



November 9, 2022

RE: Joan Austin Elementary School Covered Plan
Land Use Stormwater Narrative

The proposed project at the Joan Austin Elementary School includes a new covered play structure with asphalt ground cover and reconstruction of existing concrete sidewalks. This new structure is located south of the existing bark chip playground at the northeast corner of the existing school. A new sidewalk on the east side of the proposed covered play will be installed as pervious concrete.

Note that this narrative, calculations and exhibits are preliminary for Land Use only. A final storm report with final calculations will be submitted with the site permit submission. The existing impervious area within the project limits is 1,244 SF. The proposed new impervious area is 3,169 SF and 509 SF of pervious concrete. The covered play roof extends 2-feet to the north and 2-feet to the south of the asphalt limits shown.

The net new impervious area requiring management is 1,925 SF. Basin maps are provided for net new impervious area calculation (Fig A1 and Fig B1). This triggers the City of Newberg's stormwater management requirements for water quality and water quantity. The net new impervious area requiring management is less than the 2,877 SF threshold for downstream analysis. The downstream analysis will not be provided for this project.

The proposed roof area is 2,284 SF and will be captured by a flow-through planter (Fig C2). This flow-through planter is sized using the City of Newberg LIDA sizing chart (Fig C1) and City of Newberg standard detail 452 (Fig C2). The planter area proposed is greater than the calculated minimum area for conservative design. The pervious concrete will be designed and constructed per the City of Newberg standard detail 459 (Fig C2).

Stormwater conveyance piping will be sized to convey the 25-year design storm. Peak flows will be calculated using the rational method and pipe conveyance will be verified using Manning's equation. A fully signed storm report will be submitted at permit submittal.

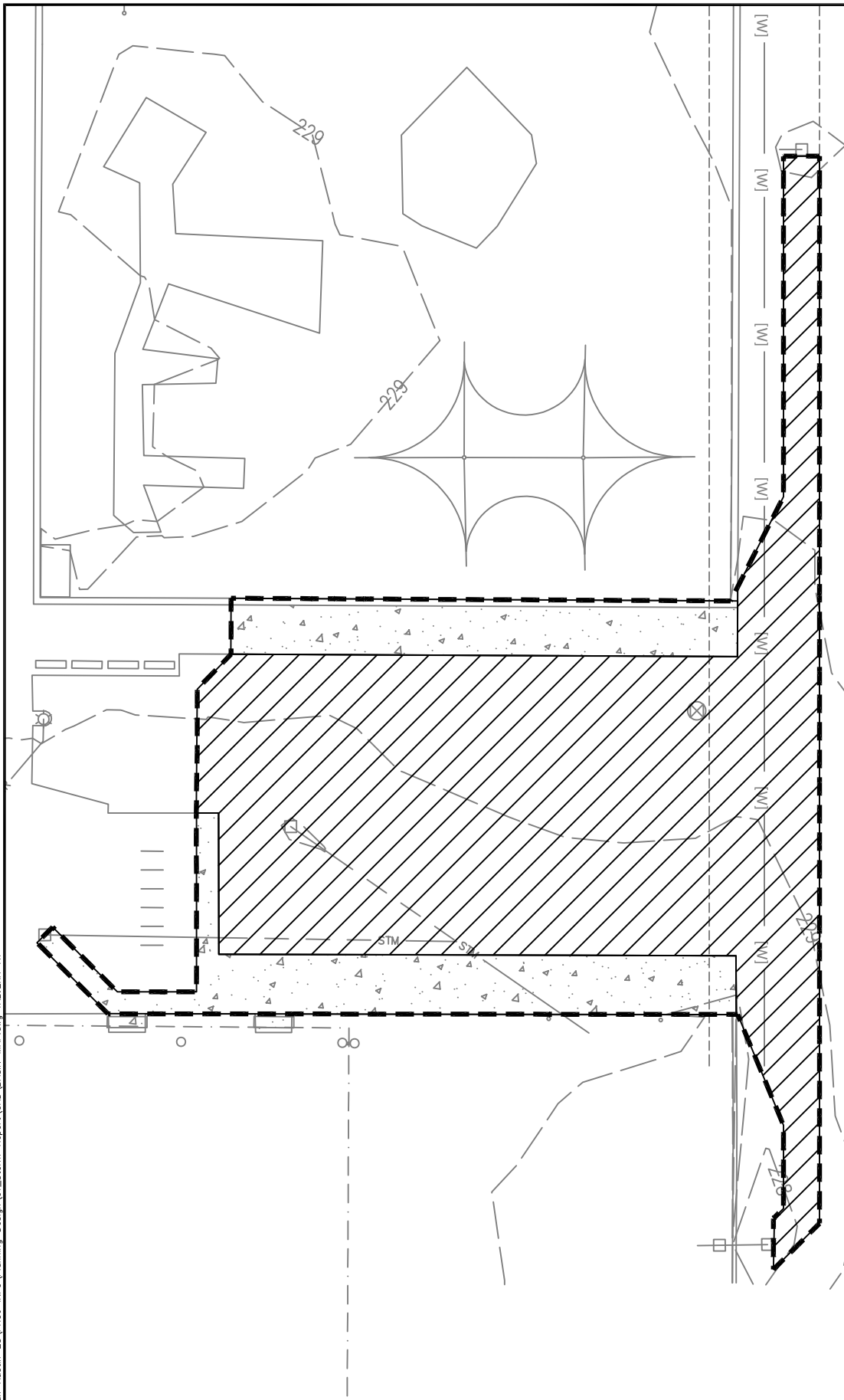
Thank you,
KPFF Consulting Engineers

A handwritten signature in blue ink, appearing to read 'Andrew Chung'.


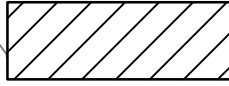

Andrew Chung, PE

Attachments: Figures A1, B1, C1, C2
2200235-pm

File: N:\c\p\2022\2200325-joan-austin-es\PROJ-INFO\Planning-Design\01_Storm-Report\CAD\BASIN-MAP.dwg TAB:EXH-A1



SHEET LEGEND

-  STORMWATER BASIN BOUNDARY
-  EXISTING PERVIOUS LANDSCAPE (4108 SQFT)
-  EXISTING IMPERVIOUS AREA (1244 SQFT)

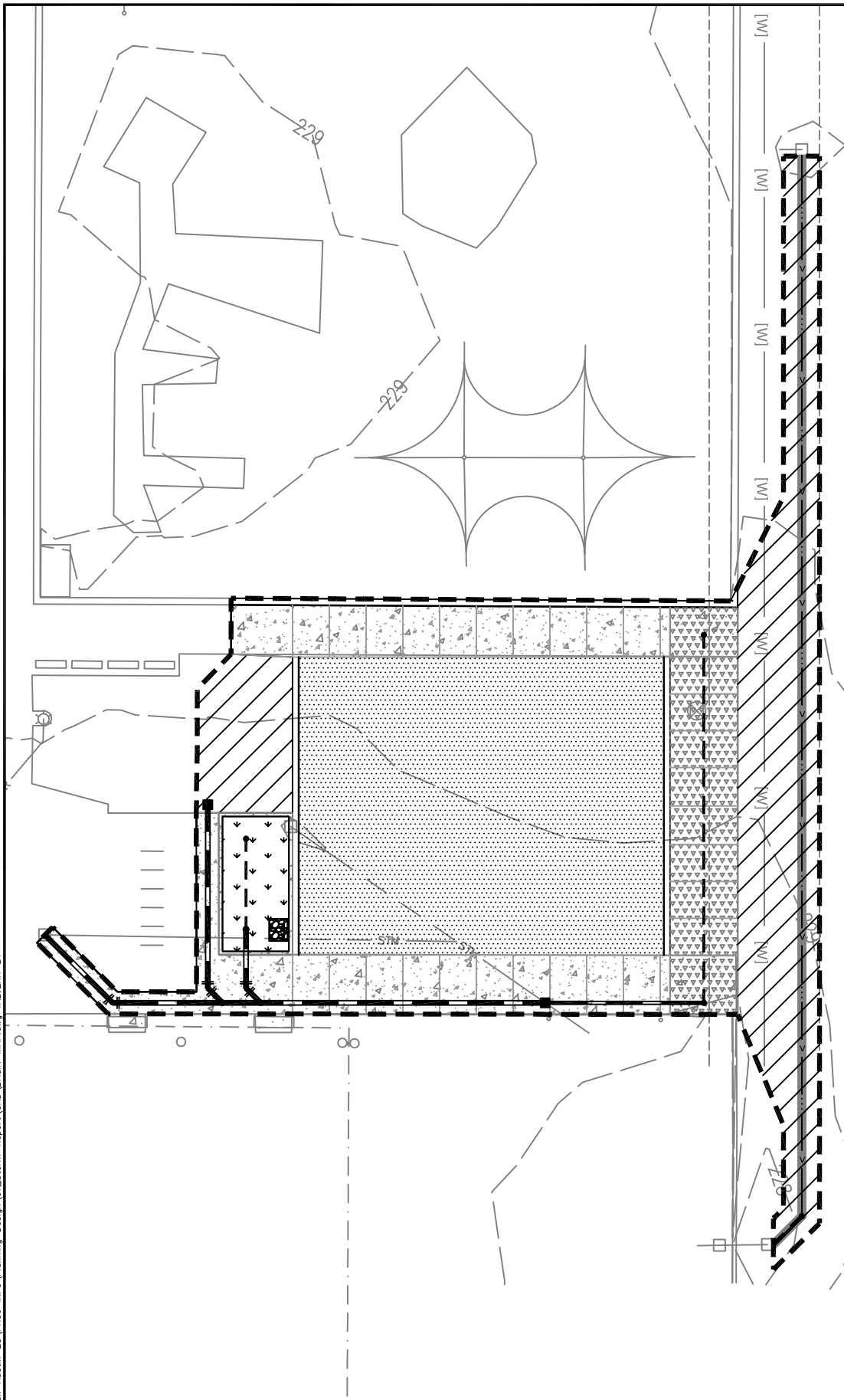


STORMWATER BASIN MAP


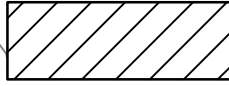

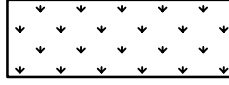
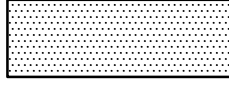
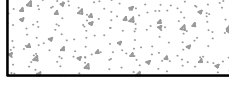
JOAN AUSTIN
COVERED PLAY

EXH-A1

File: N:\c\p\2022\2200325-joan-austin-ES\PROJ-INFO\Planning-Design\01_Storm-Report\CAD\BASIN-MAP.dwg TAB:EXH-B1



SHEET LEGEND

-  STORMWATER BASIN BOUNDARY
-  PROPOSED PERVIOUS LANDSCAPE (1445 SQFT)
-  PROPOSED PERVIOUS CONCRETE (509 SQFT)
-  PROPOSED STORMWATER PLANTER (165 SQFT)
-  PROPOSED ASPHALT (2012 SQFT)
-  PROPOSED CONCRETE (1,157 SQFT)



STORMWATER BASIN MAP

JOAN AUSTIN
COVERED PLAY
EXH-B1

City of Newberg LIDA Sizing Form

(Include this form with plan submittal)

Project Title: JOAN AUSTIN COVERED PLAY

Project Address: 2200 N CENTER ST, NEWBERG, OR 97132

Project Taxlot/ Taxmap#: TAXLOT #1904/TAXMAP #3217

Project Location: NORTH EAST CORNER OF JOAN AUSTIN ES SITE

Contact Name/Title/Company: PAITEN TENSEN/CIVIL DESIGNER/KPFF

Phone/e-mail: 503-542-3853/paiten.tensen@kpff.com

STEP 1: Determine Impervious Area Requiring Treatment

Total Gross Site Area (acres):	0.123	Pre. Dev. Impervious Area (ft):	1244	(X)
Proposed Net New Impervious Area (ft): (PA)= (Y) - (X)	1925	Post Dev. Impervious Area (ft):	3169	(Y)

STEP 2: Deduct Impervious Area LIDA Credits

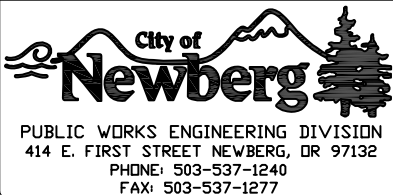
Porous Pavement (sq. ft.):	0	(P)	POROUS PAVEMENT REMOVED FROM AREA Y.
Green Roof (sq. ft.):	0	(G)	
Other Credits as approved (sq. ft.):	0	(O)	
Total Credits (sq. ft.): (C)= (P)+(G)+(O)	0	(C)	
Impervious Area Requiring Treatment (sq. ft.): (IA)= (PA) - (C)	1925	(IA)	

PRELIMINARY
SIZING

STEP 3: Size LIDA Facilities for Remaining Impervious Area

	Impervious Area Treated (sq. ft.)	SF, Sizing Factor	LIDA Facility Size (sq. ft.)
Infiltration Planters/ Rain Garden		0.045	
Flow-through Planter		0.060	
Public Flow-through Planter	2284	0.060	137
	MANAGING ROOF AREA FROM COVERED PLAY. MORE AREA IS BEING MANAGED THAN REQUIRED.		PROPOSED FACILITY IS 165 SQFT. GREATER THAN REQUIRED.

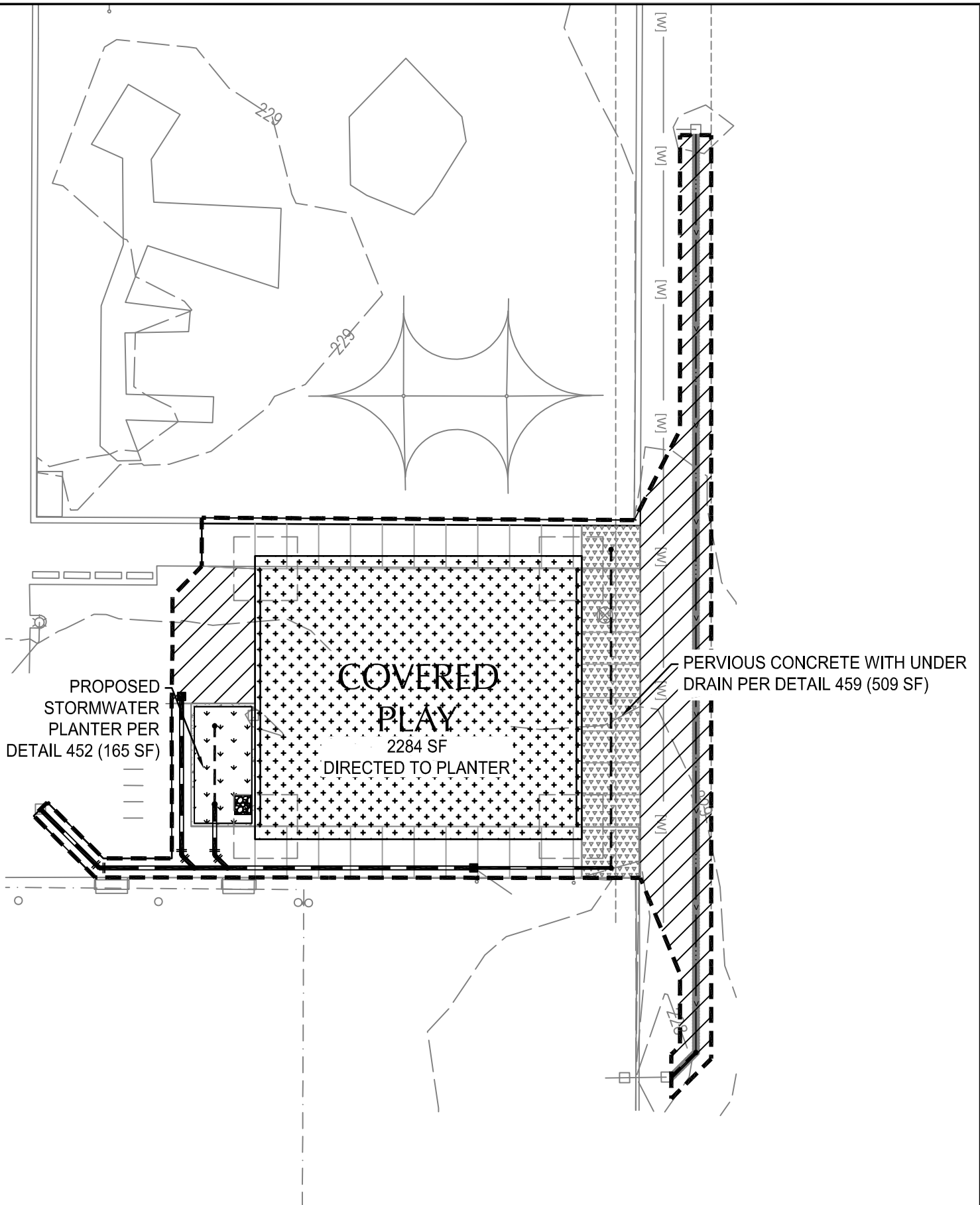
Total Impervious Area Treated (sq. ft.) 2284 MUST BE EQUAL TO (IA)



REVISIONS:

LIDA SIZING FORM

SCALE:	N.T.S.
DATE:	MARCH 2014
APPROVED BY:	JAY H.
STANDARD DRAWING	451



PROPOSED
STORMWATER
PLANTER PER
DETAIL 452 (165 SF)

**COVERED
PLAY**
2284 SF
DIRECTED TO PLANTER

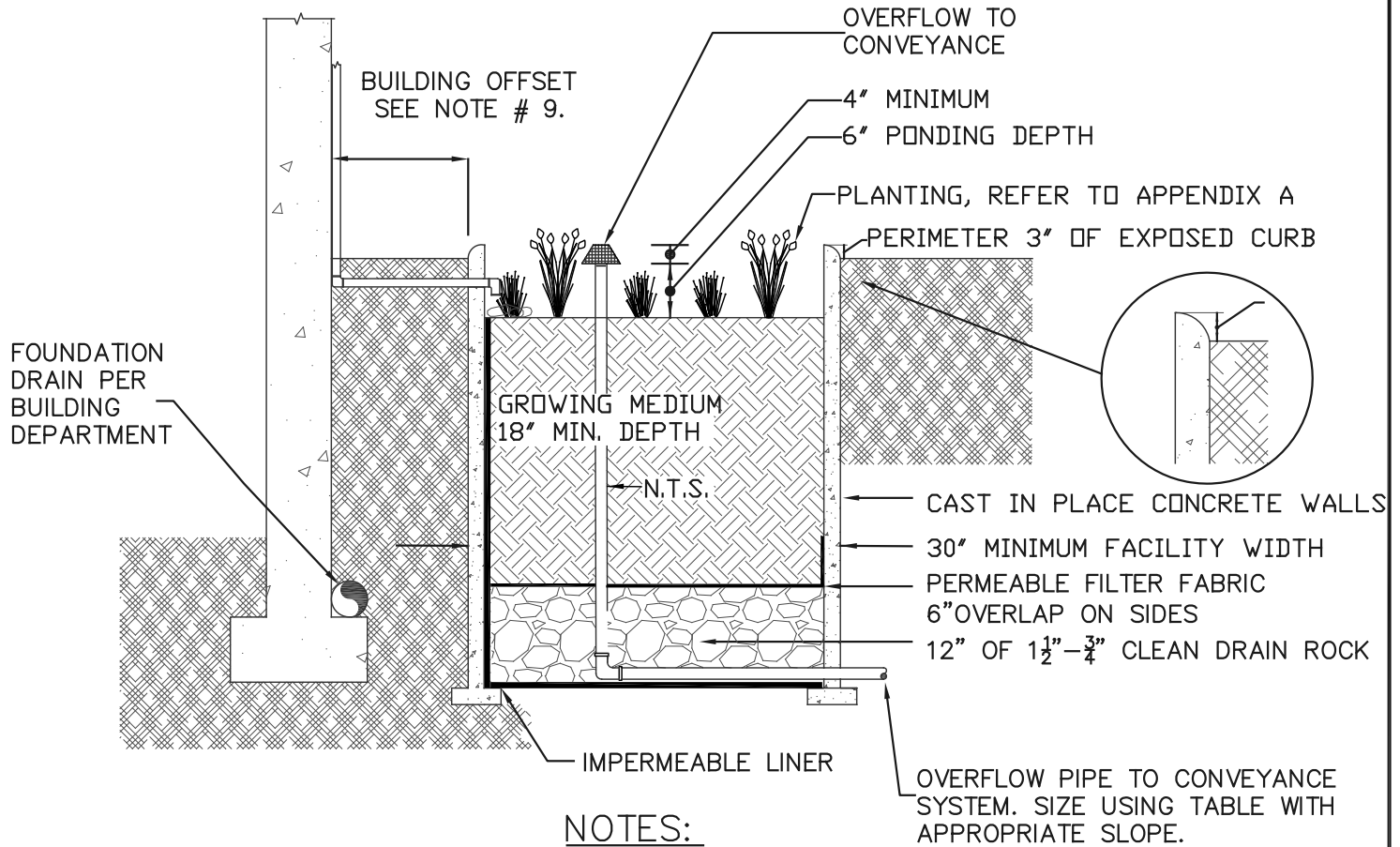
PERVIOUS CONCRETE WITH UNDER
DRAIN PER DETAIL 459 (509 SF)



**STORMWATER
COLLECTION
AND MANAGEMENT**

JOAN AUSTIN
COVERED PLAY
EXH-C2

PRIVATE/ PUBLIC WATER QUALITY & QUANTITY TREATMENT



NOTES:

1. MAXIMUM SLOPE OF PLANTER 0.5%.
2. NO TREES OR DEEP ROOTED VEGETATION OVER PIPING IS ALLOWED IN FACILITY.
3. STORM PIPING TO FACILITY THROUGH WALL CORE HOLES, MAINTAIN MAXIMUM DISTANCE FROM THE OVERFLOW PIPE AS POSSIBLE.
4. PRIVATE OVERFLOW PIPE TO BE MINIMUM SPECIFIED IN PLUMBING CODE, SEE TABLE. PUBLIC FACILITIES SHALL BE SIZED TO CONVEY THE 25 YEAR STORM.
5. ENERGY DISSIPATERS REQUIRED AT WATER ENTRANCES MINIMUM 18"X18"X6" OF 4 TO 6 INCH ANGULAR RIPRAP.
6. PERMEABLE FILTER FABRIC REQUIRED BETWEEN LAYERS
7. IMPERMEABLE LINER REQUIRED AT FACILITY BOTTOM AND ON WALLS ADJACENT TO STRUCTURES (AS SHOWN).
8. "PARTIAL" INFILTRATION FACILITIES ARE ENCOURAGED. IMPERMEABLE LINER LOCATED AT FACILITY BOTTOM, MAY BE REMOVED FOR "PARTIAL" INFILTRATION, APPROVAL BY DESIGN PROFESSIONAL AND BUILDING DEPARTMENT REQUIRED.
9. BUILDING OFFSET REQUIRED ONLY WHEN INFILTRATING, 10 FT MINIMUM.
10. MUST BE LOCATED A MINIMUM OF 3 FT FROM ADJACENT PROPERTY LINE.

OVERFLOW PIPE SIZE (1/8 in./ft. SLOPE)	
MAX PROJECT ROOF AREA (ft.)	OVERFLOW PIPE SIZE (in.)
822	3
1,880	4
3,340	6

OVERFLOW PIPE SIZE (1/4 in./ft. SLOPE)	
MAX PROJECT ROOF AREA (ft.)	OVERFLOW PIPE SIZE (in.)
1,160	3
2,650	4
4,720	6

City of Newberg
 PUBLIC WORKS ENGINEERING DIVISION
 414 E. FIRST STREET NEWBERG, OR 97132
 PHONE: 503-537-1240
 FAX: 503-537-1277

REVISIONS:

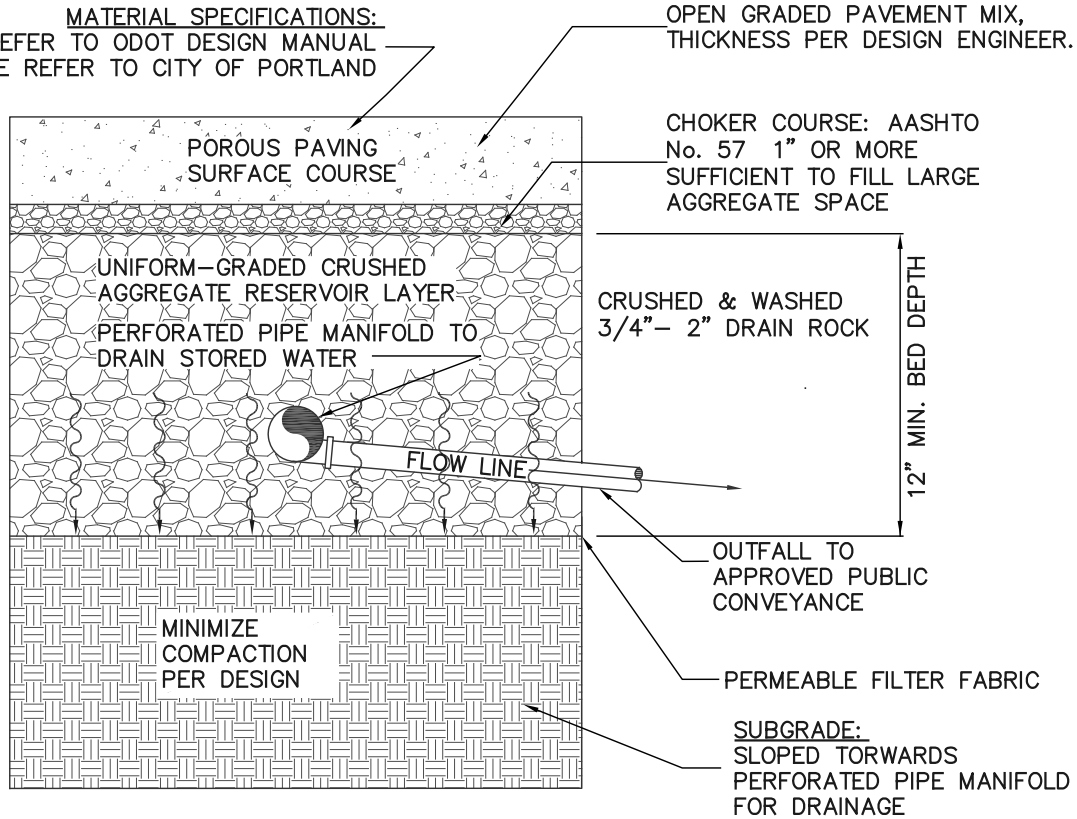
**FLOW THROUGH
PLANTER**

SCALE:	N.T.S.
DATE:	MARCH 2014
APPROVED BY:	JAY H.
STANDARD DRAWING	452

POROUS PAVEMENT

1:1 IMPERVIOUS AREA DEDUCTION

MATERIAL SPECIFICATIONS:
 ASPHALT REFER TO ODOT DESIGN MANUAL
 CONCRETE REFER TO CITY OF PORTLAND



NOTES:

1. PAVEMENT SURFACE TO BE CONSTRUCTED WITH HIGH PERMEABILITY (> 8" PER HR).
2. UNIFORM-GRADED CRUSHED DRAIN ROCK BED WITH MINIMUM 40% VOID SPACE
3. PROVIDE PERFORATED PIPE MANIFOLD IN RESERVOIR LAYER FOR CONVEYANCE, IF UNFACTORED SOIL INFILTRATION RATES LESS THAN 2"/HOUR. SEE PERFORATED PIPE DRAWING NO. 463.
4. NOT RECOMMENDED FOR TRAFFIC SURFACES WITH SLOPE > 5%.
5. DO NOT PLACE DRAIN ROCK BED ON COMPACTED FILL AREAS.
6. HIGHEST SEASONAL WATER TABLE MUST BE AT LEAST 5' BELOW RESERVOIR LAYER. STRUCTURE MUST BE 100' AWAY FROM DRINKING WATER WELL. MINIMUM OF 100' AWAY UP SLOPE & 10' AWAY DOWN SLOPE FROM STRUCTURE FOUNDATIONS. A WRITTEN REPORT IS REQUIRED.
7. FLOWS FROM OTHER IMPERVIOUS AREAS SHALL NOT DRAIN TO POROUS PAVEMENT.
8. ONSITE INFILTRATION TESTING REQUIRED BEFORE AND DURING CONSTRUCTION BY A DESIGN PROFESSIONAL.

REVISIONS: