OBTAINED FROM OUTSIDE SOURCES. STURTEVANT, GOLEMO AND ASSOCIATES DOES NOT GUARANTEE THE ACCURACY OF THIS INFORMATION.

PROPOSED SITE DATA:

PROPOSED USE	SUBDIVIDE PROPERTY INTO 95 SINGLE-FAMILY LOTS IN 3 PHASES
GROSS SITE AREA	25.3 ACRES (1,103,203 S.F.)
R/W AREA	4.92 ACRES (214,214 S.F.)
WETLAND & OPEN SPACE TRACTS	0.87 ACRES (37,688 S.F.)
STORMWATER TRACT	0.98 ACRES (42,673 S.F.)
NET BUILDABLE AREA	18.56 ACRES (808,628 S.F.)
AVERAGE LOT AREA	8,251 S.F.
SANITARY SEWER SERVICE	CLARK PUD
WATER SERVICE	CLARK PUD
STORM DRAINAGE	PER LA CENTER STANDARDS
ELECTRICAL SERVICE	CLARK PUD
BUILDING SETBACKS	PER LA CENTER STANDARDS
BUILDING HEIGHT	PER LA CENTER STANDARDS
STREET WIDTHS & SECTIONS	PER LA CENTER STANDARDS
JOINT DRIVEWAYS	LOTS 14 & 15, 57 & 58 WILL BE SERVED BY JOINT DRIVEWAYS

BUILDING SETBACKS:
FRONT GARAGE – 20'
SIDE YARD – 7.5'
STREET SIDE – 10'
REAR YARD – 20'

N

0 100 200 300

Scale: 1" = 100'

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PRELIMINARY – NOT FOR CONSTRUCTION

RPP REVISED PRELIM PLAT OVERVIEW

HIGHLAND TERRACE SUBDIVISION PHASE 1

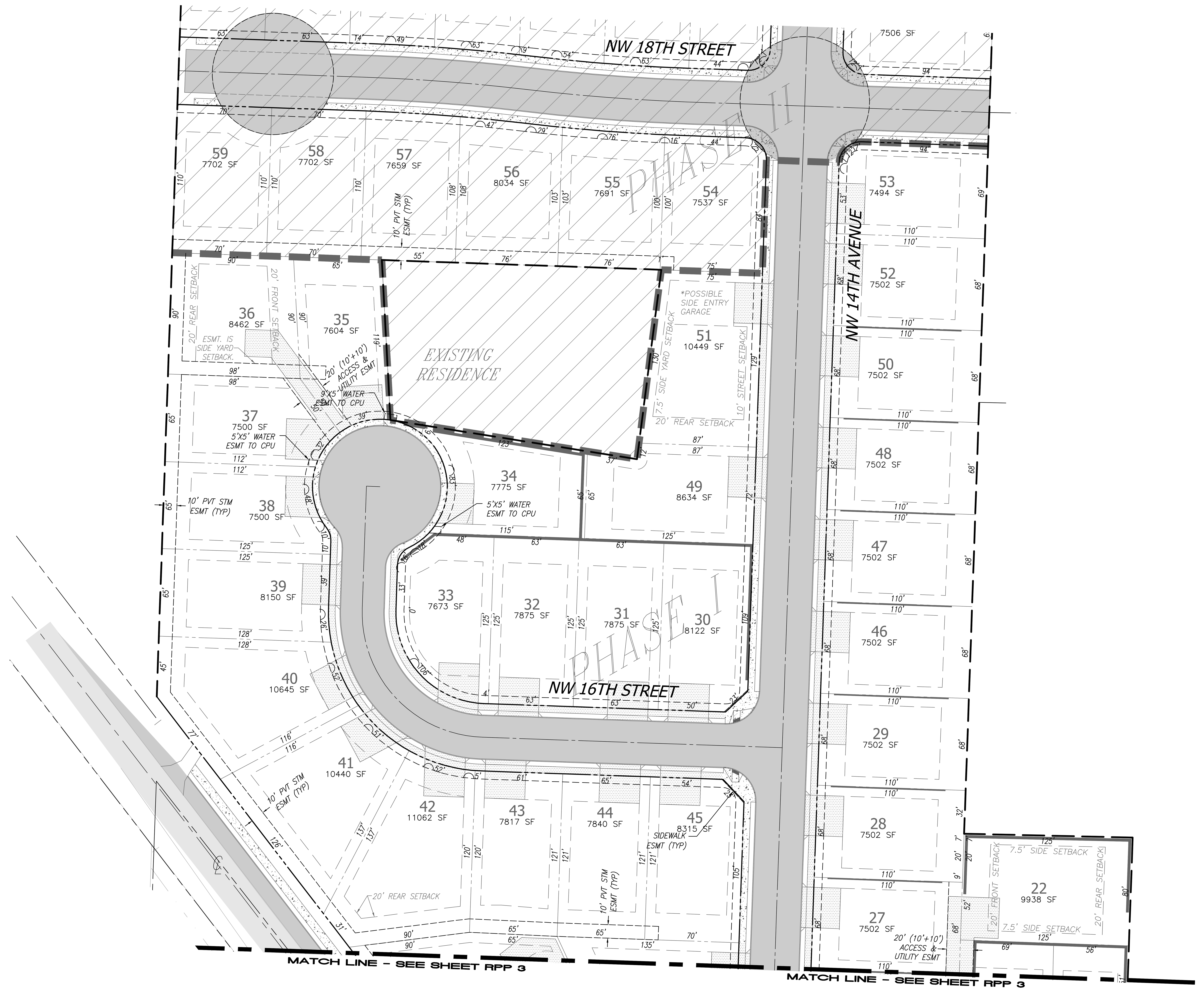
CITY OF LA CENTER WASHINGTON

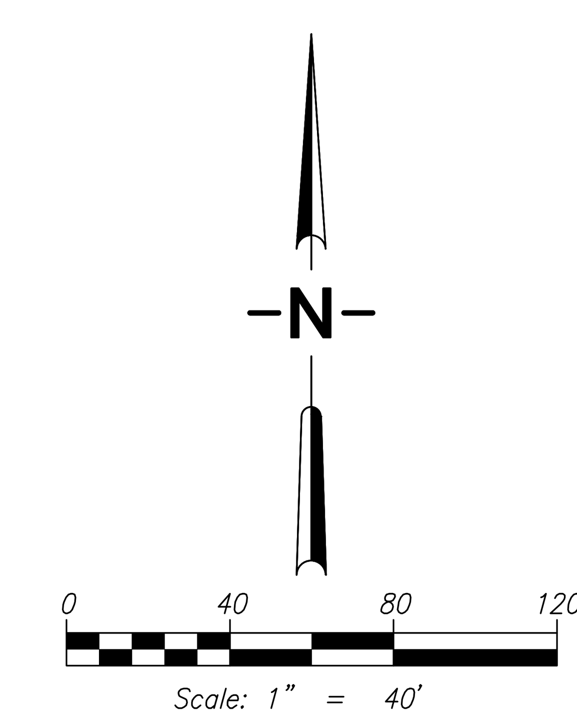
VERSION 5

REVISIONS

DESIGNED BY:	NAW
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	1"=100'

JOB NUMBER	SHEET
0536	RPP 1





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PRELIMINARY
NOT FOR CONSTRUCTION

REVISED PRELIM PLAT SHEET 1

HIGHLAND TERRACE SUBDIVISION PHASE 1

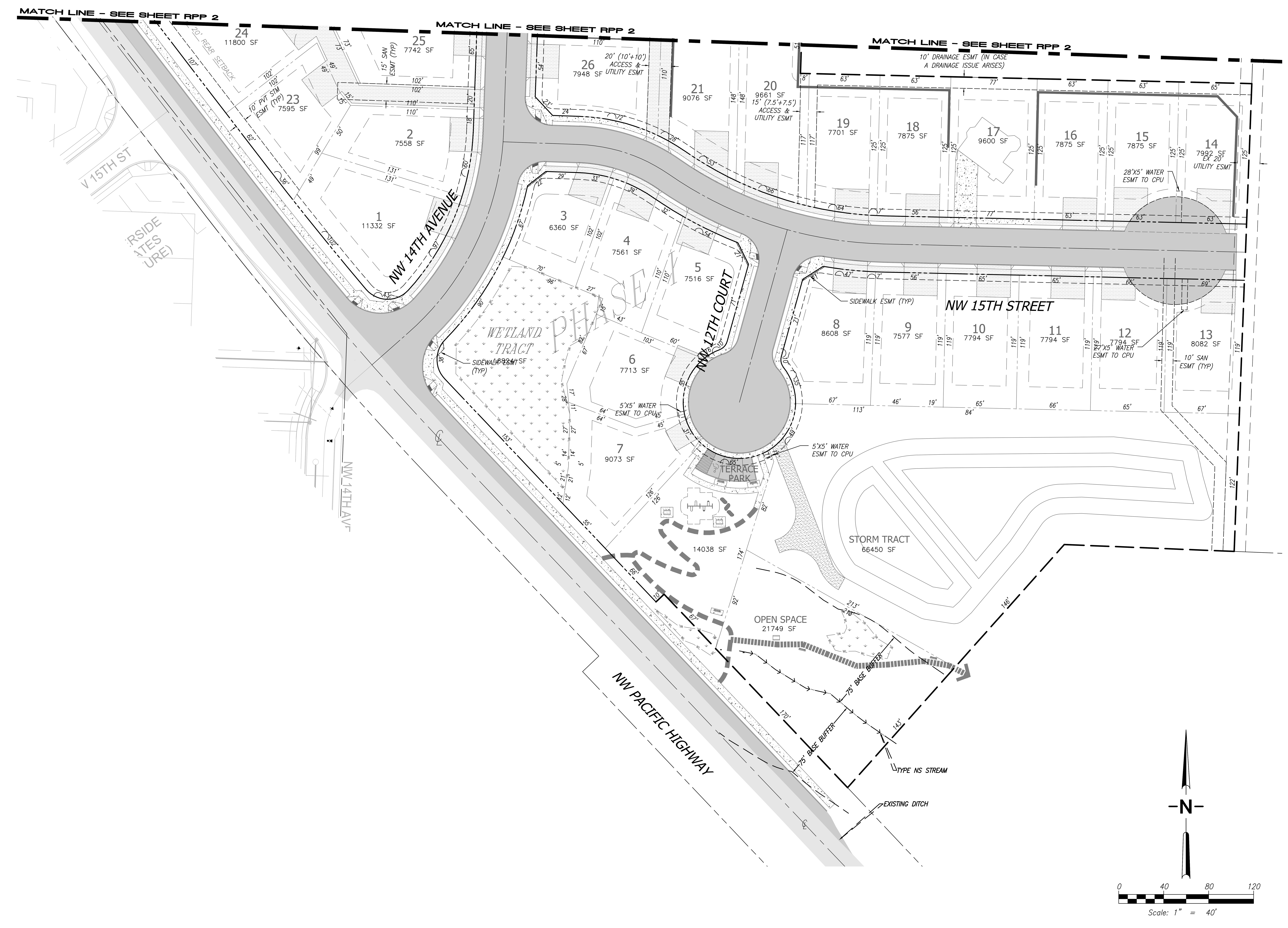
CITY OF LA CENTER
WASHINGTON

VERSION 5

REVISIONS

DESIGNED BY:	NAW
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	1" = 40'

JOB NUMBER	SHEET
0536	RPP 2



© SGA ENGINEERING PLLC – DATE PLOTTED: Mar. 13, 2020 – 11:54 AM SGA DRAWING FILE: W:\DWG\0536 – HIGHLAND TERRACE\6– REVISED FINAL ENGINEERING\FINAL ENG 2019\RPP REVISED PRELIM PLAT.DWG

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PHONE (360)993-0911
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PRELIMINARY NOT FOR CONSTRUCTION

JASON T. MANNING STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER

REVISED PRELIM PLAT SHEET 2

HIGHLAND TERRACE SUBDIVISION PHASE 1

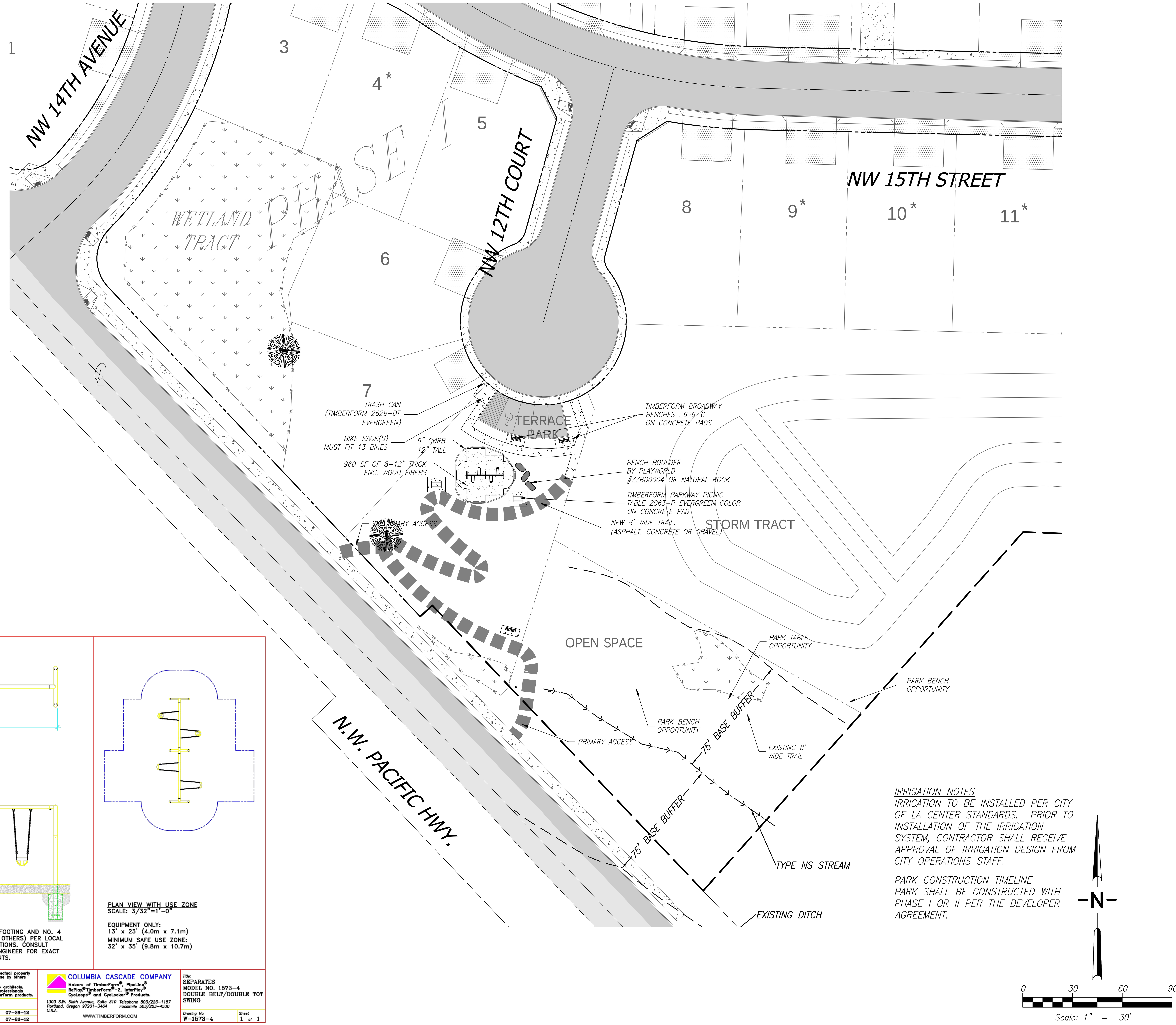
CITY OF LA CENTER WASHINGTON

VERSION 5

REVISIONS

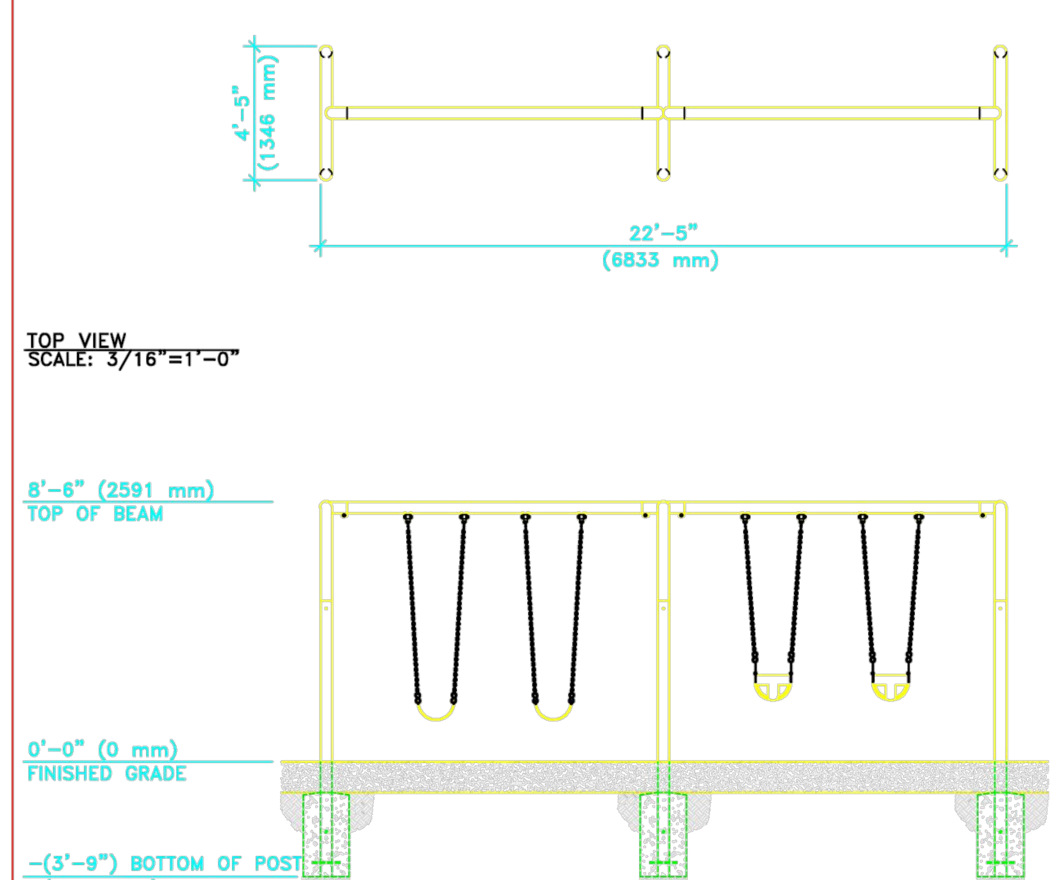
DESIGNED BY:	NAW
DRAWN BY:	NAW
CHECKED BY:	JTM
SCALE:	1" = 40'

JOB NUMBER	SHEET
0536	RPP 3



IRRIGATION NOTES
IRRIGATION TO BE INSTALLED PER CITY OF LA CENTER STANDARDS. PRIOR TO INSTALLATION OF THE IRRIGATION SYSTEM, CONTRACTOR SHALL RECEIVE APPROVAL OF IRRIGATION DESIGN FROM CITY OPERATIONS STAFF.

PARK CONSTRUCTION TIMELINE
PARK SHALL BE CONSTRUCTED WITH PHASE I OR II PER THE DEVELOPER AGREEMENT.



TOP VIEW
SCALE: 3/16"=1'-0"

FRONT VIEW
SCALE: 3/16"=1'-0"

NOTE:
CONCRETE FOOTING AND NO. 4 REBAR (BY OTHERS) PER LOCAL SOIL CONDITIONS. CONSULT PROJECT ENGINEER FOR EXACT REQUIREMENTS.

PLAN VIEW WITH USE ZONE
SCALE: 3/32"=1'-0"

EQUIPMENT ONLY:
13' x 23' (4.0m x 7.1m)
MINIMUM SAFE USE ZONE:
32' x 35' (9.8m x 10.7m)

Scale: NOTED | Drawn by: AT 07-26-12 | Ck'd by: CL 07-26-12

COLUMBIA CASCADE COMPANY
Makers of TimberForm®, PipeLine®, RePlay®, TimberForm®-2, InterPlay®, CycLoops® and CycLocker® Products.
1300 S.W. Sixth Avenue, Suite 310 Portland, Oregon 97201-3464 U.S.A. Telephone 503/223-1157 Facsimile 503/223-4530
WWW.TIMBERFORM.COM

Title: SEPARATES MODEL NO. 1573-4 DOUBLE BELT/DOUBLE TOT SWING
Drawing No. W-1573-4 | Sheet 1 of 1

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EXPIRES ON 6-25-2021

PARK PLAN

HIGHLAND TERRACE SUBDIVISION PHASE I

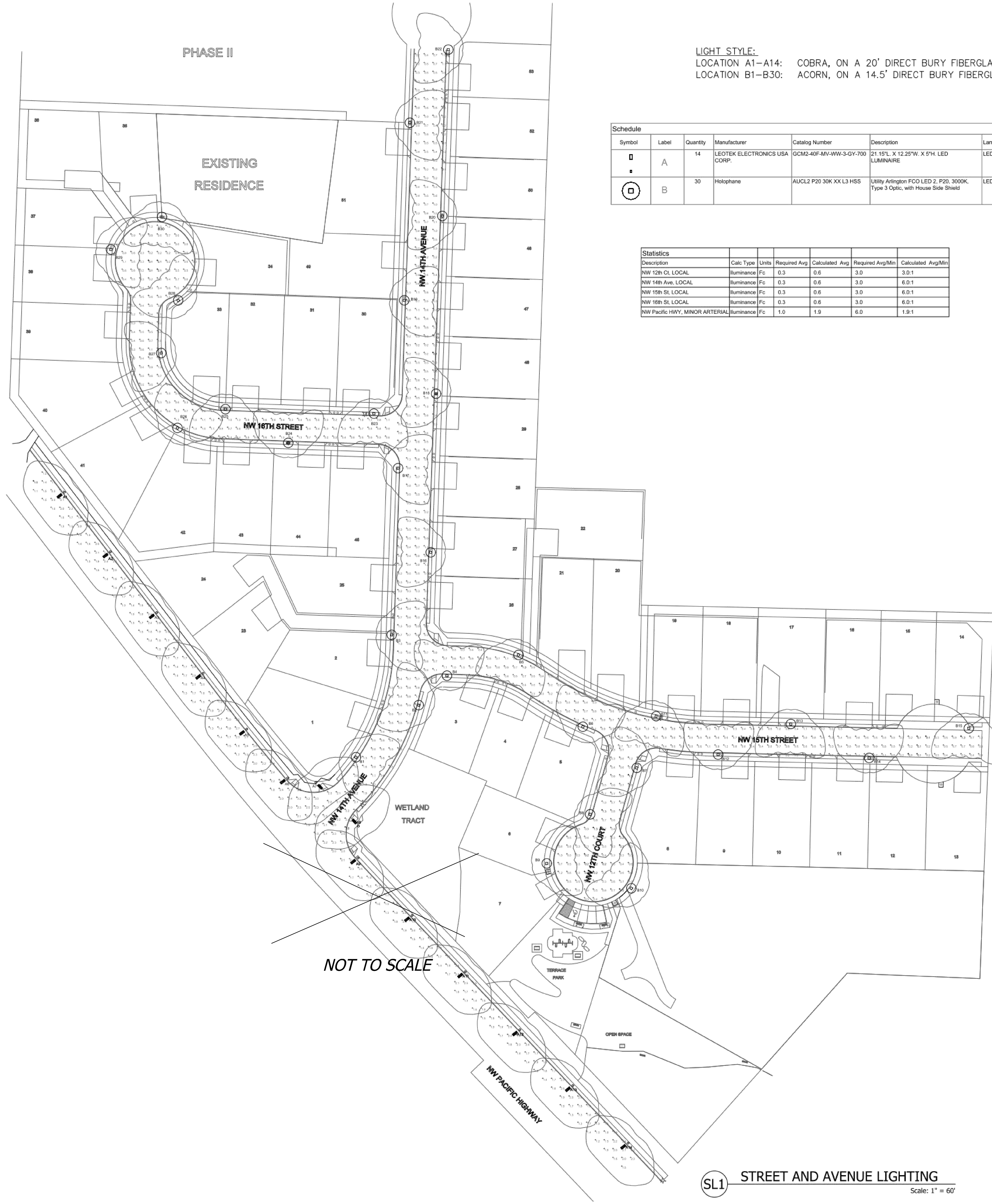
CITY OF LA CENTER WASHINGTON

FINAL

REVISIONS

DESIGNED BY: SAT
DRAWN BY: SAT
CHECKED BY: SAT
SCALE: 1" = 30'

JOB NUMBER 0536 | SHEET PKP



LIGHT STYLE:
LOCATION A1–A14: COBRA, ON A 20' DIRECT BURY FIBERGLASS POLE WITH A 6' MAST ARM.
LOCATION B1–B30: ACORN, ON A 14.5' DIRECT BURY FIBERGLASS POLE.

Schedule

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
	A	14	LEOTEK ELECTRONICS USA CORP.	GCM2-40F-MV-WW-3-GY-700	21.15"L. X 12.25"W. X 5"H. LED LUMINAIRE	LED	1	GCM2-40F-MV-WW-3-XX-700 S.ies	9392	0.9	88
	B	30	Holophane	AUCL2 P20 30K XX L3 HSS	Utility Arlington FCO LED 2, P20, 3000K, Type 3 Optic, with House Side Shield	LED	1	AUCL2_P20_30K_XX_L3_HSS.ies	2701	0.9	45

Statistics

Description	Calc Type	Units	Required Avg	Calculated Avg	Required Avg/Min	Calculated Avg/Min
NW 12th Ct, LOCAL	Iluminance	Fc	0.3	0.6	3.0	3.0:1
NW 14th Ave, LOCAL	Iluminance	Fc	0.3	0.6	3.0	6.0:1
NW 15th St, LOCAL	Iluminance	Fc	0.3	0.6	3.0	6.0:1
NW 16th St, LOCAL	Iluminance	Fc	0.3	0.6	3.0	6.0:1
NW Pacific HWY, MINOR ARTERIAL	Iluminance	Fc	1.0	1.9	6.0	1.9:1

SL1 STREET AND AVENUE LIGHTING
Scale: 1" = 60'

30 0 60 120
SCALE

HIGHLAND TERRACE PHASE 1
STREET LIGHTING

EVERGREEN HOMES NW
13217 NW 30TH CT.
VANCOUVER, WA 98685
CHRIS SUNDROM, 360-624-3116

CASCADE ELECTRICAL
Cascade Electrical, LLC PO Box 160 Brush Prairie, WA 98606

REV#	DATE	DESCRIPTION

Date:	02/11/20
Proj No:	PROJECT NUMBER
Drawn By:	DTR
Chkd By:	CHKD BY
DSGN By:	SL

SHEET
SL1

HOLOPHANE AUCL2

Utility Arlington Series Luminaire Full Cutoff LED2

LEOTEK GreenCobra® Midsize LED Street Light GCM F-Series Specification Data Sheet

Performance Data: 3000K (WW)

All data nominal. IES files for all CCTs are available at leotek.com.

No. of LEDs & Type	Drive Current (mA)	System Wattage (W)	Delivered Lumens (Lm)	Efficacy (Lm/W)[1]	Type 2 BUG Rating	Type 3 BUG Rating
GCM1 30F	350	36	4100	114	B1 U0 G1	B1 U0 G1
	530	53	5600	106	B1 U0 G1	B2 U0 G2
	700	69	6950	101	B2 U0 G2	B2 U0 G2
GCM2 30F	700	69	6950	101	B2 U0 G2	B2 U0 G2
	1000	104	9100	88	B2 U0 G2	B2 U0 G2
GCM2 40F	700	88	9400	107	B2 U0 G2	B2 U0 G2
	1000	138	11750	85	B2 U0 G2	B2 U0 G2

Performance Data: 4000K (NW) and 5000K (CW)

All data nominal. IES files for all CCTs are available at leotek.com.

No. of LEDs & Type	Drive Current (mA)	System Wattage (W)	Delivered Lumens (Lm)	Efficacy (Lm/W)[1]	Type 2 BUG Rating	Type 3 BUG Rating
GCM1 30F	350	36	3900	108	B1 U0 G1	B1 U0 G1
	530	53	5620	106	B1 U0 G1	B2 U0 G2
	700	69	7000	100	B2 U0 G2	B2 U0 G2
GCM2 30F	700	69	7000	100	B2 U0 G2	B2 U0 G2
	1000	104	9200	88	B2 U0 G2	B2 U0 G2
GCM2 40F	700	88	9000	102	B2 U0 G2	B2 U0 G2
	1000	138	12000	87	B2 U0 G2	B2 U0 G2

Notes:
1 Nominal lumens. Normal tolerance ± 10% due to factors including distribution type, LED bin variance, and ambient temperatures.
2 Not all versions DLC qualified. Consult qualified product list at www.designlights.org for latest product listing.

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REV#	DATE	DESCRIPTION

Date:	02/11/20
Proj No:	PROJECT NUMBER
Drawn By:	DTR
Chkd By:	CHKD BY
DSGN By:	SL

SHEET

SL2